

Protest Letter

Subject: Protest against First Bidder : **OPTIMA RPM Inc.**

Project Name: LAZY CREEK CENTER IMPROVEMENTS PROJECT
CIP No. 19-16

To Whom it May Concern:

It just brought to my attention that first bidder (OPTIMA RPM Inc. is not responsive for following reasons:

First bidder: **OPTIMA RMP Inc.** CA License No.961714

1- After reviewing the Bid Package, Optima RPM did not include the right number of fire alarm portion in their proposal per your knowledge for existing building and the new building there is no possibility of \$1,000 only fire alarm would be right number for that portion and per spec on this project and attached paperwork from the spec, if the numbers are not accurate, the contractor will be not responsive.

Please see attached page from the specification (Page 2)

2- Per attached plan (page 3 to 10) on this file and Green book and Government Job laws, for all the specialty portion of the work, such as fire alarm and fire sprinkler and others, they have to have a specialty subcontractor to take care of the trades, but they haven't included any fire alarm company to do the design and procedure regarding that also they are not even qualified to hire a specialty subcontractor based on General A and B license which they have, because its specialty and needs to be done by required subcontractor. We know that Optima RPM have A and B license and can hire most of the subcontractors to do the work, but for the specialty portion like fire alarm, they need to have a C-16 license in their licenses or name a subcontractor which they didn't include and it makes them non responsive (Attached the contractor license board pages as well)

3- In regard to roofing system that plan call for it and installation method and manufacture requirement, they haven't include the roofing company in their bid package, we know they can hire a roofer under their license but there is some qualification per specification on this project which is going to be:

5 Year Contractor Warranty and 20 Year NDL Manufacturer's Registered Warranty

If the general contractor company doesn't carry the roofing license, then they can't get a NDL manufacture warranty because they are not qualified from the manufacture and it's not what specification call for it. (Please see page 11 to 27, roofing section)

With all the respect, these are the line items that makes Optima RMP non responsive on this project.

"responsible" is defined by California law, but generally means that the Bidder is able to demonstrate: (1) the capacity to perform the Work required by these Contract Documents with respect to financial strength, resources available, and experience; and (2) its integrity and trustworthiness to complete performance of the Work in accordance with the Contract Documents.

The Agency will make its determination of responsibility based upon information submitted by the Bidder contained in the Bid Forms and interviews with previous agencies, clients, design professionals, or subcontractors with whom the Bidder has worked.

The Agency in its absolute discretion reserves the right to reject any or all bids, and to waive any informalities or minor irregularities in any Bid. The Agency may require Bidders to submit additional or clarifying information. A bid shall not be binding upon the Agency until after the Contract is signed by both the Contractor and the Agency and delivered to the Bidder by the Agency's authorized representative.

20. DISQUALIFICATION OF BIDDERS

There are several reasons that the Agency may disqualify a Bidder. Some of the more common reasons Bidders are disqualified include, but are not limited to:

- a) Bidder submits or has a financial interest in more than one bid. However, a person, firm, corporation or other entity that has submitted a proposal to a Bidder, or that has quoted prices of materials to a Bidder, is not thereby disqualified from submitting a proposal or quoting prices to other Bidders submitting a bid to the Agency. No person, firm, corporation, or other entity may submit a proposal to a Bidder, or quote prices of materials to a Bidder, when also submitting a prime bid for the Work.
- b) Submittal of unbalanced bids in which the prices for some items are out of proportion to the prices for other items of work.
- c) Lack of responsibility as shown by past work judged from the standpoint of workmanship and progress.
- d) Uncompleted projects of similar scope and size or poor safety record, which, in the judgment of the Agency, might hinder or prevent the prompt completion of additional work if awarded.
- e) For being in arrears on existing contracts, history of claims, in litigation with the Agency, or having defaulted on a previous contract.
- f) Lack of competency as revealed by the financial statements or statements of experience, plant, and equipment.

1. ALL SYMBOLS ARE NOT NECESSARILY USED IN THIS PROJECT.

1. ALL SYMBOLS ARE NOT NECESSARILY USED IN THIS PROJECT.

13. THE DRAWINGS INDICATE THE FINISHED REQUIREMENTS FOR THE ELECTRICAL SYSTEM. MECHANICAL PIPING CONFLICTS, OR OTHER LEGITIMATE REASONS, THE CONTRACTOR MAY DESIRE TO INSTALL THE WORK INDICATED IN A MANNER DIFFERENT FROM THAT SHOWN, SHALL BE INDICATED BY A NOTE TO THE CONTRACTOR. THE CONTRACTOR SHALL OBTAIN APPROVAL PRIOR TO PROCEEDING UPON APPROVAL, THE WORK SHALL BE REFORMED AND THE AS-BUILT DRAWINGS SHALL BE REVISION TO ACCURATELY REFLECT THE WORK AS ACTUALLY INSTALLED.
14. RACEWAY SYSTEMS ARE SHOWN DIAGRAMMATICALLY. ACTUAL LOCATION AND ROUTING SHALL

1000 JOURNAL

↓

MISCELLANEOUS

POWER

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398</
------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	--------

— CONDUIT ROUTED UNDER FLOOR

• 2016 CM FORM A ADMINISTRATIVE CODE

100

100

Enter address here



STAMP



KEY PLAN

DECLARATION

[illegible]

SHEET NUMBER

SECTION 28 3111 – DIGITAL, ADDRESSABLE FIRE-ALARM SYSTEM

1.1 SUMMARY

- A. System Description: Noncoded, UL-certified FM Global-placarded addressable system with multiplexed signal transmission.

1.2 QUALITY ASSURANCE

- A. Quality Standard: NFPA 72.
- B. **Installer Qualifications: Certified by NICET as fire-alarm Level IV technician.**

1.3 SYSTEMS OPERATIONAL DESCRIPTION

- A. Signal initiation from:

1. Manual stations.
2. Heat detectors.
3. Smoke detectors.
4. Duct smoke detectors.
5. Carbon monoxide detectors.
6. Automatic sprinkler system water flow.
7. Preaction system.
8. Fire-extinguishing system operation.
9. Fire standpipe system.
10. Dry system pressure flow switch.

- B. Signal initiates the following actions:

1. Continuously operate alarm notification appliances.
2. Identify alarm at the fire-alarm control unit and remote annunciators.
3. Transmit an alarm signal to the remote alarm receiving station.
4. Unlock electric door locks in designated egress paths.
5. Release fire and smoke doors held open by magnetic door holders.
6. Activate voice/alarm communication system.
7. Switch heating, ventilating, and air-conditioning equipment controls to fire-alarm mode.
8. Activate smoke-control system at firefighters' smoke-control system panel.
9. Activate stairwell and elevator shaft pressurization systems.
10. Close smoke dampers in air ducts of designated air-conditioning duct systems.
11. Activate preaction system.
12. Recall elevators.
13. Activate elevator power shunt trip.
14. Activate emergency lighting control.
15. Activate emergency shutoffs for gas and fuel supplies.
16. Record events in the system memory.
17. Record events by the system printer.

18. Indicate device in alarm on the graphic annunciator.

C. Supervisory signal initiation by:

1. Valve supervisory switch.
2. High- or low-air-pressure switch of a dry-pipe sprinkler system.
3. Alert and Action signals of air-sampling detector system.
4. Elevator shunt-trip supervision.
5. Fire pump running.
6. Fire-pump loss of power.
7. Fire-pump power phase reversal.
8. Independent fire-detection and -suppression systems.
9. User disabling of zones or individual devices.
10. Loss of communication with any panel on the network.

D. Trouble signal initiation by:

1. Open circuits, shorts, and grounds, in designated circuits.
2. Opening, tampering with, or removing alarm-initiating and supervisory signal-initiating devices.
3. Loss of communication with any addressable sensor, input module, relay, control module, remote annunciator, printer interface, or Ethernet module.
4. Loss of primary power at fire-alarm control unit.
5. Ground or a single break in fire-alarm control unit internal circuits.
6. Abnormal ac voltage at fire-alarm control unit.
7. Break in standby battery circuitry.
8. Failure of battery charging.
9. Abnormal position of any switch at the fire-alarm control unit or annunciator.
10. Voice signal amplifier failure.
11. Hose cabinet door open.

E. System Trouble and Supervisory Signal Actions: Initiate notification appliances and annunciate at fire-alarm control unit and remote annunciators. Record the event on system printer.

1.4 PRODUCTS

A. Fire-Alarm Control Unit: Field-programmable, microprocessor-based, modular, power-limited design with electronic modules, addressable initiation device circuits, and addressable control circuits.

1. Alphanumeric liquid-crystal display, system controls and keypad.
2. Initiating Device, Notification Appliance, and Signaling-Line Circuits:
 - a. Pathway Class Designations: Class A.
 - b. Pathway Survivability: Level 1.

B. Smoke-alarm verification.

C. System Smoke Detectors: Base mounted, self-restoring, with integral visual-indicating light.

- D. Non-system single-station duct smoke detectors.
- E. Heat Detectors.
- F. Carbon monoxide detector.
- G. Elevator recall initiated by elevator lobby, elevator machine room, or elevator hoistway detectors.
- H. Preaction system.
- I. Notification Appliances:
 - 1. Audible appliances.
 - 2. Output chimes.
 - 3. Electric-vibrating-polarized type, 24-V dc horns.
 - 4. Xenon strobe lights.
 - 5. Exit marking audible notification appliance.
- J. Firefighters' telephones.
- K. Firefighters' smoke-control system.
- L. Magnetic Door Holders: Wall- or floor-mounted units; 24-V ac or dc.
- M. Remote annunciator.
- N. Radio alarm transmitter.
- O. Maintenance Service: 12 months' full maintenance.

END OF SECTION 28 3111



The Contractors State License Board, which operates under the umbrella of the California Department of Consumer Affairs, licenses and regulates California's 285,000 contractors, and is regarded as one of the leading consumer protection agencies in the United States.

9821 Business Park Drive
Sacramento
California
95827

P.O. Box 26000
Sacramento
California
95826-0026

800.321.CSLB (2752)

www.cslb.ca.gov

CheckTheLicenseFirst.com

"B" General Building Contractor License

The "B" General Building Contractor license is the most common contractor license classification in California, with almost 104,000 active licenses.* As a result, the Contractors State License Board (CSLB) often receives questions about what jobs a B General Building licensee can legally perform.

The purpose of this *Fast Facts* sheet is to provide basic information regarding the permissible scope of work for contractors holding a B General Building Contractor license.

Business and Professions Code (BPC) section 7057 defines a General Building contractor as someone whose principal contracting business is in connection with "any structure built, being built, or to be built for the support, shelter, and enclosure of persons, animals, chattels or movable property of any kind, requiring in its construction the use of at least two unrelated building trades or crafts, or to do or superintend the whole or any part thereof." The BPC provides additional clarification as summarized below.

A "B" General Building Contractor Can...

- Enter a prime or sub-contract for a framing or carpentry project and self-perform the work.
- Enter a prime or sub-contract for two or more separate and unrelated trades and self-perform the work (framing and carpentry cannot count as one of the trades).
- Enter a prime or sub-contract for a single trade. However, unless the "B" holds the appropriate specialty classification, the performance of the work (other than carpentry or framing that can be self-performed) must be subcontracted to a contractor that holds the appropriate classification.

A "B" General Building Contractor Cannot...

- Enter a prime contract for any project involving trades other than framing or carpentry **unless**:
 - The prime contract requires at least two other, unrelated building trades or crafts; **or**
 - The "B" General Building contractor holds the appropriate license classification or subcontracts with an appropriately licensed specialty contractor to perform the work.
- Enter a sub-contract involving trades other than framing or carpentry **unless**:
 - The sub-contract requires at least two other, unrelated trades or crafts; **or**
 - The "B" General Building contractor holds the appropriate license classification.
- Include framing or carpentry in calculating the two unrelated trades necessary for the B General Building contractor to be able to take a prime or sub-contract for a project involving other trades.

- Enter a contract for any project which includes the C-16 Fire Protection or C-57 Well Drilling specialty classifications **unless:**
 - The "B" General Building contractor holds the specialty license, **or**
 - The "B" General Building contractor sub-contracts with the appropriately licensed specialty contractor (pursuant to Sections 7026.12 and 7026.13 of the BPC and Section 13750.5 of the Water Code, respectively).

Additional Authorization and Limitations

A "B" General Building contractor that contracts for work that includes framing, carpentry or two unrelated trades may perform the following work as follows:

- **Hazardous Substances** – "B" General Building contractors can perform hazardous substance removal if they have a Hazardous Substances Removal Certification.
- **Underground Storage Tanks** – "B" General Building contractors can remove an underground storage if they have a Hazardous Substances Removal Certification.
- **Asbestos** – "B" General Building contractors cannot contract for jobs involving asbestos abatement **unless they:**
 - Hold a C-22 Asbestos Abatement specialty license, **or**
 - Hold an asbestos certification (pursuant to BPC section 7058.5) **and** are registered with the Department of Industrial Relation's Division of Occupational Safety and Health, **or**
 - Subcontract with an appropriately licensed contractor.
- **Solar Energy Systems** – A "B" General Building contractor may contract and self-perform installation of a solar energy system on a structure because installation of the solar energy system constitutes two or more unrelated trades pursuant to Title 16, California Code of Regulations Section 832.62(b)
- **Roofing** – A "B" General Building contractor may contract for projects that include roofing. However, they must subcontract to a C-39 roofing contractor if the roofing is a standalone contract – not included in a larger project that includes two unrelated trades such as home construction, room addition, or remodeling.

Additional Information

This information is simply a summary of the permissible scope of work for "B" General Building contractors. Additional information regarding license classifications is available on CSLB's website (www.cslb.ca.gov).

Specific questions about the permissible scope of work for "B" General Building contractors should be directed to CSLB's Classifications Deputy via email at classifications@cslb.ca.gov. Those writing on behalf of a government agency should include your agency name in the subject line to ensure priority handling.

Representatives of government agencies with questions can contact CSLB's Executive Office at (916) 255-4000.

SECTION 075419

POLYVINYL-CHLORIDE (PVC) ROOFING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope:

1. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section
2. To install a complete mechanically fastened Polyvinyl-Chloride (PVC) Roofing System including substrate boards, membrane, flashings and other components.

B. Related Work

1. The work includes but is not limited to the installation of:
 - a. Substrate Preparation
 - b. Substrate Boards
 - c. Vapor Barrier
 - d. Wood Blocking
 - e. Separation Layers
 - f. Roof Membrane
 - g. Fasteners
 - h. Adhesive for Flashings
 - i. Roof Membrane Flashings
 - j. Metal Flashings
 - k. Sealants

C. Upon successful completion of work the following warranties may be obtained:

1. Roofing Warranty
2. Roofing Applicator Warranty

1.2 QUALITY ASSURANCE

- A. This roofing system shall be applied only by a Roofing Applicator authorized by Manufacturer prior to bid (Manufacturer "Applicator").
- B. Upon completion of the installation and the delivery to Manufacturer by the Applicator of certification that all work has been done in strict accordance with the contract specifications and Manufacturer's requirements, a Sika Corporation Technical Service Representative will review the installed roof system wherever a System Warranty has been specified.
- C. There shall be no deviation made from the Project Specification or the approved shop

drawings without prior written approval by the Owner, the Owner's Representative and Sika Corporation.

- D. All work pertaining to the installation of roof membrane and flashings shall only be completed by Applicator personnel trained and authorized by Manufacturer in those procedures.
- E. Roofing membrane manufacturer must have a demonstrated performance history of producing PVC roof membranes no less, in duration of years, than the warranty duration specified.
- F. Product to be manufactured by membrane supplier and not private labeled.
- G. Manufacturer to have a minimum of five years' experience recycling their membranes at the end of their service life back into new membrane products.

1.3 SUBMITTALS

- A. At the time of bidding, the Applicator shall submit to the Owner (or Representative) the following:
 - 1. Sample copy of Manufacturer's warranty.
 - 2. Sample copy of Applicator's warranty.
 - 3. Certifications by manufacturers of roofing and insulating materials that all materials supplied comply with all requirements of the identified ASTM and other industry standards or practices.
 - 4. Certification from the Applicator that the system specified meets all identified code and insurance requirements as required by the Specification.
 - 5. Safety Data Sheets (SDS)

1.4 CODE REQUIREMENTS

- A. System shall be designed to meet a minimum wind design requirements of the most recent version of ASCE 7.
 - 1. Class A assembly

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. All products delivered to the job site shall be in the original unopened containers or wrappings bearing all seals and approvals.
- B. Handle all materials to prevent damage. Place all materials on pallets and fully protect from moisture.
- C. Membrane rolls shall be stored lying down on pallets and fully protected from the weather with clean canvas tarpaulins. Unvented polyethylene tarpaulins are not accepted due to the accumulation of moisture beneath the tarpaulin in certain weather conditions that may affect the ease of membrane weldability.

YALE TRANSITIONAL CENTER

- D. As a general rule all adhesives shall be stored at temperatures between 40°F (4°C) and 80°F (27°C). Read instructions contained on adhesive canister for specific storage instructions.
- E. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Follow precautions outlined on containers or supplied by material manufacturer/supplier.
- F. Any materials which the Owner's representative or Sika Corporation determines to be damaged are to be removed from the job site and replaced at no cost to the Owner.

1.6 JOB CONDITIONS

- A. Manufactures materials may be installed under certain adverse weather conditions but only after consultation with Manufacture, as installation time and system integrity may be affected.
- B. Only as much of the new roofing as can be made weathertight each day, including all flashing and detail work, shall be installed. All seams shall be heat welded before leaving the job site that day.
- C. All work shall be scheduled and executed without exposing the interior building areas to the effects of inclement weather. The existing building and its contents shall be protected against all risks.
- D. All new and temporary construction, including equipment and accessories, shall be secured in such a manner as to preclude wind blow-off and subsequent roof or equipment damage.
- E. Uninterrupted waterstops shall be installed at the end of each day's work and shall be completely removed before proceeding with the next day's work. Waterstops shall not emit dangerous or unsafe fumes and shall not remain in contact with the finished roof as the installation progresses. Contaminated membrane shall be replaced at no cost to the Owner.
- F. The Applicator is cautioned that certain Manufacturer membranes are incompatible with asphalt, coal tar, heavy oils, roofing cements, creosote and some preservative materials. Such materials shall not remain in contact with Manufacturer membranes. The Applicator shall consult Sika Corporation regarding compatibility, precautions and recommendations.
- G. Arrange work sequence to avoid use of newly constructed roofing as a walking surface or for equipment movement and storage. Where such access is absolutely required, the Applicator shall provide all necessary protection and barriers to segregate the work area and to prevent damage to adjacent areas. A substantial protection layer consisting of plywood over roof felt or plywood over insulation board shall be provided for all new and existing roof areas that receive rooftop traffic during construction.
- H. Prior to and during application, all dirt, debris and dust shall be removed from surfaces either by vacuuming, sweeping, blowing with compressed air or similar methods.

YALE TRANSITIONAL CENTER

- I. The Applicator shall follow all safety regulations as required by OSHA and any other applicable authority having jurisdiction.
- J. All roofing, insulation, flashings and metal work removed during construction shall be immediately taken off site to a legal dumping area authorized to receive such materials. Hazardous materials, such as materials containing asbestos, are to be removed and disposed of in strict accordance with applicable City, State and Federal requirements.
- K. All new roofing waste material (i.e., scrap roof membrane, empty cans of adhesive) shall be immediately removed from the site by the Applicator and properly transported to a legal dumping area authorized to receive such material.
- L. The Applicator shall take precautions that storage and application of materials and equipment does not overload the roof deck or building structure.
- M. Flammable adhesives and deck primers shall not be stored and not be used in the vicinity of open flames, sparks and excessive heat.
- N. All rooftop contamination that is anticipated or that is occurring shall be reported to Sika Corporation to determine the corrective steps to be taken.
- O. Applicator shall immediately stop work if any unusual or concealed condition is discovered and shall immediately notify Owner of such condition in writing for correction at the Owner's expense (letter copy to Sika Corporation).
- P. Site cleanup, including both interior and exterior building areas that have been affected by construction, shall be completed to the Owner's satisfaction.
- Q. All landscaped areas damaged by construction activities shall be repaired at no cost to the Owner.
- R. The roof membrane shall not be installed under the following conditions without consulting Sika Corporation's Technical Dept. for precautionary steps:
 - 1. The roof assembly permits interior air to pressurize the membrane underside.
 - 2. Any exterior wall has 10 percent or more of the surface area comprised of opening doors or windows.
 - 3. The wall/deck intersection permits air entry into the wall flashing area.
- S. Precautions shall be taken when using adhesives at or near rooftop vents or air intakes. Adhesive odors could enter the building. Coordinate the operation of vents and air intakes in such a manner as to avoid the intake of adhesive odor while ventilating the building. Keep lids on unused cans at all times.
- T. Protective wear shall be worn when using solvents or adhesives or as required by job conditions.
- U. Roof membranes are slippery when wet or covered with snow, frost, or ice. Working on surfaces under these conditions is hazardous. Appropriate safety measures must be implemented prior to working on such surfaces. Always follow OSHA and other relevant fall protection standards when working on roofs.

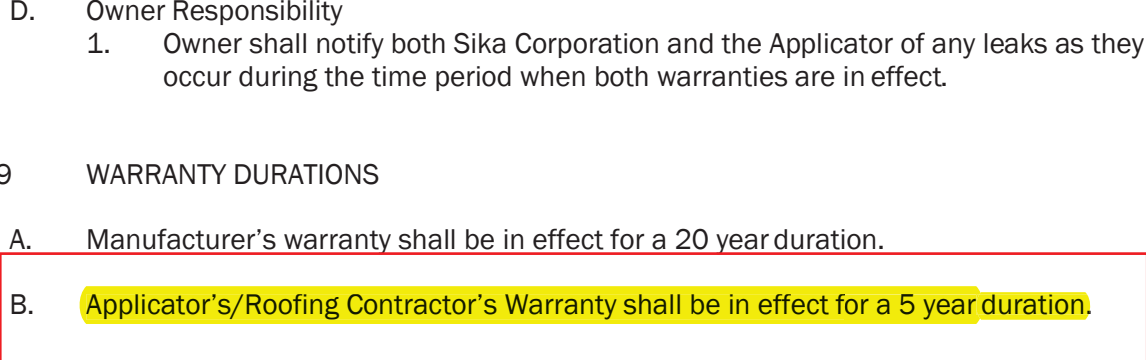
1.7 BIDDING REQUIREMENTS

- A. Site Visit: Bidders shall visit the site and carefully examine the areas in question as to conditions that may affect proper execution of the work. All dimensions and quantities shall be determined or verified by the Applicator. No claims for extra costs will be allowed because of lack of full knowledge of the existing conditions unless agreed to in advance with the Owner or Owner's Representative.

1.8 WARRANTIES

- A. Manufacture Warranty
 - 1. Upon successful completion of the work to Manufacturer's satisfaction and receipt of final payment, the Manufacturer Warranty shall be issued.
- B. Membrane Warranty
- C. Applicator/Roofing Contractor Warranty
 - 1. Applicator shall supply Owner with a separate workmanship warranty. In the event any work related to roofing, flashing, or metal is found to be within the Applicator warranty term, defective or otherwise not in accordance with Contract Documents, the Applicator shall repair that defect at no cost to the Owner. Applicator's warranty obligation shall run directly to Owner, and a copy shall be sent to Manufacture.
- D. Owner Responsibility
 - 1. Owner shall notify both Sika Corporation and the Applicator of any leaks as they occur during the time period when both warranties are in effect.

1.9 WARRANTY DURATIONS

- A. Manufacturer's warranty shall be in effect for a 20 year duration.
 - B. Applicator's/Roofing Contractor's Warranty shall be in effect for a 5 year duration.
- 

PART 2 - PRODUCTS

2.1 GENERAL

- A. Components of the roof system are to be products of Manufacture as indicated on the Detail Drawings and specified in the Contract Documents.
- B. Components to be used that are other than those supplied or manufactured by Manufacturer may be submitted for review and acceptance by Manufacture. Manufacture's acceptance of any other product is only for a determination of compatibility with Manufacture products and not for inclusion in the Manufacturer warranty. The specifications, installation instructions, limitations, and restrictions of the respective manufacturers must be reviewed by the Owner's Representative for acceptability for the

intended use with Manufacture’s products.

- C. Special consideration should be given to construction related moisture. An example is the significant amount of moisture generated when concrete floor slabs are poured after the roof has been installed. Sika Corporation is not responsible for damage to the insulation when exposed to construction related moisture.

2.2 MANUFACTURER

- A. Manufacturer / Product:
 - 1. Acceptable Manufacturer: Subject to compliance with requirements, provide one of the following:
 - a. Sika Sarnafil;
 - b. GAF Materials Corporation
 - c. Johns Manville
 - 2. Products: Subject to compliance with requirements, provide one of the following products include or approved equal will be acceptable, subject to review by Architect.
 - a. Sarnafil G410 thermoplastic membrane with fiberglass reinforcement and lacquer coating (Basis-of-Design Product).
- B. Membrane shall conform to:
 - 1. ASTM D4434 (latest version), "Standard for Polyvinyl Chloride Sheet Roofing". Classification: Type II, Grade I.
 - 2. NSF/ANSI Standard 347, “Sustainability Assessment for Single Ply Roofing Membranes”. Certification Level: Platinum.
 - 3. The manufacture to guarantee that the membrane thickness meets or exceeds [the specified thickness] when tested according to ASTM D751
- C. Sarnafil G410 thermoplastic membrane with fiberglass reinforcement and lacquer coating.
 - 1. Thickness
 - a. Sarnafil G410-12, 48 mil (1.2 mm)
 - 2. Color of Membrane
 - a. EnergySmart White, initial solar reflectance of 0.83, emittance of 0.90, and solar reflective index (SRI) of 104 (ENERGY STAR listed).
 - 3. Typical Physical Properties ⁽¹⁾

	ASTM Test Method	ASTM Type II D4434 Spec Requirements	Typical Physical Properties
Parameters			
Overall Thickness, mil	D638	45	48
Reinforcing Material			Fiberglass
Thickness Above Scrim, mil		16	24
Felt Weight, oz/yd2			9

YALE TRANSITIONAL CENTER

Tensile Strength min.	D638	1500	1500
Direction, psi			
Elongation at Break, min.	D638		
Machine		250	250
Direction, %			
Cross		220	220
Direction, %			
Seam Strength min., (% of original)*	D638	75	Pass
Retention of Properties After Heat Aging	D3045		
Tensile Strength min., (% of original)	D638	90	Pass
Elongation min., (% of original)	D639	90	Pass
Tearing	D1004	10 (45.0)	15 (67)
Resistance (M.D.) min., lbf (N)			
Low Temperature Bend -40 ° F (-40 ° C)	D2136	Pass	Pass
Accelerated Weathering Test (Florescent Light, UV exposure), Hours	G154	5,000	10,000
Cracking (7x magnification)		None	None
Discoloration (by observation)		Negligible	Negligible
Crazing (7x magnification)		None	None
Linear	D1204	0.10 max.	-0.02
Dimensional Change (C.D.), %			
Weight Change After Immersion in Water, %	D570	± 3.0 max.	2.4
Static Puncture Resistance, 33 lbf (15 kg)	D5602	Pass	Pass
Dynamic Puncture Resistance, 7.3 ft-lbf (10 J)	D5635	Pass	Pass
Recycled Content (10' & 5' sheet only)	9% Pre-Consumer / 1% Post-Consumer		

2.3 FLASHING MATERIALS

- A. Wall / Curb Flashing
 - 1. Sarnafil G410 Flashing Membrane
 - a. A fiberglass reinforced membrane adhered to approved substrates using Sarnacol adhesive. Sarnafil G410 Flashing Membrane comes in 8" and 12" widths and is 60 mil (1.5 mm) thick. Consult Product Data Sheets for adhesive options and additional information.
 - 2. Sarnaclad
 - a. A PVC-coated, heat-weldable sheet metal capable of being formed into a variety of shapes and profiles. Sarnaclad is a 24 gauge, G90 galvanized metal sheet with a 20 mil (0.5 mm) unsupported Sarnafil membrane laminated on one side. The dimensions of Sarnaclad are 4 ft x 8 ft (1.2 m x 2.4 m) or 4 ft x 10 ft (1.2 m x 3.0 m). Consult Product Data Sheet for additional information.
- B. Perimeter Edge Flashing
 - 1. Edge Grip Fascia
 - a. A prefabricated perimeter edge system provided by Sika Corporation. The system has concealed fasteners with no penetrations on the horizontal roof surface and includes fasteners and splice plates. Edge Grip is made from two distinct parts. A rigid retainer base plate and a decorative snap-on fascia cover. The retainer is made from 20 gauge galvanized steel in 10 foot (3048 mm) standard lengths and is provided with 9/32 inch (7 mm) slotted pre-punched holes for fastener spacing at 12 inches (152 mm) on center. As an option the retainer base plate is also available in 0.05 inch (1.3 mm) aluminum. The snap-on fascia cover is available in 10 foot (3048 mm) lengths and in a variety of thickness, colors, finishes, and widths.
 - 1) Retainer base plate shall be 20 gauge galvanized steel in 10 ft. lengths.
 - 2) Snap-on fascia cover color shall be to match existing.
- C. Miscellaneous Flashing
 - 1. Detail Membrane
 - a. A 60 mil (1.5 mm) fiberglass reinforced membrane, available 12" x 50' (30.5 cm x 15.2 m) roll and 24" x 50' (61 cm x 15.2 m) roll, more pliable than Sarnafil G410 membrane, good use for flashing pipes, corners, and unusual shaped penetrations. Consult Product Data Sheet for additional information.
 - 2. Sarnacircles
 - a. A 60 mil (1.5mm) thick prefabricated 4 1/2 in. round circle patch injection molded. Consult Product Data Sheet for additional information.
 - 3. Sarnacorners - Inside
 - a. A 60 mil (1.5 mm) thick prefabricated inside corner injection molded. Consult Product Data Sheet for additional information.
 - 4. Sarnacorners - Outside
 - a. A 60 mil (1.5 mm) thick prefabricated outside corner injection molded. Consult Product Data Sheet for additional information.
 - 5. Sarnastack Universal, A, B, or C
 - a. A 60 mil (1.5 mm) thick prefabricated stack/pipe boot injection molded. Consult Product Data Sheets for additional information.
 - 6. Sarnacol 2170 VC Adhesive
 - a. A solvent-based, VOC compliant, reactivating adhesive used to attach

membrane to flashing substrate. Typical flashing substrate coverage rate is 45-

60ft² /gal (1.10–1.47m²/L). Consult Product Data Sheets for additional information.

2.4 ATTACHMENT COMPONENTS

- A. Coverage - Typical coverage rates for the 5 gallon (18.9 L) box sets are 1,800 to 2,200 sq.ft. (167 - 204 m²). All coverage rates are based on 12 inch (30cm) on center maximum spacing. The minimum ambient and surface temperatures should be 40F (4.4C) and rising.
- B. Approximate Set-Time - Designed to provide approximately 5 - 10 minutes of open time during a typical summer day. The open time will be shorter on hot humid days and longer on cold dry days.
- C. Storage - For ease of application, maintain a minimum material temperature of 70°F (21°C) prior to use. Store in a cool dry location at temperatures between 55°F (12.7° C) and 85°F (29.4°C), protect from freezing at all times. Shelf life is 12 months from the date of manufacture.
 - 1. Sarnastop
 - a. An extruded aluminum, low profile bar used with certain Sarnafasteners to attach to the roof deck or to walls/curbs at terminations, penetrations and at incline changes of the substrate. Sarnastop is a 1 inch (25 mm) wide, flat aluminum bar 1/8 inch (3 mm) thick that has predrilled holes every 6 inches (152 mm) on center.
 - 2. Sarnabar
 - a. An FM-approved, heavy-duty, 14 gauge, galvanized or stainless, roll-formed steel bar used to attach membrane to roof decks. The formed steel is pre-punched with holes every 1 inch (25 mm) on center to allow various Sarnafastener spacing options. Consult Product Data Sheet for additional information.
 - 3. Sarnacord
 - a. A 5/32 inch (4 mm) diameter, red-colored, flexible thermoplastic extrusion that is welded to the top surface of the Sarnafil membrane and against the side of the Sarnabar, used to hold the membrane in position. Consult Product Data Sheet for additional information.
- D. SUBSTRATE BOARDS
- E. Substrate Board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, 1/4 inch thick.
 - 1. Product: Subject to compliance with requirements, provide "Dens-Deck" by Georgia-Pacific Corporation, or accepted alternate (no known equal).

2. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening substrate panel to roof deck.

2.5 MISCELLANEOUS ACCESSORIES

- A. Sarnamatic 641mc or 661
 1. 220 volt, self-propelled, hot-air welding machine used to seal Sarnafil membrane seams.
- B. Aluminum Tape
 1. A 2 inch (50 mm) wide pressure-sensitive aluminum tape used as a separation layer between small areas of asphalt contamination and the membrane and as a bond- breaker under the coverstrip at Sarnaclad joints.
- C. Multi-Purpose Tape
 1. A high performance sealant tape used with metal flashings as a preventive measure against air and windblown moisture entry.
- D. Perimeter Warning Tape
 1. Designed for use on PVC membranes as a reflective, highly visible pressure sensitive tape used to draw attention to roof perimeters and potential hazardous areas. The tape is available in 2 inch wide rolls by 30 feet long and comes on a release liner for easy application. Perimeter Warning Tape exceeds reflectivity 3 requirements and Federal spec. L-S-300, Class 1.
- E. Seam Cleaner
 1. Seam Cleaner is used on PVC membranes to clean the in the seam area only.

2.6 SEALANTS

- A. Sikaflex-1a (for termination details and pitch pocket toppings).
- B. Depending on substrates, the following sealants are options for temporary overnight tie-ins:
 1. Type III hot asphalt conforming to ASTM D312 (latest version).
 2. Sarnafiller.
 3. Multiple layers of roofing cement and felt.
 4. Spray-applied, water-resistant urethane foam.
 5. Mechanical attachment with rigid bars and compressed sealant.

2.7 MISCELLANEOUS FASTENERS AND ANCHORS

- A. All fasteners, anchors, nails, straps, bars, etc. shall be post-galvanized steel, aluminum or stainless steel. Mixing metal types and methods of contact shall be assembled in such a manner as to avoid galvanic corrosion. Fasteners for attachment of metal to masonry shall be expansion type fasteners with stainless steel pins. All concrete fasteners and anchors shall have a minimum embedment of 1-1/4 inch (32 mm) and shall be approved for such use by the fastener manufacturer. All miscellaneous wood fasteners and anchors

used for flashings shall have a minimum embedment of 1 inch (25 mm) and shall be approved for such use by the fastener manufacturer.

PART 3 - EXECUTION

3.1 SUBSTRATE CONDITION

- A. Applicator shall be responsible for acceptance or provision of proper substrate to receive new roofing materials.
- B. Applicator shall verify that the work done under related sections meets the following conditions:
 - 1. Roof curbs, nailers, equipment supports, vents and other roof penetrations are properly secured and prepared to receive new roofing materials.
 - 2. All surfaces are smooth and free of dirt, debris and incompatible materials.
 - 3. All roof surfaces shall be free of moisture.
 - 4. Roofing substrate not meeting manufactures requirements for new work shall be replaced.
 - 5. Verify the existing roofing substrate contains no existing mastic deemed to contain asbestos. Upon identification of condition, encapsulate existing mastic or remove and replace existing substrate for new work.

3.2 SUBSTRATE PREPARATION

- A. The roof deck and existing roof construction must be structurally sound to provide support for the new roof system. The Applicator shall load materials on the rooftop in such a manner as to eliminate risk of deck overload due to concentrated weight. The Owner's Representative shall ensure that the roof deck is secured to the structural framing according to local building code and in such a manner as to resist all anticipated wind loads in that location.

3.3 SUBSTRATE INSPECTION

- A. A dry, clean and smooth substrate shall be prepared to receive the Sarnafil G410 Adhered roof system.
- B. The Applicator shall inspect the substrate for defects such as excessive surface roughness, contamination, structural inadequacy, or any other condition that will adversely affect the quality of work.
- C. The substrate shall be clean, smooth, dry, free of flaws, sharp edges, loose and foreign material, oil and grease. Roofing shall not start until all defects have been corrected.
- D. All roof surfaces shall be free of water, ice and snow.
- E. Sarnafil shall be applied over compatible and accepted substrates only.

3.4 VAPOR BARRIER / AIR BARRIER INSTALLATION

A. General Criteria:

1. Sarnavap-10
 - a. Wood Deck (New Construction):
 - b. Sarnavap-10 is loose-laid over suitable substrate. Overlap all edges 4 inches (100 mm) and seal with butyl tape. Extend Sarnavap-10 to perimeter and deck penetrations and seal to provide continuity of the building's air/vapor envelope. Sarnavap-10 must be sealed on the vertical surface at roof penetrations also.

3.5 MECHANICALLY FASTENED ROOFING MEMBRANE INSTALLATION

- a. Install roofing membrane over area to receive roofing according to roofing system manufacturer's written instructions. Unroll roofing membrane and allow to relax before installing.
 1. Install sheet according to ASTM D 5082.
- b. Start installation of roofing membrane in presence of roofing system manufacturer's technical personnel.
- c. Accurately align roofing membranes and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- d. Mechanically or adhesively fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.
- e. Apply roofing membrane with side laps shingled with slope of roof deck where possible.
- f. Seams: Clean seam areas, overlap roofing membrane, and hot-air weld side and end laps of roofing membrane according to manufacturer's written instructions to ensure a watertight seam installation.
 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roofing membrane.
 2. Verify field strength of seams a minimum of three times daily and repair seam sample areas.
 3. Repair tears, voids, and lapped seams in roofing membrane that does not meet requirements.
- g. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.
- h. In-Splice Attachment: Secure one edge of roofing membrane using fastening plates or metal battens centered within membrane splice and mechanically fasten roofing membrane to roof deck. Field-splice seam.

- i. Through-Membrane Attachment: Secure roofing membrane using fastening plates or metal battens and mechanically fasten roofing membrane to roof deck. Cover battens and fasteners with a continuous cover strip.
- j. Install roofing membrane and auxiliary materials to tie in to existing roofing.

3.2 INSTALLATION OF MEMBRANE

- A. The surface of the insulation or substrate shall be inspected prior to installation of the Sarnafil roof membrane. The substrate shall be clean, dry, free from debris and smooth with no surface roughness or contamination. Broken, delaminated, wet or damaged insulation boards shall be removed and replaced.

3.3 HOT-AIR WELDING OF SEAM OVERLAPS

A. General

- 1. All seams shall be hot-air welded. Seam overlaps should be 3 inches (76 mm) wide when automatic machine-welding and 4 inches (100 mm) wide when hand-welding, except for certain details.
- 2. Welding equipment shall be provided by or approved by Sika Corporation. All mechanics intending to use the equipment shall have successfully completed a training course provided by a Sika Corporation Technical Service Representative prior to welding.
- 3. All membrane to be welded shall be clean and dry.

B. Hand-Welding

- 1. Hand-welded seams shall be completed in two stages. Hot-air welding equipment shall be allowed to warm up for at least one minute prior to welding.
- 2. The back edge of the seam shall be welded with a narrow but continuous weld to prevent loss of hot air during the final welding.
- 3. The nozzle shall be inserted into the seam at a 45 degree angle to the edge of the membrane. Once the proper welding temperature has been reached and the membrane begins to "flow", the hand roller is positioned perpendicular to the nozzle and rolled lightly. For straight seams, the 1-1/2 inch (40 mm) wide nozzle is recommended for use. For corners and compound connections, the 3/4 inch (20 mm) wide nozzle shall be used.

C. Machine Welding

- 1. Machine welded seams are achieved by the use of Sika Corporation's automatic welding equipment. When using this equipment, Sika Corporation's instructions shall be followed and local codes for electric supply, grounding and over current protection observed. Dedicated circuit house power or a dedicated portable generator is recommended. No other equipment shall be operated simultaneously off the generator.
- 2. Metal tracks may be used over the deck membrane and under the machine welder to minimize or eliminate wrinkles.

D. Quality Control of Welded Seams

1. The Applicator shall check all welded seams for continuity using a rounded screwdriver. Visible evidence that welding is proceeding correctly is smoke during the welding operation, shiny membrane surfaces, and an uninterrupted flow of dark gray material from the underside of the top membrane. On-site evaluation of welded seams shall be made daily by the Applicator at locations as directed by the Owner's Representative or Sika Corporation's representative. One inch (25 mm) wide cross-section samples of welded seams shall be taken at least three times a day. Correct welds display failure from shearing of the membrane prior to separation of the weld. Each test cut shall be patched by the Applicator at no extra cost to the Owner.

3.4 MEMBRANE FLASHINGS

- A. All flashings shall be installed concurrently with the roof membrane as the job progresses. No temporary flashings shall be allowed without the prior written approval of the Owner's Representative and Sika Corporation. Approval shall only be for specific locations on specific dates. If any water is allowed to enter under the newly completed roofing, the affected area shall be removed and replaced at the Applicator's expense. Flashing shall be adhered to compatible, dry, smooth, and solvent-resistant surfaces. Use caution to ensure adhesive fumes are not drawn into the building.
 1. Sarnacol Adhesive for Membrane Flashings
 - a. Over the properly installed and prepared flashing substrate, the Sarnacol adhesive shall be applied in smooth, even coats with no gaps, globs or similar inconsistencies. Only an area which can be completely covered in the same day's operations shall be flashed. The bonded sheet shall be pressed firmly in place with a hand roller.
 - b. No adhesive shall be applied in seam areas that are to be welded. All panels of membrane shall be applied in the same manner, overlapping the edges of the panels as required by welding techniques.
 2. Install Sarnastop/Sarnabar/Sarnacord according to the Detail Drawings with approved fasteners into the structural deck at the base of parapets, walls and curbs. Sarnastop is required by Sika Corporation at the base of all tapered edge strips and at transitions, peaks, and valleys according to Sika Corporation's details.
 3. Sika Corporation's requirements and recommendations and the specifications shall be followed. All material submittals shall have been accepted by Sika Corporation prior to installation.
 4. All flashings should extend a minimum of 8 inches (0.2 m) above roofing level, exceptions to this might be pipe boots and/or sealant pockets, etc. If in question, submit in writing to the Owner's Representative and Sika Corporation Technical Department for signed approval.
 5. All flashing membranes shall be consistently adhered to substrates. All interior and exterior corners and miters shall be cut and hot-air welded into place. No bitumen shall be in contact with the Sarnafil membrane.
 6. All flashing membranes shall be mechanically fastened along the counter-flashed top edge with Sarnastop at 6 to 8 inches (0.15 to 0.20 m) on center.
 7. Sarnafil flashings shall be terminated according to Sika Corporation recommended details.
 8. All adhered flashings that exceed 30 inches (0.75 m) in height shall receive additional securement. Consult Sika Corporation Technical Department for securement methods.

3.5 METAL FLASHINGS

- A. Metal details, fabrication practices and installation methods shall conform to the applicable requirements of the following:
 - 1. Factory Mutual Loss Prevention Data Sheet 1-49 (latest issue).
 - 2. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - latest issue.
- B. Metal, other than that provided by Sika Corporation, is not covered under the Sika Corporation warranty.
- C. Complete all metal work in conjunction with roofing and flashings so that a watertight condition exists daily.
- D. Metal shall be installed to provide adequate resistance to bending to allow for normal thermal expansion and contraction.
- E. Metal joints shall be watertight.
- F. Metal flashings shall be securely fastened into solid wood blocking. Fasteners shall penetrate the wood nailer a minimum of 1 inch (25 mm).
- G. Airtight and continuous metal hook strips are required behind metal fascias. Hook strips are to be fastened 12 inches (0.3 m) on center into the wood nailer or masonry wall.
- H. Counter flashings shall overlap base flashings at least 4 inches (100 mm).
- I. Hook strips shall extend past wood nailers over wall surfaces by 1-1/2 inch (38 mm) minimum and shall be securely sealed from air entry.

3.6 SARNACLAD METAL BASE FLASHINGS / EDGE METAL

- A. All flashings shall be installed concurrently with the roof membrane as the job progresses. No temporary flashings shall be allowed without the prior written approval of the Owner's Representative and Sika Corporation. Acceptance shall only be for specific locations on specific dates. If any water is allowed to enter under the newly completed roofing due to incomplete flashings, the affected area shall be removed and replaced at the Applicator's expense.
 - 1. Sarnaclad metal flashings shall be formed and installed per the Detail Drawings.
 - a. All metal flashings shall be fastened into solid wood nailers with two rows of post galvanized flat head annular ring nails, 4 inches (100 mm) on center staggered. Fasteners shall penetrate the nailer a minimum of 1 inch (25 mm).
 - b. Metal shall be installed to provide adequate resistance to bending and allow for normal thermal expansion and contraction.
 - 2. Adjacent sheets of Sarnaclad shall be spaced 1/4 inch (6 mm) apart. The joint shall be covered with 2 inch (50 mm) wide aluminum tape. A 4 inch minimum (100

mm) wide strip of Sarnafil flashing membrane shall be hot-air welded over the joint. Exercise caution at perimeter of roof.

3.7 EDGE METAL

- A. All flashings shall be installed concurrently with the roof membrane as the job progresses. No temporary flashings shall be allowed without the prior written approval of the Owner's Representative and Sika Corporation. Acceptance shall only be for specific locations on specific dates. If any water is allowed to enter under the newly completed roofing due to incomplete flashings, the affected area shall be removed and replaced at the Applicator's expense.

1. Edge Grip Fascia

- a. Position the roof membrane over edge of roof and down outside face of wall covering wood nailer(s) completely. Allow 1/2 inch (13 mm) of excess membrane to extend down past the wood nailer. Hot-air weld all seams making sure there are no voids in welds.
- b. Apply a 3/8 inch (10 mm) continuous bead of Sikaflex – 1a sealant to the clean bottom of formed retainer. Install formed retainer from right to left as seen from rooftop. Overlap joints of straight run sections a minimum of 1 inch (25 mm) and corner sections a minimum of 5 inches (127 mm). Field cut sections as necessary.
- c. Fasten formed retainer into side of nailer 12 inches (0.3 m) on center. Use fasteners provided with Edge Grip system; 1-1/2 inch (38 mm) hex head stainless steel fasteners with neoprene washers.
- d. Fasteners shall provide a minimum 240 lbs. (109 kg) pull-out resistance; suitable for the substrates to which being installed.
- e. Install concealed joint splice plates intersecting sections of snap-on fascia cover joints.
- f. Position snap-on fascia cover so that it's top engages the formed retainer top. Rotate downward engaging bottoms of snap-on fascia cover and formed retainer. Allow 1/4 inch (6 mm) gap between snap-on fascia sections for thermal expansion. Field cut where necessary.

2. Edge Grip Extruded Fascia

- a. Position the roof membrane over edge of roof and down outside face of wall covering wood nailer(s) completely. Allow 1/2 inch (13 mm) of excess membrane to extend down past the wood nailer. Hot-air weld all seams making sure there are no voids in welds.
 - 1) Apply a 3/8 inch (10 mm) continuous bead of Sikaflex – 1a sealant to the clean bottom of heavy-duty extruded retainer. Install extruded retainer from right to left as seen from rooftop. Field cut sections as necessary.
 - 2) Install retainer splice under intersecting sections of extruded retainer.
 - 3) Fasten extruded retainer into side of nailer 12 inches (0.3 m) on center. Use fasteners provided with Edge Grip Extruded system; 1-1/2 inch (38 mm) hex head stainless steel fasteners with neoprene washers. Allow 1/8 inch (3 mm) gap between extruded retainer sections for thermal expansion [1/4 inch (6 mm) if temperature is below 40°F (4°C)].
 - 4) Fasteners shall provide a minimum 240 lbs. (109 kg) pull-out resistance; suitable for the substrates to which being installed.

- 5) Install concealed joint splice plates at intersecting sections of snap-on fascia cover joints.
- 6) Position snap-on fascia cover so that its top engages the extruded retainer top. Rotate downward engaging bottoms of snap-on fascia cover and extruded retainer base plate. Allow 1/4 inch (6 mm) gap between snap-on fascia sections for thermal expansion. Field cut where necessary.

3.8 TEMPORARY CUT-OFF

- A. All flashings shall be installed concurrently with the roof membrane in order to maintain a watertight condition as the work progresses. All temporary waterstops shall be constructed to provide a 100 percent watertight seal. The stagger of the insulation joints shall be made even by installing partial panels of insulation. The new membrane shall be carried into the waterstop. Waterstop shall be sealed to the deck or substrate so that water will not be allowed to travel under the new or existing roofing. The edge of the membrane shall be sealed in a continuous heavy application of sealant as described in Section 2.7. When work resumes, the contaminated membrane shall be cut out. All sealant, contaminated membrane, insulation fillers, etc. shall be removed from the work area and properly disposed of off-site. None of these materials shall be used in the new work.
- B. If inclement weather occurs while a temporary waterstop is in place, the Applicator shall provide the labor necessary to monitor the situation to maintain a watertight condition.
- C. If any water is allowed to enter under the newly-completed roofing, the affected area shall be removed and replaced at the Applicator's expense.

3.9 COMPLETION

- A. Prior to demobilization from the site, the work shall be reviewed by the Owner's Representative and the Applicator. All defects noted and non-compliances with the Specifications or the recommendations of Sika Corporation shall be itemized in a punch list. These items must be corrected immediately by the Applicator to the satisfaction of the Owner's Representative and Sika Corporation prior to demobilization.
- B. All Warranties referenced in this Specification shall have been submitted and have been accepted at time of contract award.

3.10 DETAILS

- A. Refer to Typical System Details section or usa.sarnafil.sika.com.

END OF SECTION 075419