City of Dublin

5800 Building Roof Replacement

Planholder	Company E-mail
ACI Contractors	dougmooney@acicontractors.com
K & W Roofing, Inc.	JACK@KWROOFING.NET
Construction Journal	doreen.white@constructionjournal.com
ConstructConnect	content@constructconnect.com
AH Sturgill Roofing	justins@sturgillroofing.com
Tusing Builders, Ltd.	kdennison@trusttusing.com
Builders Exchange	info@bxohio.com
DCA Roofing	scox@dcaroofing.com
DODGE Data & Analytics	dodgefedbr@gmail.com
Harold J. Becker Co., Inc.	ncbechtel@hjbecker.com
Allied Construction Industries	lrolfes@aci-construction.org
Phinney Industrial Roofing	tnelson@phinneyindustrial.com
The Blue Book	kstein@mail.thebluebook.com

Received by: _____

Date: _____

Date of Addendum 10-4-18

eS
Architecture and Development

Addendum

6077 Frantz Road, Suite 201
Dublin, Ohio 43017
614.764.1115

ROOF REPLACEMENT
5800 Building
Dublin, Ohio

ADDENDUM NUMBER 2
October 4, 2018

WORK: ALL TRADES

This Addendum Number 2 becomes as fully a part of the first issued documents as if originally issued therewith or originally contained therein.

This Addendum embraces additions to, deductions from, all changes and substitutions in, or clarifications and emphasis on parts of requirements of the drawings and specifications, pertaining to ALL TRADES and WORK herewith mentioned for the completion of the PROJECT.

NOT including any cover sheet(s), including this page, there is/are **thirty-four (34)** total 8.5 X 11 page(s) included with this Addendum Number 2:

ITEM 1

The Pre-bid meeting notes and Pre-bid sign-in sheet were issued as a part of a previous Addendum.

ITEM 2

"Prevailing Wage Rate Skilled Crafts: Roofer" wage rate is re-issued as a part of this Addendum (one (01) page(s)).

ITEM 3

"Section 01 23 00 – ALTERNATES" is re-issued as a part of this Addendum (two (02) page(s)).

ITEM 4

"FORM OF BID" is re-issued as a part of this Addendum (ten (10) page(s)).

ITEM 5

"SECTION 07 53 23 – ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING (REVISED OCTOBER 3, 2018)" is re-issued as a part of this Addendum (eighteen (18) page(s)).

eS
Architecture and Development

ITEM 6

General Clarifications to Specifications and Drawings (none of the items are changes to the Work scope and are presented to supplement and clarify items already noted within the documents):

1. Specification Section 07 53 23 stated:

   "Tapered insulation, including slopes. Contractor shall verify structural slope prior to submitting tapered insulation drawings and shall coordinate tapered drainage needs with structural slope. Contractor shall coordinate all insulation with weep hole locations and heights prior to submittal of any insulation shop drawings."

   This did not indicate a full tapered system. This specification section has been clarified and reissued as a part of this Addendum.

2. Per information provided by CoD, existing core (from the top down):
   a. EPDM
   b. ¾" +/- Fiber board
   c. 6" +/- Styrofoam insulation
   d. ¾" +/- Fiber board
   e. Metal deck

3. Per State of Ohio **Document 00 72 13 - General Conditions (General Contracting Project) State of Ohio Standard Requirements for Public Facility Construction** 2014 Edition (2016-JAN) and as discussed at the pre-bid meeting, the following shall be used for determining weather days and delays:

   8.4 Substantiation of Claims for Extension of the Contract Times
   8.4.1 The Contractor shall substantiate each Claim for an extension of the Contract Times with:

   8.4.1.1 written documentation …… of the actual delay to the critical path of the Construction Progress Schedule due to the event giving rise to the Claim; (THIS MEANS THE SERVICE PROVIDER WILL NEED TO PROVIDE A SCHEDULE AT THE PROJECT ONSET AND SHOW HOW THE CLAIMED EVENT IMPACTS THAT SCHEDULE.)

8.4.2 In addition to the requirements of **Section 8.4.1**, if adverse weather conditions are the basis for a Claim for additional time, the Contractor shall document the Claim with data substantiating that weather conditions were abnormal for the period, could not have been reasonably anticipated, and had an adverse effect on a critical element of the scheduled construction. The support for and evaluation of all adverse weather Claims shall be based upon average weather conditions during the 5 years immediately preceding the dates at issue in the Claim as those weather conditions were recorded at the government-controlled weather-recording facility nearest to the Site.

ITEM 7

As stated at the October 1, 2018 Pre-Bid meeting, Bids are due October 10, 2018 at 11:00 AM. All **Questions** from Bidders should be faxed to eS no later than 11:00 AM, October 3, 2018. Answers to questions received verbally and/or informally will not be considered valid, and questions/requests asked or made after 11:00 AM, October 3, 2018 will not be responded to.

No questions were received.

END OF ADDENDUM

Addendum Number 2, Page 3 of 3

Prevailing Wage Rate
Skilled Crafts

Name of Union: Roofer Local 86

Change # : LCN01-2018fbLoc86

Craft : Roofer **Effective Date :** 09/26/2018 **Last Posted :** 09/26/2018

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Roofer	$27.18		$7.53	$7.50	$0.47	$0.00	$0.00	$0.03	$0.00	$0.00	$42.71	$56.30
Apprentice	**Percent**											
1st YEAR	55.00	$14.95	$0.00	$0.25	$0.47	$0.00	$0.00	$0.03	$0.00	$0.00	$15.70	$23.17
2nd YEAR	65.00	$17.67	$7.53	$2.05	$0.47	$0.00	$0.00	$0.03	$0.00	$0.00	$27.75	$36.58
3rd YEAR	75.00	$20.38	$7.53	$3.49	$0.47	$0.00	$0.00	$0.03	$0.00	$0.00	$31.91	$42.10
4th YEAR	85.00	$23.10	$7.53	$4.93	$0.47	$0.00	$0.00	$0.03	$0.00	$0.00	$36.06	$47.61

Special Calculation Note : Other is R & E Trust.

Ratio :

1 Journeymen to 1 Apprentices
per job site

Jurisdiction (* denotes special jurisdictional note) :

CHAMPAIGN, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, HARDIN, HOCKING, KNOX, LICKING, LOGAN, MADISON, MARION, MORROW, PERRY, PICKAWAY, PIKE, ROSS, UNION, WYANDOT

Special Jurisdictional Note :

Details :

SECTION 01 23 00 – ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including City of Dublin Front End Documents (in their entirety) and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for alternates.

B. Related Sections and Documents include the following:

1. Divisions 1-26 for all Alternates.

1.3 DEFINITIONS

A. Alternate: An item specified on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

C. Execute accepted alternates under the same conditions as other Work of the Contract.

D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the Work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

Base Bid includes all Work defined in the documents for this project.

A. Alternate G-1: Use of deck board and dry-in sheet in the roofing systems. See Section 07 53 23 system descriptions for more information.

1. Base Bid does NOT include use of deck board or dry-in sheet. Under this Alternate, provide all necessary General Construction Work as required to:

a. Provide and install new deck board and new dry-in sheet throughout metal decking roof area.
b. Acceptance of this Alternate will add 00 days to the contract.
c. This ALTERNATE shall either be an ADD or a DEDUCT to the Base Contract.

B. Alternate G-2: Use of low VOC adhesives. See Section 07 53 23– ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING (REVISED OCTOBER 3, 2018) for more information.

1. Base Bid shall include standard bonding adhesive per 07 53 23 – ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING (REVISED OCTOBER 3, 2018) 2.4.C. Under this Alternate, provide all necessary General Construction Work as required to use a low odor, low VOC bonding adhesive per 07 53 23 – ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING (REVISED OCTOBER 3, 2018) 2.4.D.

a. Acceptance of this Alternate will add 00 days to the contract.
b. This ALTERNATE shall either be an ADD or a DEDUCT to the Base Contract.

END OF SECTION 01 23 00

FORM OF BID

1.01 Submitted by:

_____ _____ ____, 20___
(Contracting Firm) (Date)

1.02 Deliver To:

City of Dublin
6555 Shier Rings Rd
Dublin, OH 43016

1.03 Having read the Specifications and examined the Drawings for the **5800 Building Roof Replacement** and having also received, read and taken into account Addenda through number and likewise having inspected the site and the conditions affecting and governing said Project, the undersigned hereby proposes to furnish all materials and to perform all labor, as specified and described in the said Specifications and/or as shown on the said Drawings for all work necessary to complete the Project on a timely basis and in accordance with the Contract Documents, regardless of whether expressly provided for in such Specifications and Drawings.

1.04 Before completing the Form of Bid, the Undersigned represents that it has carefully reviewed, and will comply with the Notice to Bidders, Instructions to Bidders, Owner-Contractor Agreement, and all Specifications, and understands these documents. Failure to comply with provisions of these documents may be cause for disqualification of bid and/or termination.

1.05 Estimate of Construction:

Materials and Labor: Base Bid	$395,000.00
Materials and Labor: Alternate 1	$ 60,500.00
Materials and Labor: Alternate 2	$ 20,000.00

1.06 Completion of Work:

In submitting a bid, the undersigned agrees to execute and complete the Owner-Contractor Agreement in the form included in the Contract Documents and to complete its work per the following:

Monday, October 01, 2018	Contractor walk through at 5800 Shier Rings Road @ 11:00 am
Wednesday, October 03, 2018	Contractor deadline for ALL questions (in writing to the Architect) 11:00 am
Wednesday, October 10, 2018	Contractor bids due by 11:00 am at 6555 Shier Rings Road
Friday, October 12, 2018	Contractor review @ 11:00 am at 6555 Shier Rings Road (tentative)
Tuesday, October 23, 2018	Contractor notice to proceed
Monday, October 29, 2018	Contractor construction start
Friday, January 25, 2019	Contractor construction complete (Base Bid)
Friday, January 25, 2019	Contractor construction complete (Alternate; no days added)

NOTE A THE WORDING OF THE FORM OF PROPOSAL SHALL BE USED THROUGHOUT, WITHOUT CHANGE, ALTERATION, OR ADDITION. ANY CHANGE MAY CAUSE IT TO BE REJECTED.

NOTE B THE BIDDER MUST BID ON THE EXACT BRANDS OF MATERIALS SPECIFIED, INCLUDING MATERIALS SPECIFIED IN ANY ADDENDA, WITH NO EXCEPTIONS.

2.01 Bid:

ITEM 1 ALLOWANCES

ALLOWANCES (Include Allowance amounts in the Base Bid below. The Contractor's Fee and costs for unloading and handling on the Site, labor, installation costs, and other expenses contemplated for the Allowances are included in the Base Bid and not in the Allowance.)

Description	Section	Amount
Pull tests	**01 21 00**	$ **2,500.00 PER BUILDING**

ITEM 2 UNIT PRICES

UNIT PRICES (Include the subtotal of Unit Price extensions in the Base Bid below. Unit prices shall be used solely for the purpose of determining the adjustment to the Contract Sum for differences between the estimated quantities on the Bid Form and the actual quantities provided. The Contractor's Fee on account of Unit Price Work is included in the Base Bid and not in the Unit Price.)

Description	Estimated Quantity	Unit Price / Measure	Unit of Extension
Repair to the surface of structural metal roof decking by use of rust-kill primer	**2,000**	$ _____ / **S.F.**	$ _____
Replacement of structural metal roof decking	**500**	$ _____ / **S.F.**	$ _____
Topical repair to the surface of concrete structural deck:	**10**	$ _____ / **S.F.**	$ _____
Repair to the surface of concrete structural deck (medium depth)	**10**	$ _____ / **S.F.**	$ _____
Repair to the surface of concrete structural deck (deep repair):	**10**	$ _____ / **S.F.**	$ _____

SUBTOTAL OF UNIT PRICE EXTENSIONS: $ _____

ITEM 3 BASE BID

Total Materials and Labor for the sum of $ _____

_____ Dollars ($ _____)
(Words) (Figures)

ITEM 4 ALTERNATES

Clearly mark/circle whether each alternate is an ADD or a DEDUCT

ALTERNATE NO. 1 – USE OF DECK BOARD AND DRY-IN SHEET: If Alternate No. 1 is accepted, ADD or DEDUCT to ITEM 3 BASE BID the following:

Total Materials and Labor for the sum of $ _____

_____ Dollars ($ _____)
(Words) (Figures)

ALTERNATE NO. 2 – USE OF LOW VOC ADHESIVE: If Alternate No. 2 is accepted, ADD or DEDUCT to ITEM 3 BASE BID the following:

Total Materials and Labor for the sum of $ _____

_____ Dollars ($ _____)
(Words) (Figures)

3.01 Instructions for signing:

A. The person signing for a sole proprietorship must be the sole proprietor or his authorized representative. The name of the sole proprietor must be shown below.

B. The person signing for a partnership must be a partner or his authorized representative.

C. The person signing for a corporation must be the president, vice president or other authorized representative; or he must show his authority, by affidavit, to bind the corporation.

D. The person signing for some other legal entity must show his authority, by affidavit, to bind the legal entity.

CONTACTOR COMPANY NAME: (Type/Print) _____

ADDRESS (Type/Print): _____

_____

NAME: (Type/Print): _____

SIGNATURE: _____

TITLE (Type/Print): _____

PHONE NUMBER: _____ FAX NUMBER: _____

DATE SIGNED: _____ SEAL (IF BY CORPORATION):

EMAIL: _____

Upon failure to have all work completed within the project time, the City of Dublin, Ohio shall be entitled to retain or recover from the Bidder, as liquidated damages, and not as penalty, the amounts set forth in the following table for each and every calendar day until completion. The right of the City of Dublin, Ohio to recover liquidated damages shall not substitute for any recovery for additional costs in the event the Bidder fails to complete the Agreement for **5800 BUILDING ROOF REPLACEMENT** according to the contract documents.

Liquidated Damages:

Contract Amount	Dollars Per Day
$0-25,000	$ 100.00
25,001-50,000	150.00
50,001-100,000	200.00
100,001-500,000	300.00
500,001-1,000,000	500.00
1,000,001-2,000,000	750.00
2,000,001-5,000,000	1,000.00
5,000,001-10,000,000	1,500.00
Over $10,000,001	2,000.00

REPRESENTATIONS OF THE BIDDER

The Bidder represents the following:

1. The Bidder has read and understands the contract documents and understands that it must comply with all requirements of the contract documents, regardless of whether the Bidder has actual knowledge of the requirements and regardless of any statement or omission made by the Bidder which might indicate a contrary intention.

2. The Proposal is based upon the items specified by the contract documents.

3. The Bidder has visited the site, become familiar with local conditions, and has correlated personal observations about the requirements of the contract documents. The Bidder has no outstanding questions regarding the interpretation of the contract documents.

4. The Bidder has submitted the following in connection with this Proposal and the information contained therein is complete and accurate:

a. Non-collusion Affidavit.

b. Bid Guaranty.

c. List of Subcontractors.

d. Delinquent Personal Property Tax Affidavit.

e. Affidavit of Authority (if Bidder is a corporation).

f. Experience Record/References.

g. Power of Attorney (if Bidder is an out-of-state corporation).

5. The Bidder understands that the Agreement for 5800 BUILDING ROOF REPLACEMENT is subject to all of the provisions, duties, obligations, remedies and penalties of Ohio Revised Code.

6. Within ten (10) business days from the date of receipt the Notice of Intent to Award, the Bidder understands that it must enter into and execute an Agreement for 5800 BUILDING ROOF REPLACEMENT with the City of Dublin, Ohio if awarded on the basis of this Proposal. If the Bidder does not execute an Agreement for 5800 BUILDING ROOF REPLACEMENT for any reason, the Bidder and the Bidder's surety shall be liable to the City of Dublin, Ohio as provided in Ohio Revised Code Section 153.54.

7. Within ten (10) business days of the date of receipt of the Notice of Intent to Award, the Bidder understands that it must submit the following:

   a. Performance and Payment Bond - if not using combination bond.
   b. Certificate of Insurance and a copy of Additional Insured Endorsement.
   c. Certificate of Compliance with Affirmative Action.

8. The Bidder understands that it must furnish any other information requested by the City Engineer.

The Bidder hereby signs this Proposal on the ___ day of _____, 2018.

If Bidder is an individual, complete the following:

Signature: _____

Print Name: _____

Name of Business: _____
(if different than above)

Federal Identification Number: _____

Address: _____

_____

Telephone: ( ) _____

Fax: ( ) _____

If Bidder is a partnership, complete the following:

Name of Partnership: _____

By: _____
(Signature)

Print Name: _____

Federal Identification Number: _____

Address: _____

_____

Telephone: ( ) _____

Fax: ( ) _____

Names and Addresses of all general partners:

_____

_____

_____

If Bidder is a joint venture, complete the following:

Name of Joint Venture: _____

By: _____
(Signature)

Print Name: _____

Address: _____

_____

Telephone: ( ) _____

Fax: ( ) _____

Complete the following for each firm represented by the joint venture:

1. Name:_____

Federal Identification Number: _____

Address: _____

_____

Telephone: ( ) _____

Fax: ( ) _____

2. Name: _____

Federal Identification Number: _____

Address: _____

_____

Telephone: ( ) _____

Fax: ( ) _____

If Bidder is a corporation, complete the following:

Name of Corporation: _____

By: _____
(Signature)

Print Name: _____

Title: _____

Federal Identification Number: _____

Address: _____

_____

Telephone: ( ) _____

Fax: ( ) _____

State of Incorporation: _____

Names and addresses of Corporate Officers:

_____

_____

_____

If Bidder is an entity other than those described above, complete the following:

Name of Bidder:

By: _____
(Signature)

Print Name: _____

Title: _____

Federal Identification Number: _____

Address: _____

_____

Telephone: ( ) _____

Fax: ( ) _____

Type of Business Entity: _____

Names and addresses of all Principals:

_____

_____

_____

_____

_____

SECTION 07 53 23 – ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING (REVISED OCTOBER 3, 2018)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including City of Dublin Front End Documents (in their entirety) and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Mechanically fastened insulation over metal deck with fully adhered membrane roofing system.
2. Fully-adhered insulation and membrane roofing system over a dry in membrane layer that has been fully adhered over a rigid board that has been mechanically fastened to metal decking.
3. Roof insulation.
4. Roofing accessories.

B. Related Sections include the following:

1. Division 6 Section "Rough Carpentry" for wood nailers, curbs, and blocking.
2. Division 7 Section "Sheet Metal Flashing and Trim" for metal roof penetration flashings, flashings, and counterflashings.
3. Division 7 Section "Joint Sealants."

C. Alternates: Refer to Division 1 Section "Alternates" for description of Work in this Section affected by Alternates.

D. Unit Prices: Refer to Division 1 Section "Unit Prices" for description of Work in this Section affected by unit prices.

1.3 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

B. Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," before multiplication by a safety factor.

C. Factored Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," after multiplication by a safety factor.

1.4 PERFORMANCE REQUIREMENTS

A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.

B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing membrane manufacturer based on testing and field experience.

C. Roofing System Design: Provide a membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to ASCE 10.

D. FMG Listing: Provide roofing membrane, base flashings, and component materials that comply with requirements in FMG 4450 and FMG 4470 as part of a membrane roofing system and that are listed in FMG's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FMG markings.

1. Fire/Windstorm Classification: Class 1A- 90.

1.5 SUBMITTALS

A. Product Data: For each type of product indicated.

B. General: All shop drawings shall be project specific. All shop drawings shall be reviewed and approved by the manufacture and Contractor prior to submitting to the ARCHITECT. Shop drawings received by the ARCHITECT without a Contractors and manufactures approved stamp shall be rejected.

C. Shop Drawings: For roofing system, include roof plans with project-specific details cross referenced properly, elevations, sections, roof details, and attachments of roofing to all building construction impacted by the roofing. Details are to be coordinated with structural slope and weep hole locations and heights and shall include and are not limited to:

1. Perimeters and perimeter flashings, base flashings, counter flashings, and membrane terminations.
2. Penetrations
3. Curbs
4. Drains, scuppers, gutters, and weirs
5. Sumps
6. All special project flashings and details
7. Tapered insulation, including slopes. Contractor shall verify structural slope prior to submitting tapered insulation drawings and shall coordinate tapered drainage needs with structural slope. Contractor shall coordinate all insulation with weep hole locations and heights prior to submittal of any insulation shop drawings. **Roof slope shown on drawings is structural. Provide tapered crickets and saddles.**
8. Insulation fastening patterns. Fastening patterns shall be reviewed and approved by the roofing manufacture.
9. Details of all conditions. NOTE: The Contactor shall develop all details as originals; not traced or copied from other sources. The Contractor shall NOT use the Architect's details as or for any part of their shop drawings or submittals. Details must be project specific.

D. Samples for Verification: For the following products:

1. 12-by-12-inch square of sheet roofing, of color specified, including T-shaped side and end lap seam.
2. 12-by-12-inch square of roof insulation.
3. 12-by-12-inch square of walkway pads or rolls.
4. 12-inch length of metal termination bars.
5. Six insulation fasteners of each type, length, and finish.
6. Six roof cover fasteners of each type, length, and finish.

E. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.

F. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.

1. Submit evidence of meeting performance requirements.

G. Qualification Data: For Installer and manufacturer.

H. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of roofing system.

I. Research/Evaluation Reports: For components of membrane roofing system.

J. Maintenance Data: For roofing system to include in maintenance manuals.

K. Warranties: Special warranties specified in this Section.

L. Inspection Report: Copy of roofing system manufacturer's inspection report of completed roofing installation.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A qualified firm or company that is approved, authorized, or licensed by membrane roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty. Prior to award of the contract. Installers qualifications must be provided that confirm the following:

1. Installer shall have installed a minimum of **ten** re-roofs of the same approximate scale, materials (single-ply EPDM), and methods specified for this project no more than **seven** years prior to the bid date for this project. All projects shall have been performed under the Installers companies' name. Projects performed under another company name are not considered acceptable.

2. Installer shall be certified by the manufacturers listed in this specification for no less than **ten (10)** calendar year(s) prior to the **initial** bid date of this project.

3. Installer must be in business under the same name and ownership for no less than **ten 10** calendar years prior to the **initial** bid date of this project. Projects performed under another company name are not considered acceptable.

B. Manufacturer Qualifications: A qualified manufacturer that is UL listed and FM Approvals approved for membrane roofing system identical to that used for this Project.

1. Manufacturer shall provide documentation of a minimum of **5**-years experience manufacturing EPDM roofing membranes systems.

2. Roofing manufacturer shall have a certified technical representative, who is a full-time staffed employee of the roofing membrane manufacturer (no third-party reviewers allowed) review this project on site at regular intervals, and not less than once per week. Technical representative shall provide written inspections reports for each site visit. Reports shall be received within one week of each visit. No payment shall be made for any Work until reports are received.

3. Roofing manufacturer's certified technical representative shall observe and approve pull tests at regular intervals. Pull test approvals shall be obtained from the manufacturer at intervals of no less than once per week.

C. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548.

D. Source Limitations: Obtain components for membrane roofing system from same manufacturer as roofing membrane and approved by roofing membrane manufacturer.

E. Fire-Test-Response Characteristics: Provide membrane roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL, FMG, or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.

1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and roof slopes indicated.
2. Fire-Resistance Ratings: ASTM E 119, for fire-resistance-rated roof assemblies of which roofing system is a part.

F. Mock-ups: Construct on site mock-up of the entire roofing system to be installed.

1. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
2. Develop a free-standing "off of the roof" on-site mock-up that is not less than 5'-0" x 5'-0" and that is not a part of the final roofing installation. The Contractor shall be responsible for dissembling and disposal of mock-up after approvals.
3. Mock-is shall include viewable examples of field seams, base flashings, flashings, and all conditions of perimeter metal installations.
4. Mock-up shall be done in the presence of the manufacturer's technical representative.
5. No work shall commence until mock-up is complete and written approval from the manufacturer's technical representative is provided to the ARCHITECT and Owner.

G. Preinstallation Conference: Conduct conference at Project site. Comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to roofing system including, but not limited to, the following:

1. Meet with Owner; Owner's insurer if applicable; testing and inspecting agency representative; roofing Installer; roofing system manufacturer's representative; deck

Installer; and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.

2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.7 DELIVERY, STORAGE, AND HANDLING

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

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.8 PROJECT CONDITIONS

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

1.9 WARRANTY

A. Warranty Special Note: There may be more than one warrantable roofing system and or product being installed as a part of the Work on this project. All warranties for all roofing materials and systems shall commence on the same date.

B. Warranty to include **90** mph wind speed.

C. Special Warranty: Manufacturer's standard form, full system, **NDL, non-prorated, transferable** without monetary limitation, in which manufacturer agrees to repair or replace each component of membrane roofing system that fail in materials or workmanship within the specified warranty period. Failure includes roof leaks.

1. Special warranty includes roofing membrane, base flashings, roofing membrane accessories roof insulation fasteners. Sheet metal, walkway products and other components of the entire roofing system (excluding the existing structural building roof deck).
2. Warranty Period: **20** years from date of Notice of Warranty Commencement.

D. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering Work of this Section, including all components of roofing system such as roofing membrane, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders and other components of roofing system, for the following warranty period:

1. Contractor Warranty Period: The general contractor and the roofing subcontractor shall furnish a two (2) year maintenance warranty on the total roofing system. The warranty shall cover, at no cost to the Owner, all labor and material required to repair or replace roofing, flashings, sheet metal and copings as necessary to fully correct leaks, faulty workmanship or defective materials. The general contractor shall schedule with the Owner Representative an annual inspection of the roofing system for each of the two (2) years. **This warranty is to be transferable.**

2. Roofing Installer's Warranty Period: **TWO** years from date of Notice of Warranty Commencement.

E. Design Criteria: The roofing installation shall be executed and warranted using the following design criteria:

1. 20-year full systems no dollar limit, transferable warranty requiring no periodic maintenance or inspection
2. Severe Hail (SH) resistance
3. All sheet metal shall be included in the full-systems warranty from the roofing manufacture.
4. To simulate FM I-90. Roof system shall have been tested by an independent third party such as FMG meeting or exceeding the manufacturers and simulated, specified uplift pressures.
5. Resistance of 90 mph peak wind gust.

PART 2 - PRODUCTS

2.1 EPDM ROOFING MEMBRANE

A. EPDM Roofing Membrane: ASTM D 4637, Type II, scrim or fabric internally reinforced uniform, flexible sheet made from EPDM, and as follows:

1. Manufacturers:

a. Carlisle SynTec Incorporated.

b. Johns Manville International, Inc.
c. Versico.

2. Thickness: .060 thick reinforced EPDM (Ethylene-Propylene-Diene-Monomer) membrane as needed to complete the roofing system
3. Exposed Face Color: Black for the overall field and respective flashings.

B. System descriptions (Base Bid and Alternates) 20-Year, full systems, NDL, Non-Prorated Warranty. See “Design Criteria”

1. Metal decking BASE BID – Remove membrane, remove all insulation down to the roof deck, repair/replace decking per definitions, remove all wood, remove all sheet metal, dispose of all materials off site. Provide and install new insulation, new wood, new recovery board, new membrane, and new metals, termination bars etc. Design intent is for all insulation to be fully adhered with proper perimeter and corner enhancements to resist specific wind load and uplift criteria. Recovery board and membrane shall be fully adhered. However, if a base insulation layer of minimum thickness needs to be mechanically fastened to the metal deck with all other layers fully adhered to comply with non-proprietary requirements, this can be accepted with a letter from the roofing materials manufacturer stating this requirement. NOTE: Design intent is for this roofing assembly to be installed so no mechanical insulation fasteners or plates are directly under the roof membrane without physical separation. If the roofing manufacturer chosen does not allow for the insulation to be installed in this manner, the Contractor shall provide written notification to the Architect and Owner prior to submitting any submittals. Design intent will require fully adhered installation of recover board and membrane.

2. Metal decking **ALTERNATE** – Remove membrane, remove all insulation down to the roof deck, repair/replace decking per definitions, remove all wood, remove all sheet metal, dispose of all materials off site. Provide and install new glass-faced gypsum board mechanically fastened to the deck with proper perimeter, corner, and edge enhancements to resist specific wind load and uplift criteria, new dry-in sheet, new insulation, new wood, new recovery board, new membrane, and new metals, termination bars etc. All insulation shall be fully adhered with proper perimeter and corner enhancements to resist specific wind load and uplift criteria. Recovery board and membrane shall be fully adhered. NOTE: Design intent is for this roofing assembly to be installed so no mechanical insulation fasteners or plates are directly under the roof membrane without physical separation. If the roofing manufacturer chosen does not allow for the insulation to be installed in this manner, the Contractor shall provide written notification to the Architect and Owner prior to submitting any submittals. Design intent will require fully adhered installation of recover board and membrane.

3. Concrete decking (elevator “pop up”)– Remove membrane, remove all insulation down to the roof deck, repair/replace decking per definitions, remove all wood, remove all sheet metal, dispose of all materials off site. Provide and install new dry-in sheet, new insulation, new wood, new recovery board, new membrane, and new metals, termination bars etc. All insulation shall be adhered with proper perimeter and corner enhancements to resist specific wind load and uplift criteria. Recovery board and membrane shall be fully adhered. NOTE: Design intent is for this roofing assembly to be installed so no mechanical insulation fasteners or plates are directly under the roof membrane without physical separation. If the roofing manufacturer chosen does not allow for the insulation to be installed in this manner, the Contractor shall provide written notification to the Architect and Owner prior to submitting any submittals. Design intent will require fully adhered installation of recover board and membrane.

2.2 ROOFING MATERIALS

A. General: Accessory materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.

1. CCW 725 TR Dry-in sheet fully adhered directly to concrete deck, vented base sheet, or fiberglass faced gypsum material which has been mechanically fastened to metal roof decking. See roofing system descriptions.
2. Install dry-in sheet under the entire surface to be re-roofed unless otherwise noted.

2.3 ROOFING ACCESSORIES

A. General: Accessory materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.

1. 2'-6" x 2'-6" minimum, heavy-duty walk pads with pre-applied tape made from materials acceptable to the roofing membrane manufacturer for this specific application. Walk pad color to match the membrane they are attached to.

2. Install walk pads at all access points to roof no less than 6-feet in from all access points to roof.

3. Install walk pads as per roofing manufacturers' recommendations for this application and in a manner that will not impede roof drainage.

4. Provide 10% extra walk pads in original shipping boxes to the Owner.

B. Bonding Adhesive for walk pads: Manufacturer's standard adhesive or pre-applied adhesive tape.

C. Air Barrier (if required): 6 mil Polyethylene.

2.4 AUXILIARY MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.

1. Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.

B. Sheet Flashing: white 60-mil- thick EPDM, partially cured or cured, according to application. Color to match the membrane for which they flash.

C. Bonding Adhesive (Base Bid): Manufacturer's standard bonding adhesive(s) for respective applications (bonding insulation to membrane, bonding insulation to insulation, bonding recovery board to insulation, bonding membrane to insulation and/or to recovery board).

D. **Bonding Adhesive (Alternate): Manufacturer's bonding adhesive(s) for respective applications (bonding insulation to membrane, bonding insulation to insulation, bonding recovery board to insulation, bonding membrane to insulation and/or to recovery board). All adhesives shall be low odor and low VOC's per roofing manufacturer's requirements for meeting the design criteria for this project.**

E. Seaming Material: Manufacturer's standard synthetic-rubber polymer primer and 4-inch tape-to tape or 6-inch- wide minimum, butyl splice tape with release film.

F. Lap Sealant: Manufacturer's standard single-component sealant, color to match roofing membrane.

G. Solvent based liquid as required to protect field cut edges of EPDM membranes.

H. Solvent based seam cleaner used to clean exposed or contaminated seams prior to closing.

I. One part polyurethane sealant suitable for sealing the upper lip of exposed termination bars and penetrations, and around clamping rings. Meets or exceeds ASTM C-920-87, Type S, Grade NS, Class 25.

J. One part butyl based high viscosity sealant suitable for sealing between flashing membrane and substrate surface behind exposed termination bars and for sealing between roofing membrane and drain flange.

K. 100% solids epoxy based two-part sealant suitable for filling sealant pans at irregularly-shaped penetrations. Epoxy is part A. Polyamide is part B.

L. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.

M. Metal Termination Bars: Manufacturer's standard predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch thick; with anchors.

N. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer. All fasteners that penetrate the roof deck shall be white.

O. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.

2.5 SUBSTRATE BOARDS (DECK AND RECOVERY BOARD)

A. Substrate Board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, 1/2 inch thick.

1. Product: Subject to compliance with requirements, provide "Dens-Deck" by Georgia-Pacific Corporation or SecuRock by U.S. Gypsum.

B. 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. All fasteners that penetrate the roof deck shall be white.

C. Cold Adhesive: Roofing manufacturer's adhesive with low odors and low VOC's.

2.6 ROOF INSULATION

A. General: Provide preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated.

B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, glass-fiber mat facer on both major surfaces.

1. R-Value 24 minimum with current applicable LTTR standards.
2. Density, ASTM D 1622, (nominal 2 pcf).
3. Compressive Strength, ASTM D 1621, (min. 25 lbs./inch²).
4. Water Vapor Transmission, ASTM E 96, (< 1.0 perm).
5. Dimensional Stability, ASTM D 2126, (< 2%, 7 days).
6. Thermal Resistance, ASTM C 518/PIMA CP 101 (Report).
7. Flame Spread, ASTM E 84, (25).
8. Spread of Flame, ASTM E 108 (Class A or B with roof).
9. Water Absorption, ASTM C 209 (< 1%).

a. Manufacturers:

1) Carlisle SynTec Incorporated.
2) Hunter Panels
3) Versico

C. Provide flat stock with R-24 minimum with 1" minimum at roof drains and or gutter lines, over all surfaces with existing structural slopes. See drawings for approximations of structural slope.

D. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drains where applicable. Fabricate to slopes indicated (basis of design for cricket and saddle slopes shall be twice the slope of the tapered insulation OR structural slope unless noted otherwise).

2.7 INSULATION ACCESSORIES

A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatible with membrane roofing.

B. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer. All fasteners that penetrate the roof deck shall be white.

C. Cold Adhesive: Roofing manufacturer's adhesive with low odors and low VOC's.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:

1. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.
2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 AIR BARRIER INSTALLATION

A. If required by the roofing manufacturer, install air barrier over area to receive roofing according to roofing system manufacturer's written instructions. Unroll air barrier and allow to relax before installing (Note required and provided as a guideline if the manufacturer chosen requires an air barrier.)

B. Air Barrier shall be laid directly onto the roof deck.

C. Fasten polyethelene with Cap Nails, and use duct tape at all edges and overlaps.

3.4 SUBSTRATE

A. Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.

1. Fasten substrate board to top flanges of steel deck according to recommendations in FM Approvals' "RoofNav" and FM Global Loss Prevention Data Sheet 1-29 for specified Windstorm Resistance Classification.

B. Mechanically Fastened Substrate Board: Install board secure to deck using mechanical fasteners specifically designed and sized for fastening specified board-type to deck type.

1. Fasten recovery board according to requirements in FMG's "Approval Guide" for specified Windstorm Resistance Classification.
2. Fasten board to resist uplift pressure at corners, perimeter, and field of roof.
3. Provide and install boards as necessary and required to fulfill the roofing design criteria.
4. See Design Criteria and Alternates for installation requirements.

3.5 DRY-IN SHEET INSTALLATION

A. Install dry-in over area to receive roofing according to roofing system manufacturer's written instructions. Unroll sheet and allow to relax before installing.

B. Install dry-in sheet to substrate as follows:

1. Prime surface of substrate board with primer per roofing manufacturers requirements and allow primer to dry.
2. Prepare back surface of dry-in membrane per manufactures instructions.
3. Place membrane on decking and roll in place with weighted roller.
4. See Design Criteria and Alternates for installation requirements.

C. Clean membrane surface prior to application of adhesive for insulation.

3.6 INSULATION INSTALLATION

A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.

B. Comply with membrane roofing system manufacturer's written instructions for installing roof insulation.

C. Install one or more layers of insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 1-1/2 inches or greater, install 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.

D. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

E. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.

1. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.

F. Mechanically Fastened Insulation: Install each layer of insulation and secure to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.

1. Fasten insulation according to requirements in FMG's "Approval Guide" for specified Windstorm Resistance Classification.
2. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.
3. See Design Criteria for installation requirements.

G. Adhered Insulation: Install each layer of insulation and adhere to substrate as follows:

1. Clean surface of dry-in sheet membrane and prime membrane surface per manufactures requirements.
2. Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
3. Set each layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.
4. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.
5. See Design Criteria for installation requirements.

3.7 RECOVERY BOARD

A. Install board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt boards together.

1. Fasten substrate board to top flanges of steel deck according to recommendations in FM Approvals' "RoofNav" and FM Global Loss Prevention Data Sheet 1-29 for specified Windstorm Resistance Classification.

B. Adhesively Fastened Recovery Board: Install recovery board secure to substrate materials using manufacturers designated adhesive specifically designed for fastening specified board-type to substrate type.

1. Fasten recovery board according to requirements in FMG's "Approval Guide" for specified Windstorm Resistance Classification.
2. Fasten recovery board to resist uplift pressure at corners, perimeter, and field of roof.
3. Provide and install recovery boards as necessary and required to fulfill the roofing design criteria. Recovery board will be included in the final installation whether the roofing manufacturer requires it our not.
4. Set all recovery board in ribbons of bead-applied recovery board adhesive, firmly pressing and maintaining recovery board in place.
5. Set all recovery board in a uniform coverage of full-spread recovery board adhesive, firmly pressing and maintaining recovery board in place.
6. Contractor shall provide and install the recovery board whether the roofing manufacturer chosen requires a recovery board or not to meet the design criteria set forth for the respective roofing system.
7. See Design Criteria for installation requirements.

3.8 FULLY ADHERED 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.

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. Stagger all membrane to avoid four-way intersections. No four-way intersections will be accepted, even with additional over-patching and seaming.

E. Adhesively fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.

F. Apply roofing membrane with side laps shingled with slope of roof deck where possible.

G. Adhesive Seam Installation: Clean both faces of splice areas, apply splicing cement, and firmly roll side and end laps of overlapping roofing membranes according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of roofing membrane terminations.

1. Apply a continuous bead of in-seam sealant before closing splice if required by membrane roofing system manufacturer.

H. Tape Seam Installation: Clean and prime both faces of splice areas, apply splice tape, and firmly roll side and end laps of overlapping roofing membranes according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of roofing membrane terminations.

I. Repair tears, voids, and lapped seams in roofing that does not meet requirements.

J. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.

K. 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.

L. Through-Membrane Attachment: Secure roofing membrane using manufacturers adhesive and fully adhere roofing membrane to substrate.

3.9 BASE FLASHING INSTALLATION

A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.

B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.

C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.

D. Clean splice areas, apply splicing cement, and firmly roll side and end laps of overlapping sheets to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.

E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.10 WALKWAY INSTALLATION

A. Flexible Walkways: Install walkway products in locations indicated. Adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions

3.11 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Manufacturer's Quality Assurance Specialist: Engage a factory-authorized manufacturer's quality assurance specialist, qualified by roofing membrane manufacturer, to inspect substrate conditions; surface preparation; and application of the membrane, base flashings, protection, insulation, installation, including accessories. Report results in writing.

1. Quality assurance specialist shall visit and inspect each membrane roofing construction site on a weekly basis, minimum, and when critical areas of the Work are in progress. The quality assurance specialist shall:

   a. Perform fastener pull out tests to establish fastening patterns.

      1) Provide a minimum of 10 pull tests for up to 50,000 square feet and five additional pull tests or each additional 50,000 square feet or portion thereof of each roof. Areas of low pull test results shall require additional pull tests.

2. Test Cuts: Test specimens will be removed to evaluate problems observed during quality-assurance inspections of roofing membrane.

   a. Repair areas where test cuts were made according to roofing system manufacturer's written instructions.

C. Final Roof Inspection: Arrange for roofing system manufacturer's quality assurance specialist and technical personnel to inspect each roofing installation on completion.

1. Notify Architect and Owner 48 hours in advance of date and time of inspection.
2. Roofing system will be considered defective if it does not pass tests and inspections.

D. Repair or remove and replace components of membrane roofing system where inspections indicate that they do not comply with specified requirements.

E. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.12 PROTECTING AND CLEANING

A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Owner.

B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements, repair substrates and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

D. Clean membrane thoroughly upon completing all work with cleaning agent manufactured or approved by the roofing manufacturer for cleaning the membrane type and color.

3.13 ROOFING INSTALLER'S WARRANTY

A. WHEREAS _____ of _____ , herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:

1. Owner: **City of Dublin**
2. Address: **Dublin, Ohio**
3. Building Name/Type: **5800 Building**
4. Address: **Dublin, Ohio**
5. Area of Work: _____.
6. Acceptance Date: _____.
7. Warranty Period: 2-years from substantial completion date.
8. Expiration Date: _____.

B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,

C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.

D. This Warranty is made subject to the following terms and conditions:

1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:

   a. lightning;
   b. peak gust wind speed exceeding **90** mph;
   c. fire;
   d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
   e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
   f. vapor condensation on bottom of roofing; and
   g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.

2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.
8. **This Warranty is to be transferable.**

E. IN WITNESS THEREOF, this instrument has been duly executed this _____ day of _____, 20_____.

1. Authorized Signature: _____
2. Name: _____
3. Title: _____

END OF SECTION 07 53 23

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