

## ROOF AND PAVEMENT CONSULTANTS

# PROJECT MANUAL

INCLUDING SPECIFICATIONS

### REVIEW SET

LEE'S SUMMIT R-7 SCHOOL DISTRICT  
2025-2026 ROOF REPLACEMENT PROJECT  
502 SE TRANSPORT DRIVE  
LEE'S SUMMIT, MO 64063

GREAT BEGINNINGS (LEGACY PARK)  
SECTIONS A THROUGH E  
905 NE BLUESTEM DRIVE  
LEE'S SUMMIT, MO 64086

LEE'S SUMMIT HIGH SCHOOL  
BUILDING D SECTION A  
BUILDING E SECTION A  
400 E BLUE PARKWAY  
LEE'S SUMMIT, MO 64086

SUMMIT LAKES MIDDLE SCHOOL  
REPLACEMENT SECTIONS H, H1, H2, H3, H4  
CAMPUS WIDE ROOF REPAIRS  
3500 SW WINDEMERE DRIVE  
LEE'S SUMMIT, MO 64082

LEE'S SUMMIT AQUATIC CENTER  
SECTION C  
3498 SW WINDEMERE DRIVE  
LEE'S SUMMIT, MO 64082

PROJECT NO. 24LSSLESUR013B – REPLACEMENT

CONSULTANT:

BENCHMARK, INC.  
JASON HACKMAN, RRO  
6065 HUNTINGTON COURT NE  
CEDAR RAPIDS, IA 52402  
319.393.9100

PROJECT MANUAL DATE  
2/6/2025



These Bidding Documents, and the ideas, drawings and specifications incorporated herein, as an instrument of professional service, is the property of Benchmark, Inc., and is not to be used, in whole or in part, for any other project without the written authorization of Benchmark, Inc.

These Bidding Documents were prepared for Lee's Summit R-7 School District by:

BENCHMARK, INC.



---

Jason Hackman, RRO  
Senior Consultant

and reviewed by:

BENCHMARK, INC.



---

Brad Conlin, RRC, RRO  
Senior Consultant

**DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS**

00 01 01	COVER
00 01 02	OWNERSHIP OF DOCUMENTS
00 01 10	TABLE OF CONTENTS
00 01 15	LIST OF DRAWINGS
00 01 16	PROJECT DIRECTORY
00 21 12	SUMMARY OF BIDDING REQUIREMENTS
00 21 13	INSTRUCTIONS TO BIDDERS
00 41 01.01	BID FORM FOR GREAT BEGINNINGS (LEGACY PARK)
00 41 01.02	BID FORM FOR LEE'S SUMMIT HIGH SCHOOL (BUILDINGS D AND E)
00 41 01.03	BID FORM FOR SUMMIT LAKES MIDDLE SCHOOL
00 41 01.04	BID FORM FOR LEE'S SUMMIT AQUATIC CENTER
	LEE'S SUMMIT SCHOOL DISTRICT AIA CONTRACT AND GENERAL CONDITIONS SAMPLE
	CERTIFICATE OF INSURANCE SAMPLE
	MISSOURI DIVISION OF LABOR STANDARDS
	STATE SALES TAX EXEMPT CERTIFICATE

**DIVISION 01 – GENERAL REQUIREMENTS**

01 22 00	UNIT PRICES
01 23 00	ALTERNATES
01 30 01	PROJECT ADMINISTRATION
	PRECONSTRUCTION DAMAGE REPORT – GREAT BEGINNINGS (LEGACY PARK)
	PRECONSTRUCTION DAMAGE REPORT – LEE'S SUMMIT HIGH SCHOOL (BLDGS D & E)
	PRECONSTRUCTION DAMAGE REPORT – SUMMIT LAKES MIDDLE SCHOOL
	PRECONSTRUCTION DAMAGE REPORT – LEE'S SUMMIT AQUATIC CENTER
	DAILY PROGRESS REPORT – GREAT BEGINNINGS (LEGACY PARK)
	DAILY PROGRESS REPORT – LEE'S SUMMIT HIGH SCHOOL (BLDGS D & E)
	DAILY PROGRESS REPORT – SUMMIT LAKES MIDDLE SCHOOL
	DAILY PROGRESS REPORT – LEE'S SUMMIT AQUATIC CENTER
	SAMPLE BAR CHART SCHEDULE
	SAMPLE GRAPHIC SCHEDULE AND SEQUENCE PLAN
01 33 24	SCHEDULE OF PRE-JOB SUBMITTALS – GREAT BEGINNINGS (LEGACY PARK)
01 33 24	SCHEDULE OF PRE-JOB SUBMITTALS – LEE'S SUMMIT HIGH SCHOOL (BLDGS D & E)
01 33 24	SCHEDULE OF PRE-JOB SUBMITTALS – SUMMIT LAKES MIDDLE SCHOOL
01 33 24	SCHEDULE OF PRE-JOB SUBMITTALS – LEE'S SUMMIT AQUATIC CENTER
01 35 13	SPECIAL PROJECT PROCEDURES
01 35 24	CONSTRUCTION PROJECT SAFETY
01 56 01	TEMPORARY INTERIOR PROTECTION
01 78 00	SCHEDULE OF CLOSEOUT SUBMITTALS – GREAT BEGINNINGS (LEGACY PARK)
01 78 00	SCHEDULE OF CLOSEOUT SUBMITTALS – LEE'S SUMMIT HIGH SCHOOL (BLDGS D & E)
01 78 00	SCHEDULE OF CLOSEOUT SUBMITTALS – SUMMIT LAKES MIDDLE SCHOOL
01 78 00	SCHEDULE OF CLOSEOUT SUBMITTALS – LEE'S SUMMIT AQUATIC CENTER
01 78 36	WARRANTIES

**DIVISION 02 – EXISTING CONDITIONS**

02 41 20	ROOF DEMOLITION AND CLEANUP
----------	-----------------------------

**DIVISION 05 – METALS**

05 01 30.61	STEEL ROOF DECKING REPAIR/REPLACEMENT
-------------	---------------------------------------

**DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES**

06 10 53	MISCELLANEOUS ROUGH CARPENTRY
----------	-------------------------------

**DIVISION 07 – THERMAL AND MOISTURE PROTECTION**

07 01 50.62	REPAIR OF EXISTING ROOF SYSTEMS
07 22 16	ROOF BOARD INSULATION
07 26 04	SELF-ADHERING VAPOR RETARDER
07 54 19.02	ADHERED PVC THERMOPLASTIC MEMBRANE ROOFING
07 54 19.03	ADHERED FLEECE BACK PVC THERMOPLASTIC MEMBRANE ROOFING
07 62 00.01	SHEET METAL FLASHING AND TRIM
07 71 01	MANUFACTURED ROOF-RELATED SHEET METAL COMPONENTS
07 72 33	ROOF HATCHES
07 72 65	SUPPORT SYSTEMS
07 92 00	JOINT SEALANTS

**DIVISION 09 – FINISHES**

09 91 00	PAINTING
----------	----------

**DIVISION 22 – PLUMBING**

22 14 14	ROOF DRAINS AND PLUMBING
----------	--------------------------

## GREAT BEGINNINGS (LEGACY PARK)

R0.01	TITLE SHEET
R0.02	SUMMARY OF WORK
R1.01	ROOF PLAN
R1.02	DESIGN DATA AND ATTACHMENT PLAN
R2.01	ATTACHMENT DETAILS
R2.02	SHEET METAL SCHEDULE AND DETAILS
R2.03	DETAILS
R2.04	DETAILS
R2.05	DETAILS

## LEE'S SUMMIT HIGH SCHOOL (BUILDINGS D AND E)

R0.01	TITLE SHEET
R0.02	SUMMARY OF WORK
R1.01	ROOF PLAN
R1.02	DESIGN DATA AND ATTACHMENT PLAN
R2.01	ATTACHMENT DETAILS
R2.02	SHEET METAL SCHEDULE AND DETAILS
R2.03	DETAILS
R2.04	DETAILS

## SUMMIT LAKES MIDDLE SCHOOL

R0.01	TITLE SHEET
R0.02	SUMMARY OF WORK
R1.01	ROOF PLAN
R1.02	DESIGN DATA AND ATTACHMENT PLAN
R1.03	REPAIR PLAN
R2.01	ATTACHMENT DETAILS
R2.02	SHEET METAL SCHEDULE AND DETAILS
R2.03	DETAILS
R2.04	DETAILS
R2.05	DETAILS
R2.06	DETAILS
R2.07	DETAILS
R2.08	DETAILS
R2.09	DETAILS
R2.10	DETAILS

## LEE'S SUMMIT AQUATIC CENTER

R0.01	TITLE SHEET
R0.02	SUMMARY OF WORK
R1.01	ROOF PLAN
R1.02	DESIGN DATA AND ATTACHMENT PLAN
R2.01	ATTACHMENT DETAILS
R2.02	SHEET METAL SCHEDULE AND DETAILS
R2.03	DETAILS
R2.04	DETAILS

PROJECT TITLE: Lee's Summit R-7 School District  
2025-2026 Roof Replacement Project

Great Beginnings (Legacy Park)  
Sections A through E  
905 NE Bluestem Drive  
Lee's Summit, MO 64086

Lee's Summit High School  
Building D Section A  
Building E Section A  
400 E Blue Parkway  
Lee's Summit, MO 64086

Summit Lakes Middle School  
Replacement Sections H, H1, H2, H3 and H4  
Campus Wide Roof Repairs  
3500 SW Windemere Drive  
Lee's Summit, MO 64082

Lee's Summit Aquatic Center  
Section C  
3498 SW Windemere Drive  
Lee's Summit, MO 64082

Project No. 24LSSLESUR013B – REPLACEMENT

OWNER: Lee's Summit R-7 School District  
502 SE Transport Drive  
Lee's Summit, MO 64086

Kent Andersen  
Telephone No. 816.986.2431  
E-mail: kent.andersen@lsr7.net

ROOFING CONSULTANT: Benchmark, Inc.  
6065 Huntington Court NE  
Cedar Rapids, IA 52402

Jason Hackman, RRO  
Telephone No. 319.731.5256  
E-mail: jhackman@benchmark-inc.com

**- End of Section -**

- 1. Project:** Lee's Summit R-7 School District  
2025-2026 Roof Replacement Project

Great Beginnings (Legacy Park)  
Sections A through E  
905 NE Bluestem Drive  
Lee's Summit, MO 64086

Lee's Summit High School  
Building D Section A  
Building E Section A  
400 E Blue Parkway  
Lee's Summit, MO 64086

Summit Lakes Middle School  
Replacement Sections H, H1, H2, H3 and H4  
Campus Wide Roof Repairs  
3500 SW Windemere Drive  
Lee's Summit, MO 64082

Lee's Summit Aquatic Center  
Section C  
3498 SW Windemere Drive  
Lee's Summit, MO 64082

Project No. 24LSSLESUR013B – REPLACEMENT
- 2. Project Description:**

This project is a roof replacement, recover and roof repair project consisting of single-ply roofing. This project also includes tear-off, plumbing, insulation, roof accessories, rough carpentry, roof-related sheet metal and recover work.
- 3. Pre-bid Site Inspection:** Tuesday, February 18, 2025, 2:00 p.m. CST  
502 SE Transport Drive
- 4. Contact for Job Site Visits:** Kent Andersen  
Lee's Summit R-7 School District  
Office: 816.986.2431  
E-mail: [kent.andersen@lsr7.net](mailto:kent.andersen@lsr7.net)
- 5. Bid Due Date:** Thursday, February 27, 2025, 2:00 p.m. CST
- 6. Deliver Bids To:** Lee's Summit R-7 School District  
Attn: Kent Andersen  
502 SE Transport Drive  
Lee's Summit, MO 64086

Email a copy of bid to Jason Hackman (Benchmark, Inc.)  
[jhackman@benchmark-inc.com](mailto:jhackman@benchmark-inc.com)
- 7. Bid Form:** Refer to Section 00 21 13 - Instructions to Bidders. Use of provided Bid Form is mandatory.
- 8. Bid Opening:** Open to Invited Bidders.



- 
9. **Bid Security:** Five percent (5%) of the total proposed cost of the work, including Base Bid and any specified Alternates.
10. **Performance Bond and Payment Bond:** All Base Bid and Alternate Bid prices shall include performance and payment bonds covering one hundred percent (100%) of the respective contract value.
11. **Addenda:** Refer to Section 00 21 13 - Instructions to Bidders.
12. **Contract Form:** Sample found in bidding documents.
13. **Schedule:** Bidders to specify proposed construction time on Bid Form.
14. **Questions:** Address all questions to Benchmark, Inc.,  
Attn: Jason Hackman, RRO.  
jhackman@benchmark-inc.com  
All questions shall be written and sent in an email. The deadline for submitting questions is February 19, 2025 by 1:00 p.m. CST. All questions will be addressed in written Addenda that will be sent to all bidders and become part of the Bidding and Contract Documents.

- End of Section -

**1.01 Preparation and Submission of Bids**

- A. Bids shall be submitted on Section 00 41 01 - Bid Form, as included in the Bidding Documents, or an exact copy thereof.
- B. Blank spaces must be typewritten or clearly written with price information expressed both numerically and with words where requested. In the event of a conflict between words and numerals, the written information shall take precedence.
- C. Bids shall be signed where indicated by a company employee who has the authority to sign contracts on behalf of the bidding entity.
- D. Bids must be submitted in sealed envelopes bearing on the outside the name of the Bidder and their address. Envelopes should be marked:

Bids for: 2025-2026 Roof Replacement Project – Lee's Summit High School and Mason Elementary School

Lee's Summit R-7 School District  
Attn: Kent Andersen  
502 SE Transport Drive  
Lee's Summit, MO 64086

- E. If forwarded by mail, the sealed envelope containing the bid, as directed above, must be enclosed in another envelope addressed as follows:

Bids for: 2025-2026 Roof Replacement Project

Lee's Summit R-7 School District  
Attn: Kent Andersen  
502 SE Transport Drive  
Lee's Summit, Missouri 64086

For Bidder's protection, mailed bids should be sent by Registered Mail. Mailed in bids not received by the bid due date time will not be opened.

- F. Bidders are requested to submit a copy of their bid to the Consultant via e-mail attachment in portable document format (.pdf). Bids shall be submitted to Benchmark, Inc., Attn: Jason Hackman, e-mail: [jhackman@benchmark-inc.com](mailto:jhackman@benchmark-inc.com).

**1.02 Receipt and Opening of Bids**

- A. Bids will be received by the Owner until Thursday, February 27, 2025, 2:00 p.m. CST, at the offices of the Owner. The bid opening will be open to the invited bidders.
- B. Bids received after the time specified will not be considered or accepted. Amendments to bids will not be considered or accepted unless received prior to the time set for opening of bids, in the same format specified for submission of bids. Conditional bids will not be considered or accepted.
- C. Any bid not prepared or submitted in accordance with the Instructions to Bidders may be rejected, at the Owner's sole discretion.
- D. The Owner may, when in its best interest, reject any and all bids or waive any informalities in bids received.

- E. Any bid may be withdrawn prior to the bid submission deadline. Withdrawal of bids may be made via telephone call or e-mail.
- F. No bid may be withdrawn within 60 calendar days after the opening of bids.
- G. Bid may remain valid beyond 60 calendar days, at the Bidder's option.

### **1.03 Examination of Drawings, Specification and Work Site**

- A. Before submitting a bid, each Bidder shall carefully examine the drawings, read the specifications and all other Bidding Documents, and visit the work site.
- B. Bidder shall become fully informed prior to bidding as to all existing conditions and limitations under which the work is to be performed and shall include in the bid a sum to cover all costs of all items necessary to perform the work as set forth in the Bidding Documents. No allowance will be made to any Bidder because of lack of such examination or knowledge. The submission of a bid will be construed as conclusive evidence that the Bidder has made such examination. It shall be the Bidder's responsibility to seek any necessary clarifications and interpretations prior to submitting a bid.

### **1.04 Addenda and Interpretation**

- A. Bidders shall issue a written request(s) for clarification for any aspect(s) of the Bidding Documents, existing conditions, or project requirements that the Bidder considers to be insufficiently defined.
- B. Request for interpretation shall be in writing and must be received by Monday, February 19, 2025, by 1:00 p.m. CST. All requests for interpretation shall be addressed to: Benchmark, Inc., Attention: Jason Hackman, RRO. Requests for interpretation may be submitted via e-mail. Interpretation and supplemental instructions will be in the form of written Addenda which, if issued, will be delivered to prospective Bidders before opening of bids. Failure of Bidder to review such Addenda or interpretation will not relieve Bidder from obligation under their bid as submitted. Addenda, so issued, will become part of Bidding and Contract Documents.
- C. The right is reserved by the Owner to revise or amend the specifications or drawings, or both, prior to the date set for opening bids. Such revisions and amendments, if any, will be announced by an Addendum or Addenda to the Bidding Documents. If the revisions and amendments are of a nature, in the opinion of the Owner, which require material changes in quantities or prices bid, or both, the date set for opening bids may be postponed by such number of days which, in the opinion of the Owner, will enable Bidders to revise their bids. In such cases, the Addendum will include an announcement of the new date for opening bids.
- D. Bidder shall acknowledge receipt of all Addenda where this information is requested on the Bid Form. Failure to correctly acknowledge receipt of all Addenda may result in rejection of the bid.

### **1.05 Contractor's Area**

- A. Storage of materials will be permitted only in areas indicated in the Bidding Documents or as directed by the Owner's Representative.

### **1.06 Time of Completion**

- A. Time is of the essence and Bidders are advised that the project must be completed within the schedule stipulated in the Bid Form. Bidders shall specify the proposed construction time in Bid Form.

- B. Critical Dates: The primary goal is to complete the tear-off work at Summit Lakes Middle School before school starts back in August, as much work as possible shall be done in June, July, and August when school is not in session. When school is in session, the contractor may work after classes have been dismissed. The contractor shall submit a schedule to complete the work as quickly as possible after award.

#### 1.07 Bid Security

- A. Bids must be accompanied by bid security of not less than five percent of the total proposed cost of the work including Base Bid and all Alternates.
- B. Bid security may be a Bid Bond, certified check, or cashier's check made payable to the Owner.
- C. The bid security will be forfeited as liquidated damages if the Bidder fails to execute the Contract and provide contract bonds and required insurance documentation within ten days after notification of award unless such date is extended in writing by the Owner.
- D. If a Bid Bond is submitted, the surety must appear on the list contained in Department of Treasury Circular 570, Sureties on Federal Bonds and Acceptable Reinsuring Companies.
- E. Forms for bonds shall be American Institute of Architects Standard AIA forms, latest edition, shall be part of the Contract Documents, and shall be held binding to the Contractor and all Subcontractors. Forms for bonds are not included in these Bidding Documents, but are incorporated by reference as if fully set out herein.
  - 1. Bid Bond: Bid Bond shall be AIA Form A310
- F. Attorneys-in-fact who sign any bonds must file with the bond a certificate and an effectively dated copy of their Power of Attorney.

#### 1.08 Performance Bond and Payment Bond

- A. The successful Bidder will be required to execute a Performance Bond and a Payment Bond, each equaling the contract sum. Cost of bonds shall be included in the pricing for each bid item, such that the awarded contract amount includes associated cost of bonds.
- B. Forms for bonds shall be American Institute of Architects Standard AIA forms, latest edition, shall be part of the Contract Documents, and shall be held binding to the Contractor and all Subcontractors. Forms for bonds are not included in these Bidding Documents, but are incorporated by reference as if fully set out herein.
  - 1. Performance Bond: AIA Form A312
  - 2. Payment Bond: AIA Form A312
- C. Attorneys-in-fact who sign any bonds must file with the bond a certificate and an effectively dated copy of their Power of Attorney.
- D. Bonds shall be delivered to the Owner in conjunction with delivery of the signed contract agreement, or sooner.
- E. Failure or refusal to deliver bonds in the specified format agreeable to the Owner will prevent execution of the agreement by the Owner, and will subject the Contractor to loss of time from the allowable construction period equal to the time of delay in furnishing the required documents.

**1.09 Conditions Affecting the Work**

- A. Bidders shall visit the site and take such other steps as may reasonably be necessary to ascertain the nature and location of the work, the general and local conditions that affect the work, and the cost thereof. Failure to do so will not relieve Bidders from responsibility for estimating properly the difficulty or the cost of successfully completing the work.
- B. Bidders shall issue a written request(s) for clarification for any aspect(s) of the project requirements that the Bidder considers to be insufficiently defined. Refer to Article 1.04 – Addenda and Interpretation.

**1.10 Award of Contract**

- A. When and if the Owner proceeds with the project defined by these Bidding Documents, the Owner intends to award the responsible Bidder.
- B. Bidders are cautioned that if they do not complete all of Section 00 41 01 - Bid Form, their bid may be considered non-responsive.

**1.11 Printed Conditions of Bidder's Form**

- A. Unless otherwise noted, printed conditions on letterhead, quotations, cover letters, or other forms submitted by the Bidder will be disregarded by the Owner and will not become part of the terms and conditions of the Contract Documents.
- B. Bidders are advised that inclusion of any condition which is in conflict with any of the requirements of the Bidding Documents may result in rejection of the bid.

**1.12 Execution of Agreement and Proof of Insurance**

- A. The sample form of agreement that the successful Bidder will be required to execute is included in the Bidding Documents. Any objections or proposed editing to the terms of the sample agreement shall be submitted on the Bidder's letterhead at the time of the bid submission. Submission of objections or proposed editing does not guarantee acceptance of the same by the Owner.
- B. The contract shall be executed as follows:
  - 1. Within ten days after notice of award and receipt of agreement forms from the Owner, the successful Bidder shall sign and deliver all required copies to the Owner.
  - 2. At or prior to delivery of the signed agreement, the successful Bidder shall deliver to the Owner the policies of insurance and/or insurance certificates as required by the Contract Documents.
  - 3. The work required by the Contract Documents shall not commence until the signed agreement is fully executed by the Owner, and all insurance certificates and any other required documents have been received and approved by the same.
  - 4. Failure or refusal to furnish signed agreement forms, insurance policies and/or certificates in a form satisfactory to the Owner, and all other Owner-required documents will prevent execution of the agreement by the Owner, and will subject the Contractor to loss of time from the allowable construction period equal to the time of delay in furnishing the required documents.

**1.13 Pre-bid Site Inspection**

- A. Bidders are cautioned that, in the opinion of the Owner, the pre-bid site inspection is essential to submission of a responsive bid and successful completion of the work. Therefore, any interested Bidder should plan to attend the pre-bid site inspection.
- B. Bidders shall arrange for any major Subcontract Bidders to participate in the pre-bid site inspection, or shall arrange for a subsequent site inspection at a later time.

**1.14 Code Compliance and Permitting**

- A. Bids must be in compliance with all local, state, and applicable codes. Contract price is to be based upon compliance with all codes.
- B. The successful Bidder shall be responsible to obtain any and all permits required to perform this project. Bidders shall include the cost for all required permits in the proposed prices.

**1.15 Proof of Competency of Bidder**

- A. All Bidders shall be Contractors duly licensed to perform the specified work at the project location. The roofing Contractor shall have roofing Manufacturer's approval for installation of the work described in the Bidding Documents. Licensing requirements extend to all Subcontractors as such licensing laws apply.
- B. In order to aid the Consultant in determining the qualifications of a Bidder, the Bidder may be required to furnish to the Consultant satisfactory evidence of their experience and familiarity with the type of work required and of their financial ability and other resources required to properly complete the work within the proposed time frame.

**1.16 Subcontractors**

- A. Bidders shall name Subcontractor(s) and type(s) of work to be performed by each, where requested on the Bid Form.
- B. If requested by the Owner's Representative, Bidders will be required to establish to the reasonable satisfaction of the Owner the qualifications, reliability, and responsibility of the proposed Subcontractor(s) to furnish and perform work for which each Subcontractor is proposed.
- C. Prior to the award of the contract, the Owner's Representative will notify the Bidder in writing if the Owner, after due consideration, has reasonable and substantial objection to any proposed Subcontractor(s). Bidder shall not enter into a subcontract with an intended Subcontractor with reference to whom Owner objects. Bidder shall propose another Subcontractor to whom Owner has no reasonable and substantial objection. Any consent or failure to reject by Owner shall in no way relieve Bidder of any duties or warranties under the Contract. Any delay or additional costs that arise because the Bidder provided a Subcontractor unacceptable to the Owner shall be at the Bidder's sole risk.

**1.17 Substitutions**

- A. Do not substitute alternative products, equipment, or installation procedures unless allowed by the Contract Documents, and then only after the Owner's Representative has provided written authorization.

- B. Evaluation of proposed substitutions will be based on the standards of quality established in the Contract Documents. If standards are not referenced, then the current published standards by the Manufacturer of the basis of design project shall be used for comparison of proposed substitutions.
- C. As part of any proposed substitution, the Contractor shall furnish a detailed and complete analysis and comparison of the proposed product(s) and/or system(s) to the associated basis of design product(s) or system(s).
- D. Substitutions shall be electronically transmitted to the Owner's Representative during the project bidding process, at least seven days prior to the established bid due date. No guarantee of approval of any proposed substitutions is implied, unless documented by an Addendum to the Contract Documents during the bidding process.
- E. Where the phrase "or equal" or "or Owner approved equal" occurs in the Contract Documents, do not assume alternative materials, equipment, or installation procedures will be approved as equal, unless the Owner's Representative has authorized the substitution.
- F. The decision of the Owner's Representative will be final.

#### **1.18 Base Bid and Alternate Bids**

- A. Unless specified otherwise, or unless instructed otherwise by the Owner's Representative during bidding, Bidders shall provide complete bids with all specified Base Bid and Alternate Bid items included.
- B. Incomplete bids may be rejected in whole or in part, at the Owner's sole discretion.
- C. Alternate Bid prices shall include associated materials, installation, labor, equipment, delivery, taxes, insurance, services, overhead, and profit.
- D. Unless otherwise specified, the value of each Alternate Bid shall be excluded from the associated Base Bid. The Owner will calculate the total contract sum by adding or deducting the applicable Alternate(s) from the Base Bid(s) they are intended to modify. No other adjustment will be made to the contract sum.
- E. During bid preparation, provide modifications to the Base Bid schedule associated with each specified Alternate, as requested on the Bid Form.
- F. Refer to Section 01 23 00 – Alternates and associated requirements elsewhere in the Bidding Documents.

#### **1.19 Unit Prices and Quantity Allowances**

- A. Bidders shall provide complete bids with all specified unit price items included.
- B. Following written directives by the Owner, the stipulated unit prices shall be the basis for changing specified quantities of work from those required by the Contract Documents.
- C. Unit prices shall include associated materials, installation, labor, equipment, delivery, taxes, insurance, services, overhead, and profit.
- D. Each unit price shall apply for either more or less than the quantity required by the Contract Documents.
- E. Where bids are to include stipulated quantity allowances for specific unit prices, this information is provided in Summary of Work notes on the Drawings.

- F. Refer to Sections 01 22 00 – Unit Prices and 01 30 01 - Project Administration and associated requirements specified elsewhere in the Bidding Documents.

**- End of Section -**



To: Lee's Summit R-7 School District

Name of Bidder: \_\_\_\_\_

Date of Bid: \_\_\_\_\_

**1.01** Pursuant to and in compliance with the Invitation to Bid and the Bidding Documents relating to the construction of:

Lee's Summit R-7 School District  
2025-2026 Roof Replacement Project

Great Beginnings (Legacy Park)  
Sections A through E  
905 NE Bluestem Dr.  
Lee's Summit, MO 64086  
Project No. 24LSSLESUR013B – REPLACEMENT

Including Addenda \_\_\_\_\_

The undersigned, having become thoroughly familiar with the terms and conditions of the Bidding Documents and with local conditions affecting the performance and cost of the work at the place where the work is to be completed, and after having been given ample opportunity to fully inspect the site in all particulars, hereby proposes and agrees to fully perform the work within the time stated, including furnishing any and all materials, installation, labor, equipment, delivery, taxes, insurance, services, overhead, and profit necessary to construct and complete said work in accordance with the Contract Documents, for the following sum(s) of money:

Refer to Section 01 23 00 – Alternates. Exclude value of each Alternate from the associated Base Bid, as described.

A. Base Bid: Recover the roof on Sections A through E as specified.

\_\_\_\_\_

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

Amount of sales tax if include (project is sales tax exempt) \$\_\_\_\_\_

Total cost of construction materials included in bid above \$\_\_\_\_\_

Total square footage included in bid above \_\_\_\_\_ Sq. Ft.

B. Alternate Bid No. 1: Install wood nailer at perimeter to eliminate the shelf construction (All Sections) as specified in Section 01 23 00 - Alternates.

Add to the Base Bid

\_\_\_\_\_

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

Amount of sales tax if include (project is sales tax exempt) \$\_\_\_\_\_

Total cost of construction materials included in bid above \$\_\_\_\_\_

Total square footage included in bid above \_\_\_\_\_ Sq. Ft.

## C. Unit Pricing

1. For changing specified quantities of work from those required by the Contract Documents, upon written instructions of the Owner, the following unit prices shall prevail. Unit prices include all materials, installation, labor, equipment, delivery, taxes, insurance, services, overhead, and profit.
2. Refer to Sections 00 21 13 - Instructions to Bidders and 01 22 00 - Unit Prices.
3. Refer to Summary of Work notes on Drawings for stipulated quantity allowances of specific unit price-based work.
4. Schedule of Unit Prices:

Number	Description	Unit	Unit Price
1	Add or delete lumber/nailer	Bd. Ft.	\$_____
2	Replace lumber/nailer	Bd. Ft.	\$_____
3	Add or delete plywood	Sq. Ft.	\$_____
4	Replace plywood	Sq. Ft.	\$_____
5	Install roof system walkway	Ln. Ft.	\$_____
6	Replace insulation level with roofing	Sq. Ft.	\$_____
7	Replace steel decking	Sq. Ft.	\$_____
8	Paint surface rusted steel decking	Sq. Ft.	\$_____
9	Replace roof drain clamping ring	Ea.	\$_____
10	Roofing Foreman (standard time)	Hour	\$_____
11	Roofing Foreman (overtime)	Hour	\$_____
12	Roofing Technician (standard time)	Hour	\$_____
13	Roofing Technician (overtime)	Hour	\$_____
14	Laborer (standard time)	Hour	\$_____
15	Laborer (overtime)	Hour	\$_____
16	Sheet Metal Worker (standard time)	Hour	\$_____
17	Sheet Metal Worker (overtime)	Hour	\$_____

## D. Performance Bond and Payment Bond

1. This bid includes the cost of a Performance Bond and Payment Bond. By signing and submitting this bid, the Bidder certifies that they will furnish these bonds in amounts sufficient to cover the total proposed cost of the work, including Base Bid and all Alternates. The bonds shall be amended and maintained current with all contract Change Orders.

2. The cost of these bonds is \_\_\_\_\_ percent (\_\_\_%) of the total proposed cost of the work, including Base Bid and all Alternates.

E. Bid Security

1. Accompanying this bid is bid security as specified in Section 00 21 13 - Instructions to Bidders, payable without condition to the Owner, equaling five percent (5%) of the total proposed cost of the work, including the Base Bid and any specified Alternates. It is agreed that the bid security will be the measure of liquidated damages which the Owner will sustain by failure, neglect, or refusal of Bidder to deliver the signed contract, bonds, and required insurance documentation within ten (10) days after notification of contract award is made by the Owner.

F. Change Orders

1. The following fees shall be used for lump sum pricing and actual cost pricing of additions and deletions to the work required by the Contract Documents. The following fees are not applicable for unit price-based change orders; and shall not be applied to hourly rates or pricing to which overhead and profit have been included, or to taxes.
  - a. For any additions to the work authorized by the Owner:  
  
The contract sum shall be revised to include the actual cost of the work required for such additions plus \_\_\_\_\_percent (\_\_\_%).
  - b. For deletions from the work authorized by the Owner:  
  
The contract sum shall be reduced by an amount equal to the cost savings realized for work not performed by reason of such deletions plus \_\_\_\_\_ percent (\_\_\_%).

G. Time of Commencement, Completion and Damages

1. Base Bid: Contractor shall commence work \_\_\_\_\_ (calendar) days after award. From the day of commencement, the Contractor shall substantially complete the work in \_\_\_\_\_ (calendar) days.
2. If the Owner awards Alternate Bid No. 1, add \_\_\_\_\_ (calendar) days to the performance period.
3. Final completion, including delivery of all closeout submittals and warranties, shall be achieved within \_\_\_\_\_ (calendar days) after achieving substantial completion.
4. Time is expressly declared to be of the essence in completion of the work covered by these Bidding Documents, and the Contractor shall be liable for actual damages for delay in completion of work. Actual damages include, but are not limited to, increased consulting fees, additional construction observation fees, travel expenses, and all other costs incurred as a result of the delay in completion. Where the contract allows additional time for completion of the work, the new time limits will be of the essence of the contract.
5. In submitting this bid, the Bidder assures the Owner that availability of labor, material, equipment, services, and other necessary resources are available to meet the proposed substantial completion date.

H. Proposed Subcontractors and Manufacturers

1. The following Subcontractors and Manufacturers have agreed to furnish labor and materials for this work for the trades and materials indicated. These Subcontractors and Manufacturers shall not be changed without Owner's permission.

Subcontractor/Manufacturer	Trade/Material
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

2. Base Bid is based on roof membrane manufactured by the following:

\_\_\_\_\_.

I. Contractor Licensing Requirements

\_\_\_ Yes \_\_\_ No Do Authorities Having Jurisdiction at the project's location require licensing of Contractors for the types of work required by the Contract Documents that the Bidder proposes to complete using their own forces?

If yes, provide requested information below.

\_\_\_ Yes \_\_\_ No Do Authorities Having Jurisdiction at the project's location require licensing of Contractors for the types of work described by the Contract Documents that the Bidder proposes to complete using Subcontractor(s)?

If yes, provide requested information below.

J. Contractor and Subcontractor License Information

Contractor/Subcontractor	License Number	Expiration Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

K. The Interlocal Purchasing System (TIPS) Vendor Contract Information

Contract Name	Contract Number	Expiration Date
_____	_____	_____
_____	_____	_____

**1.02** By signing this bid, the Bidder certifies the following:

- A. All information submitted on this bid form is accurate and true to the best of the Bidder's knowledge, and the Bidder has performed due diligence as necessary to provide responsible information.
- B. This bid has been arrived at independently without consultation, communication or agreement as to any matter relating to this bid with any other Bidder or with any competitor.
- C. This bid is in compliance with all local, state, and applicable codes.
- D. The Bidder and any proposed Subcontractors are duly licensed with all applicable authorities having jurisdiction, as required to legally perform the work described by the Bidding Documents at the project location.
- E. The Bidder will maintain strict confidentiality with respect to information submitted on this bid form, any project-related documents obtained during the bidding process, photographic or video images of the site, project-related emails or other correspondence, or information learned through visual review of the facility or project site.
- F. Bidder will comply with the terms of any confidentially agreements made with the Owner during the bidding of this project, as applicable.
- G. This bid shall remain open and not be withdrawn for a period of 60 calendar days from the date prescribed for its opening.
- H. If the Owner provides written notice of award to the undersigned within 60 calendar days, the Bidder shall execute and deliver the signed contract agreement, required insurance documentation, Bonds (if specified), and any other submittals as specified in the Bidding Documents, together, all within ten calendar days after the Owner issues the notice of award.
- I. The Bidder is an equal opportunity employer, and does not discriminate, and will take "affirmative action" measures to ensure against discrimination in employment, recruitment, advertisements for employment, compensation, termination, upgrading, promotions, and other conditions of employment against any employee or job applicant on the bases of race, creed, color, national origin, sex, or any other legally protected characteristics. No person will be adversely affected in employment with the employer as a result of bringing complaints of unlawful discrimination.
- J. The Bidder provides a work environment that is free from harassment based upon an individual's sex, race, ethnicity, national origin, age, religion or any other legally protected characteristics. All employees, including supervisors and other management personnel, are expected and required to abide by this policy. No person will be adversely affected in employment with the employer as a result of bringing complaints of unlawful harassment.

**1.03** By signing this bid, the Bidder implies their understanding of the following conditions:

- A. The Owner reserves the right to reject any and all bids, waive irregularities or technicalities in any bid, and accept any bid in whole or in part which it deems to be in its best interest.
- B. The Owner reserves the right to approve or reject the Bidder's proposed Subcontractor(s) or supplier(s) in accordance with Section 00 21 13 - Instructions to Bidders.
- C. If notice of award is issued after 60 calendar days from the bid due date, the Bidder shall have the right to either accept the contract or withdraw their bid, without penalty, as stipulated in Section 00 21 13 - Instructions to Bidders.

1.04 The name(s) and title(s) for all persons interested in the foregoing bid as principal(s) are:

**Note:** *If Bidder is a corporation, provide names of president, controller, and secretary; if a partnership, and names of all individual co-partners composing the firm; if Bidder or other interested person is an individual, give first and last names in full.*

Name	Title
_____	_____
_____	_____
_____	_____
_____	_____

1.05 Notice of award or requests for additional information may be addressed to the undersigned at the address set forth below.

1.06 The Legal Name, State of Incorporation, Address, Contact Information, and Federal Tax Identification Number for the Bidder are:

**Note:** *If Bidder is a corporation, provide legal name of corporation, state where incorporated, together with the address and contact information and signature of the officer authorized to sign contracts on behalf of the corporation. If Bidder is a partnership, provide legal name of firm, together with the address and contact information and signature(s) of the partner(s) authorized to sign contracts on behalf of the partnership.*

Legal Name of Bidder: \_\_\_\_\_

State of Incorporation: \_\_\_\_\_

Business Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone Number: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Federal Tax ID Number: \_\_\_\_\_

1.07 Signature of Authorized Bidder Representative

Signature: \_\_\_\_\_

Typed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

- End of Section -

To: Lee's Summit R-7 School District

Name of Bidder: \_\_\_\_\_

Date of Bid: \_\_\_\_\_

**1.01** Pursuant to and in compliance with the Invitation to Bid and the Bidding Documents relating to the construction of:

Lee's Summit R-7 School District  
2025-2026 Roof Replacement Project

Lee's Summit High School  
Building D Section A  
Building E Section A  
400 E Blue Parkway  
Lee's Summit, MO 64063  
Project No. 24LSSLESUR013B – REPLACEMENT

Including Addenda \_\_\_\_\_

The undersigned, having become thoroughly familiar with the terms and conditions of the Bidding Documents and with local conditions affecting the performance and cost of the work at the place where the work is to be completed, and after having been given ample opportunity to fully inspect the site in all particulars, hereby proposes and agrees to fully perform the work within the time stated, including furnishing any and all materials, installation, labor, equipment, delivery, taxes, insurance, services, overhead, and profit necessary to construct and complete said work in accordance with the Contract Documents, for the following sum(s) of money:

Refer to Section 01 23 00 – Alternates. Exclude value of each Alternate from the associated Base Bid, as described.

A. Base Bid: Recover the roof on Building D Section A and Building E Section A as specified.

\_\_\_\_\_

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

Amount of sales tax if include (project is sales tax exempt) \$\_\_\_\_\_

Total cost of construction materials included in bid above \$\_\_\_\_\_

Total square footage included in bid above \_\_\_\_\_ Sq. Ft.

B. Unit Pricing

1. For changing specified quantities of work from those required by the Contract Documents, upon written instructions of the Owner, the following unit prices shall prevail. Unit prices include all materials, installation, labor, equipment, delivery, taxes, insurance, services, overhead, and profit.
2. Refer to Sections 00 21 13 - Instructions to Bidders and 01 22 00 - Unit Prices.
3. Refer to Summary of Work notes on Drawings for stipulated quantity allowances of specific unit price-based work.

## 4. Schedule of Unit Prices:

Number	Description	Unit	Unit Price
1	Add or delete lumber/nailer	Bd. Ft.	\$ _____
2	Add or delete plywood	Sq. Ft.	\$ _____
3	Install roof system walkway	Ln. Ft.	\$ _____
4	Roofing Foreman (standard time)	Hour	\$ _____
5	Roofing Foreman (overtime)	Hour	\$ _____
6	Roofing Technician (standard time)	Hour	\$ _____
7	Roofing Technician (overtime)	Hour	\$ _____
8	Laborer (standard time)	Hour	\$ _____
9	Laborer (overtime)	Hour	\$ _____
10	Sheet Metal Worker (standard time)	Hour	\$ _____
11	Sheet Metal Worker (overtime)	Hour	\$ _____

## C. Performance Bond and Payment Bond

1. This bid includes the cost of a Performance Bond and Payment Bond. By signing and submitting this bid, the Bidder certifies that they will furnish these bonds in amounts sufficient to cover the total proposed cost of the work, including Base Bid and all Alternates. The bonds shall be amended and maintained current with all contract Change Orders.
2. The cost of these bonds is \_\_\_\_\_ percent (\_\_\_\_%) of the total proposed cost of the work, including Base Bid and all Alternates.

## D. Bid Security

1. Accompanying this bid is bid security as specified in Section 00 21 13 - Instructions to Bidders, payable without condition to the Owner, equaling five percent (5%) of the total proposed cost of the work, including the Base Bid and any specified Alternates. It is agreed that the bid security will be the measure of liquidated damages which the Owner will sustain by failure, neglect, or refusal of Bidder to deliver the signed contract, bonds, and required insurance documentation within ten (10) days after notification of contract award is made by the Owner.

## E. Change Orders

1. The following fees shall be used for lump sum pricing and actual cost pricing of additions and deletions to the work required by the Contract Documents. The following fees are not applicable for unit price-based change orders; and shall not be applied to hourly rates or pricing to which overhead and profit have been included, or to taxes.



a. For any additions to the work authorized by the Owner:

The contract sum shall be revised to include the actual cost of the work required for such additions plus \_\_\_\_\_percent (\_\_\_%).

b. For deletions from the work authorized by the Owner:

The contract sum shall be reduced by an amount equal to the cost savings realized for work not performed by reason of such deletions plus \_\_\_\_\_ percent (\_\_\_%).

F. Time of Commencement, Completion and Damages

1. Base Bid: Contractor shall commence work \_\_\_\_\_ (calendar) days after award. From the day of commencement, the Contractor shall substantially complete the work in \_\_\_\_\_ (calendar) days.
2. Final completion, including delivery of all closeout submittals and warranties, shall be achieved within \_\_\_\_\_ (calendar days) after achieving substantial completion.
3. Time is expressly declared to be of the essence in completion of the work covered by these Bidding Documents, and the Contractor shall be liable for actual damages for delay in completion of work. Actual damages include, but are not limited to, increased consulting fees, additional construction observation fees, travel expenses, and all other costs incurred as a result of the delay in completion. Where the contract allows additional time for completion of the work, the new time limits will be of the essence of the contract.
4. In submitting this bid, the Bidder assures the Owner that availability of labor, material, equipment, services, and other necessary resources are available to meet the proposed substantial completion date.

G. Proposed Subcontractors and Manufacturers

1. The following Subcontractors and Manufacturers have agreed to furnish labor and materials for this work for the trades and materials indicated. These Subcontractors and Manufacturers shall not be changed without Owner's permission.

<b>Subcontractor/Manufacturer</b>	<b>Trade/Material</b>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

2. Base Bid is based on roof membrane manufactured by the following:

\_\_\_\_\_.

H. Contractor Licensing Requirements

\_\_\_ Yes \_\_\_ No Do Authorities Having Jurisdiction at the project's location require licensing of Contractors for the types of work required by the Contract Documents that the Bidder proposes to complete using their own forces?

If yes, provide requested information below.

\_\_\_ Yes \_\_\_ No Do Authorities Having Jurisdiction at the project's location require licensing of Contractors for the types of work described by the Contract Documents that the Bidder proposes to complete using Subcontractor(s)?

If yes, provide requested information below.

I. Contractor and Subcontractor License Information

Contractor/Subcontractor	License Number	Expiration Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

J. The Interlocal Purchasing System (TIPS) Vendor Contract Information

Contract Name	Contract Number	Expiration Date
_____	_____	_____
_____	_____	_____

1.02 By signing this bid, the Bidder certifies the following:

- A. All information submitted on this bid form is accurate and true to the best of the Bidder's knowledge, and the Bidder has performed due diligence as necessary to provide responsible information.
- B. This bid has been arrived at independently without consultation, communication or agreement as to any matter relating to this bid with any other Bidder or with any competitor.
- C. This bid is in compliance with all local, state, and applicable codes.
- D. The Bidder and any proposed Subcontractors are duly licensed with all applicable authorities having jurisdiction, as required to legally perform the work described by the Bidding Documents at the project location.
- E. The Bidder will maintain strict confidentiality with respect to information submitted on this bid form, any project-related documents obtained during the bidding process, photographic or video images of the site, project-related emails or other correspondence, or information learned through visual review of the facility or project site.
- F. Bidder will comply with the terms of any confidentially agreements made with the Owner during the bidding of this project, as applicable.

- G. This bid shall remain open and not be withdrawn for a period of 60 calendar days from the date prescribed for its opening.
- H. If the Owner provides written notice of award to the undersigned within 60 calendar days, the Bidder shall execute and deliver the signed contract agreement, required insurance documentation, Bonds (if specified), and any other submittals as specified in the Bidding Documents, together, all within ten calendar days after the Owner issues the notice of award.
- I. The Bidder is an equal opportunity employer, and does not discriminate, and will take "affirmative action" measures to ensure against discrimination in employment, recruitment, advertisements for employment, compensation, termination, upgrading, promotions, and other conditions of employment against any employee or job applicant on the bases of race, creed, color, national origin, sex, or any other legally protected characteristics. No person will be adversely affected in employment with the employer as a result of bringing complaints of unlawful discrimination.
- J. The Bidder provides a work environment that is free from harassment based upon an individual's sex, race, ethnicity, national origin, age, religion or any other legally protected characteristics. All employees, including supervisors and other management personnel, are expected and required to abide by this policy. No person will be adversely affected in employment with the employer as a result of bringing complaints of unlawful harassment.

**1.03** By signing this bid, the Bidder implies their understanding of the following conditions:

- A. The Owner reserves the right to reject any and all bids, waive irregularities or technicalities in any bid, and accept any bid in whole or in part which it deems to be in its best interest.
- B. The Owner reserves the right to approve or reject the Bidder's proposed Subcontractor(s) or supplier(s) in accordance with Section 00 21 13 - Instructions to Bidders.
- C. If notice of award is issued after 60 calendar days from the bid due date, the Bidder shall have the right to either accept the contract or withdraw their bid, without penalty, as stipulated in Section 00 21 13 - Instructions to Bidders.

**1.04** The name(s) and title(s) for all persons interested in the foregoing bid as principal(s) are:

**Note:** *If Bidder is a corporation, provide names of president, controller, and secretary; if a partnership, and names of all individual co-partners composing the firm; if Bidder or other interested person is an individual, give first and last names in full.*

Name	Title
_____	_____
_____	_____
_____	_____
_____	_____

**1.05** Notice of award or requests for additional information may be addressed to the undersigned at the address set forth below.

**1.06** The Legal Name, State of Incorporation, Address, Contact Information, and Federal Tax Identification Number for the Bidder are:

**Note:** *If Bidder is a corporation, provide legal name of corporation, state where incorporated, together with the address and contact information and signature of the officer authorized to sign contracts on behalf of the corporation. If Bidder is a partnership, provide legal name of firm, together with the address and contact information and signature(s) of the partner(s) authorized to sign contracts on behalf of the partnership.*

Legal Name of Bidder: \_\_\_\_\_

State of Incorporation: \_\_\_\_\_

Business Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone Number: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Federal Tax ID Number: \_\_\_\_\_

**1.07** Signature of Authorized Bidder Representative

Signature: \_\_\_\_\_

Typed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**- End of Section -**

To: Lee's Summit R-7 School District

Name of Bidder: \_\_\_\_\_

Date of Bid: \_\_\_\_\_

**1.01** Pursuant to and in compliance with the Invitation to Bid and the Bidding Documents relating to the construction of:

Lee's Summit R-7 School District  
2025-2026 Roof Replacement Project

Summit Lakes Middle School  
Replacement Sections H, H1, H2, H3 and H4  
Campus Wide Roof Repairs  
3500 SW Windemere Dr.  
Lee's Summit, MO 64082  
Project No. 24LSSLESUR013B – REPLACEMENT

Including Addenda \_\_\_\_\_

The undersigned, having become thoroughly familiar with the terms and conditions of the Bidding Documents and with local conditions affecting the performance and cost of the work at the place where the work is to be completed, and after having been given ample opportunity to fully inspect the site in all particulars, hereby proposes and agrees to fully perform the work within the time stated, including furnishing any and all materials, installation, labor, equipment, delivery, taxes, insurance, services, overhead, and profit necessary to construct and complete said work in accordance with the Contract Documents, for the following sum(s) of money:

A. Base Bid: Remove and replace the roof on Sections H, H2 and H3, recover the roof on Sections H1 and H4 and make roof repairs to various roof sections as specified.

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

Amount of sales tax if include (project is sales tax exempt) \$\_\_\_\_\_

Total cost of construction materials included in bid above \$\_\_\_\_\_

Total square footage included in bid above \_\_\_\_\_ Sq. Ft.

B. Alternate Bid No. 1: Seal wall joints as noted on various roof sections with Action Code 7.10 as specified in Section 01 23 00 - Alternates.

Add to Base Bid

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

Amount of sales tax if include (project is sales tax exempt) \$\_\_\_\_\_

Total cost of construction materials included in bid above \$\_\_\_\_\_

- C. Alternate Bid No. 2: Seal window glazing as noted on Roof Section A with Action Code 7.31 as specified in Section 01 23 00 - Alternates.

Add to Base Bid

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

Amount of sales tax if include (project is sales tax exempt) \$\_\_\_\_\_

Total cost of construction materials included in bid above \$\_\_\_\_\_

D. Unit Pricing

- 1. For changing specified quantities of work from those required by the Contract Documents, upon written instructions of the Owner, the following unit prices shall prevail. Unit prices include all materials, installation, labor, equipment, delivery, taxes, insurance, services, overhead, and profit.
- 2. Refer to Sections 00 21 13 - Instructions to Bidders and 01 22 00 - Unit Prices.
- 3. Refer to Summary of Work notes on Drawings for stipulated quantity allowances of specific unit price-based work.
- 4. Schedule of Unit Prices:

Number	Description	Unit	Unit Price
1	Add or delete lumber/nailer	Bd. Ft.	\$_____
2	Replace lumber/nailer	Bd. Ft.	\$_____
3	Add or delete plywood	Sq. Ft.	\$_____
4	Replace plywood	Sq. Ft.	\$_____
5	Install roof system walkway	Ln. Ft.	\$_____
6	Replace insulation level with roofing	Sq. Ft.	\$_____
7	Replace steel decking	Sq. Ft.	\$_____
8	Paint surface rusted steel decking	Sq. Ft.	\$_____
9	Replace roof drain clamping ring	Ea.	\$_____
10	Replace roof drain and piping connection	Ea.	\$_____
11	Roofing Foreman (standard time)	Hour	\$_____
12	Roofing Foreman (overtime)	Hour	\$_____
13	Roofing Technician (standard time)	Hour	\$_____
14	Roofing Technician (overtime)	Hour	\$_____
15	Laborer (standard time)	Hour	\$_____

Number	Description	Unit	Unit Price
16	Laborer (overtime)	Hour	\$ _____
17	Sheet Metal Worker (standard time)	Hour	\$ _____
18	Sheet Metal Worker (overtime)	Hour	\$ _____

E. Performance Bond and Payment Bond

1. This bid includes the cost of a Performance Bond and Payment Bond. By signing and submitting this bid, the Bidder certifies that they will furnish these bonds in amounts sufficient to cover the total proposed cost of the work, including Base Bid and all Alternates. The bonds shall be amended and maintained current with all contract Change Orders.
2. The cost of these bonds is \_\_\_\_\_ percent (\_\_\_%) of the total proposed cost of the work, including Base Bid and all Alternates.

F. Bid Security

1. Accompanying this bid is bid security as specified in Section 00 21 13 - Instructions to Bidders, payable without condition to the Owner, equaling five percent (5%) of the total proposed cost of the work, including the Base Bid and any specified Alternates. It is agreed that the bid security will be the measure of liquidated damages which the Owner will sustain by failure, neglect, or refusal of Bidder to deliver the signed contract, bonds, and required insurance documentation within ten (10) days after notification of contract award is made by the Owner.

G. Change Orders

1. The following fees shall be used for lump sum pricing and actual cost pricing of additions and deletions to the work required by the Contract Documents. The following fees are not applicable for unit price-based change orders; and shall not be applied to hourly rates or pricing to which overhead and profit have been included, or to taxes.
  - a. For any additions to the work authorized by the Owner:  
  
The contract sum shall be revised to include the actual cost of the work required for such additions plus \_\_\_\_\_percent (\_\_\_%).
  - b. For deletions from the work authorized by the Owner:  
  
The contract sum shall be reduced by an amount equal to the cost savings realized for work not performed by reason of such deletions plus \_\_\_\_\_ percent (\_\_\_%).

H. Time of Commencement, Completion and Damages

1. Base Bid: Contractor shall commence work \_\_\_\_\_ (calendar) days after award. From the day of commencement, the Contractor shall substantially complete the work in \_\_\_\_\_ (calendar) days.
2. If the Owner awards Alternate Bid No. 1, add \_\_\_\_\_ (calendar) days to the performance period.

- 3. If the Owner awards Alternate Bid No. 2, add \_\_\_\_\_ (calendar) days to the performance period.
- 4. Final completion, including delivery of all closeout submittals and warranties, shall be achieved within \_\_\_\_\_ (calendar days) after achieving substantial completion.
- 5. Time is expressly declared to be of the essence in completion of the work covered by these Bidding Documents, and the Contractor shall be liable for actual damages for delay in completion of work. Actual damages include, but are not limited to, increased consulting fees, additional construction observation fees, travel expenses, and all other costs incurred as a result of the delay in completion. Where the contract allows additional time for completion of the work, the new time limits will be of the essence of the contract.
- 6. In submitting this bid, the Bidder assures the Owner that availability of labor, material, equipment, services, and other necessary resources are available to meet the proposed substantial completion date.

I. Proposed Subcontractors and Manufacturers

- 1. The following Subcontractors and Manufacturers have agreed to furnish labor and materials for this work for the trades and materials indicated. These Subcontractors and Manufacturers shall not be changed without Owner's permission.

<b>Subcontractor/Manufacturer</b>	<b>Trade/Material</b>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

- 2. Base Bid is based on roof membrane manufactured by the following:  
\_\_\_\_\_.

J. Contractor Licensing Requirements

\_\_\_ Yes \_\_\_ No Do Authorities Having Jurisdiction at the project's location require licensing of Contractors for the types of work required by the Contract Documents that the Bidder proposes to complete using their own forces?

If yes, provide requested information below.

\_\_\_ Yes \_\_\_ No Do Authorities Having Jurisdiction at the project's location require licensing of Contractors for the types of work described by the Contract Documents that the Bidder proposes to complete using Subcontractor(s)?

If yes, provide requested information below.



K. Contractor and Subcontractor License Information

Contractor/Subcontractor	License Number	Expiration Date
_____	_____	_____
_____	_____	_____
_____	_____	_____

L. The Interlocal Purchasing System (TIPS) Vendor Contract Information

Contract Name	Contract Number	Expiration Date
_____	_____	_____
_____	_____	_____

1.02 By signing this bid, the Bidder certifies the following:

- A. All information submitted on this bid form is accurate and true to the best of the Bidder's knowledge, and the Bidder has performed due diligence as necessary to provide responsible information.
- B. This bid has been arrived at independently without consultation, communication or agreement as to any matter relating to this bid with any other Bidder or with any competitor.
- C. This bid is in compliance with all local, state, and applicable codes.
- D. The Bidder and any proposed Subcontractors are duly licensed with all applicable authorities having jurisdiction, as required to legally perform the work described by the Bidding Documents at the project location.
- E. The Bidder will maintain strict confidentiality with respect to information submitted on this bid form, any project-related documents obtained during the bidding process, photographic or video images of the site, project-related emails or other correspondence, or information learned through visual review of the facility or project site.
- F. Bidder will comply with the terms of any confidentially agreements made with the Owner during the bidding of this project, as applicable.
- G. This bid shall remain open and not be withdrawn for a period of 60 calendar days from the date prescribed for its opening.
- H. If the Owner provides written notice of award to the undersigned within 60 calendar days, the Bidder shall execute and deliver the signed contract agreement, required insurance documentation, Bonds (if specified), and any other submittals as specified in the Bidding Documents, together, all within ten calendar days after the Owner issues the notice of award.
- I. The Bidder is an equal opportunity employer, and does not discriminate, and will take "affirmative action" measures to ensure against discrimination in employment, recruitment, advertisements for employment, compensation, termination, upgrading, promotions, and other conditions of employment against any employee or job applicant on the bases of race, creed, color, national origin, sex, or any other legally protected characteristics. No person will be adversely affected in employment with the employer as a result of bringing complaints of unlawful discrimination.

J. The Bidder provides a work environment that is free from harassment based upon an individual's sex, race, ethnicity, national origin, age, religion or any other legally protected characteristics. All employees, including supervisors and other management personnel, are expected and required to abide by this policy. No person will be adversely affected in employment with the employer as a result of bringing complaints of unlawful harassment.

1.03 By signing this bid, the Bidder implies their understanding of the following conditions:

- A. The Owner reserves the right to reject any and all bids, waive irregularities or technicalities in any bid, and accept any bid in whole or in part which it deems to be in its best interest.
- B. The Owner reserves the right to approve or reject the Bidder's proposed Subcontractor(s) or supplier(s) in accordance with Section 00 21 13 - Instructions to Bidders.
- C. If notice of award is issued after 60 calendar days from the bid due date, the Bidder shall have the right to either accept the contract or withdraw their bid, without penalty, as stipulated in Section 00 21 13 - Instructions to Bidders.

1.04 The name(s) and title(s) for all persons interested in the foregoing bid as principal(s) are:

**Note:** *If Bidder is a corporation, provide names of president, controller, and secretary; if a partnership, and names of all individual co-partners composing the firm; if Bidder or other interested person is an individual, give first and last names in full.*

Name	Title
_____	_____
_____	_____
_____	_____
_____	_____

1.05 Notice of award or requests for additional information may be addressed to the undersigned at the address set forth below.

1.06 The Legal Name, State of Incorporation, Address, Contact Information, and Federal Tax Identification Number for the Bidder are:

**Note:** *If Bidder is a corporation, provide legal name of corporation, state where incorporated, together with the address and contact information and signature of the officer authorized to sign contracts on behalf of the corporation. If Bidder is a partnership, provide legal name of firm, together with the address and contact information and signature(s) of the partner(s) authorized to sign contracts on behalf of the partnership.*

Legal Name of Bidder: \_\_\_\_\_

State of Incorporation: \_\_\_\_\_

Business Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone Number: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Federal Tax ID Number: \_\_\_\_\_

**1.07** Signature of Authorized Bidder Representative

Signature: \_\_\_\_\_

Typed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**- End of Section -**

To: Lee's Summit R-7 School District

Name of Bidder: \_\_\_\_\_

Date of Bid: \_\_\_\_\_

**1.01** Pursuant to and in compliance with the Invitation to Bid and the Bidding Documents relating to the construction of:

Lee's Summit R-7 School District  
2025-2026 Roof Replacement Project

Lee's Summit Aquatic Center  
Section C  
3498 SW Windemere Dr.  
Lee's Summit, MO 64082  
Project No. 24LSSAQUAR002B – REPLACEMENT

Including Addenda \_\_\_\_\_

The undersigned, having become thoroughly familiar with the terms and conditions of the Bidding Documents and with local conditions affecting the performance and cost of the work at the place where the work is to be completed, and after having been given ample opportunity to fully inspect the site in all particulars, hereby proposes and agrees to fully perform the work within the time stated, including furnishing any and all materials, installation, labor, equipment, delivery, taxes, insurance, services, overhead, and profit necessary to construct and complete said work in accordance with the Contract Documents, for the following sum(s) of money:

A. Base Bid: Remove and replace the roof on Section C as specified.

\_\_\_\_\_  
\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

Amount of sales tax if include (project is sales tax exempt) \$\_\_\_\_\_

Total cost of construction materials included in bid above \$\_\_\_\_\_

Total square footage included in bid above \_\_\_\_\_ Sq. Ft.

B. Unit Pricing

1. For changing specified quantities of work from those required by the Contract Documents, upon written instructions of the Owner, the following unit prices shall prevail. Unit prices include all materials, installation, labor, equipment, delivery, taxes, insurance, services, overhead, and profit.
2. Refer to Sections 00 21 13 - Instructions to Bidders and 01 22 00 - Unit Prices.
3. Refer to Summary of Work notes on Drawings for stipulated quantity and monetary allowances.

## 4. Schedule of Unit Prices:

Number	Description	Unit	Unit Price
1	Add or delete lumber/nailer	Bd. Ft.	\$ _____
2	Replace lumber/nailer	Bd. Ft.	\$ _____
3	Install roof system walkway	Ln. Ft.	\$ _____
4	Remove and dispose of existing thermal barrier/vapor retarder	Sq. Ft.	\$ _____
5	Replace steel decking	Sq. Ft.	\$ _____
6	Paint surface rusted steel decking	Sq. Ft.	\$ _____
7	Replace roof drain clamping ring	Ea.	\$ _____
8	Roofing Foreman (standard time)	Hour	\$ _____
9	Roofing Foreman (overtime)	Hour	\$ _____
10	Roofing Technician (standard time)	Hour	\$ _____
11	Roofing Technician (overtime)	Hour	\$ _____
12	Laborer (standard time)	Hour	\$ _____
13	Laborer (overtime)	Hour	\$ _____
14	Sheet Metal Worker (standard time)	Hour	\$ _____
15	Sheet Metal Worker (overtime)	Hour	\$ _____

## C. Performance Bond and Payment Bond

1. This bid includes the cost of a Performance Bond and Payment Bond. By signing and submitting this bid, the Bidder certifies that they will furnish these bonds in amounts sufficient to cover the total proposed cost of the work, including Base Bid and all Alternates. The bonds shall be amended and maintained current with all contract Change Orders.
2. The cost of these bonds is \_\_\_\_\_ percent (\_\_\_%) of the total proposed cost of the work, including Base Bid and all Alternates.

## D. Bid Security

1. Accompanying this bid is bid security as specified in Section 00 21 13 - Instructions to Bidders, payable without condition to the Owner, equaling five percent (5%) of the total proposed cost of the work, including the Base Bid and any specified Alternates. It is agreed that the bid security will be the measure of liquidated damages which the Owner will sustain by failure, neglect, or refusal of Bidder to deliver the signed contract, bonds, and required insurance documentation within ten (10) days after notification of contract award is made by the Owner.

E. Change Orders

1. The following fees shall be used for lump sum pricing and actual cost pricing of additions and deletions to the work required by the Contract Documents. The following fees are not applicable for unit price-based change orders; and shall not be applied to hourly rates or pricing to which overhead and profit have been included, or to taxes.

a. For any additions to the work authorized by the Owner:

The contract sum shall be revised to include the actual cost of the work required for such additions plus \_\_\_\_\_percent (\_\_\_%).

b. For deletions from the work authorized by the Owner:

The contract sum shall be reduced by an amount equal to the cost savings realized for work not performed by reason of such deletions plus \_\_\_\_\_ percent (\_\_\_%).

F. Time of Commencement, Completion and Damages

1. Base Bid: Contractor shall commence work \_\_\_\_\_ (calendar) days after award. From the day of commencement, the Contractor shall substantially complete the work in \_\_\_\_\_ (calendar) days.

2. Final completion, including delivery of all closeout submittals and warranties, shall be achieved within \_\_\_\_\_ (calendar days) after achieving substantial completion.

3. Time is expressly declared to be of the essence in completion of the work covered by these Bidding Documents, and the Contractor shall be liable for actual damages for delay in completion of work. Actual damages include, but are not limited to, increased consulting fees, additional construction observation fees, travel expenses, and all other costs incurred as a result of the delay in completion. Where the contract allows additional time for completion of the work, the new time limits will be of the essence of the contract.

4. In submitting this bid, the Bidder assures the Owner that availability of labor, material, equipment, services, and other necessary resources are available to meet the proposed substantial completion date.

G. Proposed Subcontractors and Manufacturers

1. The following Subcontractors and Manufacturers have agreed to furnish labor and materials for this work for the trades and materials indicated. These Subcontractors and Manufacturers shall not be changed without Owner's permission.

<b>Subcontractor/Manufacturer</b>	<b>Trade/Material</b>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

2. Base Bid is based on roof membrane manufactured by the following:

\_\_\_\_\_.

H. Contractor Licensing Requirements

\_\_\_ Yes \_\_\_ No Do Authorities Having Jurisdiction at the project's location require licensing of Contractors for the types of work required by the Contract Documents that the Bidder proposes to complete using their own forces?

If yes, provide requested information below.

\_\_\_ Yes \_\_\_ No Do Authorities Having Jurisdiction at the project's location require licensing of Contractors for the types of work described by the Contract Documents that the Bidder proposes to complete using Subcontractor(s)?

If yes, provide requested information below.

I. Contractor and Subcontractor License Information

Contractor/Subcontractor	License Number	Expiration Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

1.02 By signing this bid, the Bidder certifies the following:

- A. All information submitted on this bid form is accurate and true to the best of the Bidder's knowledge, and the Bidder has performed due diligence as necessary to provide responsible information.
- B. This bid has been arrived at independently without consultation, communication or agreement as to any matter relating to this bid with any other Bidder or with any competitor.
- C. This bid is in compliance with all local, state, and applicable codes.
- D. The Bidder and any proposed Subcontractors are duly licensed with all applicable authorities having jurisdiction, as required to legally perform the work described by the Bidding Documents at the project location.
- E. The Bidder will maintain strict confidentiality with respect to information submitted on this bid form, any project-related documents obtained during the bidding process, photographic or video images of the site, project-related emails or other correspondence, or information learned through visual review of the facility or project site.
- F. Bidder will comply with the terms of any confidentially agreements made with the Owner during the bidding of this project, as applicable.
- G. This bid shall remain open and not be withdrawn for a period of 60 calendar days from the date prescribed for its opening.

- H. If the Owner provides written notice of award to the undersigned within 60 calendar days, the Bidder shall execute and deliver the signed contract agreement, required insurance documentation, Bonds (if specified), and any other submittals as specified in the Bidding Documents, together, all within ten calendar days after the Owner issues the notice of award.
- I. The Bidder is an equal opportunity employer, and does not discriminate, and will take "affirmative action" measures to ensure against discrimination in employment, recruitment, advertisements for employment, compensation, termination, upgrading, promotions, and other conditions of employment against any employee or job applicant on the bases of race, creed, color, national origin, sex, or any other legally protected characteristics. No person will be adversely affected in employment with the employer as a result of bringing complaints of unlawful discrimination.
- J. The Bidder provides a work environment that is free from harassment based upon an individual's sex, race, ethnicity, national origin, age, religion or any other legally protected characteristics. All employees, including supervisors and other management personnel, are expected and required to abide by this policy. No person will be adversely affected in employment with the employer as a result of bringing complaints of unlawful harassment.

**1.03** By signing this bid, the Bidder implies their understanding of the following conditions:

- A. The Owner reserves the right to reject any and all bids, waive irregularities or technicalities in any bid, and accept any bid in whole or in part which it deems to be in its best interest.
- B. The Owner reserves the right to approve or reject the Bidder's proposed Subcontractor(s) or supplier(s) in accordance with Section 00 21 13 - Instructions to Bidders.
- C. If notice of award is issued after 60 calendar days from the bid due date, the Bidder shall have the right to either accept the contract or withdraw their bid, without penalty, as stipulated in Section 00 21 13 - Instructions to Bidders.

**1.04** The name(s) and title(s) for all persons interested in the foregoing bid as principal(s) are:

**Note:** *If Bidder is a corporation, provide names of president, controller, and secretary; if a partnership, and names of all individual co-partners composing the firm; if Bidder or other interested person is an individual, give first and last names in full.*

Name	Title
_____	_____
_____	_____
_____	_____
_____	_____

**1.05** Notice of award or requests for additional information may be addressed to the undersigned at the address set forth below.

**1.06** The Legal Name, State of Incorporation, Address, Contact Information, and Federal Tax Identification Number for the Bidder are:

**Note:** *If Bidder is a corporation, provide legal name of corporation, state where incorporated, together with the address and contact information and signature of the officer authorized to sign contracts on behalf of the corporation. If Bidder is a partnership, provide legal name of firm, together with the address and contact information and signature(s) of the partner(s) authorized to sign contracts on behalf of the partnership.*



Legal Name of Bidder: \_\_\_\_\_

State of Incorporation: \_\_\_\_\_

Business Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone Number: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Federal Tax ID Number: \_\_\_\_\_

**1.07** Signature of Authorized Bidder Representative

Signature: \_\_\_\_\_

Typed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**- End of Section -**

 **AIA**® Document A104™ – 2017

**Standard Abbreviated Form of Agreement Between Owner and Contractor**

AGREEMENT made as of the Sixteenth day of May in the year 2019  
(In words, indicate day, month and year.)

BETWEEN the Owner:  
(Name, legal status, address and other information)

Board of Education, Reorganized School District No. 7  
301 NE Tudor Rd, Lee's Summit, MO 64086  
Telephone Number: 816-986-1000  
Fax Number: 816-986-1165

and the Contractor:  
(Name, legal status, address and other information)

for the following Project:  
(Name, location and detailed description)

The Architect:  
(Name, legal status, address and other information)

Benchmark, Inc.  
6065 Huntington Court NE  
Cedar Rapids, IA 52402  
Telephone Number: 319-393-9100  
Fax Number: 319-393-3994

The Owner and Contractor agree as follows.

**ADDITIONS AND DELETIONS:**

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Init.

TABLE OF ARTICLES

1	THE WORK OF THIS CONTRACT
2	DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
3	CONTRACT SUM
4	PAYMENT
5	DISPUTE RESOLUTION
6	ENUMERATION OF CONTRACT DOCUMENTS
7	GENERAL PROVISIONS
8	OWNER
9	CONTRACTOR
10	ARCHITECT
11	SUBCONTRACTORS
12	CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
13	CHANGES IN THE WORK
14	TIME
15	PAYMENTS AND COMPLETION
16	PROTECTION OF PERSONS AND PROPERTY
17	INSURANCE AND BONDS
18	CORRECTION OF WORK
19	MISCELLANEOUS PROVISIONS
20	TERMINATION OF THE CONTRACT
21	CLAIMS AND DISPUTES

**ARTICLE 1 THE WORK OF THIS CONTRACT**

The Contractor shall execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

**ARTICLE 2 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION**

§ 2.1 The date of commencement of the Work shall be:  
*(Check one of the following boxes.)*

The commencement date will be as noted in a notice to proceed.

Init.

A date set forth in a notice to proceed issued by the Owner.

*(Paragraphs deleted)*

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

**§ 2.2** The Contract Time shall be measured from the date of commencement. **Work shall begin upon receipt by Contractor of a Notice to Proceed which will be issued after receipt of all Bonds and Insurance.**

**§ 2.3 Substantial Completion**

**§ 2.3.1** Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

*(Check the appropriate box and complete the necessary information.)*

Not later than ( ) calendar days from the date of commencement of the Work.

By the following date:

**§ 2.3.2** Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work

Substantial Completion Date

**§ 2.3.3** If the Contractor fails to achieve Substantial Completion as provided in this Section 2.3, liquidated damages, if any, shall be assessed as set forth in Section 3.5.

**ARTICLE 3 CONTRACT SUM**

**§ 3.1** The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be one of the following:

*(Check the appropriate box.)*

Stipulated Sum, in accordance with Section 3.2 below

Cost of the Work plus the Contractor's Fee, in accordance with Section 3.3 below

Cost of the Work plus the Contractor's Fee with a Guaranteed Maximum Price, in accordance with Section 3.4 below

*(Based on the selection above, complete Section 3.2, 3.3 or 3.4 below.)*

**§ 3.2** The Stipulated Sum shall be Twenty Thousand Eight Hundred Dollars and Zero Cents (\$ 20,800.00 ), subject to additions and deductions as provided in the Contract Documents.

**§ 3.2.1** The Stipulated Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

*(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)*

**§ 3.2.2** Unit prices, if any:

*(Identify the item and state the unit price and the quantity limitations, if any, to which the unit price will be applicable.)*

Init.

Item	Units and Limitations	Price per Unit (\$0.00)
<p><b>§ 3.2.3</b> Allowances, if any, included in the stipulated sum:  <i>(Identify each allowance.)</i></p>		
Item	Price	

*(Paragraphs deleted)*

*(Table deleted)*

*(Paragraphs deleted)*

*(Table deleted)*

*(Paragraphs deleted)*

**§ 3.5** Liquidated damages, if any:

*(Insert terms and conditions for liquidated damages, if any.)*

In the event Contractor causes work delays of other Contractors or delays the completion of the Project, the Contractor shall be liable to the Owner and the other Contractors for damages caused by the delay, including, but not limited to, costs of disruptions, acceleration or extension of work, additional project management, Architectural, and Engineering fees, the cost of temporary facilities, and Owner's reasonable attorneys' fees.

#### **ARTICLE 4 PAYMENT**

##### **§ 4.1 Progress Payments**

**§ 4.1.1** Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents. **Applications for Payment shall be on AIA forms G702 and G703.**

**§ 4.1.2** The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

**§ 4.1.3** Provided that an Application for Payment is received by the Architect not later than the **First** day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the **Thirtieth** day of the **same** month. If an Application for Payment is received by the Architect after the date fixed above, payment shall be made by the Owner not later than **Thirty ( 30 )** days after the Architect receives the Application for Payment.

*(Federal, state or local laws may require payment within a certain period of time.)*

**§ 4.1.4** For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold retainage from the payment otherwise due as follows:

*(Insert a percentage or amount to be withheld as retainage from each Application for Payment and any terms for reduction of retainage during the course of the Work. The amount of retainage may be limited by governing law.)*

**Five percent of the certified amount completed shall be withheld as retainage. Upon approval by the Owner, retainage will be reduced when the Project has been approved for Final Completion and has received Final Certificate of Occupancy from the local building code officials.**

**§ 4.1.5** Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

*(Insert rate of interest agreed upon, if any.)*

**The prime rate of interest per annum as determined by Central Bank.**

**A partial waiver of lien from all major material suppliers and sub-contractors where applicable, as requested by the Surety, shall accompany each payment request to confirm and acknowledge disbursement of the payment. Partial waivers of lien shall be properly completed and shall list the cumulative amount of payment received by the date of the waiver. This requirement shall not be waived unless agreed upon in writing by the Surety.**

**Certified payroll records shall accompany each payment request.**

Init.

**§ 4.2 Final Payment**

**§ 4.2.1** Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor’s responsibility to correct Work as provided in Section 18.2, and to satisfy other requirements, if any, which extend beyond final payment;
- .2 the Contractor has submitted a final accounting for the Cost of the Work, where payment is on the basis of the Cost of the Work with or without a Guaranteed Maximum Price; and
- .3 a final Certificate for Payment has been issued by the Architect in accordance with Section 15.7.1.
- .4 **Final Lien Waiver; and**
- .5 **Executed Warranty; and**
- .6 **Prevailing Wage Affidavit, PW-4; and**
- .7 **Consent of Surety for Final Payment; and**
- .8 **Close-out requirements as required in the Project Manual.**

**§ 4.2.2** The Owner’s final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect’s final Certificate for Payment, or as follows:

Final payment will be made upon receipt of all applicable closeout documentation.

**ARTICLE 5 DISPUTE RESOLUTION**

**§ 5.1 Binding Dispute Resolution**

For any claim subject to, , the method of binding dispute resolution shall be as follows:

*(Check the appropriate box.)*

- Arbitration pursuant to Section 21.6 of this Agreement
- Litigation in a court of competent jurisdiction
- Other *(Specify)*

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, claims will be resolved in a court of competent jurisdiction.

**ARTICLE 6 ENUMERATION OF CONTRACT DOCUMENTS**

**§ 6.1** The Contract Documents are defined in Article 7 and, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

**§ 6.1.1** The Agreement is this executed AIA Document A104™–2017, Standard Abbreviated Form of Agreement Between Owner and Contractor.

**§ 6.1.2** AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:

*(Insert the date of the E203–2013 incorporated into this Agreement.)*

**§ 6.1.3** The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
----------	-------	------	-------

**§ 6.1.4** The Specifications:

*(Either list the Specifications here or refer to an exhibit attached to this Agreement.)*

**Title of Specifications exhibit: Exhibit "D"**

Section	Title	Date	Pages
---------	-------	------	-------

**§ 6.1.5 The Drawings:**

*(Either list the Drawings here or refer to an exhibit attached to this Agreement.)*

**Title of Drawings exhibit: Exhibit "E"**

Number	Title	Date
--------	-------	------

**§ 6.1.6 The Addenda, if any:**

Number	Date	Pages
--------	------	-------

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are enumerated in this Article 6.

**§ 6.1.7 Additional documents, if any, forming part of the Contract Documents:**

**.1 Other Exhibits:**

*(Check all boxes that apply.)*

Exhibit A, . **Insurance Requirements.**

AIA Document E204™-2017, Sustainable Projects Exhibit, dated as indicated below:  
*(Insert the date of the E204-2017 incorporated into this Agreement.)*

The Sustainability Plan:

Title	Date	Pages
-------	------	-------

Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
----------	-------	------	-------

**.2 Other documents, if any, listed below:**

*(List here any additional documents that are intended to form part of the Contract Documents.)*

- Exhibit "A", Insurance Requirements
- Exhibit "B", E-Verification Affidavit
- Exhibit "C", Tax Exempt Certificate
- Exhibit "D", Title of Specifications
- Exhibit "E", Title of Drawings
- Exhibit "F", Unit Prices

**Current Annual Wage Order as determined by the Missouri Department of Labor and Industrial Relations**

Init.



## ARTICLE 7 GENERAL PROVISIONS

### § 7.1 The Contract Documents

The Contract Documents are enumerated in Article 6 and consist of this Agreement (including, if applicable, Supplementary and other Conditions of the Contract), Drawings, Specifications, Addenda issued prior to the execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

### § 7.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind between any persons or entities other than the Owner and the Contractor.

### § 7.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project. **The Work referred to in these documents includes, but is not limited to delivery, unloading, uncrating, assembling, setting in place, leveling, adjustment, completely installing and cleaning up of any debris.**

### § 7.4 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

### § 7.5 Ownership and use of Drawings, Specifications and Other Instruments of Service

**§ 7.5.1** The Architect and the Architect's consultants shall be deemed the authors and . **of their respective Instruments, including the Drawings, Specifications, and other documents prepared by the Architect, all of which are the property of the Owner.** The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

**§ 7.5.2** The Contractor, Subcontractors, Sub-subcontractors and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to the protocols established pursuant to Sections 7.6 and 7.7, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

**§ 7.5.3** The Contractor shall notify the Architect in writing of any inconsistency found between the specifications and drawings. The Architect will advise the Contractor on whether the drawings or specifications will control.

### § 7.6 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™-2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

### § 7.7 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

### § 7.8 Severability

The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

### § 7.9 Notice

§ 7.9.1 Except as otherwise provided in Section 7.9.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:

*(If other than in accordance with AIA Document E203–2013, insert requirements for delivering Notice in electronic format such as name, title and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)*

§ 7.9.2 Notice of Claims shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

### § 7.10 Relationship of the Parties

Where the Contract is based on the Cost of the Work plus the Contractor's Fee, with or without a Guaranteed Maximum Price, the Contractor accepts the relationship of trust and confidence established by this Agreement and covenants with the Owner to cooperate with the Architect and exercise the Contractor's skill and judgment in furthering the interests of the Owner; to furnish efficient business administration and supervision; to furnish at all times an adequate supply of workers and materials; and to perform the Work in an expeditious and economical manner consistent with the Owner's interests. The Owner agrees to furnish and approve, in a timely manner, information required by the Contractor and to make payments to the Contractor in accordance with the requirements of the Contract Documents.

## ARTICLE 8 OWNER

### § 8.1 Information and Services Required of the Owner

§ 8.1.1 Prior to commencement of the Work, at the written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 8.1.1, the Contract Time shall be extended appropriately.

§ 8.1.2 The Owner shall furnish all necessary surveys and a legal description of the site.

§ 8.1.3 The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 8.1.4 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 9.6.1, the Owner shall secure and pay for other necessary approvals,

Init.

easements, assessments, and charges required for the construction, use, or occupancy of permanent structures or for permanent changes in existing facilities.

#### § 8.2 Owner's Right to Stop the Work

If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents, or repeatedly fails to carry out the Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order is eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

#### § 8.3 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, and fails within a **seven-day** period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to any other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 15.4.3, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including the Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 21.

### ARTICLE 9 CONTRACTOR

#### § 9.1 Review of Contract Documents and Field Conditions by Contractor

§ 9.1.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 9.1.2, **After contract is awarded, contract documents are available from the Owner's designated printer, free of charge, as reasonably required, to execute the work.** The Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 8.1.2, shall take field measurements of any existing conditions related to that portion of the Work and shall observe any conditions at the site affecting it. **The Contractor shall promptly report to the Architect any errors, inconsistencies, or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional unless otherwise specifically provided in the Contract Documents. If the Contractor performs any Work knowing it involved a recognized error, inconsistency or omission in the Contract Documents without such notice to the Architect, the Contractor shall thereby assume responsibility for performance and shall bear the attributable cost for correction.**

§ 9.1.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

#### § 9.2 Supervision and Construction Procedures

§ 9.2.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters.

§ 9.2.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for or on behalf of the Contractor or any of its Subcontractors.

Init.

§ 9.2.3 The Contractor shall be responsible for compliance, during the course of the Work, with any laws and regulations that are protective of the environment or human health and safety.

§ 9.2.4 Compliance with Board of Education Policies: The Contractor, all Subcontractors, and delivery personnel associated with performing the Work of the Contract shall conduct themselves in accordance with all applicable Lee's Summit R-7 School District Board of Education Policies while on the job site or any District property. Applicable policies include, but are not limited to, Tobacco, Drugs, Language, Weapons, and Sexual Harassment. Failure of a person to comply will be cause for his or her immediate dismissal from the project. Noncompliance shall be considered a substantial breach of Contract.

§ 9.2.5 The Contractor shall be responsible to investigate their own employees for Sex Offender Registration and assure that any employee with such record shall not visit or perform work at any Lee's Summit School job sites or District property. Noncompliance shall be considered a substantial breach of Contract. The Owner reserves the right to have any such Sexual Offender removed from the site.

#### § 9.3 Labor and Materials

§ 9.3.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, telephone/communications equipment, and other facilities and services necessary for proper execution and completion of the Work whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. 110 volt 20 amp electrical service required for Contractor's tools, equipment and lighting shall be furnished by the Owner at designated center of distribution if available on site. All extensions from Owner's centers of distribution shall be furnished, installed and maintained by the Contractor, including necessary fused switching equipment. All wiring, cables, extension cords, piping, hoses, valves, etc. shall be in accordance with applicable electrical codes and requirements.

§ 9.3.2 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

§ 9.3.3 The Contractor may make a substitution only with the consent of the Owner, after evaluation by the Architect and in accordance with a Modification.

§ 9.3.4 The Contractor shall deliver, handle, store and install materials in accordance with manufacturer's instructions.

#### § 9.4 Warranty

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation or normal wear and tear under normal usage. All other warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 15.6.3.

§ 9.4.1 All manufacturer's warranties required by the Contract Documents shall commence on the date of Substantial Completion, such manufacturing warranties shall commence on the date the Work is accepted unless some other warranty commencement date is specifically reference elsewhere in the Contract Documents for a specific warranty. The Contractor shall be required to secure any extended warranties or special riders to standard warranties that are required to comply with these requirements.

#### § 9.5 Taxes

The Contractor shall pay sales all taxes measured by the wages of its employees. The Contractor shall indemnify and hold Owner harmless from all such taxes that are not paid by Contractor. The Owner is an organization exempt from sales tax under Missouri law. Contractor shall cooperate with the Owner and shall require all Subcontractors to cooperate with the Owner, in the purchase of materials, equipment and other items needed

in connection with the performance of the Work (by following such procedures as may be instituted by the Owner) in order to take advantage of this exemption. The Owner acknowledges that because of the exemption, no amounts have been included in the Contract Sum on account of anticipated Missouri sales taxes and that if such taxes are required to be paid the Contract Sum shall be increased accordingly by the amount of such taxes as are actually incurred by contract of its Subcontractors.

§ 9.5.1 The Owner shall furnish to the Contractor, a sales tax exemption certificate from the State of Missouri for the construction of this project that must be provided to all subcontractors and material suppliers.

#### § 9.6 Permits, Fees, Notices, and Compliance with Laws

§ 9.6.1 Unless otherwise provided in the Contract Documents, the Owner shall secure and pay for the building permit as well as other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 9.6.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work. If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

#### § 9.7 Allowances

The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. The Owner shall select materials and equipment under allowances with reasonable promptness. Allowance amounts shall include the costs to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts. Contractor's costs for unloading and handling at the site, labor, installation, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowance.

#### § 9.8 Contractor's Construction Schedules

§ 9.8.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 9.8.2 The Contractor shall perform the Work in general accordance with the most recent schedule submitted to the Owner and Architect.

#### § 9.9 Submittals

§ 9.9.1 The Contractor shall review for compliance with the Contract Documents and submit to the Architect Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents in coordination with the Contractor's construction schedule and in such sequence as to allow the Architect reasonable time for review. By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them; (2) determined and verified materials, field measurements, and field construction criteria related thereto, or will do so; and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. The Work shall be in accordance with approved submittals.

§ 9.9.2 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. **Two (2) bound copies of shop drawings, product data sheets and Material Safety Data Sheets for each component required to complete the work, including all specified items and any other item contractor deems necessary to complete work.**

§ 9.9.3 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents or unless the Contractor needs to provide such services in order to carry out the Contractor's own responsibilities. If professional design

services or certifications by a design professional are specifically required, the Owner and the Architect will specify the performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional. If no criteria are specified, the design shall comply with applicable codes and ordinances. Each Party shall be entitled to rely upon the information provided by the other Party. The Architect will review and approve or take other appropriate action on submittals for the limited purpose of checking for conformance with information provided and the design concept expressed in the Contract Documents. The Architect's review of Shop Drawings, Product Data, Samples, and similar submittals shall be for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. In performing such review, the Architect will approve, or take other appropriate action upon, the Contractor's Shop Drawings, Product Data, Samples, and similar submittals.

#### § 9.10 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment. **All vehicles and equipment owned by the Contractor shall be maintained in proper working order while on the job site. Contractor shall be required to place cardboard, catch pans, floor dry, or an effective substitution under leaking vehicles or equipment to prevent oil/hydraulic stains on pavement. Contractor shall clean oil/hydraulic stains on pavement caused by Contractor or his personnel to the Owner's Satisfaction prior to project completion and final payment.**

#### § 9.11 Cutting and Patching

The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly.

#### § 9.12 Cleaning Up

The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus material from and about the Project.

#### § 9.13 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

#### § 9.14 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

#### § 9.15 Indemnification

**§ 9.15.1** To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 9.15.1.

**§ 9.15.2** In claims against any person or entity indemnified under this Section 9.15 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 9.15.1 shall not be limited by a limitation on amount or type of damages,

Init.

compensation or benefits payable by or for the Contractor or Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

#### ARTICLE 10 ARCHITECT

§ 10.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction, until the date the Architect issues the final Certificate for. **Payment and through the One Year Warranty period.** The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

§ 10.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 10.3 The Architect will visit the site at intervals appropriate to the stage of the construction to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general, if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 10.4 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 10.5 Based on the Architect's evaluations of the Work and of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 10.6 The Architect has authority to reject Work that does not conform to the Contract Documents and to require inspection or testing of the Work.

§ 10.7 The Architect will review and approve or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 10.8 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect will make initial decisions on all claims, disputes, and other matters in question between the Owner and Contractor but will not be liable for results of any interpretations or decisions rendered in good faith.

§ 10.9 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

#### ARTICLE 11 SUBCONTRACTORS

§ 11.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site.

§ 11.2 Unless otherwise stated in the Contract Documents, the Contractor, **within ten days of award** of the Contract, shall notify the Owner and Architect of the Subcontractors or suppliers proposed for each of the principal portions of the Work. The Contractor shall not contract with any Subcontractor or supplier to whom the Owner or Architect has

made reasonable written objection within ten days after receipt of the Contractor's list of Subcontractors and suppliers. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 11.3 Contracts between the Contractor and Subcontractors shall (1) require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by the Contract Documents, assumes toward the Owner and Architect, and (2) allow the Subcontractor the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Contract Documents, has against the Owner.

## ARTICLE 12 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 12.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 12.2 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's activities with theirs as required by the Contract Documents.

§ 12.3 The Owner shall be reimbursed by the Contractor for costs incurred by the Owner which are payable to a Separate Contractor because of delays, improperly timed activities, or defective construction of the Contractor. The Owner shall be responsible to the Contractor for costs incurred by the Contractor because of delays, improperly timed activities, damage to the Work, or defective construction of a Separate Contractor.

## ARTICLE 13 CHANGES IN THE WORK

§ 13.1 By appropriate Modification, changes in the Work may be accomplished after execution of the Contract. The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, with the Contract Sum and Contract Time being adjusted accordingly. Such changes in the Work shall be authorized by written Change Order signed by the Owner, Contractor, and Architect, or by written Construction Change Directive signed by the Owner and Architect. Upon issuance of the Change Order or Construction Change Directive, the Contractor shall proceed promptly with such changes in the Work, unless otherwise provided in the Change Order or Construction Change Directive.

§ 13.2 Adjustments in the Contract Sum and Contract Time resulting from a change in the Work shall be determined by mutual agreement of the parties or, in the case of a Construction Change Directive signed only by the Owner and Architect, by the Contractor's cost of labor, material, equipment, and , unless the parties agree on another method for determining the cost or credit. Pending final determination of the total cost of a Construction Change Directive, the Contractor may request payment for Work completed pursuant to the Construction Change Directive. The Architect will make an interim determination of the amount of payment due for purposes of certifying the Contractor's monthly Application for Payment. When the Owner and Contractor agree on adjustments to the Contract Sum and Contract Time arising from a Construction Change Directive, the Architect will prepare a Change Order. **Pricing of changes in scope of work or compensation for claims shall be based on the percentages submitted by the Contractor on the bid proposal form and as summarized below:**

- .1 To Contractor for work performed by his/her own forces: NTE 10% profit & overhead;
- .2 To Contractor for work performed by other than his/her own forces: NTE 5% profit & overhead;
- .3 To Subcontractor for work performed by his/her own forces: NTE 10% profit & overhead;
- .4 To Subcontractor for work performed by other than his/her own forces: NTE 5% profit & overhead

Init.



§ 13.3 The Architect will have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work.

§ 13.4 If concealed or unknown physical conditions are encountered at the site that differ materially from those indicated in the Contract Documents or from those conditions ordinarily found to exist, the Contract Sum and Contract Time shall be equitably adjusted as mutually agreed between the Owner and Contractor; provided that the Contractor provides notice to the Owner and Architect promptly and before conditions are disturbed.

#### ARTICLE 14 TIME

§ 14.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing this Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 14.2 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 14.3 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 14.4 The date of Substantial Completion is the date certified by the Architect in accordance with Section 15.6.3.

§ 14.5 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) changes ordered in the Work; (2) by labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions not reasonably anticipatable, unavoidable casualties, or any causes beyond the Contractor's control; or (3) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine, subject to the provisions of Article 21.

§ 14.6 To be eligible for a time extension to the Contract due to adverse weather, the Contractor must have been prevented from working for 50% or more of the contractor's scheduled work effort for that day.

#### ARTICLE 15 PAYMENTS AND COMPLETION

##### § 15.1 Schedule of Values

§ 15.1.1 Where the Contract is based on a Stipulated Sum or the Cost of the Work with a Guaranteed Maximum Price pursuant to Section 3.2 or 3.4, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Stipulated Sum or Guaranteed Maximum Price to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy required by the Architect. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 15.1.2 The allocation of the Stipulated Sum or Guaranteed Maximum Price under this Section 15.1 shall not constitute a separate stipulated sum or guaranteed maximum price for each individual line item in the schedule of values.

##### § 15.2 Control Estimate

§ 15.2.1 Where the Contract Sum is the Cost of the Work, plus the Contractor's Fee without a Guaranteed Maximum Price pursuant to Section 3.3, the Contractor shall prepare and submit to the Owner a Control Estimate within 14 days of executing this Agreement. The Control Estimate shall include the estimated Cost of the Work plus the Contractor's Fee.

§ 15.2.2 The Control Estimate shall include:

- .1 the documents enumerated in Article 6, including all Modifications thereto;
- .2 a list of the assumptions made by the Contractor in the preparation of the Control Estimate to supplement the information provided by the Owner and contained in the Contract Documents;

Init.

- .3 a statement of the estimated Cost of the Work organized by trade categories or systems and the Contractor's Fee;
- .4 a project schedule upon which the Control Estimate is based, indicating proposed Subcontractors, activity sequences and durations, milestone dates for receipt and approval of pertinent information, schedule of shop drawings and samples, procurement and delivery of materials or equipment the Owner's occupancy requirements, and the date of Substantial Completion; and
- .5 a list of any contingency amounts included in the Control Estimate for further development of design and construction.

§ 15.2.3 When the Control Estimate is acceptable to the Owner and Architect, the Owner shall acknowledge it in writing. The Owner's acceptance of the Control Estimate does not imply that the Control Estimate constitutes a Guaranteed Maximum Price.

§ 15.2.4 The Contractor shall develop and implement a detailed system of cost control that will provide the Owner and Architect with timely information as to the anticipated total Cost of the Work. The cost control system shall compare the Control Estimate with the actual cost for activities in progress and estimates for uncompleted tasks and proposed changes. This information shall be reported to the Owner, in writing, no later than the Contractor's first Application for Payment and shall be revised and submitted with each Application for Payment.

§ 15.2.5 The Owner shall authorize preparation of revisions to the Contract Documents that incorporate the agreed-upon assumptions contained in the Control Estimate. The Owner shall promptly furnish such revised Contract Documents to the Contractor. The Contractor shall notify the Owner and Architect of any inconsistencies between the Control Estimate and the revised Contract Documents.

### § 15.3 Applications for Payment

§ 15.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 15.1, for completed portions of the Work. The application shall be notarized, if required; be supported by all data substantiating the Contractor's right to payment that the Owner or Architect require; shall reflect retainage if provided for in the Contract Documents; and include any revised cost control information required by Section 15.2.4. Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

*(Paragraph deleted)*

§ 15.3.3 Payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment stored, and protected from damage, off the site at a location agreed upon in writing.

§ 15.3.4 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or other encumbrances adverse to the Owner's interests.

### § 15.3.5 The R-7 School District is offering electronic payment through Central Bank's MasterCard Commercial Cards Program.

### § 15.4 Certificates for Payment

§ 15.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner of the Architect's reasons for withholding certification in whole or in part as provided in Section 15.4.3.

§ 15.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluations of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 15.4.3 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 15.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 15.4.1. If the Contractor and the Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 9.2.2, because of

- .1 defective Work not remedied;
  - .2 third-party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
  - .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
  - .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
  - .5 damage to the Owner or a Separate Contractor;
  - .6 reasonable evidence that the Work will not be completed within the Contract Time and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
  - .7 repeated failure to carry out the Work in accordance with the Contract Documents.
  - .8 **failure of the Contractor or its Subcontractors to comply with Missouri's Prevailing Wage Law,**
  - or**
  - .9 **failure to affirm enrollment and participation in the Federal Work Authorization Program and**
- provide  
the required sworn affidavit.

§ 15.4.4 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 15.4.3, in whole or in part, that party may submit a Claim in accordance with Article 21.

### § 15.5 Progress Payments

§ 15.5.1 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to sub-subcontractors in a similar manner.

§ 15.5.2 Neither the Owner nor Architect shall have an obligation to pay or see to the payment of money to a Subcontractor or supplier except as may otherwise be required by law.

§ 15.5.3 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 15.5.4 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any

tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

#### § 15.6 Substantial Completion

§ 15.6.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 15.6.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 15.6.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. When the Architect determines that the Work or designated portion thereof is substantially complete, the Architect will issue a Certificate of Substantial Completion which shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 15.6.4 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

#### § 15.7 Final Completion and Final Payment

§ 15.7.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions stated in Section 15.7.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 15.7.2 Final payment shall not become due until the Contractor has delivered to the Owner a complete release of all liens arising out of this Contract or receipts in full covering all labor, materials and equipment for which a lien could be filed, or a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including costs and reasonable attorneys' fees.

§ 15.7.3 The making of final payment shall constitute a waiver of claims by the Owner except those arising from

- .1 liens, claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 15.7.4 Acceptance of final payment by the Contractor, a Subcontractor or supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of the final Application for Payment.

## ARTICLE 16 PROTECTION OF PERSONS AND PROPERTY

### § 16.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation, or replacement in the course of construction.

The Contractor shall comply with, and give notices required by, applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons and property and their protection from damage, injury, or loss. The Contractor shall promptly remedy damage and loss to property caused in whole or in part by the Contractor, a Subcontractor, a sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 16.1.2 and 16.1.3. The Contractor may make a claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 9.15.

### § 16.2 Hazardous Materials and Substances

§ 16.2.1 The Contractor is responsible for compliance with the requirements of the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents, and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 16.2.2 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area, if in fact, the material or substance presents the risk of bodily injury or death as described in Section 16.2.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 16.2.3 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 16.2.4 The work shall be free of asbestos and lead. Contractor shall submit written certification to Owner, from the manufacturers, that no materials being used on the project contain asbestos or lead.

## ARTICLE 17 INSURANCE AND BONDS

### § 17.1 Contractor's Insurance

§ 17.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in this Section 17.1 or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the insurance required by this Agreement from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 18.4, unless a different duration is stated below:

§ 17.1.2 Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than (\$ ) each occurrence, (\$ ) general aggregate, and (\$ ) aggregate for products-completed operations hazard, providing coverage for claims including **As required in 17.1.14**

- .1 damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
- .2 personal and advertising injury;
- .3 damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
- .4 bodily injury or property damage arising out of completed operations; and
- .5 the Contractor's indemnity obligations under Section 9.15.

§ 17.1.3 Automobile Liability covering vehicles owned by the Contractor and non-owned vehicles used by the Contractor, with policy limits of not less than (\$ ) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance, and use of those motor vehicles along with any other statutorily required automobile coverage. **As required in 17.1.14**

§ 17.1.4 The Contractor may achieve the required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella insurance policies result in the same or greater coverage as those required under Section 17.1.2 and 17.1.3, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers.

§ 17.1.5 Workers' Compensation at statutory limits.

§ 17.1.6 Employers' Liability with policy limits not less than (\$ ) each accident, (\$ ) each employee, and (\$ ) policy limit. **As required in 17.1.14**

*(Paragraphs deleted)*

§ 17.1.10 The Contractor shall provide certificates of insurance acceptable to the Owner evidencing compliance with the requirements in this Section 17.1 at the following times: (1) prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the Owner's written request. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the period required by Section 17.1.1. The certificates will show the Owner as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy.

§ 17.1.11 The Contractor shall disclose to the Owner any deductible or self-insured retentions applicable to any insurance required to be provided by the Contractor.

§ 17.1.12 To the fullest extent permitted by law, the Contractor shall cause the commercial liability coverage required by this Section 17.1 to include (1) the Owner, the Architect, and the Architect's Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations. To the extent commercially available, the additional insured coverage shall be no less than that

Init.

provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 07 04, CG 20 37 07 04, and, with respect to the Architect and the Architect's Consultants, CG 20 32 07 04.

§ 17.1.13 Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by this Section 17.1, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 17.1.14 Other Insurance Provided by the Contractor

(List below any other insurance coverage to be provided by the Contractor and any applicable limits.)

(Row deleted)

Insurance Requirements	Statutory
A. Workmen's Compensation	
Applicable Federal, State	
Employer's Liability	\$500,000.00
B. Comprehensive General Liability	
Including Premises –	
Operations	
(including explosion, collapse	
and underground);	
Contractor's Protective	
Liability;	
Products & Completed	\$1,000,000.00
Operations	
Bodily Injury & Property	\$1,000,000.00
Damage	
Each Occurrence	
General Ag \$1,000,000.00	\$1,000,000.00
Products & Completed	\$1,000,000.00
Oper.	
Note: Per Project	
Aggregate	
C. Personal Injury	
Each Person Aggregate	
General Aggregate	
D. Completed operation and	\$1,000,000.00
Products Liability shall be	\$1,000,000.00
maintained for 2 years after final	
payment	\$2,000,000.00
E. Comprehensive Automobile	\$2,000,000.00
Liability	
Owned, Non-Owned and Hired	
Combined Single Limit	
F. Contractual Liability	
G. Umbrella Liability	
Each Occurrence	
Aggregate	
Note: Waiver of subrogation applies to	
Worker's Compensation and General	
Comprehensive Liability	

§ 17.2 Owner's Insurance

§ 17.2.1 Owner's Liability Insurance

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

Init.

## § 17.2.2 Property Insurance

§ 17.2.2.1 The Owner shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner's property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed or materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion and thereafter as provided in Section 17.2.2.2, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

§ 17.2.2.2 Unless the parties agree otherwise, upon Substantial Completion, the Owner shall continue the insurance required by Section 17.2.2.1 or, if necessary, replace the insurance policy required under Section 17.2.2.1 with property insurance written for the total value of the Project that shall remain in effect until expiration of the period for correction of the Work set forth in Section 18.4.

§ 17.2.2.3 If the insurance required by this Section 17.2.2 is subject to deductibles or self-insured retentions, the Owner shall be responsible for all loss not covered because of such deductibles or retentions.

§ 17.2.2.4 If the Work involves remodeling an existing structure or constructing an addition to an existing structure, the Owner shall purchase and maintain, until the expiration of the period for correction of Work as set forth in Section 18.4, "all-risks" property insurance, on a replacement cost basis, protecting the existing structure against direct physical loss or damage, notwithstanding the undertaking of the Work. The Owner shall be responsible for all co-insurance penalties.

§ 17.2.2.5 Prior to commencement of the Work, the Owner shall secure the insurance, and provide evidence of the coverage, required under this Section 17.2.2 and, upon the Contractor's request, provide a copy of the property insurance policy or policies required by this Section 17.2.2. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

§ 17.2.2.6 Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any insurance required by this Section 17.2.2, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

## § 17.2.2.7 Waiver of Subrogation

§ 17.2.2.7.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by this Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this Section 17.2.2.7 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

Init.



§ 17.2.2.7.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 17.2.2.7.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 17.2.2.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements, written where legally required for validity, the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

**§ 17.2.3 Other Insurance Provided by the Owner**

*(List below any other insurance coverage to be provided by the Owner and any applicable limits.)*

Coverage	Limits
----------	--------

**§ 17.3 Performance Bond and Payment Bond**

§ 17.3.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in the Contract Documents on the date of execution of the Contract.

§ 17.3.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

**ARTICLE 18 CORRECTION OF WORK**

§ 18.1 The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed, or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense, unless compensable under Section A.1.7.3 in Exhibit A, Determination of the Cost of the Work.

§ 18.2 In addition to the Contractor's obligations under Section 9.4, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 15.6.3, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition.

§ 18.3 If the Contractor fails to correct nonconforming Work within a reasonable time, the Owner may correct it in accordance with Section 8.3.

§ 18.4 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 18.5 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Article 18.

**ARTICLE 19 MISCELLANEOUS PROVISIONS**

**§ 19.1 Assignment of Contract**

Neither party to the Contract shall assign the Contract without written consent of the other, except that the Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project if

Init.

the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

#### § 19.2 Governing Law

The Contract shall be governed by the law of the place where the Project is located,

#### § 19.3 Tests and Inspections

Tests, inspections, and approvals of portions of the Work required by the Contract Documents or by applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities shall be made at an appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

#### § 19.4 The Owner's representative:

*(Name, address, email address and other information)*

Kyle Gorrell  
502 SE Transport Dr.  
Lee's Summit, MO 64081  
(816) 986-2425  
kyle.gorrell@lsr7.net

#### § 19.5 The Contractor's representative:

*(Name, address, email address and other information)*

§ 19.6 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

#### § 19.7 E-Verify

Prior to commencement of the Work, Entity shall provide to Owner a sworn affidavit and other sufficient documentation to affirm its enrollment and participation in the federal work authorization program. Federal work authorization program means the E-Verify Program maintained and operated by the United States Department of Homeland Security and the Social Security Administration, or any successor program. Entity shall also provide Owner a sworn affidavit affirming that it does not knowingly employ any person who is an unauthorized alien in connection with the contracted services.

#### § 19.8 OSHA Training

All of Contractors' on-site employees must complete the Program within 60 days of beginning work on the Project;

§ 19.8.1 Any employee found on the work site subject to this requirement without documentation of the successful completion of the Program will be given 20 days to produce such documentation before being subject to removal from the Project;

§ 19.8.2 Contractor's failure to comply with these requirements will subject it to penalties. Contractor shall forfeit as a penalty to the Owner \$2,500.00 plus \$100.00 per each employee employed by Contractor or Contractor's Subcontractor, for each calendar day, or portion thereof, such employee is employed to do work pursuant to this Contract without the required training. Said penalty shall not begin to accrue until the time period in 19.8 and 16.6.2 have elapsed. Contractor will be subject to said penalties notwithstanding any other provision to the contrary in this Construction Contract;

§ 19.8.3 Contractor shall require its contract with all Subcontractors to contain these provisions. Contractor shall be responsible for penalties to Owner due to any Subcontractor's employees' failure to be able to produce documentary evidence of training in the required Program. Contractor may withhold all sums necessary to cover any penalty Owner has withheld or been paid. Contractor may recover any penalties from Subcontractor by filing a lawsuit in the circuit court of the county in which the project is located. Contractor shall have no right of recovery against Owner.

#### § 19.9 Lead Paint

Beginning in April 2010, any renovation work involving at least 6 square feet of painted surfaces in a room for interior projects; or more than 20 square feet for exterior projects; performed in a "child-occupied facility" built before 1978; must be done by a properly certified firm or employee.

*Child-Occupied Facility Defined: A building or portion of building, constructed prior to 1978, visited regularly by the same child, under 6 years of age, on at least 2 different days within any week (Sunday through Saturday); Each day's visit must last at least 3 hours, combined weekly at least 6 hours, and combined annually at least 60 hours; Rules apply to common areas routinely used by children under 6, such as restrooms and cafeterias.*

*Renovation Work Broadly Defined: Any activity that disturbs painted surfaces and includes most repair, remodeling and maintenance activities; Window replacement will always be a covered activity regardless of size of painted surface disturbed.*

#### § 19.10 Prevailing Wage

Annual Wage Order #25 is in effect as of June 8, 2018.

### ARTICLE 20 TERMINATION OF THE CONTRACT

#### § 20.1 Termination by the Contractor

If the Architect fails to certify payment as provided in Section 15.4.1 for a period of 30 days through no fault of the Contractor, or if the Owner fails to make payment as provided in Section 4.1.3 for a period of 30 days, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit,

#### § 20.2 Termination by the Owner for Cause

##### § 20.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 20.2.2 When any of the reasons described in Section 20.2.1 exists, the Owner, upon certification by the Architect that sufficient cause exists to justify such action, may, without prejudice to any other remedy the Owner may have and after giving the Contractor seven days' notice, terminate the Contract and take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever reasonable method the Owner may deem expedient. Upon request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 20.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 20.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

Init.

§ 20.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Architect, upon application, and this obligation for payment shall survive termination of the Contract.

#### § 20.3 Termination by the Owner for Convenience

The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause. The Owner shall pay the Contractor for Work executed; and costs incurred by reason of such termination, including costs attributable to termination of Subcontracts; and a termination fee, if any, as follows:

*(Insert the amount of or method for determining the fee payable to the Contractor by the Owner following a termination for the Owner's convenience, if any.)*

§20.4 In the event of a termination for convenience, the Contractor shall not be entitled to anticipated profit or anticipated overhead or any other claimed damages arising out of or resulting from the Owner's termination.

### ARTICLE 21 CLAIMS AND DISPUTES

§ 21.1 Claims, disputes, and other matters in question arising out of or relating to this Contract, including those alleging an error or omission by the Architect, shall be referred initially to the Architect for decision. . All claims, disputes, or other matters in questions between the parties to this Contract arising out of or relating to the Contract, or breach thereof, shall be decided by resort to litigation in any court of competent jurisdiction located in Jackson County, Missouri. No claim, dispute or other matter in questions between the parties to this Contract, arising out of this Contract or breach thereof, shall be submitted to arbitration except upon the subsequent, mutual and written agreement of the parties.

#### § 21.2 Notice of Claims

§ 21.2.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 18.2, shall be initiated by notice to the Architect within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 21.2.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 18.2, shall be initiated by notice to the other party.

#### § 21.3 Time Limits on Claims

The Owner and Contractor shall commence all claims and causes of action against the other and arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in this Agreement whether in contract, tort, breach of warranty, or otherwise, within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 21.3.

*(Paragraphs deleted)*

§ 21.7 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation; (2) the arbitrations to be consolidated substantially involve common questions of law or fact; and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 21.8 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, any party to an arbitration may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of a Claim not described in the written Consent.

*(Paragraph deleted)*

**§ 21.10 Continuing Contract Performance**

Pending final resolution of a Claim, except as otherwise agreed in writing, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

**§ 21.11 Waiver of Claims for Consequential Damages**

The Contractor and Owner waive claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 20. Nothing contained in this Section 21.11 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

This Agreement entered into as of the day and year first written above.

\_\_\_\_\_  
OWNER *(Signature)*

\_\_\_\_\_  
CONTRACTOR *(Signature)*

\_\_\_\_\_  
*(Printed name and title)*

\_\_\_\_\_  
*(Printed name and title)*

# Additions and Deletions Report for AIA<sup>®</sup> Document A104<sup>™</sup> – 2017

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 16:02:56 ET on 04/16/2019.

PAGE 1

AGREEMENT made as of the Sixteenth day of May in the year 2019

...

Board of Education, Reorganized School District No. 7  
301 NE Tudor Rd, Lee's Summit, MO 64086  
Telephone Number: 816-986-1000  
Fax Number: 816-986-1165

...

Benchmark, Inc.  
6065 Huntington Court NE  
Cedar Rapids, IA 52402  
Telephone Number: 319-393-9100  
Fax Number: 319-393-3994

PAGE 2

EXHIBIT A – DETERMINATION OF THE COST OF THE WORK

...

- The date of this Agreement. The commencement date will be as noted in a notice to proceed.
- A date set forth in a notice to proceed issued by the Owner.
- Established as follows:  
*(Insert a date or a means to determine the date of commencement of the Work.)*

PAGE 3

Additions and Deletions Report for AIA Document A104<sup>™</sup> – 2017 (formerly A107<sup>™</sup> – 2007). Copyright © 1936, 1951, 1958, 1961, 1963, 1966, 1970, 1974, 1978, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. **WARNING: This AIA<sup>®</sup> Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA<sup>®</sup> Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.** This document was produced by AIA software at 16:02:56 ET on 04/16/2019 under Order No.3276397081 which expires on 04/04/2020, and is not for resale.

User Notes:

(1702123371)

§ 2.2 The Contract Time shall be measured from the date of commencement. Work shall begin upon receipt by Contractor of a Notice to Proceed which will be issued after receipt of all Bonds and Insurance.

...

By the following date:

...

Stipulated Sum, in accordance with Section 3.2 below

...

§ 3.2 The Stipulated Sum shall be \_\_\_\_\_ ( \_\_\_\_\_ ), subject to additions and deductions as provided in the Contract Documents.

PAGE 4

### § 3.3 Cost of the Work Plus Contractor's Fee

§ 3.3.1 The Cost of the Work is as defined in Exhibit A, Determination of the Cost of the Work.

§ 3.3.2 The Contractor's Fee:

*(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee and the method of adjustment to the Fee for changes in the Work.)*

### § 3.4 Cost of the Work Plus Contractor's Fee With a Guaranteed Maximum Price

§ 3.4.1 The Cost of the Work is as defined in Exhibit A, Determination of the Cost of the Work.

§ 3.4.2 The Contractor's Fee:

*(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee and the method of adjustment to the Fee for changes in the Work.)*

**§ 3.4.3 Guaranteed Maximum Price**

~~§ 3.4.3.1 The sum of the Cost of the Work and the Contractor's Fee is guaranteed by the Contractor not to exceed —(\$ )-, subject to additions and deductions by changes in the Work as provided in the Contract Documents. This maximum sum is referred to in the Contract Documents as the Guaranteed Maximum Price. Costs which would cause the Guaranteed Maximum Price to be exceeded shall be paid by the Contractor without reimbursement by the Owner. (Insert specific provisions if the Contractor is to participate in any savings.)~~

~~§ 3.4.3.2 The Guaranteed Maximum Price is based on the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner: (State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)~~

~~§ 3.4.3.3 Unit Prices, if any: (Identify the item and state the unit price and the quantity limitations, if any, to which the unit price will be applicable.)~~

Item	Units and Limitations	Price per Unit (\$0.00)
------	-----------------------	-------------------------

~~§ 3.4.3.4 Allowances, if any, included in the Guaranteed Maximum Price: (Identify each allowance.)~~

Item	Price
------	-------

~~§ 3.4.3.5 Assumptions, if any, on which the Guaranteed Maximum Price is based:~~

~~§ 3.4.3.6 To the extent that the Contract Documents are anticipated to require further development, the Guaranteed Maximum Price includes the costs attributable to such further development consistent with the Contract Documents and reasonably inferable therefrom. Such further development does not include changes in scope, systems, kinds and quality of materials, finishes or equipment, all of which, if required, shall be incorporated by Change Order.~~

~~§ 3.4.3.7 The Owner shall authorize preparation of revisions to the Contract Documents that incorporate the agreed upon assumptions contained in Section 3.4.3.5. The Owner shall promptly furnish such revised Contract Documents to the Contractor. The Contractor shall notify the Owner and Architect of any inconsistencies between the agreed upon assumptions contained in Section 3.4.3.5 and the revised Contract Documents.~~

PAGE 5

In the event Contractor causes work delays of other Contractors or delays the completion of the Project, the Contractor shall be liable to the Owner and the other Contractors for damages caused by the delay, including, but not limited to, costs of disruptions, acceleration or extension of work, additional project management, Architectural, and Engineering fees, the cost of temporary facilities, and Owner's reasonable attorneys' fees.

...

**§ 4.1.1** Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents. **Applications for Payment shall be on AIA forms G702 and G703.**



...

§ 4.1.3 Provided that an Application for Payment is received by the Architect not later than the First day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the Thirtieth day of the same month. If an Application for Payment is received by the Architect after the date fixed above, payment shall be made by the Owner not later than Thirty ( 30 ) days after the Architect receives the Application for Payment.

...

Five percent of the certified amount completed shall be withheld as retainage. Upon approval by the Owner, retainage will be reduced when the Project has been approved for Final Completion and has received Final Certificate of Occupancy from the local building code officials.

...

~~%~~ The prime rate of interest per annum as determined by Central Bank.

A partial waiver of lien from all major material suppliers and sub-contractors where applicable, as requested by the Surety, shall accompany each payment request to confirm and acknowledge disbursement of the payment. Partial waivers of lien shall be properly completed and shall list the cumulative amount of payment received by the date of the waiver. This requirement shall not be waived unless agreed upon in writing by the Surety.

Certified payroll records shall accompany each payment request.

PAGE 6

- .4 Final Lien Waiver; and
- .5 Executed Warranty; and
- .6 Prevailing Wage Affidavit, PW-4; and
- .7 Consent of Surety for Final Payment; and
- .8 Close-out requirements as required in the Project Manual.

...

Final payment will be made upon receipt of all applicable closeout documentation.

...

For any claim subject to, but not resolved by, mediation pursuant to Section 21.5, the method of binding dispute resolution shall be as follows:

...

Litigation in a court of competent jurisdiction

PAGE 7

Title of Specifications exhibit: Exhibit "D"

...

Title of Drawings exhibit: Exhibit "E"

...

Exhibit A, Determination of the Cost of the Work. Insurance Requirements.

...

Exhibit "A", Insurance Requirements  
Exhibit "B", E-Verification Affidavit  
Exhibit "C", Tax Exempt Certificate  
Exhibit "D", Title of Specifications  
Exhibit "E", Title of Drawings  
Exhibit "F", Unit Prices

Current Annual Wage Order as determined by the Missouri Department of Labor and Industrial Relations

PAGE 8

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project. The Work referred to in these documents includes, but is not limited to delivery, unloading, uncrating, assembling, setting in place, leveling, adjustment, completely installing and cleaning up of any debris.

...

§ 7.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights in their Instruments of Service, including copyrights, of their respective Instruments, including the Drawings, Specifications, and other documents prepared by the Architect, all of which are the property of the Owner. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

...

§ 7.5.3 The Contractor shall notify the Architect in writing of any inconsistency found between the specifications and drawings. The Architect will advise the Contractor on whether the drawings or specifications will control.

PAGE 10

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, and fails within a ~~ten-day~~ seven-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to any other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 15.4.3, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including the Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 21.

...

§ 9.1.2 ~~Because the Contract Documents are complementary, the~~ After contract is awarded, contract documents are available from the Owner's designated printer, free of charge, as reasonably required, to execute the work. The Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 8.1.2, shall take field measurements of any existing conditions related to that portion of the Work and shall observe any conditions at the site affecting it. ~~These obligations are for the purpose of facilitating coordination and~~

construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, ~~the~~ **The Contractor shall promptly report to the Architect any errors, inconsistencies, or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional unless otherwise specifically provided in the Contract Documents. If the Contractor performs any Work knowing it involved a recognized error, inconsistency or omission in the Contract Documents without such notice to the Architect, the Contractor shall thereby assume responsibility for performance and shall bear the attributable cost for correction.**

PAGE 11

**§ 9.2.3 The Contractor shall be responsible for compliance, during the course of the Work, with any laws and regulations that are protective of the environment or human health and safety.**

**§ 9.2.4 Compliance with Board of Education Policies: The Contractor, all Subcontractors, and delivery personnel associated with performing the Work of the Contract shall conduct themselves in accordance with all applicable Lee's Summit R-7 School District Board of Education Policies while on the job site or any District property. Applicable policies include, but are not limited to, Tobacco, Drugs, Language, Weapons, and Sexual Harassment. Failure of a person to comply will be cause for his or her immediate dismissal from the project. Noncompliance shall be considered a substantial breach of Contract.**

**§ 9.2.5 The Contractor shall be responsible to investigate their own employees for Sex Offender Registration and assure that any employee with such record shall not visit or perform work at any Lee's Summit School job sites or District property. Noncompliance shall be considered a substantial breach of Contract. The Owner reserves the right to have any such Sexual Offender removed from the site.**

**§ 9.3.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, telephone/communications equipment, and other facilities and services necessary for proper execution and completion of the Work whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. 110 volt 20 amp electrical service required for Contractor's tools, equipment and lighting shall be furnished by the Owner at designated center of distribution if available on site. All extensions from Owner's centers of distribution shall be furnished, installed and maintained by the Contractor, including necessary fused switching equipment. All wiring, cables, extension cords, piping, hoses, valves, etc. shall be in accordance with applicable electrical codes and requirements.**

...

**§ 9.3.4 The Contractor shall deliver, handle, store and install materials in accordance with manufacturer's instructions.**

...

**§ 9.4.1 All manufacturer's warranties required by the Contract Documents shall commence on the date of Substantial Completion, such manufacturing warranties shall commence on the date the Work is accepted unless some other warranty commencement date is specifically reference elsewhere in the Contract Documents for a specific warranty. The Contractor shall be required to secure any extended warranties or special riders to standard warranties that are required to comply with these requirements.**

**The Contractor shall pay sales, consumer, use, and other similar taxes that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. sales all taxes measured by the wages of its employees. The Contractor shall indemnify and hold Owner harmless from all such taxes that are not paid by Contractor. The Owner is an organization exempt from sales tax under Missouri law. Contractor shall cooperate with the Owner and shall require all Subcontractors to cooperate with the Owner, in the purchase of materials, equipment and other items needed in connection with the performance of the Work (by following such procedures as may be instituted by the Owner) in order to take advantage of this exemption. The Owner acknowledges that because of the exemption, no amounts have been included in the Contract Sum on account of anticipated Missouri sales taxes and that if such taxes are required to be paid the**

Contract Sum shall be increased accordingly by the amount of such taxes as are actually incurred by contract of its Subcontractors.

§ 9.5.1 The Owner shall furnish to the Contractor, a sales tax exemption certificate from the State of Missouri for the construction of this project that must be provided to all subcontractors and material suppliers.

PAGE 12

§ 9.6.1 Unless otherwise provided in the Contract Documents, the Contractor-Owner shall secure and pay for the building permit as well as other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

...

§ 9.9.2 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Two (2) bound copies of shop drawings, product data sheets and Material Safety Data Sheets for each component required to complete the work, including all specified items and any other item contractor deems necessary to complete work.

PAGE 13

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment. All vehicles and equipment owned by the Contractor shall be maintained in proper working order while on the job site. Contractor shall be required to place cardboard, catch pans, floor dry, or an effective substitution under leaking vehicles or equipment to prevent oil/hydraulic stains on pavement. Contractor shall clean oil/hydraulic stains on pavement caused by Contractor or his personnel to the Owner's Satisfaction prior to project completion and final payment.

PAGE 14

§ 10.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction, until the date the Architect issues the final Certificate ~~for Payment for~~ Payment and through the One Year Warranty period. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

...

§ 11.2 Unless otherwise stated in the Contract Documents, the Contractor, ~~as soon as practicable after~~ within ten days of award of the Contract, shall notify the Owner and Architect of the Subcontractors or suppliers proposed for each of the principal portions of the Work. The Contractor shall not contract with any Subcontractor or supplier to whom the Owner or Architect has made reasonable written objection within ten days after receipt of the Contractor's list of Subcontractors and suppliers. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

PAGE 15

§ 13.2 Adjustments in the Contract Sum and Contract Time resulting from a change in the Work shall be determined by mutual agreement of the parties or, in the case of a Construction Change Directive signed only by the Owner and Architect, by the Contractor's cost of labor, material, equipment, and ~~reasonable overhead and profit,~~ unless the parties agree on another method for determining the cost or credit. Pending final determination of the total cost of a Construction Change Directive, the Contractor may request payment for Work completed pursuant to the Construction Change Directive. The Architect will make an interim determination of the amount of payment due for purposes of certifying the Contractor's monthly Application for Payment. When the Owner and Contractor agree on adjustments to the Contract Sum and Contract Time arising from a Construction Change Directive, the Architect will prepare a

Change Order. Pricing of changes in scope of work or compensation for claims shall be based on the percentages submitted by the Contractor on the bid proposal form and as summarized below:

- .1 To Contractor for work performed by his/her own forces: NTE 10% profit & overhead;
  - .2 To Contractor for work performed by other than his/her own forces: NTE 5% profit & overhead;
  - .3 To Subcontractor for work performed by his/her own forces: NTE 10% profit & overhead;
  - .4 To Subcontractor for work performed by other than his/her own forces: NTE 5% profit & overhead
- PAGE 16

§ 14.6 To be eligible for a time extension to the Contract due to adverse weather, the Contractor must have been prevented from working for 50% or more of the contractor's scheduled work effort for that day.

PAGE 17

§ 15.3.2 With each Application for Payment where the Contract Sum is based upon the Cost of the Work, or the Cost of the Work with a Guaranteed Maximum Price, the Contractor shall submit payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached, and any other evidence required by the Owner to demonstrate that cash disbursements already made by the Contractor on account of the Cost of the Work equal or exceed progress payments already received by the Contractor plus payrolls for the period covered by the present Application for Payment, less that portion of the progress payments attributable to the Contractor's Fee.

...

§ 15.3.5 The R-7 School District is offering electronic payment through Central Bank's MasterCard Commercial Cards Program.

PAGE 18

- .8 failure of the Contractor or its Subcontractors to comply with Missouri's Prevailing Wage Law,
  - or
  - .9 failure to affirm enrollment and participation in the Federal Work Authorization Program and provide
- the required sworn affidavit.

PAGE 20

§ 16.2.4 The work shall be free of asbestos and lead. Contractor shall submit written certification to Owner, from the manufacturers, that no materials being used on the project contain asbestos or lead.

PAGE 21

§ 17.1.2 Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than (\$ ) each occurrence, (\$ ) general aggregate, and (\$ ) aggregate for products-completed operations hazard, providing coverage for claims including As required in 17.1.14

...

§ 17.1.3 Automobile Liability covering vehicles owned by the Contractor and non-owned vehicles used by the Contractor, with policy limits of not less than (\$ ) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance, and use of those motor vehicles along with any other statutorily required automobile coverage. As required in 17.1.14

...

§ 17.1.6 Employers' Liability with policy limits not less than (\$ ) each accident, (\$ ) each employee, and (\$ ) policy limit. As required in 17.1.14

§ 17.1.7 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall procure Professional Liability insurance covering performance of the professional services, with policy limits of not less than (\$ ) per claim and (\$ ) in the aggregate.

§ 17.1.8 If the Work involves the transport, dissemination, use, or release of pollutants, the Contractor shall procure Pollution Liability insurance, with policy limits of not less than (\$ ) per claim and (\$ ) in the aggregate.

§ 17.1.9 Coverage under Sections 17.1.7 and 17.1.8 may be procured through a Combined Professional Liability and Pollution Liability insurance policy, with combined policy limits of not less than (\$ ) per claim and (\$ ) in the aggregate.

PAGE 22

<u>Coverage</u>	<u>Limits</u>
<u>Insurance Requirements</u>	<u>Statutory</u>
<u>A. Workmen's Compensation</u>	
<u>Applicable Federal, State</u>	
<u>Employer's Liability</u>	<u>\$500,000.00</u>
<u>B. Comprehensive General Liability</u>	
<u>Including Premises –</u>	
<u>Operations</u>	
<u>(including explosion, collapse</u>	
<u>and underground);</u>	
<u>Contractor's Protective</u>	
<u>Liability;</u>	
<u>Products &amp; Completed</u>	<u>\$1,000,000.00</u>
<u>Operations</u>	
<u>Bodily Injury &amp; Property</u>	<u>\$1,000,000.00</u>
<u>Damage</u>	
<u>Each Occurrence</u>	
<u>General Ag \$1,000,000.00</u>	<u>\$1,000,000.00</u>
<u>Products &amp; Completed</u>	<u>\$1,000,000.00</u>
<u>Oper.</u>	
<u>Note: Per Project</u>	
<u>Aggregate</u>	
<u>C. Personal Injury</u>	
<u>Each Person Aggregate</u>	
<u>General Aggregate</u>	
<u>D. Completed operation and</u>	<u>\$1,000,000.00</u>
<u>Products Liability shall be</u>	<u>\$1,000,000.00</u>
<u>maintained for 2 years after final</u>	
<u>payment</u>	<u>\$2,000,000.00</u>
<u>E. Comprehensive Automobile</u>	<u>\$2,000,000.00</u>
<u>Liability</u>	
<u>Owned, Non-Owned and Hired</u>	
<u>Combined Single Limit</u>	
<u>F. Contractual Liability</u>	
<u>G. Umbrella Liability</u>	

Each Occurrence

Aggregate

Note: Waiver of subrogation applies to  
Worker's Compensation and General  
Comprehensive Liability

PAGE 24

§ 18.2 In addition to the Contractor's obligations under Section 9.4, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 15.6.3, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty.

PAGE 25

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 21.6.

...

Kyle Gorrell  
502 SE Transport Dr.  
Lee's Summit, MO 64081  
(816) 986-2425  
kyle.gorrell@lsr7.net

...

§ 19.7 E-Verify

Prior to commencement of the Work, Entity shall provide to Owner a sworn affidavit and other sufficient documentation to affirm its enrollment and participation in the federal work authorization program. Federal work authorization program means the E-Verify Program maintained and operated by the United States Department of Homeland Security and the Social Security Administration, or any successor program. Entity shall also provide Owner a sworn affidavit affirming that it does not knowingly employ any person who is an unauthorized alien in connection with the contracted services.

§ 19.8 OSHA Training

All of Contractors' on-site employees must complete the Program within 60 days of beginning work on the Project;

§ 19.8.1 Any employee found on the work site subject to this requirement without documentation of the successful completion of the Program will be given 20 days to produce such documentation before being subject to removal from the Project;

§ 19.8.2 Contractor's failure to comply with these requirements will subject it to penalties. Contractor shall forfeit as a penalty to the Owner \$2,500.00 plus \$100.00 per each employee employed by Contractor or Contractor's Subcontractor, for each calendar day, or portion thereof, such employee is employed to do work pursuant to this Contract without the required training. Said penalty shall not begin to accrue until the time period in 19.8 and 16.6.2 have elapsed. Contractor will be subject to said penalties notwithstanding any other provision to the contrary in this Construction Contract;

§ 19.8.3 Contractor shall require its contract with all Subcontractors to contain these provisions. Contractor shall be responsible for penalties to Owner due to any Subcontractor's employees' failure to be able to produce

documentary evidence of training in the required Program. Contractor may withhold all sums necessary to cover any penalty Owner has withheld or been paid. Contractor may recover any penalties from Subcontractor by filing a lawsuit in the circuit court of the county in which the project is located. Contractor shall have no right of recovery against Owner.

**§ 19.9 Lead Paint**

Beginning in April 2010, any renovation work involving at least 6 square feet of painted surfaces in a room for interior projects; or more than 20 square feet for exterior projects; performed in a "child-occupied facility" built before 1978; must be done by a properly certified firm or employee.

Child-Occupied Facility Defined: A building or portion of building, constructed prior to 1978, visited regularly by the same child, under 6 years of age, on at least 2 different days within any week (Sunday through Saturday); Each day's visit must last at least 3 hours, combined weekly at least 6 hours, and combined annually at least 60 hours; Rules apply to common areas routinely used by children under 6, such as restrooms and cafeterias.

Renovation Work Broadly Defined: Any activity that disturbs painted surfaces and includes most repair, remodeling and maintenance activities; Window replacement will always be a covered activity regardless of size of painted surface disturbed.

**§ 19.10 Prevailing Wage**

PAGE 26

If the Architect fails to certify payment as provided in Section 15.4.1 for a period of 30 days through no fault of the Contractor, or if the Owner fails to make payment as provided in Section 4.1.3 for a period of 30 days, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

PAGE 27

**§20.4 In the event of a termination for convenience, the Contractor shall not be entitled to anticipated profit or anticipated overhead or any other claimed damages arising out of or resulting from the Owner's termination.**

**§ 21.1 Claims, disputes, and other matters in question arising out of or relating to this Contract, including those alleging an error or omission by the Architect but excluding those arising under Section 16.2, shall be referred initially to the Architect for decision. Such matters, except those waived as provided for in Section 21.11 and Sections 15.7.3 and 15.7.4, shall, after initial decision by the Architect or 30 days after submission of the matter to the Architect, be subject to mediation as a condition precedent to binding dispute resolution. All claims, disputes, or other matters in questions between the parties to this Contract arising out of or relating to the Contract, or breach thereof, shall be decided by resort to litigation in any court of competent jurisdiction located in Jackson County, Missouri. No claim, dispute or other matter in questions between the parties to this Contract, arising out of this Contract or breach thereof, shall be submitted to arbitration except upon the subsequent, mutual and written agreement of the parties.**

...

**§ 21.4 If a claim, dispute or other matter in question relates to or is the subject of a mechanic's lien, the party asserting such matter may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.**

**§ 21.5 The parties shall endeavor to resolve their disputes by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with their Construction Industry Mediation Procedures in effect on the date of this Agreement. A request for mediation shall be made in writing, delivered to the other party to this Agreement, and filed with the person or entity administering the mediation. The request may be made concurrently with the binding dispute resolution but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is**



stayed pursuant to this Section, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 21.6 If the parties have selected arbitration as the method for binding dispute resolution in this Agreement, any claim, subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association, in accordance with the Construction Industry Arbitration Rules in effect on the date of this Agreement. Demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

PAGE 28

§ 21.9 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to this Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

...

Dr. Emily Miller, Assistant Superintendent of  
Operations

---

## ***Certification of Document's Authenticity***

***AIA® Document D401™ – 2003***

I, \_\_\_\_\_, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 16:02:56 ET on 04/16/2019 under Order No. 3276397081 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A104™ – 2017, Standard Abbreviated Form of Agreement Between Owner and Contractor, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

\_\_\_\_\_  
*(Signed)*

\_\_\_\_\_  
*(Title)*

\_\_\_\_\_  
*(Dated)*



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER ABC Insurance Agency 123 Main Street Anywhere, USA	CONTACT NAME:		
	PHONE (A/C, No, Ext):	FAX (A/C, No):	
E-MAIL ADDRESS:			
INSURED  John Doe Construction Company 321 Broadway Everytown, USA	<b>INSURER(S) AFFORDING COVERAGE</b>		<b>NAIC #</b>
	INSURER A : XYZ Insurance Company		
	INSURER B :		
	INSURER C :		
	INSURER D :		
	INSURER E :		

**COVERAGES**                      **CERTIFICATE NUMBER:**                      **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
A	<input checked="" type="checkbox"/> GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY CLAIMS-MADE <input type="checkbox"/> OCCUR <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Contractual Liability  GEN'L AGGREGATE LIMIT APPLIES PER: POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/>		12345	01/01/2011	01/01/2012	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 1,000,000 PRODUCTS - COM/POP AGG \$ 1,000,000		
	A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS		67890	01/01/2011	01/01/2012	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$	
		A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR EXCESS LIAB CLAIMS-MADE <input type="checkbox"/> DED RETENTION \$		57689	01/01/2011	01/01/2012	EACH OCCURRENCE \$ 2,000,000 AGGREGATE \$ 2,000,000
			A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICE/MEMBER EXCLUDED? <input type="checkbox"/> Y / N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	34567	01/01/2011	01/01/2012

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES** (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Including Premises-Operations (including explosion, collapse & underground)

A Waiver of Subrogation applies in favor of Reorganized School District R-VII with regard to General Liability and Workers' Compensation

The Reorganized School District R-VII is included as Additional Insured, per GL form 2033 or the equivalent.

<b>CERTIFICATE HOLDER</b>	<b>CANCELLATION</b>
Reorganized School District R-VII 702 S.E. 291 Highway Lee's Summit, MO 64063	<b>SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.</b>  AUTHORIZED REPRESENTATIVE

© 1988-2010 ACORD CORPORATION. All rights reserved.

# Missouri

## Division of Labor Standards

### WAGE AND HOUR SECTION



MICHAEL L. PARSON, Governor

# Annual Wage Order No. 30

Section 048  
**JACKSON COUNTY**

In accordance with Section 290.262 RSMo 2000, within thirty (30) days after a certified copy of this Annual Wage Order has been filed with the Secretary of State as indicated below, any person who may be affected by this Annual Wage Order may object by filing an objection in triplicate with the Labor and Industrial Relations Commission, P.O. Box 599, Jefferson City, MO 65102-0599. Such objections must set forth in writing the specific grounds of objection. Each objection shall certify that a copy has been furnished to the Division of Labor Standards, P.O. Box 449, Jefferson City, MO 65102-0449 pursuant to 8 CSR 20-5.010(1). A certified copy of the Annual Wage Order has been filed with the Secretary of State of Missouri.

Original Signed by \_\_\_\_\_

Todd Smith, Director  
Division of Labor Standards

Filed With Secretary of State: \_\_\_\_\_ **March 10, 2023**

Last Date Objections May Be Filed: **April 10, 2023**

Prepared by Missouri Department of Labor and Industrial Relations

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Asbestos Worker	\$68.67
Boilermaker	\$38.37*
Bricklayer	\$60.27
<b>Carpenter</b>	<b>\$61.82</b>
Lather	
Linoleum Layer	
Millwright	
Pile Driver	
Cement Mason	\$55.22
Plasterer	
Communications Technician	\$60.34
Electrician (Inside Wireman)	\$69.22
Electrician Outside Lineman	\$59.91
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Elevator Constructor	\$102.69
Glazier	\$58.17
Ironworker	\$68.53
Laborer	\$49.56
General Laborer	
First Semi-Skilled	
Second Semi-Skilled	
Mason	\$54.80
Marble Mason	
Marble Finisher	
Terrazzo Worker	
Terrazzo Finisher	
Tile Setter	
Tile Finisher	
Operating Engineer	\$61.54
Group I	
Group II	
Group III	
Group III-A	
Group IV	
Group V	
Painter	\$50.40
Plumber	\$76.04
Pipe Fitter	
Roofer	\$59.33
Sheet Metal Worker	\$72.78
Sprinkler Fitter	\$75.09
Truck Driver	\$52.39
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

\*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. The public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.

\*\*The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title as defined in RSMO Section 290.210.

Heavy Construction Rates for  
JACKSON County

Section 048

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Carpenter	\$61.98
Millwright	
Pile Driver	
Electrician (Outside Lineman)	\$87.19
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Laborer	\$50.25
General Laborer	
Skilled Laborer	
Operating Engineer	\$58.85
Group I	
Group II	
Group III	
Group IV	
Truck Driver	\$50.18
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

Use Heavy Construction Rates on Highway and Heavy construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(3).

Use Building Construction Rates on Building construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(2).

If a worker is performing work on a heavy construction project within an occupational title that is not listed on the Heavy Construction Rate Sheet, use the rate for that occupational title as shown on the Building Construction Rate Sheet.

\*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. Public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.

\*\*The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title.

# OVERTIME and HOLIDAYS

## OVERTIME

For all work performed on a Sunday or a holiday, not less than twice (2x) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work.

For all overtime work performed, not less than one and one-half (1½) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work or contractual obligation. For purposes of this subdivision, "**overtime work**" shall include work that exceeds ten hours in one day and work in excess of forty hours in one calendar week; and

A thirty-minute lunch period on each calendar day shall be allowed for each worker on a public works project, provided that such time shall not be considered as time worked.

## HOLIDAYS

January first;  
The last Monday in May;  
July fourth;  
The first Monday in September;  
November eleventh;  
The fourth Thursday in November; and  
December twenty-fifth;

If any holiday falls on a Sunday, the following Monday shall be considered a holiday.

# State of Missouri

## LIMITED EXEMPTION FROM MISSOURI SALES AND USE TAX ON PURCHASES AND SALES (Public School)

Issued to:

Missouri Tax I.D. 12585521

REORGANIZED SCHOOL DISTRICT NO 7 OF JACKSON CTY  
301 NE TUDOR ROAD  
LEE'S SUMMIT MO 64086

Effective Date: 07/11/2002

Your application for sales/use tax exempt status has been approved pursuant to Section 144.030.2(19), RSMo. This letter is issued as documentation of the exempt status of your organization. The organization above must adhere to the requirements of this exempt status.

This is a continuing exemption subject to legislative changes and review by the Director of Revenue. Outlined below are specific requirements regarding this exemption. This summary is not intended as a complete restatement of the law. You should review the law to ensure your understanding and compliance.

- This exemption is not assignable or transferable. It is an exemption from sales and use taxes only and is not an exemption from real or personal property tax.
- Purchases by your organization are not subject to sales or use tax if conducted within your organization's exempt functions and activities. When purchasing with this exemption, furnish all sellers or vendors a copy of this letter.
- Individuals making personal purchases may not use this exemption.
- A contractor may purchase and pay for construction materials exempt from sales tax when fulfilling a contract with your organization only if your organization issues a project exemption certificate and the contractor makes purchases in compliance with the provisions of Section 144.062 RSMo.
- Sales by your organization are not subject to sales or use tax if conducted within your organization's exempt charitable and educational functions and activities.
- Any alteration to this exemption letter renders it invalid.

If you have any questions regarding the use of this letter, please contact the Taxation Bureau, P.O. Box 358, Jefferson City, Missouri 65105-0358, Email [salesuse@dor.mo.gov](mailto:salesuse@dor.mo.gov), or call 573-751-2836.

(076041)



**PART ONE - GENERAL****1.01 Description**

- A. Work to be performed and reimbursed on a unit price basis, and quantity allowances associated with specific unit prices are described on the drawings and in pertinent sections of the Bidding Documents.

**1.02 Related Documents**

- A. Refer to the Contract Agreement, Instructions to Bidders, Bid Form, specifications, and drawings for information related to unit prices and performance of the associated work.

**1.03 Definitions**

- A. Unit price is a price per unit of measurement for a specific part of the work, added to or deducted from the contract sum by appropriate modification, if the expended quantities of work are more than or less than the quantities required by the Bidding Documents for that specific type of work.
  - 1. Unit prices shall include associated materials, installation, labor, equipment, delivery, taxes, insurance, services, overhead, and profit.
  - 2. The unit of measurement for each unit price shall be as specified.
  - 3. A single price is established for each unit price bid item, which shall apply for either more than or less than the quantity of work required by the Bidding Documents.
- B. Quantity allowance is a stipulated quantity of a specific part of the work, which is to be accounted for on a unit price basis during the performance of the work. Quantity allowances may be stipulated for some, or all of the unit prices defined by the Bidding Documents and shall be distributed within the Base Bid or Alternate Bid items as described.
  - 1. Where bids are to include stipulated quantity allowances for specific unit prices, this information is provided in Summary of Work notes on the drawings.

**1.04 Procedures**

- A. Each quantity allowance and the associated value shall be separately listed on the Contractor's schedule of values, to be tracked individually when processing applications for payment. Allowances shall be distributed by roof section to match the specified quantities.
- B. The total value of each quantity allowance line item shall be calculated by multiplying the corresponding unit price from the Contract Agreement times the stipulated quantity allowance.
- C. Progress payment applications shall only include expended, documented, and approved draws against the total of each applicable line item.
- D. Methods of measurement, reporting and approval processes, and reimbursement for unit price-based work shall be as specified elsewhere in the Bidding Documents.
- E. Performance of any unit price-based work that could increase the contract sum, whether or not there is an associated quantity allowance, shall be authorized by the Owner prior to proceeding. Failure to obtain the Owner's approval may result in rejection of any associated requests for reimbursement.

- F. Contract change orders shall be issued to increase or decrease the contract sum and/or contract schedule, based on the actual approved unit price work performed compared to quantities defined by the Bidding Documents. When the unit price-based parts of the project scope of work have been completed, the Owner will deduct unexpended quantity allowances from the contract sum via change order.
- G. If the Contractor fails to facilitate the specified reporting, tracking, and/or Owner approval of unit price-based work, the Owner shall then have the right to reject the Contractor's request for reimbursement of additional work; or may execute a unilateral change order to deduct the value of any quantity allowance work that is unsubstantiated.

## PART TWO – PRODUCTS

**2.01 No products are required in this section.**

## PART THREE – EXECUTION

### 3.01 Schedule of Unit Prices and Units of Measurement

<u>Unit Price</u>	<u>Description and Unit of Measure</u>
No. 1	Description: Add or delete wood lumber/nailer to/from the scope of work. Refer to the drawings and Section 06 10 53 - Miscellaneous Rough Carpentry.  Unit of Measure: Per board foot
No. 2	Description: Remove and replace deteriorated wood lumber/nailer specified as existing to remain. Refer to the drawings and Section 06 10 53 - Miscellaneous Rough Carpentry.  Unit of Measure: Per board foot
No. 3	Description: Add or delete plywood to/from the scope of work. Refer to the drawings and Section 06 10 53 - Miscellaneous Rough Carpentry.  Unit of Measure: Per square foot
No. 4	Description: Remove and replace deteriorated plywood specified as existing to remain. Refer to the drawings and Section 06 10 53 - Miscellaneous Rough Carpentry.  Unit of Measure: Per square foot
No. 5	Description: Install roof system walkway as specified. Refer to the drawings and Division 07 specifications.  Unit of Measure: Per linear foot
No. 6	Description: Remove and dispose of existing damaged/wet thermal barrier/vapor retarder, replace the thermal barrier and vapor retarder as specified. Refer to the drawings, Section 07 26 04 – Self-Adhering Vapor Retarder and 07 22 16 Roof Board Insulation.  Unit of Measure: Per square foot

<u>Unit Price</u>	<u>Description and Unit of Measure</u>
No. 7	<p>Description: Remove and dispose of existing roofing and wet or damaged roof insulation, and infill with replacement roof insulation to level of adjacent roof membrane surface. Refer to the drawings and Division 07 specifications.</p> <p>Unit of Measure: Per square foot</p>
No. 8	<p>Description: Inspect the existing decking. Remove and dispose of damaged or deteriorated steel decking and install replacement steel decking as specified. Refer to the drawings and Section 05 01 30.61 - Steel Roof Decking Repair/Replacement.</p> <p>Unit of Measure: Per square foot</p>
No. 9	<p>Description: Inspect the existing decking. Where the existing surface is corroded but deck replacement is unnecessary, wire brush, clean, and paint top surface of decking as specified. Refer to the drawings and Section 05 01 30.61 - Steel Roof Decking Repair/Replacement.</p> <p>Unit of Measure: Per square foot</p>
No. 10	<p>Description: Remove and dispose of broken roof drain clamping ring. Install replacement cast iron clamping ring to match the existing drain assembly.</p> <p>Unit of Measure: Per each</p>
No. 11	<p>Description: Remove and dispose of existing roof drain and associated plumbing back to point of connection. Install complete replacement roof drain assembly and connect to existing plumbing system, as specified. Refer to the drawings and Section 22 14 14 - Roof Drains and Plumbing.</p> <p>Unit of Measure: Per each</p>
No. 12	<p>Description: Total billable rate for Roofing Foreman to be used in calculation of any proposals or change orders on an actual cost or time-and-material basis.</p> <p>Unit of Measure: Per hour - standard time</p>
No. 13	<p>Description: Total billable rate for Roofing Foreman to be used in calculation of any proposals or change orders on an actual cost or time-and-material basis.</p> <p>Unit of Measure: Per hour - overtime</p>
No. 14	<p>Description: Total billable rate for Roofing Technician to be used in calculation of any proposals or change orders on an actual cost or time-and-material basis.</p> <p>Unit of Measure: Per hour - standard time</p>
No. 15	<p>Description: Total billable rate for Roofing Technician to be used in calculation of any proposals or change orders on an actual cost or time-and-material basis.</p> <p>Unit of Measure: Per hour - overtime</p>
No. 16	<p>Description: Total billable rate for Laborer to be used in calculation of any proposals or change orders on an actual cost or time-and-material basis.</p> <p>Unit of Measure: Per hour - standard time</p>

---

<u>Unit Price</u>	<u>Description and Unit of Measure</u>
No. 17	Description: Total billable rate for Laborer to be used in calculation of any proposals or change orders on an actual cost or time-and-material basis.  Unit of Measure: Per hour - overtime
No. 18	Description: Total billable rate for Sheet Metal Worker to be used in calculation of any proposals or change orders on an actual cost or time-and-material basis.  Unit of Measure: Per hour - standard time
No. 19	Description: Total billable rate for Sheet Metal Worker to be used in calculation of any proposals or change orders on an actual cost or time-and-material basis.  Unit of Measure: Per hour - overtime

- End of Section -

**PART ONE – GENERAL****1.01 Description**

- A. The Bidding Documents define work to be priced separately as Alternate Bid(s).
- B. The proposed contract sum shall be expressed as Base Bid item(s) to be modified by adding or deducting the Alternate Bid item(s), as indicated in the section and on the bid form.
- C. Alternates shall include associated materials, installation, labor, equipment, delivery, taxes, insurance, services, overhead, and profit.

**1.02 Related Documents**

- A. Refer to the Contract Agreement, Instructions to Bidders, Bid Form, specifications, and drawings for information related to Alternates and performance of the associated work.

**1.03 Award of Alternates**

- A. If the Owner elects to proceed on the basis of one or more of the described Alternates, make all modifications to the work required to furnish and install the selected Alternate or Alternates to the approval of the Owner's Representative and at no additional cost to the Owner other than as proposed on the Bid Form.
- B. The Owner will reserve the right to accept any or all Alternate Bid items after the initial contract award and modify the contract by change order; to increase or decrease the contract sum and/or contract schedule accordingly.
- C. If delayed award of an associated Alternate Bid(s) causes a legitimate and unforeseen increase in the Contractor's cost, the Contractor shall notify the Owner in writing and provide backup documentation for consideration as part of the change order proposal process.
- D. Where the Base Bid schedule will be extended or decreased by the acceptance of Alternate Bid(s) by the Owner, associated modifications to the construction schedule and duration will be the essence of the Contract.

**1.04 Coordination**

- A. Immediately after award of the Contract or as soon thereafter as the Owner has decided which, if any, Alternate Bid(s) will be selected, thoroughly and clearly advise all necessary personnel and suppliers as to the nature and extent of Alternate Bid(s) selected by the Owner.

**1.05 Alternates****Great Beginnings (Legacy Park)**

- A. Alternate Bid No. 1: Install wood nailer at perimeter to eliminate the shelf construction (All Sections) as specified. Refer to detail drawings for installation noted.

This Alternate Bid shall modify the Base Bid.

**Summit Lakes Middle School**

- A. Alternate Bid No. 1: Seal wall joints as noted on various roof sections with Action Code 7.10. Refer to specification Section 07 92 00 – Joint Sealants

This Alternate Bid shall modify the Base Bid.

- B. Alternate Bid No. 2: Seal window glazing as noted on Roof Section A with Action Code 7.31. Refer to specification Section 07 92 00 – Joint Sealants

This Alternate Bid shall modify the Base Bid.

**PART TWO – PRODUCTS**

**2.01 Not Used**

**PART THREE – EXECUTION**

**3.01 Not Used**

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. This section outlines the administrative procedures and requirements in effect under this contract. The Contractor shall advise all their administrative personnel, field personnel, and subcontractors of the requirements of this section.

**1.02 Quality Assurance**

- A. Contractor shall maintain an up-to-date set of the following construction documents, on the roof, for use by Contractor's field personnel as a basis for execution of the work:
  - 1. Project Manual
  - 2. Addenda
  - 3. Drawings
  - 4. Finalized Submittals with Review Notations
  - 5. Approved Change Directives and Change Orders
  - 6. Contractor's Safety Plan
  - 7. Full set of SDS

**PART TWO – PRODUCTS****2.01 No products are required in this section.****PART THREE – EXECUTION****3.01 Project Meetings**

- A. Preconstruction Meeting
  - 1. Preconstruction meeting will be scheduled within 14 days after the Owner has issued notice to proceed. Attendance by authorized representatives of the Contractor and all major subcontractors is required. The Owner's Representative will advise other interested parties and request their attendance, unless the specifications assign this responsibility to others.
  - 2. Minimum Agenda – Distribute data on and discuss:
    - a. Organizational arrangement and responsibilities of Contractor's and subcontractor's personnel
    - b. Channels and procedures for communication
    - c. Review of Contractor's preliminary construction schedule including bar chart schedule, graphic schedule and sequence plans, and critical path items

- d. Scheduling of project meetings
  - e. Status of submittals, shop drawings, and other data submitted to the Owner for review
  - f. Invoicing procedures, schedule of values, unit prices, and quantity allowances
  - g. Contractor's daily reports and unit price work tracking/verification
  - h. Processing of field decisions, change directives, and change orders
  - i. Rules and regulations governing performance of the work
  - j. Logistics, staging, access, parking, protection, rain day activities, interior responsibilities, and other related matters
  - k. Procedures for safety and first aid, security, emergency procedures, housekeeping, and other related matters
  - l. Manufacturer inspections and quality control
  - m. Final inspection and project closeout
  - n. Review project scope, including project manual, addenda, and drawings
  - o. Address questions or clarifications regarding the project
- B. Progress Meetings
- 1. Progress meetings may be called by the Owner, the Project Consultant (Owner's Representative), or the Contractor as necessary for proper coordination of the work. The meetings will be called with no less than 48 hours' notice to all parties.
  - 2. To the maximum extent practicable, the Contractor shall assign the same person or persons to represent the Contractor and major subcontractors at project meetings throughout progress of the work. Subcontractors, material suppliers, and others may be invited to attend those project meetings in which their aspects of the work are involved.
  - 3. Typical Agenda
    - a. Review, revise as necessary, and approve minutes of previous meeting.
    - b. Review progress of the work since last meeting including bar chart schedule, graphic schedule and sequence plans, and status of submittals for review.
    - c. Identify problems that impede planned progress.
    - d. Develop corrective measures and procedures to regain planned schedule.
    - e. Review and plan future activities, including coordination by Owner's Representative and/or Contractor.
    - f. Review status and deadlines for administrative processes.



- g. Review any outstanding action items and establish procedures and dates for resolution.
    - h. Complete other current business.
  4. The proceedings of these meetings will be recorded by the Owner's Representative. Each required representative at the meetings, in addition to the Owner, will be furnished one copy of the meeting minutes.
  5. The Owner's Representative conducting meetings, recording and distributing meeting minutes on behalf of the Owner will not be construed as coordinating or scheduling Contractor's work.

### 3.02 Submittals

#### A. Submittal Requirements

1. Transmit each submittal with transmittal letter indicating date, project title, project number, Contractor's name and address and description of content.
2. Required submittals are listed in Section 01 33 24 – Schedule of Pre-Job Submittals.
3. Submittal requirements are found here and in the technical sections of the specifications. Contractor shall complete submittals as required by the Contract Documents and revise and resubmit as necessary to establish compliance with the specified requirements.
4. Prior to each submittal, Contractor shall carefully review and coordinate all aspects of each item being submitted, and check each submittal to verify conformance with the requirements of the Contract Documents. Certify this coordination has been performed by affixing the Contractor's review stamp and signature to each submittal.
5. Contractor shall electronically transmit submittals to the Owner's Representative, as Portable Document Format (PDF) files. **Contractor shall not secure and/or password protect electronic files.**
6. Submittals shall be organized in the Portable Document Format (.pdf) file with a divider page for each section of the specifications, as indicated on the schedule of pre-job submittals. All submittals required under each tab shall be placed in the same order as indicated on the schedule. The Contractor's transmittal letter shall be provided as the first page of the document.
7. Delays caused by tardiness in receipt of submittals, or caused by not providing submittals in the specified format, will not be an acceptable basis for extension of the contract completion date.
8. Review by the Owner's Representative will not be construed as a complete check but only that the general method of construction and detailing is satisfactory. Review will not relieve the Contractor from responsibility for errors that may exist.
9. The Owner reserves the right to delay the project start and/or withhold payment until pre-job submittals are complete and reviewed.

- B. Submittal Schedule
1. Contractor shall transmit submittals allowing the Owner's Representative 14 calendar days of review time. All submittals shall be made far enough in advance of scheduled dates for installation to provide all time required for reviews, for possible revisions and resubmittals, and for placing orders and securing delivery.
- C. Shop Drawings and Coordination Drawings
1. Submitting shop drawings is a project requirement. Shop drawings are required for:
    - a. Any proposed deviations from project drawings (submittal does not constitute approval). Clearly mark all such deviations as "proposed change to Contract Documents."
    - b. Tapered insulation layout, cross sections of profiles, and details of fabrication.
    - c. Sheet metal fabrication, metal type and gauge, joining methods, fastener types, fastener placement, and sealant joint installation.
    - d. As required elsewhere in the Contract Documents.
  2. Shop drawings shall have the following attributes:
    - a. All shop drawings shall be of sufficient scale to show all pertinent aspects of the item.
    - b. Shop drawings shall show dimensions of fabricated items, joining methods, fastener type and frequency, and relationships of building components.
    - c. Shop drawings shall show more detail, not less, than the Contract Documents.
- D. Manufacturer's Literature
1. Submit Manufacturer's literature for materials being incorporated into the work. Where contents of submitted literature from Manufacturer include data not pertinent to the submittal, clearly indicate which portion of the contents is being submitted for review.
- E. Samples
1. Samples need not be submitted for items specified by product name and Manufacturer unless a decision is required regarding color, style, or finish. Samples shall be of the precise article proposed to be furnished.
  2. Unless the precise color is specifically described in the Contract Documents, submit accurate color charts to the Owner's Representative for review and selection whenever a choice of color is available in a specified product.
    - a. If providing electronic submittals, provide supplemental color charts and/or physical material samples for color selection under separate cover. Color selections will not be determined from electronic versions of color charts or samples, unless specifically allowed by the Owner's Representative.
    - b. Unless otherwise specified, submit two copies and/or samples.

3. Submit other samples as called for in individual specification sections.
- F. Notice of Award/Guarantee Application
1. Submit copy of notice of award or guarantee application to the roof system Manufacturer and accessory Manufacturers, as required to deliver all specified warranties.
    - a. All project information shall be accurately and completely filled out by the Contractor, and shall be based on the specified requirements.
    - b. Roof section identification references (e.g. numbering or lettering tags) shall match those referenced in the Contract Documents so the Manufacturer's records and final warranty documents are properly coordinated with the project areas.
    - c. Benchmark, Inc. shall be noted as the designer of record where this information is requested on the Manufacturer's forms.
  2. When available, submit written approval of notice of award or guarantee application from the Manufacturer(s).
    - a. Prior to submitting this information to the Owner's Representative for review, Contractor shall review for conformance with the requirements of the Contract Documents and coordinate the revision of any deviations.
- G. Contact/Subcontractor List
1. Submit contact list to the Owner's Representative.
  2. The contact list shall include the following information for the Contractor and all subcontractors:
    - a. Trade
    - b. Company Name, Address, and Phone Number
    - c. Project Manager, including Cellular Number and E-mail Address
    - d. Field Supervisor, including Cellular Number and E-mail Address
    - e. Safety Manager, including Cellular Number and E-mail Address
    - f. Two 24-Hour Emergency Contact Phone Numbers
    - g. Safety Director 24-Hour Emergency Contact Phone Number
- H. Permitting and Associated Services
1. Bids shall include all costs associated with permitting and associated services, as defined on the Drawings, Sheet R0.02 - Summary of Work.

- I. Contractor and Subcontractor Licensing
1. Contractor and Subcontractor(s) shall be licensed for the work each will perform, as required to comply with all applicable local and state ordinances, as defined on the Drawings, Sheet R0.02 - Summary of Work.
- J. Payment Application and Schedule of Values
1. Submit proposed payment application and schedule of values to be used in project invoicing.
  2. Payment application shall be provided on AIA Document G702, unless otherwise directed or approved by the Owner.
  3. Schedule of values shall be provided on AIA Document G703, unless otherwise directed or approved by the Owner.
  4. Schedule of values shall itemize the following, at a minimum (the total of all items shall equal the contract sum):
    - a. Project Administration (submittals, Manufacturer support services, warranties, reporting, and closeout)
    - b. Mobilization and Safety
    - c. Roofing Materials
    - d. Sheet Metal Materials
    - e. Demolition and Disposal (Itemize by Roof Section)
    - f. Roofing Construction (Itemize by Roof Section)
    - g. Sheet Metal Construction (Itemize by Roof Section)
    - h. Demobilization and Final Cleanup
    - i. Individually list all Subcontracts and Value for Each
    - j. Individually list all Quantity Allowances and Value for Each (Itemize by Roof Section if requested by the Owner's Representative)
    - k. Individually approved Contract Change Orders and Value for Each
  5. Unless directed otherwise in writing by the Owner's Representative, projects that include work on two or more roof sections shall have all line-item values broken out by roof section, instead of combining for the entire project.
  6. Unless directed otherwise in writing by the Owner's Representative or otherwise required in the Contract Conditions, ten percent retainage shall be withheld from all progress applications for payment, with final contract reconciliation performed as specified prior to submittals of final adjusted application for payment.

- K. No Asbestos Statement
  - 1. Contractor shall submit on letterhead, a written statement certifying that no products containing asbestos or asbestos-related materials will be used on this project. Include date, project, and project number on statement.
- L. Preconstruction Damage Report
  - 1. Prior to beginning the contract work, the Contractor shall inspect the site with the Owner and document any pre-existing damage to the interior and exterior. Report shall be generated using the form provided.

### 3.03 Review and Transmission of Submittals

- A. The Owner's Representative will review all submittals and indicate the following on the Schedule of Pre-job Submittals:
  - 1. "No Exceptions" This notation indicates the Contractor may proceed with fabrication or purchase of the item.
  - 2. "Make Corrections Noted" This notation indicates the submittal is considered to be complete, if the Contractor agrees with and makes the noted corrections. If the Contractor does not agree with the noted corrections and wishes to make other changes not contemplated in the first review, then resubmittal is required. Otherwise, resubmittal is not required.
  - 3. "Revise and Resubmit" Contractor shall make indicated changes necessary to comply with Contract Documents and review notes, and then resubmit. Make resubmittals as required prior to fabricating or purchasing items.
  - 4. "Rejected" Submittal does not comply with Contract Documents. Review project requirements and resubmit item. Make resubmittals as required prior to fabricating or purchasing items.
- B. The Owner's Representative will electronically transmit the reviewed submittals to the Contractor and owner, with comments made accordingly.
- C. Make all revisions required by the Owner's Representative. If the Contractor considers any required revision to be a change, the Owner's Representative shall be notified as provided for under "Changes" in the Owner-Contractor Agreement.
- D. Show each drawing revision by number, date, and subject in a revision block on the drawing, make only those revisions directed by the Owner's Representative.
- E. When the submittal process has been completed for a given item, resubmittal for substitution of materials, equipment, or installation procedure will not be considered, unless accompanied by an acceptable explanation as to why the substitution is necessary.

### 3.04 Construction Scheduling

- A. To assure adequate planning and execution of the work so the work is completed within the number of calendar days allowed in the contract, and to assist the Owner in evaluating the progress of the work, prepare and maintain the schedules and reports described in this section.

- B. Definitions
1. **"Day"** is defined as one calendar day.
  2. **"Substantial Completion"** or **"Substantially Complete"** defines the level of progress at which time the entire field membrane, all membrane flashings, and all roof-related sheet metal components are complete, quality control checked by the Contractor and Manufacturer and corrected if necessary. Exceptions are to be listed on the Contractor's Substantial Completion Notice per 3.07, A.
  3. The **Substantial Completion Date** is the date the Contractor certifies to the Owner, per 3.07, A, 1, that all work defined in 3.04, B, 2 has been performed as specified. As described in 3.07, A, 4, if the work is found to be incomplete and an additional substantial completion inspection is required, the Substantial Completion Date shall be defined as the date of Contractor recertification per 3.07, A, 4, b.
- C. If any activity is not completed on or before the stated scheduled date, the Owner's Representative will have the right to order the Contractor to expedite completion of the activity by whatever means the Owner deems appropriate and necessary, without additional compensation to the Contractor.
- D. If any activity is 30 or more days behind schedule, the Owner will have the right to perform the activity or have the activity performed by whatever means the Owner deems appropriate.
- E. Costs incurred by the Owner, Owner's Representative, or Consultant in connection with expediting construction activity under this article may be deducted from the contract sum by the Owner.
- F. It is expressly understood and agreed that failure by the Owner to exercise the option to either order the Contractor to expedite an activity or to expedite the activity by other means will not be considered precedent-setting for any other activities.
- G. Construction Schedule Submittal
1. As part of the pre-job submittal process, develop and submit a preliminary construction schedule, which shall consist of a bar chart schedule and coordinated graphic schedule and sequence plans. This schedule will be used as the basis for discussion at the preconstruction meeting.
  2. The bar chart schedule format shall sequentially list all key activities in rows (from top to bottom), with all calendar days listed in columns (from left to right).
  3. A complete list of activities shall be provided for each roof section in the project scope, arranged in the proposed sequence with a completion date provided for each.
  4. Activities shown on the bar chart schedule shall include, but are not necessarily limited to the following:
    - a. Submittals, shop drawings, and samples, and 14 calendar day review period by Owner's Representative.
    - b. Preconstruction meeting
    - c. Procurement of equipment and materials

- d. Project mobilization and safety setup
  - e. Interior protection
  - f. Roof construction (Itemize by Roof Section)
  - g. Sheet metal installation
  - h. Final inspection by Manufacturer
  - i. Substantial Completion date
  - j. Final cleanup
  - k. Final inspection by Owner and Owner's Representative
  - l. Punch list completion date
  - m. Project closeout submittals and warranties
  - n. Final completion date
5. Provide a graphic schedule and sequence plan, coordinated with the bar chart schedule, depicting the Contractor's planned daily progress of the work. Plan shall be provided on roof plans from the Contract Documents or an aerial image.
  6. Refer to Sample Bar Chart Schedule and Sample Graphic Schedule and Sequence Plans after this section, for acceptable formats and additional requirements.
  7. Following the preconstruction meeting, Contractor shall revise the bar chart schedule and graphic schedule and sequence plans within seven business days, and resubmit to the Owner's Representative. Following review, Contractor shall distribute the schedule to all interested parties.
  8. Contractor shall update and distribute bar chart schedule and graphic schedule and sequence plans on a weekly basis, with submittals occurring on the day of week requested by the Owner's Representative. If the progress of the work does not vary from the prior issuance of the schedule, the prior schedule may be re-dated and resubmitted. If the progress of the work varies from the prior schedule, the updated submittal shall depict and describe the Contractor's plan to complete the work either on or before the contract completion date, including excusable delays as allowed by the terms of the Contract Agreement.
  9. The Owner reserves the right to withhold payment for failure to submit specified schedule information.

### **3.05 Progress Reporting and Unit Price Work Documentation**

- A. The Contractor shall complete a daily progress report. Progress reports shall be generated using the form provided, to provide a continuous record of the progress of the work.
- B. Contractor shall complete one form for each workday, including workdays canceled or shortened due to weather, material shortages, or labor conditions.
- C. Forms shall be legibly filled out in ink with all pertinent items completed.

- D. Progress reports are to be filled out on a daily basis by the Contractor's job site representative, who shall be in a supervisory position. The Owner's Representative shall receive all progress reports on a weekly basis. Provide one hard copy or an electronically transmitted Portable Document Format (.pdf) file.
- E. The Owner reserves the right to withhold payment for failure to submit specified progress reports.
- F. Where the Contract Documents require specific parts of the work to be performed on a unit price basis, the Contractor shall document expended quantities on a daily basis, and obtain verification and signature by the Owner's Representative where indicated. Where the Contract Documents define quantity allowances for specific unit price work, a running total shall be maintained by the Contractor for each unit price work item, as indicated on the progress report form. Provide supplemental documentation of unit price work quantities and locations, as may be required by the Owner's Representative, and attach to the progress reports as instructed. The Owner reserves the right to deny reimbursement for unit price work if the Contractor fails to provide the specified documentation.

### 3.06 Changes to the Work

- A. All changes to the work shall be documented with Change Directives, approved in writing by the Owner, Contractor, and Roofing Consultant (Owner's Representative).

### 3.07 Project Closeout

- A. Substantial Completion Notice by Contractor
  - 1. When the Contractor considers the work to be substantially complete as defined in 3.04, B, Contractor shall perform the following steps:
    - a. Submit written certification to the Owner through the Owner's Representative that the project, or designated portion of the project, is substantially complete and ready for inspection.
    - b. Submit a complete listing of items to be completed or corrected to achieve final completion.
    - c. Submit written certification that the Manufacturer has inspected the roof and that it complies with all provisions for issuance of the warranty.
  - 2. Owner and/or Owner's Representative will attempt to perform the associated inspection within ten days after receipt of Contractor's certification.
  - 3. If Owner's Representative considers the work to be substantially complete as claimed, the following steps shall occur:
    - a. Owner's Representative will prepare a Completion Punch List (CPL), listing all items to be completed or corrected, and transmit to the Owner and Contractor. The CPL will include the Contractor's listed items per 3.07, A, 1, b and items determined during the roof inspection.
      - 1) The Owner's Representative will not be responsible to capture the roofing Manufacturer's final inspection punch list items in the Owner's CPL, though some items may be repeated.



- 2) The Contractor shall be responsible for coordinating the corrective work required by both the Owner and Manufacturer, and for closing-out all associated documents as required by the Owner-Contractor agreement and the Contractor-Manufacturer applicator agreement respectively.
  - 3) Refer to 3.07, E, 4, Section 01 78 36 – Warranties, and Section 01 78 00 – Schedule of Closeout Submittals for required documentation of Manufacturer's final inspection, Contractor's sign-off certification on Manufacturer's punch list, and documentation of Manufacturer's follow-up punch list reinspection if required by the Manufacturer prior to acceptance for warranty.
- b. Upon receipt of the CPL, Contractor shall coordinate with the Owner to schedule the corrective work, then complete all items listed, sign the CPL form, and return one signed hard copy or an electronically transmitted Portable Document Format (.pdf) file to the Owner's Representative.
4. If Owner's Representative does not consider the work to be complete as claimed, the following steps shall occur:
    - a. The Owner's Representative will notify the Contractor in writing that the work is not considered to be substantially complete, and that inspection and CPL will be deferred until substantial completion is achieved, stating reasons.
    - b. The Contractor shall then complete work and send second written notice to the Owner's Representative certifying that the project is substantially complete as defined in 3.04, B.
    - c. The Owner's Representative will attempt to reinspect work within ten calendar days after receipt of Contractor's second substantial completion notice. The Owner's Representative will then perform the reinspection, prepare the CPL, and transmit to the Owner and Contractor.
    - d. The Contractor shall then coordinate with the Owner to schedule the corrective work, complete all listed items, sign the CPL form, and return one signed hard copy or an electronically transmitted Portable Document Format (.pdf) file to the Owner's Representative.
- B. Reinspection of Completion Punch List Items
1. At the discretion of the Owner and the Owner's Representative, the Owner's Representative may perform a punch list reinspection. If necessary, the Owner and Owner's Representative will attempt to have the reinspection completed within ten calendar days after receipt of the signed CPL.
  2. If Owner's Representative considers the work to be fully complete in accordance with the requirements of the Contract Documents, the Owner's Representative will request the Contractor deliver the project closeout submittals.

3. If Owner's Representative does not consider the work to be fully complete as claimed, the following steps shall occur:
  - a. Owner's Representative will notify the Contractor in writing that deficiencies or incomplete work listed on the signed CPL remain unresolved, and that the project is unable to be accepted without additional work. The Owner's Representative shall not be responsible for issuing a revised CPL, though this may be provided at the Owner's discretion.
  - b. The Contractor shall then coordinate with the Owner to schedule expedited completion of all outstanding corrective work, re-sign and redate the CPL form, and return one hard copy or an electronically transmitted Portable Document Format (.pdf) file to the Owner's Representative.
  - c. The Owner's Representative will attempt to reinspect work within ten calendar days after receipt of the Contractor's second signed CPL. If the Owner's Representative considers the work to be fully complete in accordance with the requirements of the Contract Documents, the Owner's Representative will request the Contractor deliver the project closeout submittals.
- C. Actual Damages for Reinspection Costs
  1. If Owner's Representative is required to perform a second (or subsequent) inspection(s) because of failure of work to comply with certifications of the Contractor, Owner will deduct amount for additional inspection services from final payment to the Contractor, as actual damages to reimburse the Consultant for fees and expenses associated with the extra work.
- D. Contractor's Obligations for Inspections
  1. Where a permanent means of access does not exist, the Contractor shall provide access to all roofs for all required inspections.
    - a. Ladder height limitations specified elsewhere in the Bidding Documents shall apply to methods of access for inspections.
    - b. Where the roof section elevation does not permit OSHA compliant use of extension ladders, the Contractor shall provide alternative means of access, meeting OSHA standards or Owner's site-specific safety requirements if more restrictive.
  2. Contractor shall provide a qualified representative at all inspections, including those that do not require access be provided by the Contractor.
- E. Closeout Submittals
  1. Transmit closeout submittals with transmittal letter indicating date, project title, project number, Contractor's name and address and description of content.
  2. Required closeout submittals are summarized in Section 01 78 00 – Schedule of Closeout Submittals. Contractor shall include a copy of the schedule after the transmittal letter and before the closeout submittals, with all included items indicated by checking off in the appropriate column.

3. Multiple submittal check-off columns are provided in the event a resubmittal is required. The Owner's expectation is that all required closeout submittals will be transmitted for review as a single, complete package. Incomplete closeout submittal packages may be returned without review at the discretion of the Owner's Representative.
4. Closeout submittals shall be one hard copy, or an electronically transmitted Portable Document Format (.pdf) file consisting of the following:
  - a. Warranties, Manufacturer's punch lists, documentation of punch list completion, and Manufacturer's current published roof maintenance directives as specified in Section 01 78 36 - Warranties.
  - b. Material shipping records or other equivalent deliverable that documents the Manufacturers' lot numbers/production codes for all materials delivered and utilized for the project.
  - c. AIA G706 – Contractor's Affidavit of Payment of Debts and Claims.
  - d. AIA G706A – Contractor's Affidavit of Release of Liens, including supporting documentation from the Contractor, subcontractors, suppliers, and others who may have lien rights against the Owner.
  - e. Evidence of payment and release of liens from the Contractor, subcontractors, and suppliers.
  - f. AIA G707 – Consent of Surety to Final Payment
  - g. Evidence that the jurisdictional authorities that issued permits have accepted the project and closed-out the respective permits.
  - h. Final adjustment of accounts including:
    - 1) Original contract sum
    - 2) Additions and deductions resulting from the following, if applicable:
      - A) Previous Change Orders
      - B) Adjustment of Unit Price Quantity Allowances
      - C) Deductions for uncorrected work
      - D) Deductions for actual damages associated with inaccurate inspection notifications, as described in 3.07, C.
      - E) Deductions for actual damages associated with delays in project completion that are considered unexcused in the context of the Owner-Contractor Agreement.
      - F) Other adjustments
    - 3) Total contract sum as adjusted
    - 4) Previous payments

## 5) Sum remaining due

- F. Owner's Representative will prepare final Change Order, reflecting approved adjustments to contract sum not previously resolved by Change Order.
- G. Final Application for Payment
  - 1. Contractor shall submit final payment application in accordance with conditions of the Owner-Contractor Agreement.
  - 2. Owner will make final payment when the Contractor's obligations under the Owner-Contractor Agreement are fully complete.

**- End of Section -**

# PRECONSTRUCTION DAMAGE REPORT

---

Project: Great Beginnings (Legacy Park)  
Sections A through E  
905 NE Bluestem Drive  
Lee's Summit, MO 64086

Contractor:

Project No.: 25LSSLESUR013C

Date: \_\_\_\_\_

Owner: Lee's Summit R-7 School District  
502 SE Transport Drive  
Lee's Summit, MO 64086

Anticipated  
Start Date: \_\_\_\_\_

Upon inspection of the above-mentioned premises, we are in agreement that existing visible damage to the facility consists of the following: (Itemize damages, listing item descriptions, quantities, locations, and extent of damages. Provide photo or video documentation where appropriate and authorized by the Owner).

## INTERIOR:

---

---

---

---

---

---

---

---

---

---

## EXTERIOR:

---

---

---

---

---

---

---

---

---

---

The above-mentioned items should be excluded from any future claims for damages related to the construction project.

**OWNER:**

**CONTRACTOR:**

\_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Photo or video documentation provided  Yes  No

# PRECONSTRUCTION DAMAGE REPORT

Project: Lee's Summit High School  
Building D Section A  
Building E Section A  
400 E Blue Parkway  
Lee's Summit, MO 64086

Contractor:

Project No.: 25LSSLESUR013C

Date: \_\_\_\_\_

Owner: Lee's Summit R-7 School District  
502 SE Transport Drive  
Lee's Summit, MO 64086

Anticipated  
Start Date: \_\_\_\_\_

Upon inspection of the above-mentioned premises, we are in agreement that existing visible damage to the facility consists of the following: (Itemize damages, listing item descriptions, quantities, locations, and extent of damages. Provide photo or video documentation where appropriate and authorized by the Owner).

## INTERIOR:

---

---

---

---

---

---

---

---

---

---

---

---

## EXTERIOR:

---

---

---

---

---

---

---

---

---

---

---

---

The above-mentioned items should be excluded from any future claims for damages related to the construction project.

**OWNER:**

**CONTRACTOR:**

---

---

Date:

Date:

Photo or video documentation provided  Yes  No

# PRECONSTRUCTION DAMAGE REPORT

---

Project: Summit Lakes Middle School  
Replacement Sections H, H1, H2, H3  
and H4  
Campus Wide Roof Repairs  
3500 SW Windemere Drive  
Lee's Summit, MO 64082

Contractor:

Project No.: 25LSSLESUR013C

Date: \_\_\_\_\_

Owner: Lee's Summit R-7 School District  
502 SE Transport Drive  
Lee's Summit, MO 64086

Anticipated  
Start Date: \_\_\_\_\_

Upon inspection of the above-mentioned premises, we are in agreement that existing visible damage to the facility consists of the following: (Itemize damages, listing item descriptions, quantities, locations, and extent of damages. Provide photo or video documentation where appropriate and authorized by the Owner).

## INTERIOR:

---

---

---

---

---

---

---

---

---

---

---

---

## EXTERIOR:

---

---

---

---

---

---

---

---

---

---

---

---

The above-mentioned items should be excluded from any future claims for damages related to the construction project.

**OWNER:**

**CONTRACTOR:**

\_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Photo or video documentation provided  Yes  No

# PRECONSTRUCTION DAMAGE REPORT

Project: Lee's Summit Aquatic Center  
Section C  
3498 SW Windemere Drive  
Lee's Summit, MO 64082

Contractor:

Project No.: 25LSSLESUR013C

Date: \_\_\_\_\_

Owner: Lee's Summit R-7 School District  
502 SE Transport Drive  
Lee's Summit, MO 64086

Anticipated  
Start Date: \_\_\_\_\_

Upon inspection of the above-mentioned premises, we are in agreement that existing visible damage to the facility consists of the following: (Itemize damages, listing item descriptions, quantities, locations, and extent of damages. Provide photo or video documentation where appropriate and authorized by the Owner).

## INTERIOR:

---

---

---

---

---

---

---

---

---

---

## EXTERIOR:

---

---

---

---

---

---

---

---

---

---

The above-mentioned items should be excluded from any future claims for damages related to the construction project.

**OWNER:**

**CONTRACTOR:**

\_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Photo or video documentation provided  Yes  No



# DAILY PROGRESS REPORT

Project: Great Beginnings (Legacy Park)  
 Sections A through E  
 905 NE Bluestem Drive  
 Lee's Summit, MO 64086

Date:

Day: S M T W TH F S

Project No.: 25LSSLESUR013C

Weather: CLEAR P/C OVERCAST RAIN FOG

Owner: Lee's Summit R-7 School District  
 502 SE Transport Drive  
 Lee's Summit, MO 64086

Temperature: 0-31 32-40 41-60 61-80 81-100 100+

Wind: STILL LIGHT MODERATE HIGH

Humidity: DRY LIGHT MODERATE HUMID

Entity	Trade	Hours Worked	Start Time	Stop Time
[General Contractor]	[e.g. Roofing Contractor]			
[Subcontractor A]	[e.g. Sheet Metal]			
[Subcontractor B]	[e.g. Plumbing]			
[Subcontractor C]	[e.g. Mechanical]			

Unit Price Description	Unit (Quantity Allowance)	Quantity Today	Quantity To Date	Verified By:
Add or delete lumber/nailer	Board Foot No Q.A.			
Replace lumber/nailer	Board Foot No Q.A.			
Add or delete plywood	Square Foot No Q.A.			
Replace plywood	Square Foot No Q.A.			
Install roof system walkway	Linear Foot No Q.A.			
Replace insulation level with roofing	Square Foot No Q.A.			
Replace steel decking	Square Foot No Q.A.			
Paint surface rusted steel decking	Square Foot No Q.A.			
Replace roof drain clamping ring	Each No Q.A.			
Roofing Foreman (standard time)	Hour No Q.A.			
Roofing Foreman (overtime)	Hour No Q.A.			
Roofing Technician (standard time)	Hour No Q.A.			
Roofing Technician (overtime)	Hour No Q.A.			
Laborer (standard time)	Hour No Q.A.			
Laborer (overtime)	Hour No Q.A.			



# DAILY PROGRESS REPORT

Project: Lee's Summit High School  
 Building D Section A  
 Building E Section A  
 400 E Blue Parkway  
 Lee's Summit, MO 64086

Date:

Day: S M T W TH F S

Project No.: 25LSSLESUR013C

Weather: CLEAR P/C OVERCAST RAIN FOG

Owner: Lee's Summit R-7 School District  
 502 SE Transport Drive  
 Lee's Summit, MO 64086

Temperature: 0-31 32-40 41-60 61-80 81-100 100+

Wind: STILL LIGHT MODERATE HIGH

Humidity: DRY LIGHT MODERATE HUMID

Entity	Trade	Hours Worked	Start Time	Stop Time
[General Contractor]	[e.g. Roofing Contractor]			
[Subcontractor A]	[e.g. Sheet Metal]			
[Subcontractor B]	[e.g. Plumbing]			
[Subcontractor C]	[e.g. Mechanical]			

Unit Price Description	Unit (Quantity Allowance)	Quantity Today	Quantity To Date	Verified By:
Add or delete lumber/nailer	Board Foot No Q.A.			
Add or delete plywood	Square Foot No Q.A.			
Install roof system walkway	Linear Foot No Q.A.			
Roofing Foreman (standard time)	Hour No Q.A.			
Roofing Foreman (overtime)	Hour No Q.A.			
Roofing Technician (standard time)	Hour No Q.A.			
Roofing Technician (overtime)	Hour No Q.A.			
Laborer (standard time)	Hour No Q.A.			
Laborer (overtime)	Hour No Q.A.			
Sheet Metal Worker (standard time)	Hour No Q.A.			
Sheet Metal Worker (overtime)	Hour No Q.A.			

Type of Roof System: \_\_\_\_\_

Roof Section(s) Worked on: \_\_\_\_\_

Materials Delivered Today: \_\_\_\_\_

Total Squares Installed Today: \_\_\_\_\_

Comments: \_\_\_\_\_

Lined writing area consisting of 30 horizontal lines.

By: \_\_\_\_\_

Title: \_\_\_\_\_

# DAILY PROGRESS REPORT

Project: Summit Lakes Middle School  
 Sections H, H1, H2, H3 and H4  
 Campus Wide Roof Repairs  
 3500 SW Windemere Drive  
 Lee's Summit, MO 64082

Date:

Day: S M T W TH F S

Project No.: 25LSSLESUR013C  
 Owner: Lee's Summit R-7 School District  
 502 SE Transport Drive  
 Lee's Summit, MO 64086

Weather: CLEAR P/C OVERCAST RAIN FOG  
 Temperature: 0-31 32-40 41-60 61-80 81-100 100+  
 Wind: STILL LIGHT MODERATE HIGH  
 Humidity: DRY LIGHT MODERATE HUMID

Entity	Trade	Hours Worked	Start Time	Stop Time
[General Contractor]	[e.g. Roofing Contractor]			
[Subcontractor A]	[e.g. Sheet Metal]			
[Subcontractor B]	[e.g. Plumbing]			
[Subcontractor C]	[e.g. Mechanical]			

Unit Price Description	Unit (Quantity Allowance)	Quantity Today	Quantity To Date	Verified By:
Add or delete lumber/nailer	Board Foot No Q.A.			
Replace lumber/nailer	Board Foot No Q.A.			
Add or delete plywood	Square Foot No Q.A.			
Replace plywood	Square Foot No Q.A.			
Install roof system walkway	Linear Foot No Q.A.			
Replace insulation level with roofing	Square Foot No Q.A.			
Replace steel decking	Square Foot No Q.A.			
Paint surface rusted steel decking	Square Foot No Q.A.			
Replace roof drain clamping ring	Each No Q.A.			
Replace roof drain and piping connection	Each No Q.A.			
Roofing Foreman (standard time)	Hour No Q.A.			
Roofing Foreman (overtime)	Hour No Q.A.			
Roofing Technician (standard time)	Hour No Q.A.			
Roofing Technician (overtime)	Hour No Q.A.			
Laborer (standard time)	Hour No Q.A.			



# DAILY PROGRESS REPORT

Project: Lee's Summit Aquatic Center  
Section C  
3498 SW Windemere Drive  
Lee's Summit, MO 64082

Date:

Day: S M T W TH F S

Project No.: 25LSSLESUR013C

Weather: CLEAR P/C OVERCAST RAIN FOG

Owner: Lee's Summit R-7 School District  
502 SE Transport Drive  
Lee's Summit, MO 64086

Temperature: 0-31 32-40 41-60 61-80 81-100 100+

Wind: STILL LIGHT MODERATE HIGH

Humidity: DRY LIGHT MODERATE HUMID

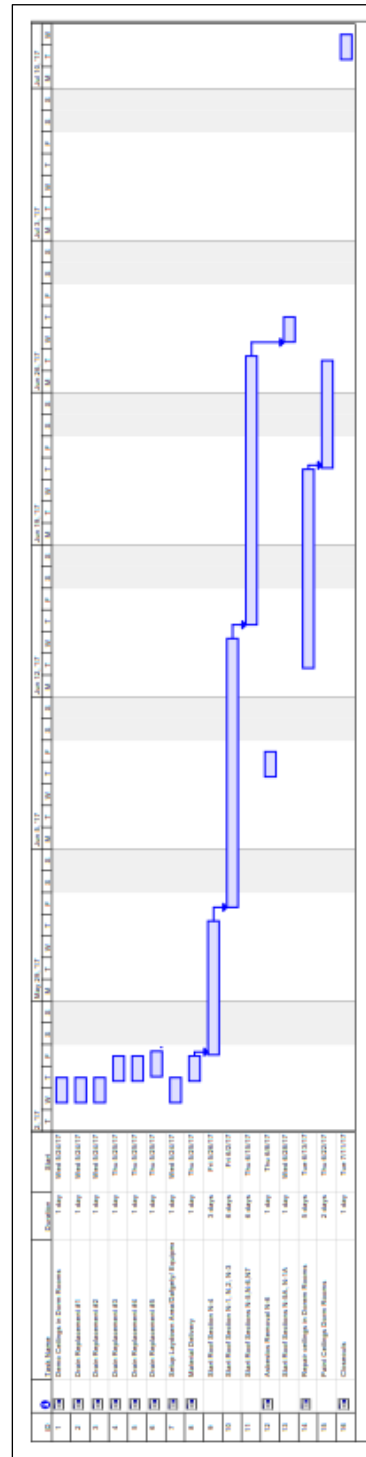
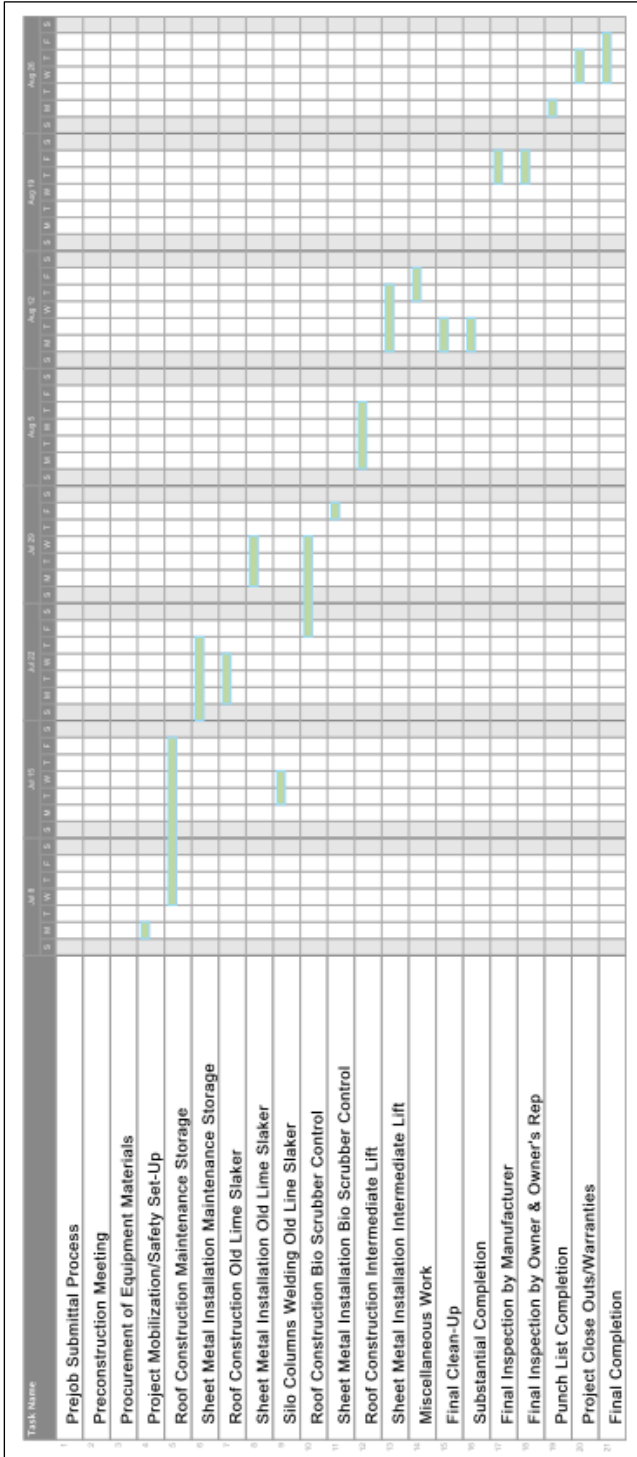
Entity	Trade	Hours Worked	Start Time	Stop Time
[General Contractor]	[e.g. Roofing Contractor]			
[Subcontractor A]	[e.g. Sheet Metal]			
[Subcontractor B]	[e.g. Plumbing]			
[Subcontractor C]	[e.g. Mechanical]			

Unit Price Description	Unit (Quantity Allowance)	Quantity Today	Quantity To Date	Verified By:
Add or delete lumber/nailer	Board Foot No Q.A.			
Replace lumber/nailer	Board Foot 400			
Install roof system walkway	Linear Foot No Q.A.			
Remove and dispose of existing thermal barrier/vapor retarder	Square Foot No Q.A.			
Replace steel decking	Square Foot 100			
Paint surface rusted steel decking	Square Foot 500			
Replace roof drain clamping ring	Each 1			
Roofing Foreman (standard time)	Hour No Q.A.			
Roofing Foreman (overtime)	Hour No Q.A.			
Roofing Technician (standard time)	Hour No Q.A.			
Roofing Technician (overtime)	Hour No Q.A.			
Laborer (standard time)	Hour No Q.A.			
Laborer (overtime)	Hour No Q.A.			
Sheet Metal Worker (standard time)	Hour No Q.A.			
Sheet Metal Worker (overtime)	Hour No Q.A.			





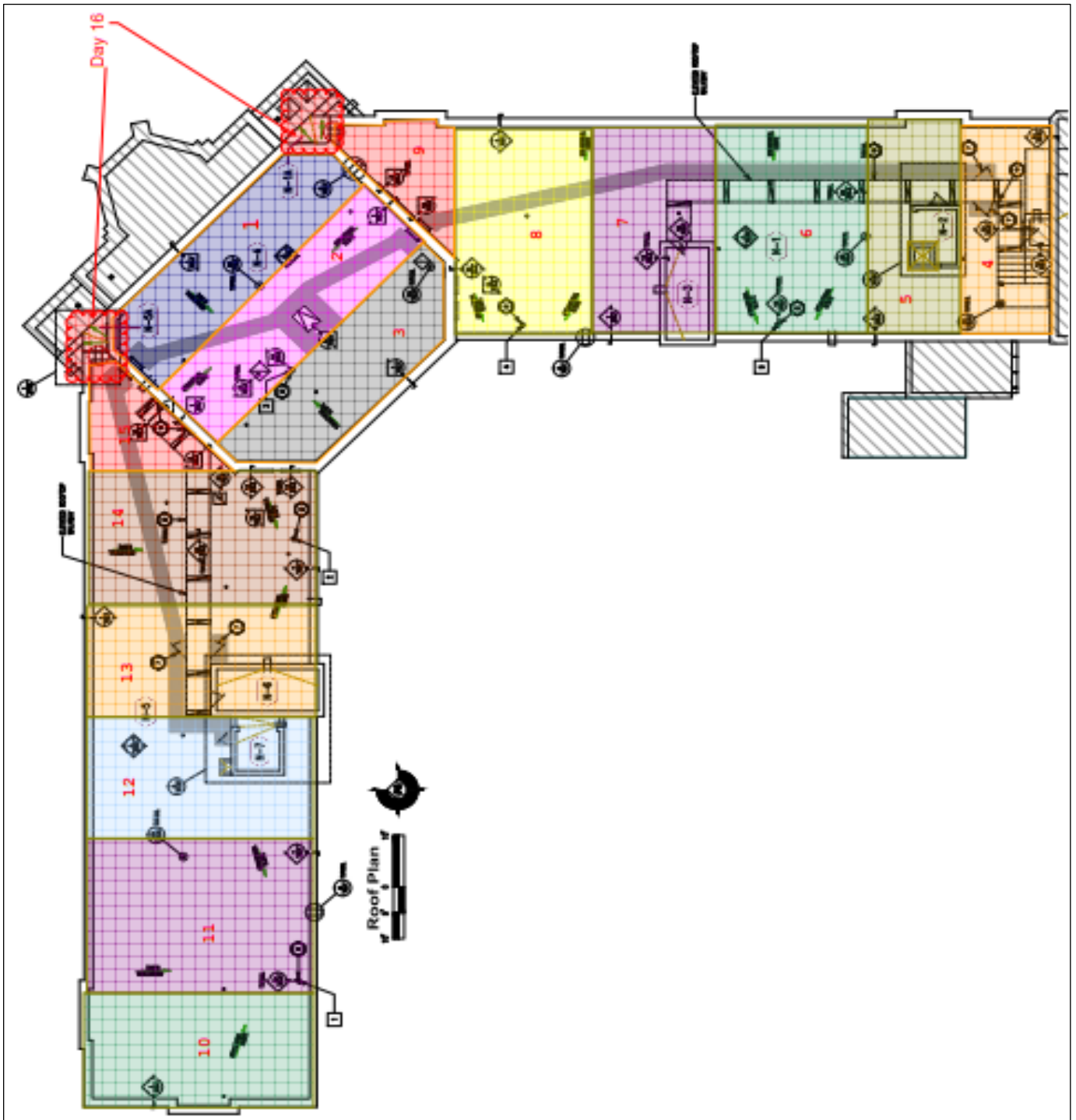
# SAMPLES: BAR CHART SCHEDULE



### Miscellaneous Bar Chart Schedule Requirements:

1. At a minimum, schedule shall list all specified activities for each roof section.
2. Activities shall closely match the scope of work for each roof section.
3. Coordinate bar chart schedule with graphic schedule and sequence plan.
4. Contractor shall revise and resubmit on a weekly basis to reflect any changes to the project schedule and/or work sequence.
5. If requested by the Owner's Representative, the Contractor shall post a copy of the current schedule for reference by the project team, in a mutually agreed upon location.

## SAMPLE: GRAPHIC SCHEDULE AND SEQUENCE PLAN



### Miscellaneous Graphic Schedule and Sequence Plan Requirements:

1. Roof plans from Contract Documents or an aerial image shall be used as background.
2. Projects with multiple phases shall have one plan provided for each individual phase.
3. Daily production areas shall be marked DAY 1, DAY 2, etc. so the information remains relevant in the event of weather delays and/or weekend work.
4. Contractor shall revise and resubmit on a weekly basis to reflect any changes to the project schedule and/or work sequence.
5. If requested by the Owner's Representative, Contractor shall post a full-sized copy of the current schedule and sequence plan for reference by the project team, in a mutually agreed upon location.

PROJECT NO.: 25LSSLESUR013C  
 PROJECT: Great Beginnings (Legacy Park)  
Sections A through E  
905 NE Bluestem Drive  
Lee's Summit, MO 64086  
 CONTRACTOR: \_\_\_\_\_  
 SUBMITTED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 SUBMITTAL NO: \_\_\_\_\_

This review is only for general conformance with the design concepts and information given in the Contract Documents, and does not relieve the Contractor of responsibility for conformance with the Contract Documents and applicable Codes; all of which have priority over the submittals. Contractor shall be responsible for accuracy and completeness of submitted information. Corrections or comments made on the submittals by the reviewer do not relieve the Contractor from being responsible for compliance with the Contract Documents. Review of a specific item does not constitute review of an assembly of which the item is a component. The Contractor is responsible for dimensions to be confirmed and correlated at the job site; for information that pertains solely to the fabrication process or to means, methods, techniques, sequences, and procedures of construction; for coordination of the work of all trades; and performing all work in a safe and satisfactory manner.

REVIEWED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

**NOTES:**

1. Contractor shall submit transmittal letter and all items listed in the schedule in accordance with Section 01 30 01 - Project Administration, allowing 14 days for review by the Owner's Representative.
2. Contractor shall clearly indicate which information on each submittal is pertinent to the project.
3. Contractor shall submit all SDS combined into one bookmarked PDF file, separate from the balance of the submittals.
4. Do not resubmit items marked "No Exceptions or "Make Corrections Noted". Items marked "Revise and Resubmit" or "Rejected" require resubmittal.
5. Contractor shall refer to Section 01 30 01 - Project Administration and submittal requirements in each specification section for additional information.

General Information		Transmittal No.					Action			
Specification Section	Submittal	"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				

**DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS**

00 21 13

**Instructions To Bidders**

Copy of Performance Bond										
Copy of Labor and Material Payment Bond										
Copy of Certificate of Insurance										

**DIVISION 01 - GENERAL REQUIREMENTS**

01 30 01

**Project Administration**

Notice of Award or Guarantee Application to Roof Manuf.										
Roof Manufacturer's Approval of NOA or Guarantee App.										
Guarantee Application to Metal Manufacturer										
Metal Manufacturer's Approval of Guarantee Application										

General Information		Transmittal No.					Action			
Specification Section	Submittal	"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				
	Contact/Subcontractor List									
	Proposed Schedule of Values									
	Bar Chart Schedule									
	Coordinated Graphic Sequence and Schedule Plans									
	No Asbestos Statement									
	Preconstruction Damage Documentation									
<b>01 35 24</b>	<b>Construction Project Safety</b>									
	Pre-Job Site Safety Plan/Assessment									
	Safety Data Sheets (Combined Separate PDF - See Notes)									
<b>DIVISION 05 - METALS</b>										
<b>05 01 30.61</b>	<b>Steel Roof Decking Repair/Replacement</b>									
	Manufacturer's Literature									
	List of Materials									
<b>DIVISION 06 - WOOD, PLASTICS AND COMPOSITES</b>										
<b>06 10 53</b>	<b>Miscellaneous Rough Carpentry</b>									
	List of Materials									
<b>DIVISION 07 - THERMAL AND MOISTURE PROTECTION</b>										
<b>07 21 16</b>	<b>Batt Insulation</b>									
	Manufacturer's Literature									
	List of Materials									
<b>07 22 16</b>	<b>Roof Board Insulation</b>									
	Manufacturer's Literature									
	List of Materials									
	Manufacturer's Tapered Insulation Drawings									
<b>07 54 19.03</b>	<b>Adhered Felt Back PVC Thermoplastic Membrane Roofing</b>									
	Manufacturer's Literature									
	List of Materials									
	Shop Drawings For Proposed Temporary Water Cutoff									
	Adhesive Application Letter from Membrane Manufacturer									

Specification Section	General Information Submittal	Transmittal No.					Action			
		"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				
<b>07 62 00.01</b>	<b>Sheet Metal Flashing and Trim</b>									
	Shop Drawings									
	Product Information or Material List for All Accessories									
	Color Chart or Samples For Metal Color Selection									
	Color Chart or Samples For Sealant Color Selection									
<b>07 71 01</b>	<b>Manufactured Roof-Related Sheet Metal Components</b>									
	Shop Drawings									
	Product Information or Material List for All Accessories									
	Color Chart or Samples For Metal Color Selection									
	Color Chart or Samples For Sealant Color Selection									
<b>07 72 65</b>	<b>Support Systems</b>									
	Manufacturer's Literature									
	List of Materials									
	Shop Drawings									
<b>07 92 00</b>	<b>Joint Sealants</b>									
	Manufacturer's Literature									
	List of Materials									
	Color Chart or Samples For Sealant Color Selection									
<b>DIVISION 09 - FINISHES</b>										
<b>09 91 00</b>	<b>Painting</b>									
	Manufacturer's Literature									
	List of Materials									
	Color Chart or Samples For Paint Color Selection									
<b>DIVISION 22 - PLUMBING</b>										
<b>22 14 14</b>	<b>Roof Drains and Plumbing</b>									
	Manufacturer's Literature									
	List of Materials									

General Information		Transmittal No.					Action			
Specification Section	Submittal	"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				

**DRAWINGS**

R0.02

**Summary of Work**

Contractor and Subcontractor Licenses									
Permits									
Permit Procurement Backup Documentation									

PROJECT NO.: 25LSSLESUR013B

PROJECT: Lee's Summit High School  
Building D Section A  
Building E Section A  
400 E Blue Parkway  
Lee's Summit, MO 64063

CONTRACTOR: \_\_\_\_\_

SUBMITTED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

SUBMITTAL NO: \_\_\_\_\_

This review is only for general conformance with the design concepts and information given in the Contract Documents, and does not relieve the Contractor of responsibility for conformance with the Contract Documents and applicable Codes; all of which have priority over the submittals. Contractor shall be responsible for accuracy and completeness of submitted information. Corrections or comments made on the submittals by the reviewer do not relieve the Contractor from being responsible for compliance with the Contract Documents. Review of a specific item does not constitute review of an assembly of which the item is a component. The Contractor is responsible for dimensions to be confirmed and correlated at the job site; for information that pertains solely to the fabrication process or to means, methods, techniques, sequences, and procedures of construction; for coordination of the work of all trades; and performing all work in a safe and satisfactory manner.

REVIEWED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

**NOTES:**

1. Contractor shall submit transmittal letter and all items listed in the schedule in accordance with Section 01 30 01 - Project Administration, allowing 14 days for review by the Owner's Representative.
2. Contractor shall clearly indicate which information on each submittal is pertinent to the project.
3. Contractor shall submit all SDS combined into one bookmarked PDF file, separate from the balance of the submittals.
4. Do not resubmit items marked "No Exceptions or "Make Corrections Noted". Items marked "Revise and Resubmit" or "Rejected" require resubmittal.
5. Contractor shall refer to Section 01 30 01 - Project Administration and submittal requirements in each specification section for additional information.

General Information		Transmittal No.					Action			
Specification Section	Submittal	"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				

**DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS**

<b>00 21 13</b>	<b>Instructions To Bidders</b>									
	Copy of Performance Bond									
	Copy of Labor and Material Payment Bond									
	Copy of Certificate of Insurance									

**DIVISION 01 - GENERAL REQUIREMENTS**

<b>01 30 01</b>	<b>Project Administration</b>									
	Notice of Award or Guarantee Application to Roof Manuf.									
	Roof Manufacturer's Approval of NOA or Guarantee App.									

General Information		Transmittal No.					Action			
Specification Section	Submittal	"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				
	Guarantee Application to Metal Manufacturer									
	Metal Manufacturer's Approval of Guarantee Application									
	Contact/Subcontractor List									
	Proposed Schedule of Values									
	Bar Chart Schedule									
	Coordinated Graphic Sequence and Schedule Plans									
	No Asbestos Statement									
	Preconstruction Damage Documentation									
<b>01 35 24</b>	<b>Construction Project Safety</b>									
	Pre-Job Site Safety Plan/Assessment									
	Safety Data Sheets									
<b>DIVISION 07 - THERMAL AND MOISTURE PROTECTION</b>										
<b>07 21 16</b>	<b>Batt Insulation</b>									
	Manufacturer's Literature									
	List of Materials									
<b>07 22 16</b>	<b>Roof Board Insulation</b>									
	Manufacturer's Literature									
	List of Materials									
	Manufacturer's Tapered Insulation Drawings									
<b>07 54 19.02</b>	<b>Adhered PVC Thermoplastic Membrane Roofing</b>									
	Manufacturer's Literature									
	List of Materials									
	Shop Drawing For Proposed Temporary Water Cutoff									
	Adhesive Application Letter from Membrane Manufacturer									
<b>07 62 00.01</b>	<b>Sheet Metal Flashing and Trim</b>									
	Shop Drawings									
	Product Information or Material List for All Accessories									
	Color Chart or Samples For Metal Color Selection									
	Color Chart or Samples For Sealant Color Selection									



General Information		Transmittal No.					Action			
Specification Section	Submittal	"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				
<b>07 71 01</b>	<b>Manufactured Roof-Related Sheet Metal Components</b>									
	Shop Drawings									
	Product Information or Material List for All Accessories									
	Color Chart or Samples For Metal Color Selection									
	Color Chart or Samples For Sealant Color Selection									
<b>07 72 65</b>	<b>Support Systems</b>									
	Manufacturer's Literature									
	List of Materials									
	Shop Drawings									
<b>DRAWINGS</b>										
<b>R0.02</b>	<b>Summary of Work</b>									
	Contractor and Subcontractor Licenses									
	Permits									
	Permit Procurement Backup Documentation									

PROJECT NO.: 25LSSLESUR013C

PROJECT: Summit Lakes Middle School  
Sections H, H1, H2, H3 and H4  
Campus Wide Roof Repairs  
3500 SW Windemere Drive  
Lee's Summit, MO 64082

CONTRACTOR: \_\_\_\_\_

SUBMITTED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

SUBMITTAL NO: \_\_\_\_\_

This review is only for general conformance with the design concepts and information given in the Contract Documents, and does not relieve the Contractor of responsibility for conformance with the Contract Documents and applicable Codes; all of which have priority over the submittals. Contractor shall be responsible for accuracy and completeness of submitted information. Corrections or comments made on the submittals by the reviewer do not relieve the Contractor from being responsible for compliance with the Contract Documents. Review of a specific item does not constitute review of an assembly of which the item is a component. The Contractor is responsible for dimensions to be confirmed and correlated at the job site; for information that pertains solely to the fabrication process or to means, methods, techniques, sequences, and procedures of construction; for coordination of the work of all trades; and performing all work in a safe and satisfactory manner.

REVIEWED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

**NOTES:**

1. Contractor shall submit transmittal letter and all items listed in the schedule in accordance with Section 01 30 01 - Project Administration, allowing 14 days for review by the Owner's Representative.
2. Contractor shall clearly indicate which information on each submittal is pertinent to the project.
3. Contractor shall submit all SDS combined into one bookmarked PDF file, separate from the balance of the submittals.
4. Do not resubmit items marked "No Exceptions or "Make Corrections Noted". Items marked "Revise and Resubmit" or "Rejected" require resubmittal.
5. Contractor shall refer to Section 01 30 01 - Project Administration and submittal requirements in each specification section for additional information.

General Information		Transmittal No.					Action			
Specification Section	Submittal	"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				

**DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS**

00 21 13

**Instructions To Bidders**

Copy of Performance Bond									
Copy of Labor and Material Payment Bond									
Copy of Certificate of Insurance									

**DIVISION 01 - GENERAL REQUIREMENTS**

01 30 01

**Project Administration**

Notice of Award or Guarantee Application to Roof Manuf.									
Roof Manufacturer's Approval of NOA or Guarantee App.									
Guarantee Application to Metal Manufacturer									

General Information		Transmittal No.					Action			
Specification Section	Submittal	"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				
	Metal Manufacturer's Approval of Guarantee Application									
	Contact/Subcontractor List									
	Proposed Schedule of Values									
	Bar Chart Schedule									
	Coordinated Graphic Sequence and Schedule Plans									
	No Asbestos Statement									
	Preconstruction Damage Documentation									
<b>01 35 24</b>	<b>Construction Project Safety</b>									
	Pre-Job Site Safety Plan/Assessment									
	Safety Data Sheets (Combined Separate PDF - See Notes)									
<b>DIVISION 05 - METALS</b>										
<b>05 01 30.61</b>	<b>Steel Roof Decking Repair/Replacement</b>									
	Manufacturer's Literature									
	List of Materials									
<b>DIVISION 06 - WOOD, PLASTICS AND COMPOSITES</b>										
<b>06 01 10.61</b>	<b>Wood Roof Decking Repair/Replacement</b>									
	List of Materials									
<b>06 10 53</b>	<b>Miscellaneous Rough Carpentry</b>									
	List of Materials									
<b>DIVISION 07 - THERMAL AND MOISTURE PROTECTION</b>										
<b>07 01 50.62</b>	<b>Repair of Existing Roof Systems</b>									
	Manufacturer's Literature									
	List of Materials									
<b>07 21 16</b>	<b>Batt Insulation</b>									
	Manufacturer's Literature									
	List of Materials									

Specification Section	General Information Submittal	Transmittal No.					Action			
		"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				
<b>07 22 16</b>	<b>Roof Board Insulation</b>									
	Manufacturer's Literature									
	Manufacturer's Tapered Insulation Drawings									
<b>07 54 19.02</b>	<b>Adhered PVC Thermoplastic Membrane Roofing</b>									
	Manufacturer's Literature									
	List of Materials									
	Shop Drawing For Proposed Temporary Water Cutoff									
<b>07 54 19.03</b>	<b>Adhered Felt Back PVC Thermoplastic Membrane Roofing</b>									
	Manufacturer's Literature									
	List of Materials									
	Shop Drawings For Proposed Temporary Water Cutoff									
	Adhesive Application Letter from Membrane Manufacturer									
<b>07 62 00.01</b>	<b>Sheet Metal Flashing and Trim</b>									
	Shop Drawings									
	Product Information or Material List for All Accessories									
	Color Chart or Samples For Metal Color Selection									
	Color Chart or Samples For Sealant Color Selection									
<b>07 71 01</b>	<b>Manufactured Roof-Related Sheet Metal Components</b>									
	Shop Drawings									
	Product Information or Material List for All Accessories									
	Color Chart or Samples For Metal Color Selection									
	Color Chart or Samples For Sealant Color Selection									
<b>07 72 33</b>	<b>Roof Hatches</b>									
	Manufacturer's Literature									
	List of Materials									
	Shop Drawings									
<b>07 72 65</b>	<b>Support Systems</b>									
	Manufacturer's Literature									
	List of Materials									
	Shop Drawings									

General Information		Transmittal No.					Action			
Specification Section	Submittal	"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				
<b>07 92 00</b>	<b>Joint Sealants</b>									
	Manufacturer's Literature									
	List of Materials									
	Color Chart or Samples For Sealant Color Selection									
<b>DIVISION 22 - PLUMBING</b>										
<b>22 14 14</b>	<b>Roof Drains and Plumbing</b>									
	Manufacturer's Literature									
	List of Materials									
<b>DRAWINGS</b>										
<b>R0.02</b>	<b>Summary of Work</b>									
	Contractor and Subcontractor Licenses									
	Permits									
	Permit Procurement Backup Documentation									

PROJECT NO.: 25LSSLESUR013C

PROJECT: Lee's Summit Aquatic Center  
Section C  
3498 SW Windemere Drive  
Lee's Summit, MO 64082

CONTRACTOR: \_\_\_\_\_

SUBMITTED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

SUBMITTAL NO: \_\_\_\_\_

This review is only for general conformance with the design concepts and information given in the Contract Documents, and does not relieve the Contractor of responsibility for conformance with the Contract Documents and applicable Codes; all of which have priority over the submittals. Contractor shall be responsible for accuracy and completeness of submitted information. Corrections or comments made on the submittals by the reviewer do not relieve the Contractor from being responsible for compliance with the Contract Documents. Review of a specific item does not constitute review of an assembly of which the item is a component. The Contractor is responsible for dimensions to be confirmed and correlated at the job site; for information that pertains solely to the fabrication process or to means, methods, techniques, sequences, and procedures of construction; for coordination of the work of all trades; and performing all work in a safe and satisfactory manner.

REVIEWED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

**NOTES:**

1. Contractor shall submit transmittal letter and all items listed in the schedule in accordance with Section 01 30 01 - Project Administration, allowing 14 days for review by the Owner's Representative.
2. Contractor shall clearly indicate which information on each submittal is pertinent to the project.
3. Contractor shall submit all SDS combined into one bookmarked PDF file, separate from the balance of the submittals.
4. Do not resubmit items marked "No Exceptions or "Make Corrections Noted". Items marked "Revise and Resubmit" or "Rejected" require resubmittal.
5. Contractor shall refer to Section 01 30 01 - Project Administration and submittal requirements in each specification section for additional information.

General Information		Transmittal No.					Action			
Specification Section	Submittal	"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				

**DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS**

<b>00 21 13</b>	<b>Instructions To Bidders</b>									
	Copy of Performance Bond									
	Copy of Labor and Material Payment Bond									
	Copy of Certificate of Insurance									

**DIVISION 01 - GENERAL REQUIREMENTS**

<b>01 30 01</b>	<b>Project Administration</b>									
	Notice of Award or Guarantee Application to Roof Manuf.									
	Roof Manufacturer's Approval of NOA or Guarantee App.									
	Guarantee Application to Metal Manufacturer									
	Metal Manufacturer's Approval of Guarantee Application									

General Information		Transmittal No.					Action			
Specification Section	Submittal	"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				
	Contact/Subcontractor List									
	Proposed Schedule of Values									
	Bar Chart Schedule									
	Coordinated Graphic Sequence and Schedule Plans									
	No Asbestos Statement									
	Preconstruction Damage Documentation									
<b>01 35 24</b>	<b>Construction Project Safety</b>									
	Pre-Job Site Safety Plan/Assessment									
	Safety Data Sheets									
<b>DIVISION 05 - METALS</b>										
<b>05 01 30.61</b>	<b>Steel Roof Decking Repair/Replacement</b>									
	Manufacturer's Literature									
	List of Materials									
<b>DIVISION 06 - WOOD, PLASTICS AND COMPOSITES</b>										
<b>06 10 53</b>	<b>Miscellaneous Rough Carpentry</b>									
	List of Materials									
<b>DIVISION 07 - THERMAL AND MOISTURE PROTECTION</b>										
<b>07 22 16</b>	<b>Roof Board Insulation</b>									
	Manufacturer's Literature									
	List of Materials									
	Manufacturer's Tapered Insulation Drawings									
<b>07 26 04</b>	<b>Self-Adhering Vapor Retarder</b>									
	Manufacturer's Literature									
	List of Materials									
	Shop Drawing For Proposed Temporary Water Cutoff									

General Information		Transmittal No.					Action			
Specification Section	Submittal	"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				
<b>07 54 19.02</b>	<b>Adhered PVC Thermoplastic Membrane Roofing</b>									
	Manufacturer's Literature									
	List of Materials									
	Shop Drawing For Proposed Temporary Water Cutoff									
	Adhesive Application Letter from Membrane Manufacturer									
<b>07 71 01</b>	<b>Manufactured Roof-Related Sheet Metal Components</b>									
	Shop Drawings									
	Product Information or Material List for All Accessories									
	Color Chart or Samples For Metal Color Selection									
	Color Chart or Samples For Sealant Color Selection									
<b>07 92 00</b>	<b>Joint Sealants</b>									
	Manufacturer's Literature									
	List of Materials									
	Color Chart or Samples For Sealant Color Selection									
<b>DRAWINGS</b>										
<b>R0.02</b>	<b>Summary of Work</b>									
	Contractor and Subcontractor Licenses									
	Permits									
	Permit Procurement Backup Documentation									



**PART ONE – GENERAL****1.01 Description**

- A. This section is intended to assure adequate planning and execution of the project, to maintain proper facility security and to assist the Owner with eliminating workplace hazards, production disruptions, product damage, and inconvenience.
- B. The Contractor shall advise all administrative and field personnel, Subcontractors, and material suppliers of the requirements of this section.
- C. Any delays experienced due to the Contractor's failure to provide proper notifications and coordination shall be at the Contractor's expense.
- D. If any conflict should arise over a specific provision of this section, the Owner's decision shall be final.
- E. Coordinate the requirements of this section with related requirements specified elsewhere in the Contract Documents. Immediately inform the Owner's Representative of any conflicts.
- F. Refer to related information on the drawings.

**1.02 Qualifications of Project Supervisors**

- A. Individuals supervising the work included in this specification section shall be competent and qualified person(s) who are a full-time employee of the prime contractor. A subcontractor's employee shall not be the project supervisor. The project supervisor shall be present on the project site throughout the entire construction project.
- B. Contractor shall have a project supervisor and foreman or superintendent present on the project site throughout the entire construction project, who is fluent in the English language (both written and verbal) and is capable of clear communications with Contractor's workforce, Owner's Representatives, and others involved with the project's execution.

**PART TWO – PRODUCTS****2.01 Not Used****PART THREE – EXECUTION****3.01 Coordination with Facility Operations**

- A. The Contractor shall note that the building will be occupied and in use at all times during this work. The Contractor shall provide and maintain all OSHA or Owner required danger signs, guards, and/or obstructions necessary to protect the public and workers from dangers associated with the work.
- B. Coordinate all work throughout the duration of the project as to minimize disruption of facility operations.
- C. Schedule and coordinate all aspects of the work to maintain the building in a totally watertight condition, no exceptions.

- D. Contractor shall provide a minimum of 48-hours notice for all activities requiring coordination or action on the part of the Owner or Owner's Representative.
- E. Coordinate roofing work around school events, as directed by the Owner.

### 3.02 Temporary Facilities and Utilities

- A. Temporary facilities provided by the contractor shall include, but are not limited to:
  - 1. Utilities such as heat, water, electricity, and telephone as required.
  - 2. Contractor's facilities.
  - 3. Temporary sanitary facilities.
- B. Project Requirements
  - 1. Contractor shall furnish all required electricity. With approval of the Owner, available 110 V outlets can be used by the contractor.
  - 2. The on-site project supervisor shall carry a reliable cellular phone on the project site at all times.
  - 3. Contractor shall provide temporary sanitary facilities in the quantity required for use of all personnel. Maintain in a sanitary condition at all times.
- C. Maintain all temporary facilities and controls as long as needed for the safe and proper completion of the work.
- D. Remove all such temporary facilities and controls as rapidly as progress of the work will permit or as directed by the Owner's Representative.
- E. In situations where the Contractor uses an Owner-supplied power source, the Contractor remains responsible for completing all work on a daily basis should an outage occur.

### 3.03 Staging Areas

- A. Contractor shall perform all material storage and staging activities within those locations approved by the Owner's Representative.
- B. Staging area(s) shall be located on the Title Sheet after the Prebid Meeting by addendum.
- C. Contractor shall barricade all adjacent roof areas. Contractor shall prohibit traffic on all adjacent roof areas; unless approved by the Owner and protected by the Contractor as specified. At the Owner's discretion, any damage to adjacent roof areas caused by the Contractor shall be repaired by an approved applicator at no additional cost to the Owner.
- D. All roads and doorways shall remain open, unless approved otherwise by the Owner's Representative.
- E. Contractor shall not block access to dumpsters, and shall maintain safe clearance from all equipment, tanks, and valves.

- F. Contractor shall implement measures to protect the staging areas from damage. At the Owner's discretion, any damage to staging areas caused by the Contractor shall be repaired to match the pre-existing conditions at no additional cost to the Owner.
- G. Furnish and install a temporary continuous 4' orange plastic construction fencing around all ground level staging areas, equipment, and materials.
- H. When approved by the Owner's Representative, building entrances shall be blocked-off when pedestrians could be endangered by the overhead construction activities or adjacent ground level staging operations. Where blocking of entrances is not approved, provide alternative pedestrian protection as approved in advance by the Owner's Representative.
- I. If practical, roofing materials shall be loaded on the roof immediately upon delivery to the job site and shall be stored on the roof during construction.

### **3.04 Minimum Roof Protection Requirements**

- A. At a minimum, Contractor shall install temporary 3/4" plywood walkways and platforms over moisture resistant insulation on all roof areas where equipment, materials and/or personnel are loaded onto or traverse over the roof system. The Contractor shall obtain the Owner's permission prior to installing the temporary walkways. this includes all new roof areas.
- B. Prior to exposing the adjacent roof surfaces to construction traffic, traffic pathways shall be established and the specified minimum roof protection shall be installed in those areas. All traffic shall be physically restricted to the designated pathways using railings, warning lines, fencing, or similar method.
- C. At a minimum, the pathways shall be constructed by cleaning all debris from the roofing membrane, inspecting the membrane and alerting the Owner's Representative of any damage, covering the membrane with 1" minimum extruded polystyrene insulation, covering the polystyrene with 3/4" plywood, and strapping the plywood joints with fastened metal strips at a minimum.
- D. When the pathways are no longer required, the roof protection materials and any remaining project debris shall be removed without damaging the roof system. The Owner's Representative will then inspect the membrane and the Contractor shall repair any damage noted to the satisfaction of the Owner and Roofing Manufacturer.
- E. Failure to comply with these procedures may result in loss of adjacent roof access privileges.
- F. Any damage to adjacent roof areas caused by the Contractor's operations shall be repaired by an approved applicator at no additional cost to the Owner; whether or not the specified minimum roof protection standards are implemented by the Contractor.

### **3.05 Roof Damage Control**

- A. Contractor shall be responsible for protection of new and existing roof surfaces from construction traffic damage including specified roof protection system(s) as applicable. Contractor shall be responsible to implement additional roof protection and related activities as they may deem necessary to prevent construction-related damage.
- B. Contractor shall inspect all areas on a daily basis, and repair any areas of damage before leaving the job site that day.

- C. Contractor shall be responsible for damage to the roof system caused by cleaning and preparation procedures such as, but not limited to, power washing. Contractor shall also be responsible for any damage to the roof system from adjacent work such as, but not limited to, cutting, grinding, welding, scaffolding, moving equipment and materials, wall and flashing work, as well as materials and/or chemicals introduced onto the roof system. Any damage shall be promptly made watertight before leaving the job site that day. Permanent repairs or replacements shall be subsequently performed by the Contractor in an Owner-approved manner, at no additional cost to the Owner. Contractor shall obtain written approval of repair methods prior to proceeding with corrective work, and shall coordinate schedule of corrective work with the Owner and Owner's Representatives.

### **3.06 Access and Logistical Requirements**

- A. Protect the building from staining or damage where ladders, scaffolding, and/or chutes are set up against the building.
- B. Ladders must be removed and secured on a daily basis.
- C. Protect the building from staining and damage where hoisting operations occur.
- D. Roof access for Contractor's personnel shall be via the building exterior.
- E. If a crane is used, blocking of the street may be required. Bidders shall research associated permit requirements, barricade/traffic control procedures, pedestrian protection, and time restrictions. All applicable costs shall be included in the Contractor's bid.
- F. Contractor employees shall be required to wear clean footwear whenever inside the building.
- G. The use of Owner's facilities, such as the cafeteria or washrooms will not be allowed.
- H. Roofing personnel shall not enter the building, except to perform their contractual duties, or where approved by the Owner to access the roof.
- I. Roof access shall be as approved by the Owner.
- J. Contractor shall protect and properly barricade all access and staging areas.
- K. Contractor shall only park in the Owner-approved areas.

### **3.07 Interior Activities**

- A. Contractor shall provide and maintain Owner-approved interior activities during all work that could potentially result in debris or construction materials entering the building, or whenever building occupants could be in danger.
- B. Contractor shall coordinate all work with the Owner's Representative to allow coordination and adequate notification to building occupants.
- C. Contractor's competent person shall be capable of fluent conversation with facility employees, the Contractor's employees, and any Subcontractor's employees.
- D. Contractor shall provide interior personnel and the rooftop supervisor with two-way radios. Interior personnel and the rooftop supervisor shall maintain full radio contact at all times that the Contractor is inside the building.

- E. Contractor shall follow these additional requirements at a minimum:
1. Areas of Deck Replacement or Roof Openings
    - a. At any time that the deck requires removal or an opening will be created, the Contractor shall first provide a competent person to barricade off the interior floor a safe distance out from the roof work area(s), provide warning signage, monitor the interior activities, notify employees of overhead hazards, restrict/coordinate access within the barricaded area, and manage housekeeping.
    - b. Work may only occur when the barricaded area is clear of building occupants.
    - c. Immediately upon replacement of the decking or closing the opening, the Contractor shall provide any necessary housekeeping, including sweeping down all floor areas, cleaning off all elevated areas and equipment, properly disposing of the debris, and removing all barricades. Contractor shall immediately notify the Owner's Representative when unimpeded access can resume under the work zone.
  2. Areas Without Deck Replacement or Roof Openings
    - a. Whenever debris, or construction materials, could enter the building, or whenever building occupants could be in danger, Contractor shall provide a competent person to monitor interior activities, notify employees of overhead hazards, and manage housekeeping.
    - b. Prior to the end of each day's work, the Contractor shall sweep down all floor areas, clean off all elevated areas and equipment, and properly dispose of the debris.

### **3.08 Relocation of Building Contents**

- A. Contractor shall provide Owner a minimum of 48-hours notice to relocate building contents.
- B. Relocation of building contents is at the discretion of the Owner. No additional cost will be incurred by the Owner in the event building contents cannot be moved.

### **3.09 Fume/Dust Control**

- A. Contractor shall provide the Owner with two working days' notice prior to installation of any fume producing materials or systems.
- B. The Contractor is responsible to provide charcoal filters for air intake ducts, HVAC units, or air pumps on the building, and/or a temporary flexible duct to allow the mechanical air intake systems to pull air from an area away from the level of the fumes or dust, as construction related odors are not allowed into the building.
- C. Prior to beginning work, dust control procedures and methods shall be submitted to the Owner's Representative for review.
- D. If construction related odors enter the building, the Owner may require the Contractor to seal all air intakes for the duration of the job and provide portable heating and cooling systems for the duration of the project.

- E. If practical, Owner will accommodate dust producing construction activities by modifying the existing HVAC operations. Provide 48-hours' notice to allow the Owner ample time to make arrangements.

### 3.10 Protection of Rooftop Units

- A. Prevent dust and airborne debris from collecting in and on equipment by wrapping the equipment with plastic sheeting in advance of tear-off. Promptly remove the plastic when no longer needed. When covered, shut down mechanical equipment. Coordinate shutdown with the Owner's Representative.

### 3.11 Work Hours

- A. School in Session Working Hours: Working during school class time shall be approved by the owner. Limit work to between 3:30 p.m. to 1:30 a.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and authorities having jurisdiction.
  - 1. Weekend Hours: Coordinate weekend work with the Owner. Working hours shall be limited to 7:00 a.m. to 5:00 p.m.
  - 2. Early Morning and Late Early Evening Hours: Coordinate with Owner and references to regulations by authorities having jurisdiction for restrictions on noisy work.
- B. Summer Working Hours: Limit work to between 7:00 a.m. to 7:00 p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and authorities having jurisdiction.
  - 1. Weekend Hours: Coordinate weekend work with the Owner. Working hours shall be limited to 7:00 a.m. to 5:00 p.m.
  - 2. Early Morning and Late Early Evening Hours: Coordinate with Owner and references to regulations by authorities having jurisdiction for restrictions on noisy work.

### 3.12 Security Requirements

- A. If entering the school interior, workers shall sign in at the school office, prior to accessing the facility.
- B. All workers shall present a photo ID when signing in.
- C. Unless approved otherwise by the Owner, the Foreman/Superintendent shall be the only person allowed in the facility at any time.

### 3.13 Rain Day Activities

- A. The Contractor shall visit the project site on all rain days and make all necessary corrections to ensure watertightness of the building and roof system, and proper protection of all materials.
- B. The Contractor's representative shall contact the Owner's Representative prior to leaving the project site on such days.

### 3.14 Labor Forces and Completion of Work

- A. The project shall be fully staffed with qualified and trained personnel at all times.

- B. Once established, the crew size shall not be reduced by more than 20 percent without prior approval of the Owner.
- C. All work shall be completed within two weeks of the last day of field membrane installation, and before the required completion date.

### **3.15 Employee Conduct**

- A. All Contractor employees shall conduct themselves in a professional manner at all times.
- B. Tobacco use, including smoking, e-cigarettes, or chewing tobacco, shall not occur on the roof or in the facility. Comply with Owner's requirements with respect to tobacco use in all other areas of the Owner's property.

### **3.16 Miscellaneous Facility Requirements**

- A. Appropriate work clothes and PPE shall be worn as required by OSHA and the Owner.
- B. The Contractor shall maintain on-site internet access to live weather radar at all times during construction and be aware of forecast and/or development of weather systems that may affect the project.

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. This section is provided to identify and emphasize the importance of safe working conditions, and to help assure a safe work site environment for the employees of all Contractors, Subcontractors, Consultants, Manufacturer's Representatives, Owner's Representatives and Employees, Owner's Vendors, and all other site occupants. If any conflict arises over a specific provision or requirement, the laws and rules governing the specific project location shall be followed.
- B. The Contractor shall have sole responsibility for construction project safety.

**1.02 Related Work**

- A. Additional safety-related items may be found elsewhere in the contract documents.

**1.03 Standards**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. Occupational Safety and Health Act of 1970.
  - 2. State, County, and City regulations, as applicable to the project location.

**1.04 Quality Assurance**

- A. Per OSHA 29 CFR 1926.20(b), it is the Contractor's responsibility to prevent accidents on the project. Activities related to accident prevention include, but are not limited to the following:
  - 1. Initiate and maintain a safety program.
  - 2. Designate a competent person to make frequent and regular inspections of the job site, materials and/or equipment.
  - 3. Identify unsafe tools, materials, and/or equipment, and remove from the job site. Unsafe items which cannot be removed from the job site shall be tagged and/or locked out rendering them inoperable.
  - 4. The contractor shall permit only employees qualified by training or experience to operate equipment or machinery.
- B. At a minimum, the Contractor's first inspection shall be performed no later than the first week of the project. After the first inspection, subsequent inspections shall be performed a minimum of every 30 days, or as required by the referenced standards.
- C. A competent person designated by the Contractor shall perform all inspections and shall have authorization to take prompt corrective measures. The competent person may be an employee of the Contractor or a Subcontractor. Proof of the qualified person's education, training, and qualifications must be provided for verification, upon the request of the Owner or Owner's Representative.



- D. The Contractor's competent person making safety inspections shall prepare a report for each job site safety inspection. The Contractor shall submit each report to the Owner's Representative within five calendar days of the inspection.
- E. Contractor shall have sole responsibility for maintaining the job site in compliance with all applicable regulations, Owner requirements, and the Contractor's pre-job site safety plan/assessment. This responsibility shall apply whether or not the Owner or Consultant is present on the job site.
- F. Contractor shall also appoint a competent person to be present at all times on the project site. The Contractor's competent person shall have authority to make decisions regarding safety and health issues on the Contractor's behalf. The competent person shall speak fluent English and must be capable of oral and written communication with all project participants.
- G. The Contractor's employees, Subcontractor's employees, Owner, or Owner's Representative shall all have the authority to stop any witnessed unsafe work practices.
- H. At a minimum, Contractor shall maintain Safety Data Sheets (SDS) at the job site in accordance with OSHA and Owner requirements.
- I. One full and current set of SDS shall be located on the roof, in addition to other sets that the Contractor maintains on site.

#### 1.05 Submittals

- A. Contractor shall submit a pre-job site safety plan/assessment, which is prepared by the Contractor's safety professional. This plan/assessment shall outline specific safety considerations for each individual section or level of roof included in the project. Examples of items that shall be included in the safety plan/assessment include:
  - 1. Laydown/staging areas
  - 2. Crane/hoist
  - 3. Setup, material storage and material handling
  - 4. Fall protection
  - 5. Skylights and roof openings
  - 6. Hot work/fire protection
  - 7. Pedestrian/vehicular safety
  - 8. Interior safety
  - 9. Personal protective equipment (PPE)
  - 10. Emergency Action Plan per OSHA 29 CFR 1926.35
  - 11. Any other pertinent, site-specific issue(s) listed

- B. Contractor shall submit SDS for all construction materials and other substances to be used on the project.
  - 1. Review of the Contractor's SDS submittal by the Owner or Owner's Representative is for general conformance only. Contractor shall be responsible to ensure that the set of SDS is complete, up to date, and accurate.
  - 2. After completion of the pre-job submittal process, Contractor shall accurately maintain all sets of SDS on the project site, with modifications being made when either of the following occur:
    - a. When revised SDS are issued by material and/or substance Manufacturers.
    - b. When materials and/or substances are brought to the project site that were not anticipated when the existing set was assembled.
  - 3. SDS shall be combined into a single PDF document with title page and table of contents. The PDF file shall be bookmarked by specification division and section, with SDS documents grouped by applicable section.

## **PART TWO – PRODUCTS**

### **2.01 Materials and Equipment**

- A. General: Contractor shall supply all necessary materials and equipment required to complete the work in a manner consistent with a safe work site and as required by regulatory agencies.
- B. All equipment used on the project shall be maintained in a safe operating condition for the project's duration. Equipment that is unsafe or in disrepair shall be tagged and removed from service immediately and returned to service only after being properly repaired and made safe. Any tagged equipment that will not be repaired by the Contractor shall be removed from the job site immediately. Refer to OSHA 29 CFR 1926.20(b)(3).
- C. Dispose of any solvents, containers, and other regulated materials in strict accordance with all applicable laws and regulations.

## **PART THREE – EXECUTION**

### **3.01 General**

- A. The safety requirements specified in this section are broad in nature by design. The Contractor shall augment the information contained in this section as necessary, with more specific information from OSHA, Owner's safety requirements, material and equipment Manufacturers' safety recommendations, and roofing industry requirements and standards.
- B. Where parts of OSHA 1926 standards are listed in this section, the intent is only to provide general references, and not to, in any way, limit the applicability of the OSHA standard with respect to execution of this project. The Contractor shall be responsible to comply with all aspects of OSHA 1926 standard that apply to the performance of this project.

**3.02 Contractor Employee Training**

- A. Per OSHA 29 CFR 1926.20(f)(2) Contractor and Subcontractors shall provide adequate training for employees to ensure their safety and the safety of others on the project site.
- B. Contractor and Subcontractors shall provide instruction in the proper operation of power tools, hoisting equipment, scaffolding, ladders, powered carts, and all other pieces of equipment employees will be required to use in completion of the work.
- C. Contractor and Subcontractors shall ensure each worker is aware of job and site-specific hazards and of the safety precautions appropriate for each.
- D. Contractor and Subcontractors shall present a safety and loss prevention orientation program to each new employee before that employee starts work.
- E. Contractor and Subcontractors shall inform their employees of all health and safety rules pertaining to their particular job.
- F. Contractor and Subcontractors shall inform their employees of location and use of safety devices such as first aid kits, phones, and fire extinguishers.
- G. Contractor shall implement a regular system of work inspection to detect and correct hazardous conditions, safety rule violations, and unsafe working practices.
- H. Contractor shall ensure that their workers and any Subcontractor's workers participate in any safety orientations or training programs required by the Owner.
- I. Employees shall be trained regarding any job site alarms, code signals, evacuation warnings, appropriate responses, and requirements for any actions that will need to be taken.

**3.03 Accident Investigation and Reporting**

- A. Contractor and Subcontractors shall immediately investigate any and all accidents on the job site and shall follow all applicable reporting requirements. An accident investigation and report shall be immediately made by the Contractor's designated competent person on site. Contractor shall provide to the Owner a copy of the completed Accident Report, Employer's First Report of Injury or Illness, and other such reports required by federal, state, county, and municipal safety regulations. At a minimum, all reporting and record keeping requirements shall be in accordance with OSHA regulations.
- B. In addition to investigation and reporting required under 3.03, A, perform investigation and reporting of accidents as required by the Owner's safety requirements and policies, where applicable.

**3.04 First Aid**

- A. Per OSHA 29 CFR 1926.50 Contractor and Subcontractors shall be responsible for providing first aid and medical treatment for their employees. The names, addresses, and telephone numbers of nearby urgent care, hospital, and ambulance services shall be conspicuously posted, as required by law.
- B. ANSI-approved first aid kit(s) shall be located at all times on the roof and shall be conspicuously located and readily accessible at all times. The first aid kit(s) shall be of appropriate size(s), location(s), and composition(s) given the number of workers, work locations, and types of work being performed.

**3.05 Individual Conduct and Safety**

- A. Contractor's and Subcontractors' employees shall be made aware of and comply with the following rules:
1. Alcohol and/or illegal drugs shall not be permitted. Employees under the influence of these substances shall not be permitted on the job site.
  2. Prescription drugs with side effects that impair an employee's ability to perform their work duties in a safe manner, shall not be permitted. Employees under the influence of these substances shall not be permitted on the job site.
  3. Employees entering job site found to be under the influence of alcohol and/or drugs will be subject to removal from the job site.
  4. The carrying of firearms and all other weapons is prohibited on the job site.
  5. Fighting, gambling, stealing, soliciting, and inappropriate behavior is prohibited on the job site.
  6. Abusive language, harassment, bullying, or other disrespectful behavior will not be tolerated and may be considered grounds for removal of an employee from the job site.

**3.06 Personal Protective Equipment (PPE) and Clothing**

- A. Per OSHA 29 CFR 1926.95, Contractor and Subcontractors shall furnish and require the use and wearing of PPE and protective clothing by their employees.
- B. Per OSHA 29 CFR 1926.102, Contractor and Subcontractors shall require their employees to wear approved eye and face protection when warranted by exposure to hazards, and/or where mandated by facility safety requirements. Safety glasses with side shields are required in all circumstances where there is an exposure to flying particles. Plastic face shields are required to be worn for guarding against flying particles and spraying liquids and/or corrosives.
- C. Contractor and Subcontractors shall require their employees to wear appropriate clothing at all times on the job site.
- D. Per OSHA 29 CFR 1926.100, Contractor and Subcontractors shall require their employees to wear hard hats at all times there is a possibility of head injury from impact, flying or falling objects, and/or where mandated by facility safety requirements.
- E. Per OSHA 29 CFR 1926.101, Contractor and Subcontractors shall require their employees to wear hearing protection where mandated by OSHA regulations and/or facility safety requirements.
- F. Contractor and Subcontractors shall require their employees to wear protective footwear where mandated by OSHA regulations and/or facility safety requirements. Safety toe footwear shall comply with OSHA 29 CFR 1926.96.
- G. Per OSHA 29 CFR 1926.28(a), Contractor and Subcontractors shall require their employees to wear hand protection to protect employees' hands from potential injury due to exposure to sharp materials, chemicals, hot or cold surfaces, electrical dangers, welding burns, and skin absorption of harmful substances.

**3.07 Housekeeping**

- A. Per OSHA 29 CFR 1926.25, Contractor and Subcontractors shall maintain good housekeeping standards at all times as an integral part of the work. Contractor and Subcontractors shall perform daily cleanup of work areas, material and equipment storage areas, laydown areas, and personnel areas.
- B. Materials shall be stored such that safe clearances are maintained and tipping or wind movement of stacked material does not occur. Loose materials on the roof must be secured so that they cannot become wind-blown or be bumped off.
- C. All roofs shall be kept free of any loose material, packaging, aluminum cans, bottles, clothing, or similar debris that could restrict drainage devices and potentially cause retention of water on the roof surface.
- D. Accumulation of material that may create a fire hazard is not permitted.
- E. When using the roof for storage, Contractor shall prevent placement of excessive quantities of materials in a single area and shall be responsible for ensuring that overloading of the roof structure does not occur during material handling/storage.
- F. Contractor shall be responsible for making all roof areas watertight at the end of each work shift. Contractor's or Subcontractors' failure to make the roof watertight at the end of the workday may be considered grounds for dismissal.

**3.08 Signs and Barricades**

- A. Per OSHA 29 CFR 1926 Subpart G, Contractor and Subcontractors shall erect barriers and/or barricades when overhead work is occurring, when equipment or cranes are being used or moved, or any other time personnel could be at risk during hazardous operations. Barriers and barricades shall be erected before starting the work requiring isolation/protection. If the barricades are in a roadway or walkway, blinking lights shall be used after dark. When the work is completed and hazards are no longer present, the barricades shall be promptly removed from the job site.
- B. Contractor or Subcontractors are forbidden to remove posted signs, unless otherwise approved in writing by the Owner and/or authorities having jurisdiction.
- C. Traffic control signage shall be constructed of metal and conform to the latest edition of *Manual of Uniform Traffic Control Devices (MUTCD)*.

**3.09 Fall Protection**

- A. Per OSHA 29 CFR 1926 Subpart M, Contractor and Subcontractors shall implement fall protection when dictated by criteria contained in the referenced standard. One of the following methods of fall protection shall be implemented, as determined by the Contractor to ensure worker safety and conformance with OSHA regulations at a minimum.
  - 1. Fall restraint (motion stopping) system.
  - 2. Personal fall arrest system with warning lines.
  - 3. Safety monitor system with warning lines.

- B. The three fall protection methods are listed in order of Benchmark, Inc. preference, with a fall restraint (motion stopping) system being the most preferred and the safety monitor system being the least preferred.
- C. All plastic domed skylights or smoke hatches, open mechanical curbs, openings in the roof deck, and similar openings or holes which could be potential fall hazards shall be guarded at all times to prevent accidental falls. Guarding shall meet OSHA standards at a minimum.

### 3.10 Ladders and Scaffolding Towers

- A. Comply with OSHA CFR 1926 Subparts L and X.
- B. Contractor and Subcontractor provided ladders shall be free of defects. Ladders with split or cracked side rails, damaged rungs, missing feet, or other defects shall not be brought to the project site. Ladders set up near doorways, walkways, or other congested areas shall be barricaded or guarded.
- C. Ladders shall be of adequate length to safely access adjacent surfaces and must extend at least 3' or 4 rungs above the upper landing.
- D. Place straight ladders on solid, level footings with the foot of the ladder a minimum distance from the wall equal to 1/4 the length of the ladder from the resting point.
- E. Straight ladders shall have non-skid feet and be securely tied off.
- F. Limit use of step ladders to applications allowed by OSHA and approved by the Owner. Step ladder usage shall be in strict accordance with OSHA standards.
- G. When climbing a ladder, users shall face the ladder and use both hands going up or down so as to maintain three points of contact.
- H. Users shall not climb or descend ladders with tools, equipment, or material in their hands.
- I. Metal ladders shall not be used.
- J. Roofs not able to be accessed using a 30 foot or shorter ladder must be accessed by alternative means. If access cannot be achieved from other roofs or through the building interior, then an OSHA approved scaffolding tower with access ladder shall be erected and maintained by the Contractor or a qualified scaffolding Subcontractor.

### 3.11 Fire Protection

- A. Comply with OSHA CFR 1926.24 and CFR 1926 Subpart F.
- B. At a minimum, Contractor and Subcontractors shall provide and maintain fully charged, inspected, and tagged fire extinguishers at all times on occupied roof sections and staging areas. All fire extinguishers shall be minimum 20 lb., type ABC. At a minimum, one fire extinguisher shall be provided for each 3,000 square feet of roof area under construction. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 50 feet.
- C. The Contractor shall ensure that all required fire extinguishers are maintained in a fully charged and operable condition, including testing, inspections and tagging. Fire extinguishers with out-of-date inspection tags shall be removed and replaced immediately.

- D. Smoking may be prohibited on the job site for various reasons. Employees will be expected to obey all No Smoking signs. If project areas are not marked with No Smoking signs, it shall be assumed that smoking is prohibited unless otherwise approved by the Owner. Strictly comply with Owner's site-specific requirements. Violation of smoking policies may be grounds for employee or company dismissal, depending on Owner's requirements.
- E. Store all flammable liquids in approved safe containers. Contents shall be described and marked flammable.
- F. Flammable liquids in excess of ten gallons shall not be stored on the roof overnight unless specific written authorization is provided in advance by the Owner.
- G. When using flammable liquids for cleaning, dispose of the rags in approved containers or remove them from the roof daily to prevent possible spontaneous combustion.
- H. Never store bulk flammable material or liquids closer than 25' from open flames or other source of ignition.

**3.12 Electrical Safety**

- A. Comply with OSHA CFR 1926 Subparts I and K.
- B. All electrical circuits shall utilize ground-fault circuit interrupters (GFCI) to protect workers from injury.
- C. Regularly inspect all power cords. Any defective power cords shall be taken out of service and removed from the job site immediately.
- D. Only double insulated power tools shall be used.
- E. Regularly inspect all power tools. Any defective tools, including tools with damaged or repaired power cords, shall be taken out of service, and removed from the job site immediately.
- F. When working on powered equipment, and power must be disconnected to perform the required work, the Contractor shall implement lock-out and tag-out procedures to protect workers from injury.
- G. Per OSHA CFR 1926.1408(h), Contractor and Subcontractors shall maintain the following clearances from overhead powerlines, depending on the voltage, to prevent arcing and electrocution.

TABLE A – MINIMUM CLEARANCE DISTANCES

Voltage (nominal, kV, alternating current)	Minimum clearance distance (feet)
up to 50	10
over 50 to 200	15
over 200 to 350	20
over 350 to 500	25
over 500 to 750	35
over 750 to 1,000	45
over 1,000	(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution)

**Note:** The value that follows "to" is up to and includes that value. For example, over 50 to 200 means up to and including 200kV.

**3.13 Crane and Hoist**

- A. Per OSHA CFR 1926 Subpart CC, for all crane and rigging operations on site a Certified Crane Operator and qualified rigger(s) shall be used.
- B. Contractor shall comply with the Manufacturer's specifications and limitations. Rated load capacities, recommended operating speeds, and special hazard warnings or instructions shall be conspicuously posted on all equipment. Instructions or warnings shall be visible from the operator's station.
- C. Accessible areas within the swing radius of the rear of the rotating superstructure shall be properly barricaded to prevent the public or employees from being struck or crushed by the crane.
- D. All crawler or truck cranes in use shall meet the requirements as prescribed in the ANSI B30-5-1968 Safety Code for Crawler and Truck Cranes.
- E. Inspect all rigging equipment prior to use (chains, ropes, slings, shackles, etc.). Remove any defective equipment from the job site.

**3.14 Public Liability**

- A. Unauthorized persons are not allowed access to the roof at any time. Contractor shall control access to the roof.
- B. Barricades and signs shall be posted on the ground around the work area to warn the public.
- C. Locate air intake ducts, air conditioners, and/or air pumps. Notify Owner's Representative when dust or fumes may be drawn into the facility so that the unit may be shut down and/or covered.
- D. At the end of each work shift, lock trucks, deactivate hoisting equipment, and take down and secure all ladders.
- E. Park vehicles so that they do not pose a hazard to other traffic moving around the job site. Trucks and equipment should not block sidewalks or other pedestrian travel ways without providing a clear, well-marked, alternate route of travel.

- End of Section -



**PART ONE – GENERAL****1.01 Description**

- A. Furnish, install, maintain, and take down temporary interior protection, per the drawings and specifications, so as to mitigate potential impacts on the Owner's assets and operations due to the work of this project.
- B. The Contractor shall advise all administrative and field personnel, Subcontractors, and suppliers of the requirements of this section.
- C. Any delays experienced due to the Contractor's negligence in providing proper notifications and coordination shall be at the Contractor's expense.
- D. If any conflict should arise over a specific provision of this section, the Owner's decision shall be final.
- E. Coordinate the requirements of this section with related requirements specified elsewhere in the Contract Documents. Immediately inform the Owner's Representative of any conflicts.
- F. Refer to related information on the drawings.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
  - 2. *Annual Book of ASTM Standards*, ASTM International
- B. Qualifications of Project Supervisors: Individuals supervising the work included in this specification section shall be competent and qualified people.

**PART TWO – PRODUCTS****2.01 Interior Protection**

- A. Interior Protection Sheeting: General Use
  - 1. Clear nonreinforced 6-mil minimum polyethylene sheeting.
  - 2. Approved Products
    - a. HDX by Poly-America L.P.
    - b. Approved equal

**PART THREE – EXECUTION****3.01 Coordination with Facility Operations**

- A. The Contractor shall note that the pool will be in operation during the work unless noted by the Owner. The Contractor shall provide and maintain all OSHA or Owner required danger signs, guards, and/or obstructions necessary to protect the public and workers from dangers associated with the work.
- B. Coordinate all work throughout the duration of the project as to minimize disruption of facility operations.

**3.02 Interior Protection – General Requirements**

- A. Contractor shall coordinate and schedule all interior protection-related operations to minimize the impact of this work on facility operations. The Contractor shall adjust their operations and work plan as required during the course of the work. Take necessary measures to become familiar with the associated coordination and scheduling challenges, prior to submitting a bid.
- B. Coordinate the interior protection sequence with the to ensure that interior protection is completed where required prior to the start of the demolition work.
- C. Contractor shall, to the best of their ability, conduct all work and operations so the following do not occur:
  - 1. Impede or endanger egress in and out of work areas.
  - 2. Cause, permit or allow falling or blowing particulate, material, dust and/or debris which might endanger the safety of persons, equipment or product located in the area specified to receive interior protection.

**3.03 Protection of Interior Contents**

- A. Contractor shall protect the outer perimeter of the pool with draped plastic sheeting, if necessary, the pool shall be draped if roof removal occurs over the pool area. Promptly remove the sheeting when no longer required. Coordinate these activities with the Owner and Owner's Representative.
- B. Refer to Special Project Procedures-Section 01 35 13, paragraph 3.07, Interior Activities for further requirements.

- End of Section -

PROJECT NO.: 25LSSLESUR013C DATE: \_\_\_\_\_

PROJECT: Great Beginnings (Legacy Park) SUBMITTAL NO: \_\_\_\_\_  
Sections A through E  
905 NE Bluestem Drive REVIEWED BY: \_\_\_\_\_  
Lee's Summit, MO 64086 DATE: \_\_\_\_\_

**NOTES:**

1. Submit transmittal letter and all listed items in accordance with related requirements in Specification Division 01 - General Requirements.
2. Refer to submittal requirements within each referenced specification section for additional information not specified in Division 01 - General Requirements.

General Information		Transmittal No.					Action	
Specification Section	Submittal	"X" If Included					Accepted	Revise and Resubmit
		1	2	3	4	5		

**DIVISION 01 - GENERAL REQUIREMENTS**

**01 30 01**

**Project Administration**

Signed Completion Punch List							
Shipping records or equivalent deliverables documenting Manufacturers' lot numbers/production codes for all materials delivered and utilized for the project.							
AIA G706 – Contractor's Affidavit of Payment of Debts and Claims							
AIA G706A – Contractor's Affidavit of Release of Liens, including supporting documentation from the Contractor, subcontractors, suppliers, and others who may have lien rights against the Owner.							
Evidence of payment and release of liens from the Contractor, subcontractors, and suppliers.							
AIA G707 – Consent of Surety to Final Payment							
Final adjustment of accounts, as specified.							

**01 78 36**

**Warranties**

Manufacturer's Final Inspection Report/Punch List							
Contractor's Certification of Punch List Completion							
Manufacturer's Report if Reinspection of Punch List is Required							
Roofing Manufacturer's Warranties							
Sheet Metal Finish Warranties							
Premanufactured Sheet Metal Components Warranty							
Accessory Warranties as Specified							
Contractor's Warranty							
Roofing Manufacturer's Maintenance Directives							

**DRAWINGS**

**R0.02**

**Summary of Work**

Permit Closeout Documentation from Authorities Having Jurisdiction							
--	--	--	--	--	--	--	--

PROJECT NO.: 25LSSLESUR013C

DATE: \_\_\_\_\_

PROJECT: Lee's Summit High School  
 Building D Section A  
 Building E Section A  
 400 E Blue Parkway  
 Lee's Summit, MO 64063

SUBMITTAL NO: \_\_\_\_\_

REVIEWED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

**NOTES:**

1. Contractor shall submit transmittal letter and all listed items in accordance with Section 01 30 01 - Project Administration.
2. Refer to Section 01 30 01 - Project Administration and submittal requirements in each specification section for additional information.

Specification Section	General Information Submittal	Transmittal No.					Action	
		"X" If Included					Accepted	Revise and Resubmit
		1	2	3	4	5		
<b>01 30 01</b>	<b>Project Administration</b>							
	Signed Completion Punch List							
	Shipping records or equivalent deliverables documenting Manufacturers' lot numbers/production codes for all materials delivered and utilized for the project.							
	AIA G706A – Contractor's Affidavit of Release of Liens, including supporting documentation from the Contractor, subcontractors, suppliers, and others who may have lien rights against the Owner.							
	Evidence of payment and release of liens from the Contractor, subcontractors, and suppliers.							
	AIA G707 – Consent of Surety to Final Payment							
	Final adjustment of accounts, as specified.							
	AIA G707 – Consent of Surety to Final Payment							
	Final adjustment of accounts, as specified.							
<b>01 78 36</b>	<b>Warranties</b>							
	Manufacturer's Final Inspection Report/Punch List							
	Contractor's Certification of Punch List Completion							
	Manufacturer's Report if Reinspection of Punch List is Required							
	Roofing Manufacturer's Warranties							
	Sheet Metal Finish Warranties							
	Premanufactured Sheet Metal Components Warranty							
	Accessory Warranties as Specified							
	Contractor's Warranty							
	Roofing Manufacturer's Maintenance Directives							
<b>DRAWINGS</b>								
<b>R0.02</b>	<b>Summary of Work</b>							
	Permit Closeout Documentation from Authorities Having Jurisdiction							

PROJECT NO.: 25LSSLESUR013C DATE: \_\_\_\_\_

PROJECT: Summit Lakes Middle School SUBMITTAL NO: \_\_\_\_\_  
Sections H, H1, H2, H3 and H4  
3500 SW Windemere Drive  
Lee's Summit, MO 64082 REVIEWED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

**NOTES:**

1. Submit transmittal letter and all listed items in accordance with related requirements in Specification Division 01 - General Requirements.
2. Refer to submittal requirements within each referenced specification section for additional information not specified in Division 01 - General Requirements.

General Information		Transmittal No.					Action	
Specification Section	Submittal	"X" If Included					Accepted	Revise and Resubmit
		1	2	3	4	5		

**DIVISION 01 - GENERAL REQUIREMENTS**

01 30 01

**Project Administration**

Signed Completion Punch List							
Shipping records or equivalent deliverables documenting Manufacturers' lot numbers/production codes for all materials delivered and utilized for the project.							
AIA G706 – Contractor's Affidavit of Payment of Debts and Claims							
AIA G706A – Contractor's Affidavit of Release of Liens, including supporting documentation from the Contractor, subcontractors, suppliers, and others who may have lien rights against the Owner.							
Evidence of payment and release of liens from the Contractor, subcontractors, and suppliers.							
AIA G707 – Consent of Surety to Final Payment							
Final adjustment of accounts, as specified.							

01 78 36

**Warranties**

Manufacturer's Final Inspection Report/Punch List							
Contractor's Certification of Punch List Completion							
Manufacturer's Report if Reinspection of Punch List is Required							
Roofing Manufacturer's Warranties							
Sheet Metal Finish Warranties							
Premanufactured Sheet Metal Components Warranty							
Accessory Warranties as Specified							
Contractor's Warranty							
Roofing Manufacturer's Maintenance Directives							

**DRAWINGS**

R0.02

**Summary of Work**

Permit Closeout Documentation from Authorities Having Jurisdiction							
--	--	--	--	--	--	--	--

PROJECT NO.: 25LSSLESUR013C \_\_\_\_\_

DATE: \_\_\_\_\_

PROJECT: Lee's Summit Aquatic Center \_\_\_\_\_  
 Section C \_\_\_\_\_  
 3498 SW Windemere Drive \_\_\_\_\_  
 Lee's Summit, MO 64082 \_\_\_\_\_

SUBMITTAL NO: \_\_\_\_\_

REVIEWED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

**NOTES:**

1. Contractor shall submit transmittal letter and all listed items in accordance with Section 01 30 01 - Project Administration.
2. Refer to Section 01 30 01 - Project Administration and submittal requirements in each specification section for additional information.

General Information		Transmittal No.					Action	
Specification Section	Submittal	"X" If Included					Accepted	Revise and Resubmit
		1	2	3	4	5		

**DIVISION 01 - GENERAL REQUIREMENTS**

01 30 01

**Project Administration**

Signed Completion Punch List							
Shipping records or equivalent deliverables documenting Manufacturers' lot numbers/production codes for all materials delivered and utilized for the project.							
AIA G706A – Contractor's Affidavit of Release of Liens, including supporting documentation from the Contractor, subcontractors, suppliers, and others who may have lien rights against the Owner.							
Evidence of payment and release of liens from the Contractor, subcontractors, and suppliers.							
AIA G707 – Consent of Surety to Final Payment							
Final adjustment of accounts, as specified.							

01 78 36

**Warranties**

Manufacturer's Final Inspection Report/Punch List							
Contractor's Certification of Punch List Completion							
Manufacturer's Report if Reinspection of Punch List is Required							
Roofing Manufacturer's Warranties							
Sheet Metal Finish Warranties							
Premanufactured Sheet Metal Components Warranty							
Accessory Warranties as Specified							
Contractor's Warranty							
Roofing Manufacturer's Maintenance Directives							

**DRAWINGS**

R0.02

**Summary of Work**

Permit Closeout Documentation from Authorities Having Jurisdiction							
--	--	--	--	--	--	--	--

**PART ONE – GENERAL****1.01 General Requirements**

- A. Upon completion of work and prior to final payment, Contractor shall pay all required fees, secure all required inspections, and complete any other actions necessary to secure and deliver the specified warranties and related documents to the Owner.
- B. The warranty start date shall be no earlier than the date the Contractor certifies completion of all Manufacturer final inspection punch list(s). In instances where the Manufacturer requires reinspection of the final inspection punch list, the warranty start date shall be no earlier than the date the Manufacturer certifies that the Contractor completed all punch list items to the Manufacturer's satisfaction.
- C. Manufacturers' warranties shall cover defects in materials and workmanship, shall not include any buy-out clauses, and shall not be prorated.
- D. All warranties shall contain written provisions stating that they will be fully transferable at any time during the specified warranty period.
- E. Warranties issued prior to the Manufacturer's final inspection, such as offered under the Manufacturer's pre-issue or early bird warranty programs, are not approved.

**1.02 Manufacturer's Warranties**

- A. The Contractor shall make all necessary notices for warranty purposes to the Manufacturer(s), as required to secure timely inspections and issuance of the specified warranties.
- B. After Manufacturers' final inspections, submit Manufacturers' final inspection reports and/or punch lists, and Contractor's certification that all identified corrective work has been corrected as required by the Manufacturers. If a Manufacturer requires reinspection of an issued punch list, submit certification from the Manufacturer that punch list items have been completed to the Manufacturer's satisfaction.
- C. The following roofing Manufacturer's warranty shall be provided:
  - 1. Primary roofing Manufacturer's 20-year no dollar limit (NDL) labor and material, total roof system warranty.
  - 2. The total system warranty shall include the following:
    - a. Roof membrane
    - b. Roof membrane adhesion
    - c. Roof membrane flashings
    - d. Roof insulation
    - e. Roof insulation adhesion
    - f. Vapor retarder

- g. Roof system fasteners, termination bars, and other miscellaneous accessories supplied by the roofing Manufacturer.
- D. Provide the following accessory warranties, each signed by the respective Manufacturer(s) and referencing the Owner and project area(s) under contract:
1. Shop-fabricated Prefinished Sheet Metal Components: 25-year minimum warranty for Kynar 500/Hylar 5000 metal finish integrity and color retention. The paint film shall be guaranteed against cracking, peeling, and chalking in excess of ASTM D659 number 8 rating or fade in excess of 5 units per ASTM D2244, under normal weather and atmospheric conditions.
  2. Premanufactured Sheet Metal Components: The metal component Manufacturer shall provide the following warranties, including wind coverages, for the listed items:
    - a. 30-year minimum warranty for Kynar 500/Hylar 5000 metal finish integrity and color retention.
    - b. Coping: 20-year, 120 mph
  3. 20-year standard warranty for premanufactured, non-penetrating, rooftop supports.
  4. 5-year warranty for roof access hatches, providing for replacement of defective parts.

#### **1.03 Contractor Warranty**

- A. The Contractor shall guarantee all materials and workmanship for a period of two years from the date of acceptance of the completed work by the Owner. The Contractor shall make good any defects in materials or workmanship that may develop during the two-year period by repairing or replacing such defects at without cost to the Owner.
- B. Contractor's warranty shall be prepared and submitted using the form provided in this section.

#### **1.04 Maintenance Directives**

- A. Manufacturer's warranty submittal shall include the Manufacturer's current published roof maintenance directives for the specified roof system type(s).

### **PART TWO – MATERIALS**

#### **2.01 Not Used**

### **PART THREE – EXECUTION**

#### **3.01 Not Used**



### CONTRACTOR'S WARRANTY

Trade: All Contract Work

Manufacturer and Roof System Installed: \_\_\_\_\_

Contractor: \_\_\_\_\_

Contractor Address: \_\_\_\_\_

Contractor Phone: \_\_\_\_\_

Contractor E-mail: \_\_\_\_\_

Contract Number and Date: \_\_\_\_\_

Project and Location Great Beginnings (Legacy Park)  
905 NE Bluestem Drive  
Lee's Summit, MO 64082

Area of Roof Installation: Sections A through E

Date of Acceptance  
(Effective Warranty Date): \_\_\_\_\_

1. Contractor guarantees to Owner that the work identified above has been installed in accordance with the Contract Documents for the above referenced project, and meets the minimum requirements of the Manufacturers of all materials used in performance of the work.
2. Contractor guarantees to Owner that Contractor for a period of two years commencing with the date of Owner's acceptance of the installation, will make good any deficiencies that develop as a direct result of workmanship defects, by repairing or replacing such defects. All corrective work shall utilize materials and installation procedures in strict accordance with the Contract Documents.
3. Contractor guarantees to Owner that Contractor for a period of two years commencing with the date of Owner's acceptance of the installation, will maintain all sheet metal flashing in a watertight condition without cost to the Owner.
4. Contractor's liability hereunder shall be limited to the repair or necessary replacement of any defective component of the work without cost to Owner and shall not include incidental or consequential damages.

\* By: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Date Executed: \_\_\_\_\_

*\* Warranty must be signed by a Company Officer*

### CONTRACTOR'S WARRANTY

Trade: All Contract Work

Manufacturer and Roof System Installed:

Contractor:

Contractor Address:

Contractor Phone:

Contractor E-mail:

Contract Number and Date:

Project and Location Lee's Summit High School (Buildings D and E))

400 E Blue Parkway

Lee's Summit, MO 64063

Area of Roof Installation: Building D - Section A and Building E - Section A

Date of Acceptance (Effective Warranty Date):

1. Contractor guarantees to Owner that the work identified above has been installed in accordance with the Contract Documents for the above referenced project, and meets the minimum requirements of the Manufacturers of all materials used in performance of the work.
2. Contractor guarantees to Owner that Contractor for a period of two years commencing with the date of Owner's acceptance of the installation, will make good any deficiencies that develop as a direct result of workmanship defects, by repairing or replacing such defects. All corrective work shall utilize materials and installation procedures in strict accordance with the Contract Documents.
3. Contractor guarantees to Owner that Contractor for a period of two years commencing with the date of Owner's acceptance of the installation, will maintain all sheet metal flashing in a watertight condition without cost to the Owner.
4. Contractor's liability hereunder shall be limited to the repair or necessary replacement of any defective component of the work without cost to Owner and shall not include incidental or consequential damages.

\* By: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Date Executed: \_\_\_\_\_

*\* Warranty must be signed by a Company Officer*

### CONTRACTOR'S WARRANTY

Trade: All Contract Work

Manufacturer and Roof System Installed: \_\_\_\_\_

Contractor: \_\_\_\_\_

Contractor Address: \_\_\_\_\_

Contractor Phone: \_\_\_\_\_

Contractor E-mail: \_\_\_\_\_

Contract Number and Date: \_\_\_\_\_

Project and Location Summit Lakes Middle School  
3500 SW Windemere Drive  
Lee's Summit, MO 64082

Area of Roof Installation: H, H2, H3, H4 and various repair sections

Date of Acceptance  
(Effective Warranty Date): \_\_\_\_\_

1. Contractor guarantees to Owner that the work identified above has been installed in accordance with the Contract Documents for the above referenced project, and meets the minimum requirements of the Manufacturers of all materials used in performance of the work.
2. Contractor guarantees to Owner that Contractor for a period of two years commencing with the date of Owner's acceptance of the installation, will make good any deficiencies that develop as a direct result of workmanship defects, by repairing or replacing such defects. All corrective work shall utilize materials and installation procedures in strict accordance with the Contract Documents.
3. Contractor guarantees to Owner that Contractor for a period of two years commencing with the date of Owner's acceptance of the installation, will maintain all sheet metal flashing in a watertight condition without cost to the Owner.
4. Contractor's liability hereunder shall be limited to the repair or necessary replacement of any defective component of the work without cost to Owner and shall not include incidental or consequential damages.

\* By: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Date Executed: \_\_\_\_\_

*\* Warranty must be signed by a Company Officer*

### CONTRACTOR'S WARRANTY

Trade: All Contract Work

Manufacturer and Roof System Installed: \_\_\_\_\_

Contractor: \_\_\_\_\_

Contractor Address: \_\_\_\_\_

Contractor Phone: \_\_\_\_\_

Contractor E-mail: \_\_\_\_\_

Contract Number and Date: \_\_\_\_\_

Project and Location Lee's Summit Aquatic Center  
3498 SW Windemere Dr.  
Lee's Summit, MO 64082

Area of Roof Installation: Section C

Date of Acceptance  
(Effective Warranty Date): \_\_\_\_\_

1. Contractor guarantees to Owner that the work identified above has been installed in accordance with the Contract Documents for the above referenced project, and meets the minimum requirements of the Manufacturers of all materials used in performance of the work.
2. Contractor guarantees to Owner that Contractor for a period of two years commencing with the date of Owner's acceptance of the installation, will make good any deficiencies that develop as a direct result of workmanship defects, by repairing or replacing such defects. All corrective work shall utilize materials and installation procedures in strict accordance with the Contract Documents.
3. Contractor guarantees to Owner that Contractor for a period of two years commencing with the date of Owner's acceptance of the installation, will maintain all sheet metal flashing in a watertight condition without cost to the Owner.
4. Contractor's liability hereunder shall be limited to the repair or necessary replacement of any defective component of the work without cost to Owner and shall not include incidental or consequential damages.

\* By: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Date Executed: \_\_\_\_\_

*\* Warranty must be signed by a Company Officer*

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. Provide all labor, materials, equipment, and tools to prepare the existing roofing system for the specified work, as designated in the specifications or on the drawings.
- B. Provide for the proper disposal of all existing materials to be removed, as designated in the specifications or on the drawings.
- C. Provide for the cleanup of excess materials, equipment, tools, and construction debris, as required to maintain the project site in a neat and orderly condition.

**1.02 Standards**

- A. Resource Conservation and Recovery Act of 1976.
- B. State, County, and City requirements, as applicable.

**1.03 Scheduling and Coordination**

- A. Schedule and coordinate the roof demolition and/or preparation work with the new work in such a manner as to keep the new insulation and roofing materials, building, and building interior absolutely dry and watertight.
- B. Coordinate all work with related trades and the Owner, to minimize any disruptions of the Owner's operations.
- C. Refer to related requirements specified elsewhere in the Contract Documents.

**1.04 Disposal**

- A. All debris shall be stored in containers approved by the Owner's Representative, and removed from the roof on a daily basis.
- B. Keep Owner's property clean of any construction debris.
- C. Contractor shall dispose of construction debris in accordance with the referenced standards.

**PART TWO – PRODUCTS****2.01 Cleaners**

- A. Cleaners used in conjunction with surface preparation work shall meet local code requirements for runoff water quality.
- B. Cleaners and/or solvents shall not have a detrimental effect on the new or existing roof systems or the roof and building drainage system.

**PART THREE – EXECUTION****3.01 Protection of Surfaces**

- A. Contractor shall take all precautions during demolition and preparation necessary to protect the building and adjacent surfaces from being soiled or damaged.
- B. Contractor shall restore to original condition any damage caused during work performed under this section.
- C. Keep roof surface clean of any debris that might prevent proper drainage.
- D. At start of each workday, drains located within daily work area shall be temporarily plugged to prevent debris from falling into the drain. Plugs shall be removed at the end of each workday.
- E. Prior to demolition work, verify that all soil pipes, flues, steel members, and other similar penetrations are secured to the building structure. Coordinate removal or securement of all unsecured penetrations prior to the start of demolition work.

**3.02 Debris Handling**

- A. No material shall be dropped to any point lying outside the exterior walls of the structure, unless otherwise approved in writing by the Owner's Representative.
- B. All material chutes or section of chutes at an angle greater than 45° from the horizontal shall be entirely enclosed.
- C. On all buildings over 20' in height, debris shall be transported using a fully enclosed receptacle that is mechanically lowered. A fully enclosed trash chute may also be used where appropriate for height of the building.
- D. Chutes may be job-fabricated or purchased premanufactured. If premanufactured chutes are used, Manufacturer's setup and operating instructions shall be followed.
- E. When installing trash chutes, proper counterbalance shall be used to offset the weight and use of the chute. If wood boards or metal struts are used, they shall be set up to prevent a tripping hazard to employees. A safety factor of 5 shall be used to determine counterbalance.
- F. No job site materials shall be used to counterbalance a chute.
- G. Guard rails shall be installed on either side of the chute, to a distance of 6 feet minimum from the opening. Guardrails shall be installed according to OSHA standards.
- H. Where the material is dumped from mechanical equipment or wheelbarrows, a securely attached toeboard or bumper not less than 4" thick and 6" high shall be provided at each chute. Additionally, the Contractor shall use a guard around the top of the chute to prevent any debris from falling next to the chute.
- I. Chutes shall be designed and constructed of such strength as to eliminate failure due to impact of materials or debris loaded therein.

**3.03 Disposal**

- A. Properly dispose of all construction debris on a daily basis.

- B. Do not store debris on roof unless otherwise directed by the Owner. Contractor shall not overstress the roof decking.

### 3.04 Preparation of Surfaces

- A. The extent of preparation of surfaces is listed in each section of the specifications and notes on the drawings.
- B. All debris shall be removed from the roof decking. The decking shall be broom clean at a minimum, and additionally prepared as noted on the drawings, as specified elsewhere, and as required by the Manufacturer of materials to be applied over the decking.
- C. All debris shall be removed from the rib openings of metal decking, where metal decking is present, prior to the start of new roof system installation.

### 3.05 Cleanup

- A. Throughout the duration of the project, retain all stored materials and equipment in an orderly arrangement allowing maximum access, not impeding drainage or traffic and providing the required protection of materials.
- B. Weekly, and more often if necessitated by job conditions, Contractor shall inspect all arrangements of materials stored on site and restack, tidy and resecure as required.
- C. Contractor shall clear the construction areas and shall provide for the removal of all construction debris from the site. Contractor shall not allow the accumulation of scrap, debris, waste material, and other items not required for construction of this work. Contractor shall provide storage of all items awaiting removal from the project site, observing all requirements for fire protection, and protection of the surrounding site.
- D. Daily and more often if necessitated by job conditions, Contractor shall inspect the site and pickup all scrap, debris, and waste material. Contractor shall remove such items promptly, leaving the construction area and site clean daily.
- E. Contractor shall be responsible to assure that their subcontractors have properly removed and disposed of all debris relating to their contract.
- F. At least twice each month and more often if directed by the Owner, Contractor shall completely remove all scrap, debris, and waste material from the project site. Contractor shall maintain the site in a neat and orderly condition at all times.
- G. At the completion of the contract, Contractor shall remove from the project site all equipment, tools, excess materials, and construction debris related to their contract. Contractor shall be responsible to assure that their subcontractors have properly removed from the project site all equipment, tools, excess materials, and construction debris related to their contract.
- H. Contractor shall be responsible for returning all areas set aside for staging and storage to their original condition.
- I. Contractor shall repair damage and remove stains caused by work related to their contract.

- End of Section -

**PART ONE – GENERAL****1.01 Description**

- A. Work includes, but is not necessarily limited to:
1. Remove existing steel decking, where required due to corrosion or where otherwise specified for replacement, by breaking welds or removing fasteners, and removing entire sheet. Replace with new decking per drawings and specifications.
  2. Wire brush and prime paint surface rusted steel decking, where the level of corrosion does not necessitate deck replacement.
  3. Fasten decking per drawings and specifications.
- B. If loosening, temporary supporting, and reattachment of deck-mounted equipment/piping is required for performance of decking replacement work, the Contractor shall provide the associated work under the appropriate bid price.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
1. *Steel Deck Institute Design Manual*, Steel Deck Institute
  2. *Steel Deck Construction Handbook*, Steel Deck Institute
  3. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
  4. *Annual Book of ASTM Standards*, ASTM International
  5. *ASCE/SEI 7 - Minimum Design Loads for Buildings and Other Structures*, American Society of Civil Engineers
  6. *Surface Preparation Standards*, Society for Protective Coatings (SSPC) and the National Association of Corrosion Engineers International (NACE)
- B. Qualifications of Installers: Use adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this section. In acceptance or rejection of the work, the Owner will make no allowance for lack of skill on the part of the workers.

**1.03 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.



- B. Provide the following submittals:
  - 1. Most recent copy of Manufacturer's literature applicable to products and specifications to be used.
  - 2. Complete material list of all items proposed to be furnished and installed under this section.

#### **1.04 Delivery, Storage, and Handling**

- A. Deliver materials to the job site in original, unopened bundles. Materials are to be stored off the ground with one end elevated to provide drainage and are to be protected from the elements with weatherproof tarps ventilated to avoid condensation.
- B. Keep all materials clearly identified with all identifying marks legible. Keep all damaged material clearly identified as damaged and stored separately to prevent its inadvertent use.
- C. Do not allow installation of damaged or otherwise non-complying material.
- D. Use all necessary means to protect the materials in this section before, during, and after installation, and to protect the work and materials of all other trades.
- E. In the event of damage, immediately make all necessary repairs and replacements subject to the approval of, and at no additional cost to the Owner.
- F. Roof surfaces shall be protected from damage at all times.

#### **1.05 Warranty**

- A. See Section 01 78 36 - Warranties.

### **PART TWO – PRODUCTS**

#### **2.01 Steel Decking**

- A. Steel roof decking shall be prime painted or G90 galvanized steel to match finish of existing decking material.
- B. Roof decking shall conform to ASTM A 1008 (Prime Painted) or ASTM A 653 (G90 Galvanized or G90 Galvalume Coated) Grade 33, having a minimum yield strength of 33 ksi.
- C. New steel decking and side lap configuration shall match existing decking profile, with flutes able to nest with existing decking flutes at side and end laps. Contractor shall field verify existing decking profile.
- D. New decking sheet size shall match existing decking sheet size. Contractor shall field verify existing decking sheet size.
- E. Steel roof decking shall be 22-gauge.
- F. Flat stock decking repair material, if necessary, shall be 18-gauge, G90 galvanized or Galvalume coated steel.

**2.02 Fasteners**

- A. Fasteners for securement of steel decking to structural supports or for steel decking and steel flat stock side laps shall be self-drilling, screw type fasteners. Powder-activated or compressed air-actuated fasteners will not be accepted or used.
- B. Fasteners shall be listed in RoofNav as FM Global approved products.
- C. Approved Products
  - 1. Teks 5 HWH 12-24 x 1.5" by ITW Buildex – For fastening of steel decking to structural members.
  - 2. Teks 1 HWH 10-16 x 3/4" by ITW Buildex – For fastening of steel decking side laps and flat stock repair materials.
  - 3. Approved equal

**2.03 Primer - Prime Painted Steel Decking**

- A. Rust-inhibitive primer shall be Rust-Oleum 769 damp-proof red primer or approved equal.

**2.04 Primers and Paints – Galvanized Steel Decking**

- A. Steel Decking Primer – Approved Products
  - 1. Pro Industrial Pro-Cryl Universal Acrylic Primer by Sherwin-Williams
  - 2. Approved equal
- B. Steel Decking Paint – Approved Products
  - 1. Pro Industrial DTM Acrylic Coating by Sherwin-Williams
  - 2. Approved equal

**PART THREE – EXECUTION****3.01 Deck Replacement Criteria**

- A. Deck replacement shall be performed where the level of deck corrosion reduces the pullout resistance of the roof insulation and/or roof membrane fasteners, as compared to adjacent areas of decking that are not corroded.
- B. Where the decking is surface rusted, but the level of corrosion does not reduce fastener pullout resistance, the decking shall be wire brushed and prime painted, as specified within this section.

**3.02 Installation – Deck Replacement**

- A. Steel roof decking shall be replaced in full-length sheets to match existing decking layout, unless otherwise stated elsewhere.

- B. Attachment zones shall be calculated based upon the version of ASCE-7 mandated by the building code.
- C. Steel roof decking shall be fastened to the structural members directly through bottom of the rib.
- D. Screws shall be spaced 12" o.c. at ends and all supports in Zones 1' and 1. Screws shall be spaced 6" o.c. at ends, and all supports within Zones 2 and 3.
- E. Side laps shall be fastened together, not exceeding 36" o.c. in Zones 1' and 1, and 30" in Zones 2 and 3 center-to-center between each side lap fastener, or side lap fastener and support.
- F. Fasten the decking to the structural members at each side lap, regardless of resultant fastener spacing. For nested-style side laps, ensure fasteners penetrate all decking panels at the laps. For interlocking-style side laps, install one fastener on each side of the lap.
- G. End laps shall be 2" minimum.
- H. Ensure workers stand on the upper decking panel when fastening laps.
- I. Ensure the fasteners do not penetrate conduit or miscellaneous piping located at bottom of the decking.
- J. Place decking in straight alignment with adjoining decking units for entire length of run.
- K. Place decking units flat and square, secured to adjacent framing without warp or excessive deflection.
- L. Cut and neatly fit decking around roof penetrations.
- M. For openings less than 12" x 12" in size, G90 galvanized sheet metal may be used for the repair, overlapping the adjacent decking 18" on all sides. Sheet metal repair shall be fastened to existing decking units with side lap fasteners spaced 6" o.c.
- N. For openings less than 24" x 24" in size but greater than 12" x 12" in size, partial decking sheet may be used for the repair, overlapping the adjacent decking 18" minimum at end laps. Fasten repair material to the existing decking with side lap fasteners spaced 6" o.c. If structural members are present, fasten decking to steel as specified.
- O. For openings larger than 24" x 24" in size without supplementary framing, full decking sheets spanning three or more structural members shall be utilized. Fasten decking to structural members and install side lap fasteners as specified for steel decking replacement areas.
- P. Where an obsolete curb is removed and supplementary framing exists, decking may be installed over the void and 18" beyond framing members at each end of decking sheets. Fasten decking to framing members and install side lap fasteners as specified for steel decking replacement areas.

### 3.03 Attachment of Existing Decking

- A. Following removal of all roofing materials and debris, and after any deck replacement or painting has been completed, install additional fasteners as required to achieve the following minimum spacings:

1. Zones 1' and 1
  - a. To each support, install one screw per rib, 12" o.c.
  - b. At side laps, install screws at 36" o.c.
2. Zones 2 and 3
  - a. To each support, install one screw per rib, 6" o.c.
  - b. At side laps, install screws at 30" o.c.

#### **3.04 Surface Rust Repair - General**

- A. Perform all preparation and cleaning procedures in strict accordance with the paint Manufacturer's recommendations.
- B. Surface rust areas shall be wire brushed to remove any loose or foreign materials that would adversely affect adhesion or function of applied coating. Surface preparation shall meet or exceed SSPC-SP2.
- C. Stir all materials before application to produce a mixture of uniform density and as required during the application of materials. Do not stir into the material any film that may form on the surface.
- D. Coverage of all coating applications shall be complete and of uniform thickness.
- E. Allow paint to dry prior to installing subsequent roof system components.

#### **3.05 Priming and Painting - Galvanized Steel Decking**

- A. Over the prepared and cleaned surfaces, apply one coat of rust-inhibitive primer. Application rate shall provide for 5.0 to 10.0 wet mils and 1.8 to 3.6 dry mils.
- B. After primer has dried, apply one coat of paint. Coverage shall be complete and of uniform thickness. Application rate shall provide for 6.0 to 9.5 wet mils and 2.5 to 4.0 dry mils.

#### **3.06 Priming - Prime Painted Steel Decking**

- A. Over the prepared surfaces, apply coat of rust-inhibitive primer. Coverage shall be complete and of uniform thickness. Application rate shall provide for 5.0 to 10.0 wet mils and 1.8 to 3.6 dry mils.

#### **3.07 Verification**

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. Work includes, but is not necessarily limited to:
  - 1. Installation of nailers, lumber and/or plywood per the drawings and specifications.
  - 2. Fastening of nailers, lumber and/or plywood in accordance with the specified standards.
  - 3. Removal and replacement of nailers, lumber and/or plywood where existing components are specified for reuse but demolition reveals unsuitable conditions.
  - 4. Removal of existing nailers, lumber and/or plywood, and installation of new wood nailers, lumber and/or plywood per the drawings and specifications.
  - 5. Installation of recycled plastic lumber supports per the drawings and specifications.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
- B. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work in this section.
- C. In acceptance or rejection of the work of this section, the Owner will make no allowance for lack of skill on the part of the workers.

**1.03 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Complete material list of all items proposed to be furnished and installed under this section.

**1.04 Delivery, Storage, and Handling**

- A. Store all materials up, off of the roof or ground, and covered with weatherproof tarps anchored sufficiently, so as to resist wind blow-off. Roof surfaces shall be protected from damage at all times.
- B. Keep all materials clearly identified with all grade marks legible. Keep all damaged material clearly identified as damaged and stored separately to prevent its inadvertent use.
- C. Do not allow installation of damaged or otherwise non-complying material.

- D. In the event of damage, immediately make all necessary repairs and replacements to the approval of and at no additional cost to the Owner.

#### 1.05 Warranty

- A. See Section 01 78 36 - Warranties.

### PART TWO – PRODUCTS

#### 2.01 Wood Nailers and Dimension Lumber

- A. Lumber shall have Gradestamp indicating #2 or better, construction grade, S4S, produced in North America. Lumber Gradestamp indicating lumber importation from outside of North America is unacceptable.
- B. Size shall be as indicated on the drawings or meet performance criteria noted on the drawings.
- C. Minimum nailer size shall be 2" x 6" (nominal).
- D. Minimum top nailer thickness shall be 1.5" (nominal).
- E. Nailers shall extend 1/2" minimum beyond metal flanges.

#### 2.02 Plywood

- A. All plywood shall be minimum 1/2", APA Rated Exterior, Structural 1. Only waterproof glue is acceptable. Plywood shall have PS-1 Gradestamp. PRP-108 Gradestamp without PS-1 is unacceptable.
- B. Plywood thickness shall be as indicated on the drawings. Provide 3/4" minimum material if no thickness is indicated.

#### 2.03 Recycled Plastic Lumber

- A. Recycled, High Density Polyethylene (HDPE), with ultraviolet stabilizers, colorants and fiberglass strands. Color shall be gray, white, or alternative color approved by the Owner.
- B. Size shall be as indicated on the drawings, where provided.
- C. Supply lumber with factory radius along all four edges.
- D. Approved Products
  - 1. FIBERFORCE by Bedford Technology, a Tangent Technologies Company
  - 2. Approved equal

#### 2.04 Carbon Steel Fasteners

- A. All fasteners shall be carbon steel with corrosion-resistant coating.
- B. Fasteners shall be FM Global approved and meet FM 4470.

- C. Contractor shall field verify existing and new substrates and select appropriate fasteners from the specified options to meet the intent of the drawings, specifications, and specified standards. Contractor shall coordinate all fastener types, dimensions, head styles, drill points and threads per inch. If a required fastener is not included in the specifications or noted on the drawings, Contractor shall submit a request for clarification to the Owner's Representative before proceeding.
- D. Masonry and Concrete Fasteners
1. Corrosion-resistant, threaded fastener, #14 minimum.
  2. Fasteners shall be of length to provide 1.5" minimum embedment into concrete and masonry substrates.
  3. Approved Products
    - a. #15 Dekfast by SFS Group USA, Inc. with E-coat
    - b. #14 Heavy Duty Roofing Fastener by OMG, with CR-10 coating
    - c. HeadLok SP Fastener by OMG, with CR-10 coating
    - d. Trufast #14 HD by Altenloh, Brinck & Co. U.S., Inc., with E-coat
    - e. Specified roof system Manufacturer equivalent
- E. Steel Decking and Wood Fasteners
1. Corrosion-resistant, self-tapping, self-drilling screw, #14 minimum.
  2. Fasteners shall be of length to provide 1.5" penetration into substrates.
  3. Approved Products
    - a. #15 Dekfast by SFS Group USA, Inc. with E-coat
    - b. #14 Heavy Duty Roofing Fastener by OMG, with CR-10 Coating
    - c. HeadLok SP Fastener (steel deck) or HeadLok GP Fastener (wood) by OMG, with CR-10 coating
    - d. Trufast #15 EHD by Altenloh, Brinck & Co. U.S., Inc., with E-coat
    - e. Trufast SIP LD by Altenloh, Brinck & Co. U.S., Inc., with E-coat
    - f. Specified roof system Manufacturer equivalent
- F. Structural Steel Fasteners
1. Corrosion-resistant, drill point screw.
  2. Fasteners shall be of length to provide 1.25" minimum penetration into structural steel.

3. Approved Products
  - a. RetroDriller Fastener by OMG, with CR-10 Coating
  - b. HeadLok DP Fastener by OMG, with CR-10 coating
  - c. Teks 5 HWH CL 1/4-28 by ITW Buildex, with Climaseal Coating
  - d. Trufast SIP HD by Altenloh, Brinck & Co. U.S., Inc., with E-coat
  - e. Specified roof system Manufacturer equivalent
- G. Washers
  1. Round, carbon steel, ASTM F 844-072, galvanized per ASTM F 2674; minimum diameter 5/8".

## 2.05 Fasteners for Recycled Plastic Lumber

- A. Fastener lengths shall provide 1" minimum penetration into adjacent member, with maximum length as required to avoid penetrating or deforming opposing surfaces in contact with roofing or flashing membrane.
- B. Approved Products: Bracket-to-Support Member Fastening
  1. Hex head drive, 3/8", stainless steel lag screws for attachment of existing hardware.
- C. Approved Products: Member-to-Member Fastening
  1. Stainless steel, T-25 star drive, flat head, #10 deck screw
  2. Approved Products
    - a. Stainless Steel Star Drive Deck Screw - Flat Head by DECKFAST
    - b. Approved equal

## PART THREE – EXECUTION

### 3.01 General

- A. Protect adjacent surfaces as required to prevent damage when storing, cutting, handling and installing the work described by this section.
- B. Contain and immediately remove sawdust, to prevent contamination of substrates to receive subsequent construction. Replace any damaged components or construction at no cost to the Owner.
- C. Where predrilling of concrete and/or masonry is required for fastener installation, utilize bit type and size, and hole depth recommended by the fastener Manufacturer. Remove drilling dust from fastener holes prior to installing fasteners.



**3.02 Lumber and Nailers**

- A. Lumber and nailers shall be installed per detail drawings. Screws shall be used for all carpentry work.
- B. Discard units of material with defects that might impair quality of work and units that are too small to use in fabricating work with minimum joints or optimum joint arrangement.
- C. Set lumber and nailers to required levels and lines with members plumb and true.
- D. All perimeter nailers shall be of uniform height within a given roof section.
- E. Lumber shall be installed with 1/4" gap between ends of adjoining pieces.
- F. Where two or more pieces of lumber are stacked, offset butt joints a minimum of 12" between adjacent layers.
- G. Perimeter nailer installation shall be in accordance with the following:
  - 1. Fasteners in 6" or wider (nominal) lumber shall be installed in two rows, staggered one-third of nailer width. Fastener spacings scheduled on drawings indicate distance between fasteners within each row.
  - 2. Nailer fastener spacing shall be decreased within Zone 3, as noted on the drawings.
  - 3. Two fasteners shall be installed 4" to 6" from the end of each piece of lumber, as shown on the drawings.
  - 4. Where two or more nailers are stacked, fasten each piece of lumber independently unless otherwise shown on the drawings.
  - 5. Lay out and route each fastener location in bottom nailer using 3/4" Forstner bit. Recess shall be no deeper than required for fastener heads to be flush with wood surface. Attach bottom nailer using specified hex washer head fasteners with 5/8" diameter washers. Fasten subsequent lumber with the specified screws without washers at the specified spacings.
    - a. Recess fastener heads to be flush with wood surface in all layers attached using hex washer head fasteners.
    - b. Where roofing materials will be applied onto carpentry work, outer/upper lumber shall be fastened using Phillips flat head or Phillips truss head fasteners, with heads installed flush with wood surface.
    - c. Do not point load underside of roofing or flashing membrane.
  - 6. Maximum fastener spacing shall be as specified on the drawings.

**3.03 Plywood**

- A. Plywood shall be installed per detail drawings. Screws shall be used for all plywood attachment.
- B. Plywood joints shall be true and well fitting, allowing for expansion and contraction. Allow 1/8" at end and edge joints.

- C. Plywood fasteners shall be installed in a uniform grid pattern, with a maximum spacing of 18" o.c. between adjacent fasteners.
- D. Where fastening to steel stud framing, fasten to each framing member at 6" o.c.
- E. If plywood facing is installed over a curb, offset plywood joints a minimum of 24" from underlying butt joints in the curb.
- F. Individual pieces of plywood shall be a minimum of 24" wide with a minimum of two vertical fastener rows applied.
- G. Bevel cut edges of plywood at 45-degrees, if shown on the detail drawings.

#### **3.04 Recycled Plastic Lumber Supports**

- A. Recycled plastic lumber supports shall be installed where referenced on the drawings.
- B. Discard units of material with defects that might impair quality of work and units that are too small to use in fabricating work.
- C. Each support shall utilize a full-length piece of lumber matching criteria noted on the drawings.
- D. All fastening locations shall be predrilled. Hole size shall be smaller than fastener, as recommended by lumber and fastener manufacturers to prevent backout after installation. Prevent damage to adjacent surfaces when predrilling lumber.
- E. All fasteners shall be stainless steel.
- F. Fasteners shall be kept a minimum of 3/4" from all edges or ends of support lumber. Brackets shall be centered over supports on all sides.
- G. Cuts in lumber shall be limited to cross cutting only. Rip cutting of lumber shall not be performed.

#### **3.05 Verification**

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

#### **3.06 Cleaning**

- A. Debris from carpentry work shall be frequently and thoroughly removed from construction areas as it accumulates.
- B. Clean debris and properly dispose of all construction debris such as wood trimmings, sawdust, and fasteners, prior to proceeding with subsequent parts of the work.
- C. Refer to Section 02 41 20 – Roof Demolition and Cleanup for additional requirements.

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. Provide and install roof board insulation and means of securement complete, in-place, per the drawings and specifications.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
1. *The NRCA Roofing and Waterproofing Manual*, National Roofing Contractors Association
  2. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
  3. *Annual Book of ASTM Standards*, ASTM International
- B. Qualifications of Installers: Use adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this section. In acceptance or rejection of the work, the Owner will make no allowance for lack of skill on the part of the workers.
- C. Roofing Inspections: Make all required notifications and secure all required inspections by the Manufacturer of the approved materials to facilitate issuance of the specified roof warranty.
- D. U.L. Listing: Provide materials bearing Underwriters Laboratories (U.L.) marking on bundle, package, or container indicating that materials have been produced under U.L.'s classification and follow-up service.

**1.03 References**

- A. References: Materials used in this section shall be listed in the reference(s) below. The reference(s) used shall be the latest published edition available on the date the Contractor submits its price proposal to the Owner.
1. *UL Product iQ* <https://productiq.ulprospector.com> UL Solutions

**1.04 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
1. Most recent copy of Manufacturer's literature applicable to products and specifications to be used.
  2. Complete material list of all items proposed to be furnished and installed under this section.

3. Manufacturer's tapered insulation fabrication drawings.

#### **1.05 Delivery, Storage, and Handling**

- A. Deliver materials to job site in their original unopened containers, no sooner than 14 days prior to start of project. Package labels shall indicate material name, production date, and/or product code. Slit Manufacturer-supplied plastic covering and cover with weatherproof tarps that are securely anchored to prevent blow-off.
- B. Store materials in dry, raised, protected areas in an upright position. Control temperature of storage areas in accordance with Manufacturer's instructions. Protect materials from exposure to the elements. When storing materials on the roof, do not over stress the deck.
- C. Use all necessary means to protect the materials in this section before, during, and after installation, and to protect the work and materials of all other trades.
- D. In the event of damage, immediately make all necessary repairs and replacements subject to the approval of and at no additional cost to the Owner.
- E. Follow the Manufacturer's recommendations for storage of temperature-sensitive materials.

#### **1.06 Scheduling**

- A. Work shall be performed on a daily basis with each section completed before progressing to the next day's work, unless specifically directed otherwise by the Owner's Representative.
- B. Completion of work will be defined as the installation of all specified roof preparation, insulation, field membrane, flashings, counterflashings, sheet metal, fasteners, and caulking.

#### **1.07 Warranty**

- A. See Section 01 78 36 - Warranties.

### **PART TWO – PRODUCTS**

#### **2.01 General**

- A. All materials used on this project shall be compatible with the existing conditions and with each other.
- B. No product shall contain any asbestos or asbestos-related products.
- C. Insulation, fasteners, and/or adhesives used on this project shall be approved by the roofing membrane Manufacturer, shall be compatible with the roof system specified, and shall qualify for the specified roofing membrane Manufacturer's warranty.

**2.02 Insulation Materials**

- A. Polyisocyanurate Foam Roof Insulation - Coated Glass Facer (CGF)
1. Insulation shall be a closed-cell, polyisocyanurate foam core with polymer-bonded, fiberglass facers conforming to ASTM specification C 1289, Type II, Class 2. Foam core shall have a rated flame spread of 75 or less in accordance with ASTM E 84. Insulation shall have minimum compressive strength of 20 psi (Grade 2) in accordance with ASTM C 1289.
  2. Approved Products
    - a. Sarnatherm CG by Sika Sarnafil Inc.
    - b. SecurShield Polyiso by Carlisle SynTec Systems
    - c. Specified roof membrane Manufacturer-supplied approved equal
  3. Flat Stock Insulation Requirements
    - a. Insulation shall be supplied in 4' x 4' boards when adhered and 4' x 8' boards when mechanically fastened. Insulation thickness shall be as noted on the drawings.
  4. Tapered Insulation Requirements
    - a. Insulation shall be supplied in 4' x 4' boards. Insulation slope(s) and minimum thickness(es) shall be as noted on the drawings.
- B. Flute Fill Polyisocyanurate Foam Roof Insulation
1. Insulation shall be a closed-cell, polyisocyanurate foam core with coated glass facers (CGF) conforming to ASTM specification C 1289, Type II, Class 2. Foam core shall have a rated flame spread of 75 or less in accordance with ASTM E 84. Insulation shall have minimum compressive strength of 20 psi (Grade 2) in accordance with ASTM C 1289.
  2. Approved Products
    - a. Sarnatherm CG Bevel Cut by Sika Sarnafil Inc.
    - b. SecurShield POLYISO CGF Bevel Cut by Carlisle SynTec Systems
    - c. Specified roof membrane Manufacturer-supplied approved equal
  3. Insulation Requirements
    - a. Insulation shall be supplied in 8' board lengths. Insulation shall be supplied in custom widths bevel cut to fit existing roof panel profile, as field verified by the Contractor. Insulation thickness shall be as noted on the drawings.

- C. Gypsum Board
  - 1. Non-structural, moisture resistant gypsum panel. Gypsum board shall conform to ASTM C 1177 or ASTM C 1278. Gypsum board product shall be specifically recommended for the type of membrane application required by the Contract Documents, as applicable.
  - 2. Approved Products
    - a. DensDeck StormX Prime by Georgia-Pacific Gypsum Corp.
    - b. DensDeck by Georgia-Pacific Gypsum Corp.
  - 3. Insulation Requirements
    - a. Gypsum board shall be supplied in 4' x 4' sheets. Gypsum board shall be as noted on the drawings.
- D. Tapered Fiberboard Edge Strip
  - 1. Wood fiber insulation boards factory-cut to provide slope. Insulation shall conform to ASTM C 208.
  - 2. Approved Products
    - a. As approved by the roof membrane Manufacturer.
  - 3. Insulation Requirements
    - a. Tapered edge strip dimensions shall as noted on the drawings.
- E. Tapered Polyisocyanurate Edge Strip
  - 1. Polyisocyanurate insulation boards factory-produced to provide zero-edge transition. Insulation shall conform to C 1289, Type II, Class 2.
  - 2. Approved Products
    - a. SureSlope TES Tapered Edge Strip with ACFoam III Facer Technology by Atlas Roofing Corporation
  - 3. Insulation Requirements
    - a. Insulation shall be as noted on the drawings.
- F. Spray Foam Insulation
  - 1. Approved Products
    - a. Large Cavities/Deck Flutes - Froth-Pak 210 Foam Insulation Kit by DuPont.

**2.03 Insulation Fasteners**

- A. Steel Decking
  - 1. Corrosion-resistant, self-tapping, self-drilling #14 threaded fastener with #3 Phillips head. Fasteners with hex washer heads (HWH) shall not be used. Fastener shall be carbon steel with corrosion-resistant coating.
  - 2. Corrosion-resistant 3" Galvalume-coated steel plate, supplied by fastener Manufacturer.
  - 3. Fastener and plate shall be tested and approved by FM Global to ensure compliance with the requirements of FM Approval Standard 4470.
  - 4. Approved Products
    - a. Sarnafastener - #14 by Sika Sarnafil Inc.
    - b. HP Fastener by Carlisle SynTec Systems
    - c. Variations of the specified products that are FM Global approved and designed for use with Manufacturer-supplied stand-up tools.
  - 5. Steel Deck: Fasteners shall be the shortest length to penetrate the top flange of the deck by 3/4".
  - 6. Fasteners shall not protrude below the bottom rib of steel deck.

**2.04 Bead-Applied Polyurethane Adhesive**

- A. Dual component polyurethane adhesive and primer (where applicable), used to attach roof insulation board to roof decks and substrates.
- B. Regular, summer or winter formula shall be bid and installed, such that Manufacturer's installation criteria are met.
- C. Approved Products
  - 1. Sarnacol OM Board Adhesive by Sika Sarnafil Inc.
  - 2. Sarnacol 2163 or AD Board Adhesive by Sika Sarnafil Inc.
  - 3. One Step by Carlisle SynTec Systems
  - 4. Flexible FAST Adhesive by Carlisle SynTec Systems

**PART THREE – EXECUTION****3.01 Description**

- A. The latest Manufacturer specifications and installation instructions shall be followed along with the following requirements. These specific minimum requirements must be included in the bid and shall not be altered.

- B. Inspection
1. Examine the areas and conditions under which work in this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until such conditions have been corrected.
- C. Preparation and Surface Conditions
1. Before insulation application is started, remove trash, debris, grease, oil, water, moisture, and contaminants from substrate to receive insulation.
  2. Prepare all surfaces in accordance with applicable specification sections.
  3. Protect adjacent areas from damage.
  4. Surfaces scheduled to receive insulation shall be free of any standing water, frost, snow, or loose debris.
  5. Substrate shall be smooth, free of sharp projections, and free of obvious depressions.
  6. All nailers shall be installed prior to installing insulation.
- D. Installation – General
1. Perform all related work specified elsewhere necessary for the installation of the specified roof insulation.
  2. Ensure that fasteners do not penetrate conduit or other miscellaneous items located on the underside of the roof deck, or spall the underside of the deck.
  3. Install plates and fasteners tight and flat to substrate with no dimpling of the substrate surface. Prevent deformation of plates due to overdriving fasteners. Do not underdrive fasteners so that the plate is able to spin freely.
  4. Do not apply insulation materials when water in any form (i.e., rain, dew, ice, frost, snow, etc.) is present.
  5. Install tapered insulation cricket at the upslope side of each curb that is 18" or wider. Cricket shall extend out half the width of the curb and the cricket's slope shall be twice the opposing field slope.
  6. Attachment zone dimensions shall be calculated based upon the code-mandated version of ASCE-7.
  7. Refer to the material Manufacturer's published product data sheets and installation instructions for information regarding acceptable temperature ranges and other weather-related criteria that might affect the installation schedule.
    - a. Do not install materials if substrate temperature falls outside the acceptable ranges defined in the material Manufacturer's published information.
    - b. Commence with application of systems and materials only when ambient temperatures and other weather-related criteria are forecast to satisfy the Manufacturer's requirements for all components to be installed.



- c. To the extent defined by the Manufacturer's published information, consideration shall be made for cure times after installation. Do not proceed with material or system application if Manufacturer's requirements are not able to be met during the full recommended curing period.
- d. Any exceptions shall require the Contractor to provide a project-specific letter from the material Manufacturer's technical services department approving a deviation to install or cure a given material outside the published parameters. Where a deviation letter is provided, Manufacturer shall clearly state the revised acceptable limitations to be followed by the Contractor.
- e. Refer to Manufacturer's published installation instructions and applicable technical bulletins for specialized cold or hot weather application techniques. When weather conditions on the project site meet the specified criteria, proceed in accordance with the Manufacturer-recommended techniques.

### **3.02 Mechanically Fastened Construction (Thermal Barrier at the Aquatic Center)**

#### **A. Single Layer**

1. Insulation shall be installed with all joints tightly butted and end joints staggered 12" minimum. Insulation shall fit tightly against all adjacent substrate surfaces and penetrations.
2. Areas of damage or broken corners shall be cut out and replaced with pieces 12" x 12" minimum, fastened into place.
3. Fastener spacings shall be as defined on the drawings, but no less than two fasteners per each piece of insulation.
4. Fasten insulation with screw and plate type fasteners.
5. Fastening patterns and attachment zones shall be installed per the drawings and specifications.
6. Any whole or partial insulation board that falls within a given attachment zone shall have the increased fastening applied over the entire board.

### **3.03 Applied in Polyurethane Adhesive – Bead Application (Aquatic Center)**

#### **A. Single Layer**

1. Temperature of adhesive, substrate, and ambient conditions shall be within the Manufacturer's recommended ranges during installation of insulation adhesive.
2. Prepare substrate to receive polyurethane adhesive as recommended by the adhesive Manufacturer.
3. Seal around all penetrations and roof perimeters to ensure no adhesive drippage below the deck level.
4. Install adhesive over the substrate in beads, as follows:
  - a. Sarnacol OM Board Adhesive: 3/4" to 1" wide wet beads.

- b. Sarnacol 2163, Sarnacol AD Board Adhesive, and One Step by Carlisle SynTec Systems: 1/2" wide wet beads.
    - c. Flexible FAST Adhesive: 1/2" wide wet beads.
  5. Bead application patterns and attachment zones shall be installed per the drawings and specifications.
  6. Any whole or partial insulation board that falls within a given attachment zone shall have the increased quantity of adhesive applied over the entire board.
  7. Install insulation with all joints tightly butted and end joints staggered 12" minimum. Insulation shall fit tightly against all adjacent substrate surfaces and penetrations.
  8. Areas of damage or missing corners shall be cut out and replaced with pieces 12" x 12" minimum, adhered into place.
  9. Set insulation into adhesive after foam beads have been applied.
    - a. Follow adhesive Manufacturer's written installation instructions for timing of board placement after adhesive application.
    - b. The effects of environmental conditions such as temperature and humidity shall be considered during the installation process.
    - c. Do not allow adhesive beads to skin over prior to setting insulation.
    - d. Do not slide insulation boards through adhesive during placement.
  10. Ensure board adhesion and uniformity at joints by weighting down insulation until adhesive has set. Contractor shall not use rollers for this purpose. Do not remove weights until insulation is firmly attached and movement of boards no longer occurs.
  11. If boards can be lifted or moved by hand, they are not sufficiently attached.
  12. Remove adhesive drips or spillage from all insulation surfaces prior to installing the membrane. If facer damage results, then remove and replace the insulation board. Remove all adhesive that protrudes above insulation board surfaces at joints.
- B. Multiple Layers
  1. Temperature of adhesive, substrate, and ambient conditions shall be within the Manufacturer's recommended ranges during installation of insulation adhesive.
  2. Prepare substrate to receive polyurethane adhesive as recommended by the adhesive Manufacturer.
  3. Seal around all penetrations and roof perimeters to ensure no adhesive drippage below deck level.
  4. Install adhesive over the substrate in beads, as follows:
    - a. Sarnacol OM Board Adhesive: 3/4" to 1" wide wet beads.

- b. Sarnacol 2163, Sarnacol AD Board Adhesive, FTR 601 Insulation and One Step by Carlisle SynTec Systems: 1/2" wide wet beads.
    - c. Flexible FAST Adhesive: 1/2" wide wet beads.
  5. Bead application patterns and attachment zones shall be installed per the drawings and specifications.
  6. Any whole or partial insulation board that falls within a given attachment zone shall have the increased quantity of adhesive applied over the entire board.
  7. Install bottom layer of insulation with all joints tightly butted and end joints staggered 12" minimum. Insulation shall fit tightly against all adjacent substrate surfaces and penetrations.
  8. Areas of damage or missing corners in all layers shall be cut out and replaced with pieces 12" x 12" minimum, adhered into place.
  9. Set insulation into adhesive after foam beads have been applied.
    - a. Follow adhesive Manufacturer's written installation instructions for timing of board placement after adhesive application.
    - b. The effects of environmental conditions such as temperature and humidity shall be considered during the installation process.
    - c. Do not allow adhesive beads to skin over prior to setting insulation.
    - d. Do not slide insulation boards through adhesive during placement.
  10. Ensure board adhesion and uniformity at joints by weighting down insulation until adhesive has set. Contractor shall not use rollers for this purpose. Do not remove weights until insulation is firmly attached and movement of boards no longer occurs.
  11. If boards can be lifted or moved by hand, they are not sufficiently attached.
  12. Additional layer(s) of insulation shall be installed in polyurethane adhesive over preceding layer(s), using procedures specified for the bottom layer.
  13. Insulation joints in each layer shall be offset a minimum of 12" from insulation joints in the preceding layer, including all daily tie-off locations.
  14. Remove adhesive drips or spillage from all insulation surfaces prior to installing the membrane. If facer damage results, then remove and replace the insulation board. Remove all adhesive that protrudes above insulation board surfaces at joints.

### **3.04 Mechanically Fastened/Bead-Applied Polyurethane Adhesive Construction**

- A. Bottom Layer(s)
  1. Bottom layer of insulation shall be installed with all joints tightly butted and end joints staggered 12" minimum. Insulation shall fit tightly against all adjacent substrate surfaces and penetrations.

2. Where specified, additional layer(s) of insulation shall be installed over preceding layer(s) with all joints tightly butted and end joints staggered 12" minimum. Insulation shall fit tightly against all adjacent substrate surfaces and penetrations.
3. Areas of damage or broken corners in all layers shall be cut out and replaced with pieces 12" x 12" minimum.
4. Insulation joints in each layer shall be offset a minimum of 12" from insulation joints in the preceding layer, including all daily tie-off locations.
5. Fasten insulation with screw and plate type fasteners. Top layer shall be fastened into place.
6. Fastener spacings shall be as defined on the drawings, but no less than two fasteners per each piece of insulation.
7. Fastening patterns and attachment zones shall be installed per the drawings and specifications.
8. Any whole or partial insulation board that falls within a given attachment zone shall have the increased fastening applied over the entire board.

B. Top Layer

1. Temperature of adhesive, substrate, and ambient conditions shall be within the Manufacturer's recommended ranges during installation of insulation adhesive.
2. Prior to installing insulation, seal around all penetrations and roof perimeters to ensure no adhesive drippage below the deck level.
3. Remove all debris from the previously installed insulation prior to installing top insulation layer.
4. Install adhesive over the previously installed insulation in beads, as follows:
  - a. Sarnacol OM Board Adhesive: 3/4" to 1" wide wet beads.
  - b. Sarnacol 2163, Sarnacol AD Board Adhesive, and One Step by Carlisle SynTec Systems]: 1/2" wide wet beads.
  - c. Flexible FAST Adhesive: 1/2" wide wet beads.
5. Bead application patterns and attachment zones shall be installed per the drawings and specifications.
6. Any whole or partial insulation board that falls within a given attachment zone shall have the increased quantity of adhesive applied over the entire board.
7. Install insulation with all joints tightly butted and end joints staggered 12" minimum. Insulation shall fit tightly against all adjacent substrate surfaces and penetrations.
8. Insulation joints in top layer shall be offset a minimum of 12" from insulation joints in the preceding layer, including all daily tie-off locations.

9. Areas of damage or missing corners shall be cut out and replaced with pieces 12" x 12" minimum, adhered into place.
10. Set insulation into adhesive after foam beads have been applied.
  - a. Follow adhesive Manufacturer's written installation instructions for timing of board placement after adhesive application.
  - b. The effects of environmental conditions such as temperature and humidity shall be considered during the installation process.
  - c. Do not allow adhesive beads to skin over prior to setting insulation.
  - d. Do not slide insulation boards through adhesive during placement.
11. Ensure board adhesion and uniformity at joints by weighting down insulation until adhesive has set. Contractor shall not use rollers for this purpose. Do not remove weights until insulation is firmly attached and movement of boards no longer occurs.
12. If boards can be lifted or moved by hand, they are not sufficiently attached.
13. Remove adhesive drips or spillage from all insulation surfaces prior to installing the membrane. If facer damage results, then remove and replace the insulation board. Remove all adhesive that protrudes above insulation board surfaces at joints.

### 3.05 Tapered Insulation

- A. Install tapered insulation with slope direction as indicated on the finalized shop drawings. Miter cut all panels at valleys for tight fit and alignment throughout valley length.
- B. Install tapered saddles in valleys, where indicated on the finalized shop drawings in the sizes shown. End of saddle shall provide for slope into the sump at the drainage device. End of saddle shall be of sufficient width at sump such that flat spots do not occur in valley. Saddle slope shall be twice the field slope, unless otherwise noted on the drawings.
- C. Where tapered insulation is installed along a perimeter edge of uniform nailer height, utilize tapered edge strip along nailers as tapered insulation thickness decreases to provide a smooth transition and proper support for the membrane system or subsequent insulation layer.
- D. Utilize tapered insulation panels and tapered edge strips to construct sumps at roof drains and scuppers, where detailed. Size shall be as shown on the finalized shop drawings. Delete thermal insulation within sumps, as required, for installation of tapered panels, so as to provide continuous slope down to drainage device, without creating a sharp/steep sloped transition. At no time shall slope within drain sump exceed 1:12, unless otherwise noted in drawings.
- E. Install tapered crickets on the upslope sides of all rectangular penetrations with a dimension greater than 18" perpendicular to slope. Cricket slope shall be twice the field's slope, unless otherwise noted on drawings.
- F. Utilize tapered edge strip at transitions in construction of more than 1/4", and in other specified locations, to provide a smooth transition and proper support for the membrane system or subsequent insulation layer. Field cut and shape edge strip as required. Direct slope of edge strip to provide for proper drainage.

- G. Verify that tapered insulation is properly installed in accordance with the finalized shop drawings, and that no irregularities exist that will result in ponding water in the finished roof system. Correct any non-compliant work prior to proceeding with installation of subsequent components over the tapered insulation.

### **3.06 Verification**

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed. Verify that insulation boards are positively secured.
- B. Contractor shall correct any deficient work prior to installing subsequent work.

### **3.07 Cleaning**

- A. Contractor shall follow the requirements of Section 02 41 20 - Roof Demolition and Cleanup.

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. Furnish and install a self-adhering vapor retarder system, complete, in-place, per the drawings and specifications.
- B. Vapor retarder and flashings shall be protected and maintained watertight during construction.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. *The NRCA Roofing and Waterproofing Manual*, National Roofing Contractors Association
  - 2. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
- B. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work in this section.
- C. In acceptance or rejection of the work of this section, the Owner will make no allowance for lack of skill on the part of the workers.
- D. UL Listing: Provide materials bearing UL's marking on bundle, package, or container, indicating that materials have been produced under UL Solutions' Classification and Follow-Up Services programs.
- E. Roofing Inspections: Make all required notifications and secure all required inspections by the Manufacturer of the approved materials to facilitate issuance of the specified roof warranty.
- F. The Contractor shall not subcontract the installation of the material covered under this section to an individual or firm that is not a full-time employee of the Contractor's company.

**1.03 References**

- A. References: Materials used in this section shall be listed in the references below. The references used shall be the latest edition available on the date the Contractor submits its price proposal to the Owner.
  - 1. *UL Product iQ* <https://productiq.ulprospector.com> UL Solutions

**1.04 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.

- B. Provide the following submittals:
  - 1. Most recent copy of Manufacturer's literature applicable to products and specifications to be used.
  - 2. Complete material list of all items proposed to be furnished and installed under this section.
  - 3. Contractor's proposed detail for temporary water cutoff installation.

#### **1.05 Delivery, Storage, and Handling**

- A. Protection: Use all means to protect the materials of this section before, during, and after installation and to protect the work and materials of all other trades.
- B. Delivery and Storage: Deliver materials to the job site in original, unopened containers no sooner than 14 days prior to start of job. Package labels shall indicate material name, production date, lot number, and/or product code. Materials shall be stored up off the roof or ground, and covered completely with weatherproof tarps that are securely anchored, so as to prevent wind blow-off. When storing materials on the roof, do not overstress the deck.
- C. Replacements: In the event of damage, immediately make all repairs and replacements to the approval of the Owner and at no additional cost to the Owner.
- D. Follow the Manufacturer's recommendations for storage of temperature sensitive materials.

#### **1.06 Scheduling**

- A. Work is to be performed on a daily basis with each section completed before progressing to the next day's work, unless specifically directed otherwise by the Owner's Representative.
- B. Completion of work will be defined as the installation of all specified substrate preparation, primer, vapor retarder, vapor retarder flashings, installation of new roof system and temporary tie-ins.

#### **1.07 Warranty**

- A. See Section 01 78 36 – Warranties.

### **PART TWO – PRODUCTS**

#### **2.01 General**

- A. All materials used on this project shall be compatible with the existing conditions and with each other.
- B. Manufacturer-supplied V.O.C. compliant products shall be bid and used if V.O.C. regulations are in effect at the project location at the time of bidding.
- C. No product shall contain any asbestos or asbestos-related products.
- D. Vapor retarder primer, vapor retarder, and vapor retarder flashings used on this project shall be approved by the roofing membrane Manufacturer, shall be compatible with the roof system specified, and shall qualify for the specified Membrane Manufacturers' warranties.



**2.02 Acceptable Manufacturers**

- A. Products manufactured or accepted by the primary roof membrane Manufacturer:
  - 1. Sika Sarnafil, Inc.
  - 2. Carlisle SynTec Systems

**2.03 Materials Supplied by Vapor Retarder Membrane Manufacturer**

- A. Vapor Retarder Primer
  - 1. Liquid primer to enhance adhesion of self-adhering membrane products to specified horizontal and vertical substrates.
  - 2. Approved Products
    - a. Vapor Retarder Primer SB by Sika Sarnafil Inc.
    - b. CAV-GRIP III or CCW-702 by Carlisle SynTec Systems
- B. Vapor Retarder Field and Flashing Membrane
  - 1. Vapor retarder for field of roof, perimeter flashings, and curb flashings shall be a self-adhering membrane composed of SBS modified bitumen adhesive on the bottom surface and a tri-laminated woven polyethylene film on the top surface. The underside is surfaced with a release film that is removed during application.
  - 2. Approved Products
    - a. Vapor Retarder SA 31 by Sika Sarnafil Inc.
    - b. VapAir Seal 725TR by Carlisle SynTec Systems
- C. Vapor Retarder Flashings and Seam Reinforcement
  - 1. Penetration flashings, and seam reinforcement detailing at T-joints, 90° angle transitions and inside/outside corners, shall be constructed with mastic or EPDM primer, self-adhering uncured EPDM flashing, and gun-grade polyurethane or polyether sealant as recommended and approved by the vapor retarder membrane Manufacturer.
  - 2. Approved Products: Mastic
    - a. Mastic TG by Sika Corporation
  - 3. Approved Products: Uncured EPDM
    - a. EPDM Primer and Sure-Seal Pressure-Sensitive Elastoform Flashing, Sure-Seal EPDM Pressure-Sensitive Inside/Outside Corner, Sure-Seal EPDM Pressure-Sensitive T-Joint Cover and Universal Single-Ply Sealant by Carlisle SynTec Systems

- D. Vapor Retarder System Seam Sealant
  - 1. Daily sealing of all vapor retarder and vapor retarder flashing side laps, end laps, T-joint patches, angle transition patches, inside/outside corner patches, and all other leading edges shall be gun-grade polyurethane or polyether sealant; as approved by or supplied by vapor retarder Manufacturer.
  - 2. Approved Products
    - a. Sikaflex 1a by Sika Corporation U.S.
    - b. Universal Single-Ply Sealant by Carlisle SynTec Systems
    - c. Approved equal
- E. Vapor Retarder Seam Treatment
  - 1. Vapor retarder seam treatment shall be used where PVC or KEE roof membrane or roof membrane flashings are installed in direct contact with vapor retarder seams. Seam treatment material shall be as approved by the PVC and KEE membrane Manufacturer.
  - 2. Approved Products: Aluminum Tape
    - a. Aluminum Tape by Sika Sarnafil Inc.
    - b. Foil-Grip 1403-181BFX by HARDCAST, a Carlisle Company
    - c. Approved equal

#### 2.04 Other Materials

- A. Rough Carpentry: Refer to Section 06 10 53- Miscellaneous Rough Carpentry
- B. Roof Insulation and Accessories: Refer to Section 07 22 16 - Roof Board Insulation
- C. Vapor Retarder Flashings and Seam Reinforcement
  - 1. Detailing of penetration flashings and seam reinforcement at T-joints, 90° angle transitions and inside/outside corners, shall be constructed with EPDM primer, self-adhering uncured EPDM flashing, and vapor retarder Manufacturer's one-part, gun grade polyurethane or polyether sealant.
  - 2. Approved Products
    - a. EPDM Primer and Sure-Seal Pressure-Sensitive Elastoform Flashing, Sure-Seal EPDM Pressure-Sensitive Inside/Outside Corner and Sure-Seal EPDM Pressure-Sensitive T-Joint Cover by Carlisle SynTec Systems; and vapor retarder Manufacturer's sealant.
- D. All other materials not specifically described in this section but required for a complete and proper installation of the work shall be as selected by the Contractor, approved by the Manufacturer, and subject to the approval of the Owner.

**PART THREE – EXECUTION****3.01 Description**

- A. The latest Manufacturer specifications and installation techniques shall be followed with the following requirements. These specific minimum requirements shall be included in the bid and are not to be altered.

**3.02 Inspection**

- A. Examine the areas and conditions under which work in this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until such conditions have been corrected.
- B. Contractor shall monitor the installation to ensure proper adhesion is being achieved in all areas. Contractor shall adjust means and methods, as necessary, to achieve positive bond of vapor retarder membrane to substrates and at splices between components.

**3.03 Preparation and Surface Conditions**

- A. Before vapor retarder installation is started, remove trash, debris, and other contaminants from substrates to receive vapor retarder.
- B. Prepare all surfaces according to applicable specification sections.
- C. Protect adjacent areas from damage.
- D. Surfaces scheduled to receive vapor retarder shall be dry and free of frost, snow, or loose debris.
- E. Substrate shall be smooth, free of sharp projections, and free of obvious depressions.
- F. All carpentry, metal fabrications, or other required preliminary work shall be installed prior to installing vapor retarder membrane, where applicable. Refer to drawings for components to be installed prior to the vapor retarder.
- G. Vapor retarder membrane shall be inspected by the Contractor and all deficiencies repaired prior to installing the roof insulation.

**3.04 Installation: General**

- A. Perform all related work specified elsewhere necessary for the installation of the specified vapor retarder system.
- B. Do not apply vapor retarder system materials when water in any form (i.e., rain, dew, ice, frost, snow, etc.) is present.
- C. Certain combinations of temperature and humidity may cause condensation on the surface of solvent-based primer prior to vapor retarder membrane placement. If this condition occurs, do not mate the surfaces. Do not proceed until ambient air conditions no longer cause condensation.
- D. Temperature of substrate, vapor retarder system materials, and ambient conditions shall be within the Manufacturer's recommended ranges during application of materials.

- E. For cold weather application procedures, refer to the Manufacturer's specifications for additional requirements.
- F. Specified side lap and end lap dimensions are minimums. If vapor retarder Manufacturer's requirements exceed those stated, then the Manufacturer's requirements shall be followed.

### 3.05 Installation: Primer

- A. Prime all substrates to receive vapor retarder membrane and associated vapor retarder flashing membrane at the Manufacturer's recommended application rates. Rates vary depending on type and porosity of the substrate materials; but shall not be less than 1/2 gallon per 100 square feet. The primer shall be allowed to dry prior to application of vapor retarder materials.
- B. Primer application shall achieve full and uniform coverage, using application procedures recommended by the Manufacturer.

### 3.06 Installation: Vapor Retarder

- A. Before application, vapor retarder membrane shall be unrolled and allowed to relax per Manufacturer's instructions.
- B. After primer has flashed-off as recommended by the Manufacturer, apply one layer of vapor retarder membrane maintaining minimum 3" side laps and 6" end laps. End laps shall be offset 3' minimum. Start application at low point of roof slope and shingle laps with the direction of drainage.
- C. Roll all sheets in a straight line so that no kinks or fishmouths occur and sheets are laid completely flat. Once sheet direction is determined, do not change direction over the entire roof area.
- D. Once the membrane is in place, while holding the membrane tight, peel off the release film by pulling diagonally. Membrane shall be immediately rolled with a steel roller or roller wrapped in resilient material, weighing a minimum of 100 pounds.
- E. All side and end laps in the vapor retarder membrane shall be immediately hand rolled with a 2" silicone roller. Full adhesion shall be achieved, and all edges and T-laps shall be fully sealed.
- F. All T-laps and shall be patched by applying EPDM seam primer, allowing primer to fully dry, and installing a self-adhering uncured EPDM T-lap patch. Hand roll in place with a 2" silicone roller and seal all edges with a tooled bead of vapor retarder Manufacturer's gun-grade sealant.
  - 1. For Sika Sarnafil Vapor Retarder SA 31, seal T-lap with Sika Mastic in lieu of uncured EPDM patch.
- G. Any wrinkles or fishmouths shall be cut out and repaired with new material overlapping 12" minimum onto adjacent adhered vapor retarder material to remain.
- H. Any vapor retarder punctures or other damaged areas shall be patched with a new material overlapping 12" minimum onto adjacent vapor retarder material on all sides.

- I. All seam edges at all vapor retarder areas shall be sealed with a 1" wide bead of tooled sealant, as required to provide a watertight seal. Sealant shall be applied by the end of the same workday as vapor retarder installation.
- J. Prevent debris contamination of all areas where flashings will overlap the vapor retarder.

### 3.07 Installation: Vapor Retarder Flashings

- A. Vapor retarder shall be flashed watertight and vapor tight at all roof perimeters and penetrations.
- B. Vapor retarder shall be continuous with adjacent building envelope materials, where shown on the Drawings, as required to provide a continuous seal.
- C. Install one-ply self-adhered modified bitumen vapor retarder material at perimeter base flashings, roof edges, and curb flashings. Flashings shall be applied according to the Manufacturer's current published application instructions, unless superseded by the requirements of this section.
- D. All flashing substrates shall be primed with vapor retarder primer, and primer shall be allowed to dry before installing vapor retarder flashing membrane.
- E. Allow flashing membrane to relax as recommended by the Manufacturer, prior to installing flashings.
- F. Lay out and install flashings with 3" minimum side laps, and 6" minimum overlap onto the roof field. Refer to the Drawings for vertical flashing height requirements. Where the existing vapor retarder substrate is sloped, flashing installation sequence shall result in shingled side laps.
- G. All flashing side laps and overlaps shall be hand rolled with a 2" silicone roller to ensure full adhesion.
- H. All flashings shall be thoroughly rubbed in. Loose or poorly bonded flashings will not be accepted.
- I. Any wrinkles or fishmouths shall be cut out and repaired with new material overlapping 12" minimum onto adjacent adhered vapor retarder flashing material to remain.
- J. Any vapor retarder punctures or other damaged areas shall be patched with a new material overlapping 12" minimum onto adjacent vapor retarder flashing material on all sides.
- K. All inside and outside corners and locations where flashing side laps cross angle changes shall be patched by applying EPDM seam primer, allowing primer to fully dry, and installing a self-adhering uncured EPDM patch or inside/outside corner as applicable. Hand roll in place with a 2" silicone roller and seal all edges with a tooled bead of vapor retarder Manufacturer's gun-grade sealant.
  - 1. For Sika Sarnafil Vapor Retarder SA 31, seal inside and outside corners and locations where side laps cross angle changes using Sika Mastic in lieu of uncured EPDM patches.

- L. Vent pipes, gas piping, conduits, and other similar penetrations shall be flashed by applying EPDM seam primer, allowing primer to fully dry, and installing a self-adhering uncured EPDM flashing. Flashings shall extend 6" minimum overlap onto the roof field. Hand roll in place with a 2" silicone roller and seal all edges with a tooled bead of vapor retarder Manufacturer's gun-grade sealant.
  - 1. For Sika Sarnafil Vapor Retarder SA 31, seal penetrations using a troweled application of Sika Mastic in lieu of uncured EPDM flashing.
- M. At all locations where PVC roofing membrane will be installed in direct contact with the vapor retarder surface, all vapor retarder lap seam edges shall be covered with aluminum foil duct tape, centered over the seam edge.
- N. All seam edges at all vapor retarder flashings shall be sealed with a 1" wide bead of tooled sealant, as required to provide a watertight seal. Sealant shall be applied by the end of the same workday as vapor retarder flashing installation.

### 3.08 Temporary Water Cutoffs

- A. Temporary water cutoffs shall be constructed at the end of each working day to protect the vapor retarder substrate materials, vapor retarder system, building, and building interior from damage due to wind, snow, and rain.
- B. Contractor shall provide methods and materials compatible with the vapor retarder membrane, to provide a positively adhered weather and watertight seal, capable of withstanding inclement weather and ponded water.
- C. Construction of temporary water cutoffs is to be detailed by the Contractor and approved by the Manufacturer and the Owner's Representative.
- D. Temporary water cutoffs and contaminated vapor retarder shall be neatly trimmed and removed at the start of the next workday.
- E. If any water is allowed to enter the vapor retarder system, the entire affected area, including substrate materials, shall be removed and replaced at no additional cost to the Owner.

### 3.09 Repairs and Corrective Work

- A. Any areas of the vapor retarder system that incur damage due to staging of construction work, construction traffic, or other causes shall be repaired to satisfaction of the Owner and Manufacturer.
- B. Repairs shall be performed during the same workday that damage is identified.
- C. Repairs shall be performed by removing any materials where the vapor retarder or flashings have been punctured/damaged, where the membrane or flashings are not fully adhered, and/or where moisture has passed through the membrane and damaged the substrate materials. Following replacement of the substrate materials, the vapor retarder membrane shall then be replaced. Any areas of damage shall be overlaid with vapor retarder membrane material installed as specified and extending a minimum of 12" past the damage on all sides.

### 3.10 Verification

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.

- B. Contractor shall correct any deficient work prior to installing subsequent work.
- C. At a minimum of once per workday, Contractor shall inspect the vapor retarder system for punctures, seam separation or other deficiencies. Repair any potential breaches before the end of the workday and before any precipitation occurs.
- D. Contractor shall inspect all vapor retarder and flashing seams prior to proceeding with subsequent construction. All loose or separated seams shall be repaired prior to proceeding.
- E. Contractor shall inspect the vapor retarder system for punctures or other damage prior to proceeding with subsequent construction. Repair any such damage as specified prior to proceeding.

### 3.11 Cleaning

- A. Contractor shall follow the requirements of Section 02 41 20 – Roof Demolition and Cleanup.

- End of Section -

**PART ONE – GENERAL****1.01 Description**

- A. Furnish and install a weather and watertight adhered PVC roof complete, in-place, per the drawings and specifications.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
1. *The NRCA Roofing and Waterproofing Manual*, National Roofing Contractors Association
  2. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
  3. *Annual Book of ASTM Standards*, ASTM International
- B. Qualifications of Installers: Use adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this section. In acceptance or rejection of the work, the Owner will make no allowance for lack of skill on the part of the workers.
- C. Roofing Inspections: Make all required notifications and secure all required inspections by the Manufacturer of the approved materials to facilitate issuance of the specified roof warranty.
- D. U.L. Listing: Provide materials bearing Underwriters Laboratories (U.L.) marking on bundle, package, or container, indicating that materials have been produced under U.L.'s classification and follow-up service.
- E. The Contractor shall not subcontract the installation of the roof system covered under this specification to an individual or a firm that is not a full-time employee of the Contractor's company. Included shall be the following components:
1. Insulation
  2. Roof Membrane
  3. Flashings
  4. Roof Walkways

**1.03 References**

- A. References: Materials used in this section shall be listed in the reference(s) below. The reference(s) used shall be the latest published edition available on the date the Contractor submits its price proposal to the Owner.
1. *UL Product iQ* <https://productiq.ulprospector.com> UL Solutions



**1.04 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Most recent copy of Manufacturer's literature applicable to products and specifications to be used.
  - 2. Complete material list of all items proposed to be furnished and installed under this section.
  - 3. Letter from the roof membrane Manufacturer's technical services department clarifying the required adhesive application rates, application techniques, and quality control recommendations for this specific project. Provided rates shall satisfy the Manufacturer's published requirements for all membrane/adhesive/substrate combination(s) applicable to this project.
    - a. If the Manufacturer's Approval of Notice of Award (ANOVA) submittal required under Section 01 30 01 - Project Administration includes all of the adhesive application documentation specified for this submittal, the Contractor shall indicate "SEE ANOVA SUBMITTAL UNDER 01 30 01" where this letter is listed in the Schedule of Pre-Job Submittals.
  - 4. Contractor's proposed detail for temporary water cutoff installation.

**1.05 Delivery, Storage, and Handling**

- A. Protection: Use all means to protect the materials of this section before, during, and after installation and to protect the work and materials of all other trades.
- B. Delivery and Storage: Deliver materials to the job site in original, unopened containers no sooner than 14 days prior to start of job. Package labels shall indicate material name, production date, lot number, and/or product code. Materials shall be stored up, off of the roof deck or ground and covered completely with weatherproof tarps that are securely anchored, to prevent wind blow-off. When storing materials on the roof, do not over stress deck.
- C. Replacements: In the event of damage, immediately make all repairs and replacements to the approval of the Owner and at no additional cost to the Owner.
- D. Follow the Manufacturer's recommendations for storage of temperature sensitive materials.

**1.06 Scheduling**

- A. Work is to be performed on a daily basis with each section completed before progressing to the next day's work, unless specifically directed otherwise by the Owner's Representative.
- B. Completion of work will be defined as the installation of all specified roof preparation, insulation, field membrane, flashings, counterflashings, sheet metal, fasteners, and caulking.

**1.07 Warranty**

- A. See Section 01 78 36 - Warranties.

**PART TWO – PRODUCTS****2.01 General**

- A. Minimum product requirements have been listed. All of these components must be used and bid. Products not supplied by the membrane Manufacturer are to be purchased from a Manufacturer-approved source.
- B. Manufacturer supplied V.O.C. compliant products shall be bid and used if V.O.C. regulations are in effect at the project location at the time of bidding.
- C. No product shall contain any asbestos or asbestos-related products.

**2.02 Acceptable Manufacturers**

- A. Products manufactured or accepted by:

- 1. Sika Sarnafil Inc.
- 2. Carlisle SynTec Systems

**2.03 Materials**

- A. Roof Membrane

- 1. Roof membrane shall be polyester reinforced, polyvinyl chloride (PVC) sheet membrane.
- 2. Approved products
  - a. S327 by Sika Sarnafil Inc.
  - b. Sure-Flex PVC by Carlisle SynTec Systems
- 3. Roof membrane color and all accessory membrane items shall be White.
- 4. Membrane shall be 80-mil minimum thickness.
- 5. Only one width of roll goods shall be supplied for all field sheets on the entire project, unless specified otherwise.

- B. Flashing Membrane

- 1. Flashing membrane shall be fiberglass reinforced, PVC sheet membrane or KEE-modified PVC sheet membrane. Flashing membrane color shall match field membrane color.
- 2. Approved products
  - a. S327 by Sika Sarnafil Inc.
  - b. Sure-Flex PVC by Carlisle SynTec Systems
- 3. Membrane shall be 80-mil minimum thickness.

- 
- C. Flashing Membrane: Asphalt Contaminated Substrates
1. Flashings applied to asphalt-contaminated surfaces shall be a PVC membrane specifically engineered for such contamination, or a fleece-backed KEE-modified PVC membrane approved by the Manufacturer as being compatible. Membrane shall be 60-mil minimum.
  2. Approved products
    - a. G459 by Sika Sarnafil Inc.
    - b. Sure-Flex KEE HP FRS Fleece Backed by Carlisle SynTec Systems
- D. T-Joint Covers
1. Non-reinforced 4.5" diameter, prefabricated PVC membrane, with membrane type, thickness and color to match the PVC roof membrane
  2. Approved products
    - a. Sarnacircles by Sika Sarnafil Inc.
    - b. Sure-Flex PVC T-Joint Covers by Carlisle SynTec Systems
- E. PVC Flashing Accessories
1. Open Post Flashing, Inside and Outside Corners, Split Pipe Seals, Molded Pipe Seals, Square Tubing Wraps and other standard flashing accessories, as approved and supplied by Sika Sarnafil Inc or Carlisle SynTec Systems. Membrane type, thickness, and color to match the PVC roof membrane.
- F. PVC Membrane Cover Strips
1. Polyester reinforced PVC sheet membrane, 8" in width. approved and manufactured by Sika Sarnafil Inc. or Carlisle SynTec Systems. Cover strip membrane type, thickness and color to match the PVC field membrane material.
- G. System Fasteners: Steel
1. Corrosion-resistant, coated, self-tapping, self-drilling #15 screw with #3 Phillips head.
  2. Corrosion-resistant, Galvalume coated steel, 22-gauge minimum, factory-made plate.
  3. Fastener and plate shall be tested and approved by FM Global to ensure compliance with the requirements of FM Approval Standard 4470.
  4. Fastener shall be supplied by roof membrane Manufacturer.
  5. Approved Products
    - a. Sarnafastener #15 XP and Sarnadisc by Sika Sarnafil Inc.
    - b. HP-X Fastener and Seam Fastening Plate by Carlisle SynTec Systems

- 
- H. Batten Strip
1. 1" x 1/8" flat extruded aluminum bar pre-punched at 6" o.c., or 1" wide Galvalume-coated steel bar pre-punched at 6" o.c.
  2. Approved Products
    - a. Sarnastop by Sika Sarnafil Inc.
    - b. Metal Fastening Bar by Carlisle SynTec Systems
- I. Field and Flashing Membrane Adhesive
1. Horizontal Substrates: Water Based - Use of this product is restricted to temperatures greater than 40° F. (Contractors Choice)
    - a. Sarnacol 2121-Water based bonding adhesive by Sika Sarnafil Inc.
    - b. Sure-Flex PVC HydroBond Water Based Bonding Adhesive by Carlisle SynTec Systems
  2. Horizontal Substrates: Solvent Based (Contractors Choice)
    - a. Sarnacol 2170 - Solvent based reactivating adhesive by Sika Sarnafil Inc.
    - b. Sure-Flex PVC Bonding Adhesive by Carlisle SynTec Systems
  3. Vertical Substrates: Solvent Based
    - a. Sarnacol 2170 - Solvent based reactivating adhesive by Sika Sarnafil Inc.
    - b. Sure-Flex PVC Bonding Adhesive by Carlisle SynTec Systems
- J. Membrane Coated Sheet Metal
1. If the drawings and specifications require fabrication by a sheet metal Manufacturer, refer to Section 07 71 01 – Manufactured Roof-Related Sheet Metal Components.
  2. 24-gauge G90 galvanized sheet metal with 20-mil thick coating of unsupported PVC compound, color to match PVC roof membrane.
  3. Approved Products
    - a. Sarnaclad by Sika Sarnafil Inc.
    - b. Sure-Flex PVC Coated Metal by Carlisle SynTec Systems
- K. Synthetic Felt
1. Non-woven unsaturated polyester felt, for use as a separation layer between membrane flashings and irregular or contaminated substrates. This product shall not be used over coal-tar pitch bitumen.
  2. Approved Products
    - a. Sarnafelt by Sika Sarnafil Inc.

- 
- b. Sure-Seal HP Protective Mat by Carlisle SynTec Systems
- L. Membrane Cleaner
- 1. Manufacturer's seam cleaner shall be used for preparation of seam overlaps only.
  - 2. Approved Products
    - a. Seam Cleaner, by Sika Sarnafil Inc.
    - b. Sure-Flex PVC Membrane Cleaner by Carlisle SynTec Systems
- M. Termination Bar and Fasteners
- 1. Minimum 1/8" x 1" extruded aluminum bar with caulk lip at upper edge and factory installed fastener holes every 6" o.c.
  - 2. Approved products
    - a. Sikaplan Termination Bar by Sika Sarnafil Inc.
    - b. Termination Bar by Carlisle SynTec Systems
  - 3. Refer to Section 07 62 00 – Sheet Metal Flashing and Trim for acceptable types of fasteners, sealant primer and sealant. Fasteners shall have specified EPDM washers.
- N. Walkway
- 1. Approved Products: Membrane Walkway
    - a. Sarnatred-V - Polyester reinforced 39" x 50' x 0.096" weldable membrane with an embossed chevron surface, as supplied by Sika Sarnafil Inc. Color shall be light gray.
    - b. Sure-Flex PVC Walkway Roll by Carlisle SynTec Systems. Roll-out style, weldable, reinforced PVC membrane with a raised herringbone tread pattern for improved slip resistance. Intended for use with PVC and KEE HP membrane types. Supply 36" x 60' x 0.110", gray in color.
- O. Sealant Tape
- 1. Minimum 1/8" x 3/4" sealant tape extruded between two siliconized release paper, as supplied by roof membrane Manufacturer for filling gaps and creating positive seals behind membrane flashings as indicated on the drawings. Remove all release paper from sealant as part of the installation process.
  - 2. Approved Products
    - a. Multi-Purpose Tape ST by Sika Sarnafil Inc.
    - b. VACUSEAL Sealant Tape by Carlisle SynTec Systems

- 
- P. Aluminum Foil Tape
1. Where required on the drawings for butt joint detailing of membrane-clad metal, 2" wide, high-temperature, self-adhering 2-mil soft aluminum foil tape with butyl rubber-based adhesive shall be used.
  2. Approved Products
    - a. Aluminum Tape by Sika Sarnafil Inc.
    - b. Foil-Grip 1403-181BFX by HARDCAST, a Carlisle Company
    - c. Approved equal
- Q. Water Cutoff Sealant
1. One-part, non-sag, gun grade elastomeric sealant, as approved for use by the roof membrane Manufacturer. Butyl-based sealant shall not be used for water cutoff sealant in conjunction with Sika Sarnafil Inc. PVC membranes.
  2. Approved Products
    - a. Sikaflex-1a (polyurethane) by Sika Sarnafil Inc.
    - b. Water Cut-Off Mastic (butyl-based) by Carlisle SynTec Systems

#### 2.04 Other Materials

- A. Sheet Metal Nails
1. 1-1/4" minimum x 11-gauge, 3/8" head, hot dip galvanized, ring shank roofing nails shall be used where specified on the drawings for concealed fastening into wood.
  2. Approved Products
    - a. STORMGUARD by Maze Nails
    - b. Approved equal
- B. Membrane Cleaners Not Supplied by Roof Membrane Manufacturer
1. Use shall be limited to those products specifically referenced in the Manufacturer's published installation instructions, or as specifically approved in writing by the Manufacturer's technical representative for project-specific applications.
- C. All other materials not specifically described in this section but required for a complete and proper installation of the work shall be as selected by the Contractor, approved by the Manufacturer, and subject to the approval of the Owner.

---

**PART THREE – EXECUTION****3.01 Description**

- A. The latest Manufacturer specifications and installation techniques are to be followed along with the following requirements. These specific minimum requirements must be included in bid and are not to be altered.

**3.02 Inspection and Documentation**

- A. Examine the areas and conditions under which work in this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until such conditions have been corrected.
- B. Contractor shall monitor the installation to ensure proper adhesion is being achieved in all areas, and full compliance with the Manufacturer's ANOA and/or adhesive application letter provided and reviewed during the pre-job submittal process. Contractor shall adjust means and methods, as necessary, to achieve positive bond of membrane to substrates and at splices between components.
- C. Contractor shall document membrane adhesive application rates, application methods, verified application rates, and adhesive application start and stop times, where corresponding information is prompted on the Contractor's Daily Report form included under Division 01. Refer to Section 01 30 01 - Project Administration for other information related to Contractor's daily reporting requirements and submittal expectations.

**3.03 Surface Conditions**

- A. Surfaces scheduled to receive roofing are to be free of any standing water, frost, snow, or loose debris.
- B. Substrate is to be smooth, free of sharp projections, and free of obvious depressions.
- C. All metal fittings specified or shown on drawings are to be in-place before roofing.
- D. All nailers shall be securely installed prior to roofing.
- E. All surfaces scheduled to receive roofing membrane must be clean, and smooth. The membrane must not be in physical contact with any bituminous materials such as asphalt or coal-tar pitch, other than where asphalt-resistant PVC membrane flashings are applied over residual asphalt.

**3.04 Installation – General**

- A. Perform all related work specified elsewhere necessary for the installation of the specified membrane system.
- B. Ensure that fasteners do not penetrate conduit, post tension cables, or other miscellaneous items located within or on the underside of the roof deck.
- C. Owner's Representative may take a seam sample of approximately 8" x 8" twice daily. Contractor shall be responsible for making watertight each sample area immediately after sample is cut.

- D. Refer to the material Manufacturer's published product data sheets, technical bulletins, installation instructions, and adhesive application letter and/or ANOA in pre-job submittals for application requirements, acceptable temperature ranges, and other weather-related criteria that might affect the installation schedule.
1. Do not install materials if substrate temperature falls outside the acceptable ranges defined in the material Manufacturer's published information.
  2. Commence with application of systems and materials only when ambient temperatures and other weather-related criteria are forecast to satisfy the Manufacturer's requirements for all components to be installed.
  3. To the extent defined by the Manufacturer's published information, consideration shall be made for cure times after installation. Do not proceed with material or system application if Manufacturer's requirements are not able to be met during the full recommended curing period.
  4. Any exceptions shall require the Contractor to provide a project-specific letter from the material Manufacturer's technical services department approving a deviation to install or cure a given material outside the published parameters. Where a deviation letter is provided, Manufacturer shall clearly state the revised acceptable limitations to be followed by the Contractor.
  5. Refer to Manufacturer's published installation instructions and applicable technical bulletins for specialized cold or hot weather application techniques. When weather conditions on the project site meet the specified criteria, proceed in accordance with the Manufacturer-recommended techniques.
- E. All flashings shall be installed concurrently with the roof membrane as the construction progresses. No temporary flashings are allowed without prior written approval from the Owner's Representative and membrane Manufacturer.
- F. Adhesive application rates shall be as specified by the membrane Manufacturer.
- G. Adhesives shall be applied so as to achieve full coverage, in an even coat, without holidays, globs, puddles, or other irregularities. Prevent adhesive contamination of lap seams and areas to receive water cutoff sealant.
- H. All membrane rolls shall run the same direction within a given roof section. Once roll direction has been determined, do not change roll direction.
- I. Tack welding of the membrane is strictly prohibited during the sheet layout process or at any other time.

### 3.05 Installation of Roofing Membrane

- A. Laps in the membrane sheets shall be oriented as to not oppose the direction of drainage. Sheets shall overlap a minimum of 3" at all side and end laps. When placing the membrane, ensure seam locations are held back a minimum of 24" from edges of drainage devices.



- B. Over the properly installed/prepared substrate surface, unroll and position the membrane, without stretching, and fold the sheet to allow a workable exposure of the underside of the sheet. Apply solvent-based adhesive in a uniform fashion over a properly installed and prepared substrate using an approved 3/4" nap solvent-resistant paint roller. The adhesive shall be allowed to dry completely before installing the membrane. After coating the substrate, the underside of the membrane shall be coated with adhesive. When the membrane adhesive has dried slightly to produce strings when touched with a dry finger, the coated membrane shall be rolled onto the previously coated substrate being careful to avoid wrinkles or air pockets. Do not allow adhesive on the underside of the membrane to dry completely. The amount of membrane that can be coated with adhesive before rolling into substrate will be determined by application method, ambient temperature, humidity, and available manpower. After the membrane is placed, immediately press firmly in place with a minimum 100 lb. steel, membrane roller, by rolling in two directions. The remaining un-bonded half of the sheet shall be folded back and the procedure repeated.
- C. Apply water-based adhesive in a uniform fashion over a properly installed and prepared substrate by pouring the adhesive out of the pail, and spread using a medium nap roller. Alternatively, the adhesive may be spread using an airless sprayer. No adhesive shall be placed on the back of the membrane. The membrane shall be carefully unrolled into the wet adhesive, allowing sheets to overlap a minimum of 3". The formation of a film on the surface of the adhesive shall not be allowed to occur. After the membrane is unrolled, immediately broom into place with a medium bristle push broom to work out any air bubbles. Push the broom down the center of the sheet followed by brooming out from the center on both sides. Immediately after brooming, roll the membrane in two directions with a minimum 100 lb. steel, membrane roller.
- D. Seaming area is to be clean and free of dust, dirt, debris, adhesives, and other contaminants that could reduce weld strength or quality.
1. When cleaning is required, strictly follow the roof membrane Manufacturer's published installation instructions.
  2. Obtain project-specific written approval from the roof membrane Manufacturer's technical representative for any products and/or procedures not included in the published installation instructions.
- E. Laps are to be hot air welded using a roof membrane Manufacturer approved automatic welding machine. Laps shall be welded daily. All locations of machine starts and stops shall be marked on the membrane by the machine operator as they occur, so these locations can be carefully probed.
- F. All seams shall be fully welded with an uninterrupted flow of grey material along edges of the completed lap seams.
1. Minimum weld width shall be 1" for Sika Sarnafil membrane, unless wider seam with is required for referenced approvals.
  2. Minimum weld width shall be 1.5" for Carlisle SynTec Systems membrane, unless wider seam with is required for referenced approvals.
- G. Allow seams to cool and then check for fishmouths and other voids. Repairs shall be made daily by hot air welding.
- H. All T-laps shall be dog eared, hand rolled, and patched, using hot air welded T-joint covers, as supplied by the membrane Manufacturer. Color shall match the field membrane color.

- I. After installation of the field membrane and before installation of flashings, the field membrane shall be secured at roof perimeters and penetrations as shown on the drawings.
- J. Membrane plates and fasteners shall be installed around all roof penetrations and all changes in plane greater than 15°. Soil pipes, stacks, supports, posts, and drains require four fasteners placed evenly around the penetration, unless shown otherwise on the drawings.

### 3.06 Flashings

- A. Flashings shall be constructed and terminated as per the detail drawings. Flashings shall extend a minimum of 6" onto the roof membrane and 8" up the vertical substrate.
- B. Apply solvent based adhesive over the clean, dry, compatible substrate, using an approved solvent-resistant roller. Allow adhesive to dry completely before installing flashing membrane.
- C. Coat backside of flashing sheet with adhesive. Do not allow adhesive to dry completely on the underside of the membrane. When the membrane adhesive has dried slightly to produce strings when touched with a dry finger, the coated membrane shall be placed onto the previously coated substrate, being careful to avoid wrinkles or air pockets. The flashings shall be pressed firmly into place using a hand roller.
- D. The specified water cutoff sealant shall be applied behind the top edges of the flashings. The top edges of flashings shall be fastened per the Manufacturer's requirements at a minimum, unless superseded by the detail drawings.
- E. All flashings shall be fully bonded to the substrate.
- F. Utilize all premanufactured components available by the membrane Manufacturer in construction of flashings, including inside/outside corners, pipe boots, and cone flashings. Color shall match the field membrane.
- G. Install pitch pans only at locations shown on the drawings. Prior approval from the Owner's Representative is required for pitch pan use at any other locations.

### 3.07 Roof Drains

- A. Remove all existing roofing materials from the drain bowl and clamping ring. Wire brush drain and clamping ring flanges down to cast iron surface.
- B. Install tapered insulation drain sump.
- C. Position the membrane over the drain ensuring all membrane seams are located 24" minimum from edges of drain bowls.
- D. Install target flashing if shown on the drawings or if required to meet Manufacturer's requirements.
- E. Cut circular hole with 1" of membrane extending past drain bolt locations.
- F. Cut holes in the membrane for the bolts to penetrate through. **Do not cut notches back to the bolt locations.**
- G. Apply water cutoff sealant over the drain bowl flange, using a minimum of one-half tube per drain.

- H. Install the drain clamping ring and tighten all bolts to achieve complete compression. All bolt locations must be functional.
- I. Functional drain clamping rings and strainers shall be provided at all drains on a daily basis.

### 3.08 Membrane-Clad Metal Flashings

- A. Where indicated by the drawings and specifications, supply, fabricate and install membrane-clad metal flashings.
  - 1. If the drawings and specifications require fabrication of perimeter edge metal by a sheet metal Manufacturer, comply with the requirements of Section 07 71 01 – Manufactured Roof-Related Sheet Metal Components.
- B. Form and install flashings in the shapes and profiles indicated on the detail drawings.
- C. Metal flashings shall be fastened according to the detail drawings. Manufacturer's fastening requirements shall be followed if they exceed the requirements of the drawings and specifications.
- D. Adjacent metal flashing sheets shall be spaced 1/4" apart. The ends of each sheet shall be fastened 3" o.c. along the butt joint. The joint shall be covered with 2" wide aluminum tape. A 5" wide strip of flashing membrane shall be hot air welded over the joint.
- E. All flashings shall be installed concurrently with the roof membrane as the construction progresses. No temporary flashings are allowed without prior written approval from the Owner's representative and membrane Manufacturer.

### 3.09 Membrane Patching

- A. Where adjacent patches are within 12" of each other, one long patch shall be used to incorporate both locations to be patched, as opposed to using two smaller separate patches.
- B. Patches shall not overlap onto one another. Any locations where patches overlap shall be covered with one large patch that completely covers all edges of underlying patches. Edges of this large patch shall be welded onto the primary field or flashing membrane material, and not onto the underlying patching materials. Where installation of this large patch results in the formation of three-way overlaps, subsequently patch these T-joints as specified.
- C. Provide corrective patching of all membrane cuts, punctures, and defective seams unable to be properly repaired by hot air welding.
- D. The Owner may require removal and replacement of the roof system at any area containing more than six patches in a 10' x 10' area, when the repairs are required due to poor workmanship or roof membrane damage.

### 3.10 Roof Walkways

- A. Walkways shall be installed in a neat, orderly fashion and where indicated on roof plans or in specifications.
- B. Chalk line walkway locations on roof membrane and position walkway in-place, using chalk line as a guide.

- C. Roll Style Walkway: Clean and prepare roof membrane surface as recommended by the Manufacturer. Install walkway continuous and centered with previously installed walkway material. Leave a 4" drainage gap between all adjacent sections of walkway. Do not apply walkway material over field membrane seams, centering 4" gaps parallel with and over seam edges. Apply a continuous coat of membrane adhesive to the field sheet and back of walkway and roll into place in accordance with Manufacturer's requirements. Walkway shall be secured to the roof membrane by continuously hot air welding all edges. All edges shall be probed and repaired following installation with any seam voids welded watertight.

### 3.11 Temporary Water Cutoffs

- A. Temporary water cutoffs shall be constructed at the end of each working day to protect the insulation, roofing, building, and building interior from damage due to wind, snow, and rain.
- B. Contractor shall provide methods and materials compatible with the membrane, to provide a positively adhered weather and watertight seal, capable of withstanding inclement weather and ponded water.
- C. Construction of temporary water cutoffs is to be detailed by the Contractor and approved by the Manufacturer and the Owner's Representative.
- D. Temporary water cutoffs and contaminated membrane shall be neatly trimmed and removed at the start of the next workday.

### 3.12 Verification

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

### 3.13 Cleanup

- A. Contractor shall follow the requirements of Section 02 41 20 - Roof Demolition and Cleanup.

- End of Section -

**PART ONE – GENERAL****1.01 Description**

- A. Furnish and install a weather and watertight adhered felt/fleece back PVC roof complete, in-place, per the drawings and specifications.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
1. *The NRCA Roofing and Waterproofing Manual*, National Roofing Contractors Association
  2. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
  3. *Annual Book of ASTM Standards*, ASTM International
- B. Qualifications of Installers: Use adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this section. In acceptance or rejection of the work, the Owner will make no allowance for lack of skill on the part of the workers.
- C. Roofing Inspections: Make all required notifications and secure all required inspections by the Manufacturer of the approved materials to facilitate issuance of the specified roof warranty.
- D. U.L. Listing: Provide materials bearing Underwriters Laboratories (U.L.) marking on bundle, package, or container, indicating that materials have been produced under U.L.'s classification and follow-up service.
- E. The Contractor shall not subcontract the installation of the roof system covered under this specification to an individual or a firm that is not a full-time employee of the Contractor's company. Included shall be the following components:
1. Insulation
  2. Roof Membrane
  3. Flashings
  4. Roof Walkways

**1.03 References**

- A. References: Materials used in this section shall be listed in the reference(s) below. The reference(s) used shall be the latest published edition available on the date the Contractor submits its price proposal to the Owner.
1. *UL Product iQ* <https://productiq.ulprospector.com> UL Solutions

**1.04 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Most recent copy of Manufacturer's literature applicable to products and specifications to be used.
  - 2. Complete material list of all items proposed to be furnished and installed under this section.
  - 3. Letter from the roof membrane Manufacturer's technical services department clarifying the required adhesive application rates, application techniques, and quality control recommendations for this specific project. Provided rates shall satisfy the Manufacturer's published requirements for all membrane/adhesive/substrate combination(s) applicable to this project.
    - a. If the Manufacturer's Approval of Notice of Award (ANOVA) submittal required under Section 01 30 01 - Project Administration includes all of the adhesive application documentation specified for this submittal, the Contractor shall indicate "SEE ANOVA SUBMITTAL UNDER 01 30 01" where this letter is listed in the Schedule of Pre-Job Submittals.
  - 4. Contractor's proposed detail for temporary water cutoff installation.

**1.05 Delivery, Storage, and Handling**

- A. Protection: Use all means to protect the materials of this section before, during, and after installation and to protect the work and materials of all other trades.
- B. Delivery and Storage: Deliver materials to the job site in original, unopened containers no sooner than 14 days prior to start of job. Package labels shall indicate material name, production date, lot number, and/or product code. Materials shall be stored up, off of the roof deck or ground and covered completely with weatherproof tarps that are securely anchored, to prevent wind blow-off. When storing materials on the roof, do not over stress deck.
- C. Replacements: In the event of damage, immediately make all repairs and replacements to the approval of the Owner and at no additional cost to the Owner.
- D. Follow the Manufacturer's recommendations for storage of temperature sensitive materials.

**1.06 Scheduling**

- A. Work is to be performed on a daily basis with each section completed before progressing to the next day's work, unless specifically directed otherwise by the Owner's Representative.
- B. Completion of work will be defined as the installation of all specified roof preparation, insulation, field membrane, flashings, counterflashings, sheet metal, fasteners, and caulking.

**1.07 Warranty**

- A. See Section 01 78 36 - Warranties.

**PART TWO – PRODUCTS****2.01 General**

- A. Minimum product requirements have been listed. All of these components must be used and bid. Products not supplied by the membrane Manufacturer are to be purchased from a Manufacturer-approved source.
- B. Manufacturer-supplied V.O.C. compliant products shall be bid and used if V.O.C. regulations are in effect at the project location at the time of bidding.
- C. No product shall contain any asbestos or asbestos-related products.

**2.02 Acceptable Manufacturers**

- A. Products manufactured or accepted by:

- 1. Sika Sarnafil Inc.
- 2. Carlisle SynTec Systems

**2.03 Materials**

- A. Roof Membrane

- 1. Roof membrane shall be polyester reinforced, polyvinyl chloride (PVC) sheet membrane, with a polyester felt/fleece backing.
- 2. Approved products
  - a. S327 Feltback by Sika Sarnafil Inc.
  - b. FleeceBACK PVC Polyester Membrane by Carlisle SynTec Systems
- 3. Roof membrane color and all accessory membrane items shall be White.
- 4. Membrane shall be 80-mil minimum thickness.
- 5. Only one width of roll goods shall be supplied for all field sheets on the entire project, unless specified otherwise.

- B. Flashing Membrane

- 1. Flashing membrane shall be fiberglass reinforced, PVC sheet membrane or KEE-modified PVC sheet membrane. Flashing membrane color shall match field membrane color.
- 2. Approved products
  - a. S327 by Sika Sarnafil Inc.
  - b. Sure-Flex PVC by Carlisle SynTec Systems
- 3. Membrane shall be 80-mil minimum thickness.

- 
- C. Flashing Membrane: Asphalt Contaminated Substrates
1. Flashings applied to asphalt-contaminated surfaces shall be a PVC membrane specifically engineered for such contamination, or a fleece-backed KEE-modified PVC membrane approved by the Manufacturer as being compatible. Membrane shall be 60-mil minimum.
  2. Approved products
    - a. G459 by Sika Sarnafil Inc.
    - b. Sure-Flex KEE HP FRS Fleece Backed by Carlisle SynTec Systems
- D. T-Joint Covers
1. Non-reinforced 4.5" diameter, prefabricated PVC membrane, with membrane type, thickness and color to match the PVC roof membrane
  2. Approved products
    - a. Sarnacircles by Sika Sarnafil Inc.
    - b. Sure-Flex PVC T-Joint Covers by Carlisle SynTec Systems
- E. PVC Flashing Accessories
1. Open Post Flashing, Inside and Outside Corners, Split Pipe Seals, Molded Pipe Seals, Square Tubing Wraps and other standard flashing accessories, as approved and supplied by Sika Sarnafil Inc or Carlisle SynTec Systems. Membrane type, thickness, and color to match the PVC roof membrane.
- F. PVC Membrane Cover Strips
1. Polyester reinforced PVC sheet membrane, 8" in width. approved and manufactured by Sika Sarnafil Inc. or Carlisle SynTec Systems. Cover strip membrane type, thickness and color to match the PVC field membrane material.
- G. System Fasteners: Steel
1. Corrosion-resistant, coated, self-tapping, self-drilling #15 screw with #3 Phillips head.
  2. Corrosion-resistant, Galvalume coated steel, 22-gauge minimum, factory-made plate.
  3. Fastener and plate shall be tested and approved by FM Global to ensure compliance with the requirements of FM Approval Standard 4470.
  4. Fastener shall be supplied by roof membrane Manufacturer.
  5. Approved Products
    - a. Sarnafastener #15 XP and Sarnadisc by Sika Sarnafil Inc.
    - b. HP-X Fastener and Seam Fastening Plate by Carlisle SynTec Systems



- 
- H. Batten Strip
1. 1" x 1/8" flat extruded aluminum bar pre-punched at 6" o.c., or 1" wide Galvalume-coated steel bar pre-punched at 6" o.c.
  2. Approved Products
    - a. Sarnastop by Sika Sarnafil Inc.
    - b. Metal Fastening Bar by Carlisle SynTec Systems
- I. Field and Flashing Membrane Adhesive
1. Horizontal Substrates:
    - a. Sarnacol AD or Sarnacol OM Feltback Membrane adhesive by Sika Sarnafil Inc.
    - b. Flexible FAST polyurethane adhesive by Carlisle SynTec Systems
  2. Vertical Substrates: Solvent Based
    - a. Sarnacol 2170 - Solvent based reactivating adhesive by Sika Sarnafil Inc.
    - b. Sure-Flex Low-Voc PVC Bonding Adhesive by Carlisle SynTec Systems
- J. Membrane Coated Sheet Metal
1. If the drawings and specifications require fabrication by a sheet metal Manufacturer, refer to Section 07 71 01 – Manufactured Roof-Related Sheet Metal Components.
  2. 24-gauge G90 galvanized sheet metal with 20-mil thick coating of unsupported PVC compound, color to match PVC roof membrane.
  3. Approved Products
    - a. Sarnaclad by Sika Sarnafil Inc.
    - b. Sure-Flex PVC Coated Metal by Carlisle SynTec Systems
- K. Synthetic Felt
1. Non-woven unsaturated polyester felt, for use as a separation layer between membrane flashings and irregular or contaminated substrates. This product shall not be used over coal-tar pitch bitumen.
  2. Approved Products
    - a. Sarnafelt by Sika Sarnafil Inc.
    - b. Sure-Seal HP Protective Mat by Carlisle SynTec Systems
- L. Membrane Cleaner: Seam Overlaps
1. Manufacturer's seam cleaner shall be used for overlaps only, unless written advanced approval for other uses is provided by the roof membrane Manufacturer.

- 
2. Approved Products
    - a. Seam Cleaner, as supplied by Sika Sarnafil Inc. See Sika Sarnafil Roofing Technical Bulletin #02-13 for materials approved by Sika Sarnafil for cleaning of membrane outside of seam overlap areas.
    - b. Sure-Flex PVC Membrane Cleaner by Carlisle SynTec Systems
- M. Termination Bar and Fasteners
1. Minimum 1/8" x 1" extruded aluminum bar with caulk lip at upper edge and factory installed fastener holes every 6" o.c.
  2. Approved products
    - a. Sikaplan Termination Bar by Sika Sarnafil Inc.
    - b. Termination Bar by Carlisle SynTec Systems
  3. Refer to Section 07 62 00 – Sheet Metal Flashing and Trim for acceptable types of fasteners, sealant primer and sealant. Fasteners shall have specified EPDM washers.
- N. Walkway
1. Approved Products: Membrane Walkway
    - a. Sarnatred-V - Polyester reinforced 39" x 50' x 0.096" weldable membrane with an embossed chevron surface, as supplied by Sika Sarnafil Inc. Color shall be light gray.
    - b. Sure-Flex PVC Walkway Roll by Carlisle SynTec Systems. Roll-out style, weldable, reinforced PVC membrane with a raised herringbone tread pattern for improved slip resistance. Intended for use with PVC and KEE HP membrane types. Supply 36" x 60' x 0.110", gray in color.
- O. Sealant Tape
1. Minimum 1/8" x 3/4" sealant tape extruded between two siliconized release paper, as supplied by roof membrane Manufacturer for filling gaps and creating positive seals behind membrane flashings as indicated on the drawings. Remove all release paper from sealant as part of the installation process.
  2. Approved Products
    - a. Multi-Purpose Tape ST by Sika Sarnafil Inc.
    - b. VACUSEAL Sealant Tape by Carlisle SynTec Systems
- P. Aluminum Foil Tape
1. Where required on the drawings for butt joint detailing of membrane-clad metal, 2" wide, high-temperature, self-adhering 2-mil soft aluminum foil tape with butyl rubber-based adhesive shall be used.

2. Approved Products
  - a. Aluminum Tape by Sika Sarnafil Inc.
  - b. Foil-Grip 1403-181BFX by HARDCAST, a Carlisle Company
  - c. Approved equal
- Q. Water Cutoff Sealant
  1. One-part, non-sag, gun grade elastomeric sealant, as approved for use by the roof membrane Manufacturer. Butyl-based sealant shall not be used for water cutoff sealant in conjunction with Sika Sarnafil Inc. PVC membranes.
  2. Approved Products
    - a. Sikaflex-1a (polyurethane) by Sika Sarnafil Inc.
    - b. Water Cut-Off Mastic (butyl-based) by Carlisle SynTec Systems

**2.04 Other Materials**

- A. Sheet Metal Nails
  1. 1-1/4" minimum x 11-gauge, 3/8" head, hot dip galvanized, ring shank roofing nails shall be used where specified on the drawings for concealed fastening into wood.
  2. Approved Products
    - a. STORMGUARD by Maze Nails
    - b. Approved equal
- B. Membrane Cleaners Not Supplied by Roof Membrane Manufacturer
  1. Use shall be limited to those products specifically referenced in the Manufacturer's published installation instructions, or as specifically approved in writing by the Manufacturer's technical representative for project-specific applications.
- C. All other materials not specifically described in this section but required for a complete and proper installation of the work shall be as selected by the Contractor, approved by the Manufacturer, and subject to the approval of the Owner.

**PART THREE – EXECUTION****3.01 Description**

- A. The latest Manufacturer specifications and installation techniques are to be followed along with the following requirements. These specific minimum requirements must be included in bid and are not to be altered.

**3.02 Inspection and Documentation**

- A. Examine the areas and conditions under which work in this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until such conditions have been corrected.
- B. Contractor shall monitor the installation to ensure proper adhesion is being achieved in all areas, and full compliance with the Manufacturer's ANOA and/or adhesive application letter provided and reviewed during the pre-job submittal process. Contractor shall adjust means and methods, as necessary, to achieve positive bond of membrane to substrates and at splices between components.
- C. Contractor shall document membrane adhesive application rates, application methods, verified application rates, and adhesive application start and stop times, where corresponding information is prompted on the Contractor's Daily Report form included under Division 01. Refer to Section 01 30 01 - Project Administration for other information related to Contractor's daily reporting requirements and submittal expectations.

**3.03 Surface Conditions**

- A. Surfaces scheduled to receive roofing are to be free of any standing water, frost, snow, or loose debris.
- B. Substrate is to be smooth, free of sharp projections, and free of obvious depressions.
- C. All metal fittings specified or shown on drawings are to be in-place before roofing.
- D. All nailers shall be securely installed prior to roofing.
- E. All surfaces scheduled to receive PVC membrane must be clean and smooth.
- F. To ensure a clean substrate, pressure wash the surface of modified bitumen membrane prior to installing PVC single-ply membrane.

**3.04 Installation – General**

- A. Perform all related work specified elsewhere necessary for the installation of the specified membrane system.
- B. Owner's Representative may take a seam sample of approximately 8" x 8" twice daily. Contractor shall be responsible for making watertight each sample area immediately after sample is cut.
- C. Refer to the material Manufacturer's published product data sheets, technical bulletins, installation instructions, and adhesive application letter and/or ANOA in pre-job submittals for application requirements, acceptable temperature ranges, and other weather-related criteria that might affect the installation schedule.
  - 1. Do not install materials if substrate temperature falls outside the acceptable ranges defined in the material Manufacturer's published information.
  - 2. Commence with application of systems and materials only when ambient temperatures and other weather-related criteria are forecast to satisfy the Manufacturer's requirements for all components to be installed.

3. To the extent defined by the Manufacturer's published information, consideration shall be made for cure times after installation. Do not proceed with material or system application if Manufacturer's requirements are not able to be met during the full recommended curing period.
  4. Any exceptions shall require the Contractor to provide a project-specific letter from the material Manufacturer's technical services department approving a deviation to install or cure a given material outside the published parameters. Where a deviation letter is provided, Manufacturer shall clearly state the revised acceptable limitations to be followed by the Contractor.
  5. Refer to Manufacturer's published installation instructions and applicable technical bulletins for specialized cold or hot weather application techniques. When weather conditions on the project site meet the specified criteria, proceed in accordance with the Manufacturer-recommended techniques.
- D. All flashings shall be installed concurrently with the roof membrane as the construction progresses. No temporary flashings are allowed without prior written approval from the Owner's Representative and membrane Manufacturer.
- E. Adhesive application rates shall be as specified by the membrane Manufacturer.
1. The specified adhesives are a single surface adhesive. It is spray applied in a "Spatter Pattern" onto the roof, insulation or cover board by dispensing the adhesive in a spray pattern similar to the action required when hand watering a flower bed. The spatter pattern should yield a heavily textured coating of approximately 1/4" to 1/2" nominal thickness height on the peaks of the spatter.
  2. The seams of the membrane and factory selvage edge must be protected from overspray. If overspray does contaminate the seam area(s), immediately clean area with acetone while the adhesive is still wet.
- F. All membrane rolls shall run the same direction within a given roof section. Once roll direction has been determined, do not change roll direction.
- G. Tack welding of the membrane is strictly prohibited during the sheet layout process or at any other time.

### **3.05 Installation of Felt Back Roofing Membrane in Low Rise Adhesive**

- A. Laps in the membrane sheets shall be oriented as to not oppose the direction of drainage. Sheets shall overlap a minimum of 3" at all side and end laps. When placing the membrane, ensure seam locations are held back a minimum of 24" from edges of drainage devices.
- B. Locations where field membrane turns down the wall behind edge metal shall be constructed with non-fleece back membrane.
- C. Unroll and position rolls of fleece back membrane over the properly installed and prepared substrate.
- D. Peel (butterfly) the rolls back in the long direction, halfway each upon themselves to expose the substrate and underlying polyester fleece backing.
- E. Apply spatter pattern of foam adhesive to the substrate; dispensing the adhesive in a spattered popcorn spray pattern.

- F. Spatter pattern shall achieve a nominal 80 percent coverage of textured coating at approximately 0.25" (6 mm) nominal thickness. (The balance of the substrate will get coated as the adhesive spreads during the brooming and rolling process.)
- G. Avoid spattering the back of the fleece back membrane.
- H. Do not allow adhesive to contaminate membrane overlaps. Use a sheet of insulation board to mask the spray area if required to keep alignment straight and smooth along adjoining membrane areas.
- I. Overspray may be cleaned immediately with acetone while the adhesive is still wet.
- J. Fold and maneuver the fleece back membrane into the wet adhesive, (approximate open time for the adhesive is five to ten minutes depending on environmental conditions) avoiding any wrinkles or air pockets in the fleece back membrane.
- K. Broom the membrane into the wet adhesive and complete the bonding process by firmly pressing the bonded membrane into place with a 150 lb segmented roller.
- L. Repeat the process for the remaining un-bonded portion of the membrane, lapping subsequent, adjacent rolls of membrane a minimum of 3 inch (76 mm), ensuring proper shingling of the membrane to shed water along the laps.
- M. No adhesive shall be applied to the lap seam areas of the membrane. Areas contaminated with adhesive require a membrane patch.
- N. Laps are to be hot air welded using an automatic welder approved by the Manufacturer. Laps shall be welded daily. All locations of machine starts and stops shall be marked on the membrane by the machine operator as they occur, so these locations can be carefully probed.
- O. All seams are to be fully welded a minimum of 1" from the edge of the lap with an uninterrupted flow of grey material from the edge of the completed seam.
- P. Allow seams to cool and then check for fishmouths and other voids. Repairs are to be made daily by hot air welding.
- Q. All T-laps shall be dog eared, hand-rolled, and patched, using hot air welded T-joint covers, as supplied by the membrane Manufacturer. Color shall match the field membrane color.
- R. After installation of the field membrane and before installation of flashings, the field membrane shall be secured using one of the methods shown in the drawings.

### **3.06 Flashings**

- A. Flashings shall be constructed and terminated as per the detail drawings. Flashings shall extend a minimum of 6" onto the roof membrane and 8" up the vertical substrate.
- B. Apply Sarnacol 2170 or Sure-Flex Low-Voc PVC bonding adhesive Low- VOC over the clean, dry, compatible substrate, using an approved solvent-resistant roller. Allow adhesive to dry completely before installing flashing membrane.

- C. Coat backside of flashing sheet with adhesive. Do not allow adhesive to dry completely on the underside of the membrane. When the membrane adhesive has dried slightly to produce strings when touched with a dry finger, the coated membrane shall be placed onto the previously coated substrate, being careful to avoid wrinkles or air pockets. The flashings shall be pressed firmly into place using a hand roller.
- D. The specified water cutoff sealant shall be applied behind the top edges of the flashings. The top edges of flashings shall be fastened per the Manufacturer's requirements at a minimum, unless superseded by the detail drawings. Prior to setting flashings and/or applying sealant, remove felt/fleece from backside of the membrane in all areas to receive sealant. Sealing to felt/fleece is unacceptable.
- E. All flashings shall be fully bonded to the substrate.
- F. Utilize all premanufactured components available by the membrane Manufacturer in construction of flashings, including inside/outside corners, pipe boots, and cone flashings. Color shall match the field membrane.

### 3.07 Roof Drains

- A. Remove all existing roofing materials from the drain bowl and clamping ring. Wire brush drain and clamping ring flanges down to cast iron surface.
- B. Install tapered insulation drain sump.
- C. Position the membrane over the drain ensuring all membrane seams are located 24" minimum from edges of drain bowls.
- D. Install target flashing using bare back membrane, hot air welded to the adjacent felt/fleece back membrane. This is required to prevent felt/fleece back membrane from crossing drain clamping rings and wicking water into the roof system.
- E. Cut circular hole in drain target flashing centered over drain outlet, with 1" of membrane extending past drain bolt locations.
- F. Cut holes in the drain target flashing for the drain bolts to penetrate through. **Do not cut notches back to the bolt locations.**
- G. Apply water cutoff sealant over the drain bowl flange, using a minimum of one-half tube per drain.
- H. Install the drain clamping ring and tighten all bolts to achieve complete compression. All bolt locations must be functional.
- I. Functional drain clamping rings and strainers shall be provided at all drains on a daily basis.

### 3.08 Membrane-Clad Metal Flashings

- A. Where indicated by the drawings and specifications, supply, fabricate and install membrane-clad metal flashings.
  - 1. If the drawings and specifications require fabrication of perimeter edge metal by a sheet metal Manufacturer, comply with the requirements of Section 07 71 01 – Manufactured Roof-Related Sheet Metal Components.
- B. Form and install flashings in the shapes and profiles indicated on the detail drawings.

- C. Metal flashings shall be fastened according to the detail drawings. Manufacturer's fastening requirements shall be followed if they exceed the requirements of the drawings and specifications.
- D. Adjacent metal flashing sheets shall be spaced 1/4" apart. The ends of each sheet shall be fastened 3" o.c. along the butt joint. The joint shall be covered with 2" wide aluminum tape. A 5" wide strip of flashing membrane shall be hot air welded over the joint.
- E. All flashings shall be installed concurrently with the roof membrane as the construction progresses. No temporary flashings are allowed without prior written approval from the Owner's representative and membrane Manufacturer.

### 3.09 Membrane Patching

- A. Where adjacent patches are within 12" of each other, one long patch shall be used to incorporate both locations to be patched, as opposed to using two smaller separate patches.
- B. Patches shall not overlap onto one another. Any locations where patches overlap shall be covered with one large patch that completely covers all edges of underlying patches. Edges of this large patch shall be welded onto the primary field or flashing membrane material, and not onto the underlying patching materials. Where installation of this large patch results in the formation of three-way overlaps, subsequently patch these T-joints as specified.
- C. Provide corrective patching of all membrane cuts, punctures, and defective seams unable to be properly repaired by hot air welding.
- D. The Owner may require removal and replacement of the roof system at any area containing more than six patches in a 10' x 10' area, when the repairs are required due to poor workmanship or roof membrane damage.

### 3.10 Roof Walkways

- A. Walkways shall be installed in a neat, orderly fashion and where indicated on roof plans or in specifications.
- B. Chalk line walkway locations on roof membrane and position walkway in-place, using chalk line as a guide.
- C. Roll Style Walkway: Clean and prepare roof membrane surface as recommended by the Manufacturer. Install walkway continuous and centered with previously installed walkway material. Leave a 4" drainage gap between all adjacent sections of walkway. Do not apply walkway material over field membrane seams, centering 4" gaps parallel with and over seam edges. Apply a continuous coat of membrane adhesive to the field sheet and back of walkway and roll into place in accordance with Manufacturer's requirements. Walkway shall be secured to the roof membrane by continuously hot air welding all edges. All edges shall be probed and repaired following installation with any seam voids welded watertight.

### 3.11 Temporary Water Cutoffs

- A. Temporary water cutoffs shall be constructed at the end of each working day to protect the insulation, roofing, building, and building interior from damage due to wind, snow, and rain.
- B. Contractor shall provide methods and materials compatible with the membrane, to provide a positively adhered weather and watertight seal, capable of withstanding inclement weather and ponded water.



- C. Construction of temporary water cutoffs is to be detailed by the Contractor and approved by the Manufacturer and the Owner's Representative.
- D. Temporary water cutoffs and contaminated membrane shall be neatly trimmed and removed at the start of the next workday.

**3.12 Verification**

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

**3.13 Cleaning**

- A. Contractor shall follow the requirements of Section 02 41 20 - Roof Demolition and Cleanup.

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. Furnish and install shop-fabricated roof-related sheet metal work, such as counterflashings, expansion joint covers, roof divider caps, control joint caps, fascia extensions, scupper inserts, accessory flashings, storm collars, and downspouts per the drawings and specifications, including all clips, sealant, fasteners, and joining to make weathertight and watertight.
- B. Refer to Section 07 71 01 – Manufactured Roof-Related Sheet Metal Components for premanufactured sheet metal work to be procured and installed by the Contractor and fabricated by a Manufacturing entity, including but not limited to fascia systems, copings, edge metal, and gutters.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. *Architectural Sheet Metal Manual*, Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
  - 2. *The NRCA Roofing and Waterproofing Manual* National Roofing Contractors Association
  - 3. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins
  - 4. *Annual Book of ASTM Standards*, ASTM International
  - 5. Sealant, Waterproofing & Restoration Institute (SWR Institute) written recommendations and technical bulletins
- B. Qualifications of Installers: Use adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this section.
- C. In acceptance or rejection of the work of this section, the Owner will make no allowance for lack of skill on the part of the workers.

**1.03 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Shop drawings showing types and gauges of metal, fastener types and locations, and details of fabrication and installation.
  - 2. Product information or material list noting fasteners, sealants, sealant primers, sealant tapes, and other required accessories.

3. Color chart or physical samples for selection of prefinished metal color by the Owner.
4. Color chart or physical samples for selection of sealant color by the Owner.

#### **1.04 Delivery, Storage, and Handling**

- A. Use all means to protect the materials of this section before, during, and after installation and to protect the work and materials of all other trades. Roof surfaces shall be protected from damage at all times.
- B. Deliver only new materials to the job site. Materials to be stored in such a manner as to be protected from wind displacement, rain, snow, or inclement weather. Do not overstress the deck, when storing materials on the roof.
- C. In the event of damage, immediately make all repairs and replacements to the approval of the Owner and at no additional cost to the Owner.
- D. Follow the Manufacturer's recommendations for storage of temperature sensitive materials.

#### **1.05 Scheduling**

- A. All new sheet metal work shall be closely coordinated with the installation of the new roofing system.
- B. Sheet metal or weathertight temporary coverings shall be installed directly after roofing work such that roofing terminations are not left unprotected by metal. Where specified, fully-detailed flashing termination bars are allowable to function as weathertight temporary coverings.

#### **1.06 Warranty**

- A. See Section 01 78 36 - Warranties.

### **PART TWO – PRODUCTS**

#### **2.01 General**

- A. Manufacturer-supplied V.O.C. compliant products shall be bid and used if V.O.C. regulations are in effect at the project location at the time of bidding.
- B. No product shall contain any asbestos or asbestos-related products.
- C. Approved equal products must be proposed prior to the bid due date, and approval shall be granted by the Owner prior to award of contract. Otherwise, substitutions shall not occur.

#### **2.02 Materials**

- A. Sheet metal components, metal types, finishes, gauges/thicknesses, and joint types are specified in the detail drawings.
- B. Contractor shall use gauges or thicknesses listed in the drawings or as prescribed in the referenced standards for specific girths, whichever is greater.

- C. Where sheet metal material or gauge is not indicated on the drawings, provide the highest quality and gauge commensurate with the referenced standards.
- D. Approved equal products must be proposed prior to the bid due date, and approval shall be granted by the Owner prior to award of contract.

### 2.03 Material Specifications

- A. Galvanized Steel
  - 1. Steel shall be supplied with G90 galvanized finish.
  - 2. Specifications References
    - a. ASTM A 653/A 653M – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot Dip Process
- B. Kynar Prefinished Steel
  - 1. G90 galvanized steel with a polyester wash coat on the concealed side, and Kynar 500/Hylar 5000 coating on the exposed side.
  - 2. Approved Products
    - a. Elevate UNA-CLAD by Holcim Solutions and Products US, LLC
    - b. PAC-CLAD by Peterson Aluminum Corporation
    - c. ColorKlad by Ryerson Inc.
    - d. Approved equal
  - 3. Color shall be selected by the Owner from the Manufacturer's standard colors.

### 2.04 Coated Carbon Steel Fasteners

- A. All fasteners shall be carbon steel with corrosion-resistant coating, unless otherwise noted. Fasteners shall show no more than 15 percent red rust corrosion after 30 cycles of Kesternich testing.
- B. Contractor shall field verify existing and new substrates and select appropriate fasteners from the specified options to meet the intent of the drawings, specifications, and specified standards. Contractor shall coordinate all fastener types, dimensions, head styles, drill points and threads per inch. If a required fastener is not included in the specifications or noted on the drawings, Contractor shall submit a request for clarification to the Owner's Representative before proceeding.
- C. Masonry/Concrete Fasteners
  - 1. Fasteners shall be threaded or expansion type as shown on the drawings.
  - 2. Threaded fasteners shall be 1/4" minimum with hex washer head.

3. Expansion fasteners shall be 1/4" zinc-alloy jacketed with stainless steel or zinc-alloy drive pin and 1/2" minimum mushroom head (nylon or plastic anchors are not approved).
  4. Fasteners exposed to weather shall be supplied with aluminum or corrosion-resistant steel washer with watertight bonded EPDM gasket.
  5. Approved Products
    - a. Tapcon HWH with Climaseal Coating by ITW RED HEAD
    - b. UltraCon+ HWH with Stalgard Coating by DeWALT
    - c. ZAC Anchor Termination Fastener ZA-#14 with epoxy e-coat by SFS Group USA, Inc.
    - d. Powers Zamac Hammer-Screw with Zinc-Plated Carbon Steel Drive Screw by DeWALT
    - e. Metal Hit Anchor by Hilti
    - f. Masonry Anchor by OMG
    - g. Zinc Nailin Termination Fastener by SFS Group USA, Inc.
    - h. Approved equal
  6. Fasteners shall be of sufficient length to penetrate the substrate a minimum of 1-1/2" deep.
- D. Steel/Wood Fasteners
1. Corrosion-resistant threaded fasteners of the types and minimum sizes specified for each application.
  2. Fasteners exposed to weather shall be supplied with aluminum or corrosion-resistant steel washer with watertight bonded EPDM gasket.
  3. Approved Products: Sheet Metal-to-Sheet Metal Stitch Fasteners Exposed to Weather
    - a. TEKS 1 ABOT MAXISEAL 1/4-14 x 7/8" with Climaseal Coating by ITW Buildex
    - b. 1/4-14 x 7/8" ZAC Impax Lap (5/16) Panel to Panel Fastener by SFS Group USA, Inc.
    - c. 1/4-14 x 7/8" Drilit #1DP HWH with Stalgard Coating by Elco Construction Products/DeWALT
    - d. Approved equal
  4. Approved Products: Sheet Metal-to-Metal Framing Fasteners Exposed to Weather
    - a. TEKS 5 HWH/BD 12-24 with Climaseal Coating by ITW Buildex

- b. #12-24 ZAC Impax SD5 Metal to Metal Fastener SFS Group USA, Inc.
  - c. #12-24 Drilit #5DP HWH with Stalgard Coating by Elco Construction Products/DeWALT
  - d. Approved equal
5. Approved Products: Sheet Metal-to-Wood Fasteners Exposed to Weather
- a. TruGrip SHARP HWH/BD 9-15 with Climaseal Coating by ITW Buildex
  - b. ZAC Anchor Termination Fastener ZA-#14 with epoxy e-coat by SFS Group USA, Inc.
  - c. 1/4-14 ZAC Type AB Self-Tapping Metal to Wood or Metal Fastener by SFS Group USA, Inc.
  - d. TapFast with Stalgard Coating by Elco Construction Products/DeWALT
  - e. Approved equal
6. Approved Products: Concealed Sheet Metal-to-Steel Framing Fasteners
- a. Corrosion-resistant, #2 Phillips or square drive #8-18 screw with #2 self-tapping drill point and 0.42" minimum modified truss head or pancake head design.
7. Approved Products: Concealed Sheet Metal-to-Sheet Metal Stitch Fasteners
- a. Corrosion-resistant, #2 Phillips or square drive #8-18 screw with #2 self-tapping drill point and 0.42" minimum modified truss head or pancake head design.
8. Fasteners to be of sufficient length to penetrate through steel 1" minimum and into wood 1.5" minimum.
- E. Closed End Self Sealing Pop Rivets
- 1. Watertight closed-end pop rivets with stainless steel mandrel; dome head; aluminum, steel, or copper body to match sheet metal material; 1/8" rivet body diameter; with grip ranges as required to execute concepts required by the drawings.
  - 2. Rivets shall be color matched where used with prefinished sheet metal.
  - 3. Approved Products
    - a. Stanley Engineered Fastening
    - b. aDP Rivet
    - c. Approved equal

- F. Sheet Metal Nails
  - 1. 1-1/4" minimum x 11-gauge, 3/8" head, hot dip galvanized, ring shank roofing nails shall be used where specified on the drawings for concealed fastening into wood.
  - 2. Approved Products
    - a. STORMGUARD by Maze Nails
    - b. Approved equal

## 2.05 Other Materials

- A. Sheet Metal Underlayment
  - 1. Sheet waterproofing underlayment at parapets, expansion joints, etc., shall be 36-mil (minimum) single-ply material and associated seaming materials. Sheet waterproofing material shall be compatible with the underlying materials and approved by the primary roof membrane Manufacturer.
- B. Flashing Membrane
  - 1. Flashing and detailing of flanged sheet metal components shall be achieved with flashing membrane supplied by the roof membrane Manufacturer. Refer to the associated Division 07 roof membrane specification section for approved products.
- C. Aluminum Foil Tape
  - 1. Where required on the drawings for butt joint detailing of membrane-clad metal, 2" wide, high-temperature, self-adhering 2-mil soft aluminum foil tape with butyl rubber-based adhesive shall be used.
    - a. Approved Products
      - 1) Aluminum Tape by Sika Sarnafil Inc.
      - 2) Foil-Grip 1403-181BFX by HARDCAST, a Carlisle Company
      - 3) 3M Venture Tape Aluminum Foil Tape 1580 by 3M Company
      - 4) Nashua 360-17 FoilMastic Butyl Rubber Tape by Berry Global Inc.
      - 5) Approved equal
- D. Sealants and Related Accessories
  - 1. General: Unless specifically directed otherwise by the Owner's Representative, use only the type of sealants described in this section. Color of sealant shall be determined in the pre-job submittal process.
    - a. Approved Products: Polyether (Hybrid) Sealant
      - 1) MasterSeal NP 150 by Sika Corporation
      - 2) SikaHyflex-150 LM by Sika Corporation

- 3) DuraLink 50 by CHEM LINK
- 4) Approved equal
2. Cleaner
  - a. Industrial solvent recommended by the sealant Manufacturer, such as Isopropyl Alcohol, Naphtha, Mineral Spirits, Xylol, Toluene, MEK, or Manufacturer-supplied cleaner.
3. Primer
  - a. General: Furnish primer recommended by the sealant Manufacturer for use with the selected sealant on the substrate type to receive the sealant.
  - b. Approved Products: Primer for Polyether (Hybrid) Sealant
    - 1) MasterSeal P 173 by Sika Corporation
    - 2) Sikaflex Primer 429 by Sika Corporation; porous surfaces only.
    - 3) As recommended by CHEM LINK for DuraLink 50
4. Backer Rod
  - a. General: Use only those backup materials that are specifically recommended for this installation by the sealant Manufacturer and that are closed-cell, non-absorbent, non-staining, and non-gassing when punctured. Backup materials shall be 1.5 times the width of the joint.
  - b. Approved Products
    - 1) MasterSeal 921 by Sika Corporation
    - 2) Sika Backer Rod by Sika Corporation
    - 3) HBR-Rod by CHEM LINK
    - 4) KOOL-ROD by W.R. Meadows, Inc.
    - 5) Approved equal
5. High Temperature Resistant Sealant
  - a. Approved Products
    - 1) DOWSIL 736 Heat Resistant Sealant by Dow Corning Corporation
    - 2) Approved equal



- E. Sealant Tape
  - 1. Permanently elastic isobutylene tripolymer tape or isobutylene isoprene copolymer tape that will bond to Galvalume, galvanized steel; aluminum; siliconized polyester, and polyvinyl fluoride painted metals; as well as wood, concrete, etc., 1/8" x 1" minimum nominal cross section, available in multiple sizes, meeting Federal Specification TT-C 1796A, Type II, Class B, with minimum 20 psi adhesive tensile strength according to ASTM C 907, with a service temperature range of -60°F to 212°F.
    - a. Approved Products
      - 1) SikaLastomer-90 or -95 Gray by Sika Corporation
      - 2) SikaLastomer-93 Black by Sika Corporation
      - 3) SikaLastomer-65 White by Sika Corporation
      - 4) Approved equal
- F. Joint Soldering Components
  - 1. Solder
    - a. Galvanized Steel: Sn 50Pb50 solder. Manufacturer shall be Kester or approved equal.
    - b. Stainless Steel: Sn60Pb36Ag04 solder. Manufacturer shall be Kester or approved equal.
  - 2. Flux: Liquid or Paste
    - a. SUPERIOR No. 71 by Superior Flux & Mfg. Co.
    - b. Approved equal

## **PART THREE – EXECUTION**

### **3.01 Inspection**

- A. Examine the areas and conditions under which work of this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.
- B. Verify that the work by all other trades has been completed prior to installing roof-related sheet metal work.

### **3.02 General**

- A. Install all materials and components in accordance with Manufacturer's instructions, to ensure finished system meets the intent of the drawings, specifications, and specified standards.

- B. Where prefinished sheet metal is used, remove protective vinyl film immediately before installation.
- C. Refer to the material Manufacturer's published product data sheets and installation instructions for information regarding acceptable temperature ranges and other weather-related criteria that might affect the installation schedule.
  - 1. Do not install materials if substrate temperature falls outside the acceptable ranges defined in the material Manufacturer's published information.
  - 2. Commence with application of systems and materials only when ambient temperatures and other weather-related criteria are forecast to satisfy the Manufacturer's requirements for all components to be installed.
  - 3. To the extent defined by the Manufacturer's published information, consideration shall be made for cure times after installation. Do not proceed with material or system application if Manufacturer's requirements are not able to be met during the full recommended curing period.
  - 4. Any exceptions shall require the Contractor to provide a project-specific letter from the material Manufacturer's technical services department approving a deviation to install or cure a given material outside the published parameters. Where a deviation letter is provided, Manufacturer shall clearly state the revised acceptable limitations to be followed by the Contractor.
  - 5. Refer to Manufacturer's published installation instructions and applicable technical bulletins for specialized cold or hot weather application techniques. When weather conditions on the project site meet the specified criteria, proceed in accordance with the Manufacturer-recommended techniques.

### 3.03 Fabrication

- A. Sheet metal shall be formed accurately to sheet shapes as indicated on the drawings and in conformance with details on the processed shop drawings. Conform to dimensions provided on the drawings. Contractor shall be responsible for coordination of all dimensions. Review of shop drawings by the Consultant shall not be construed as approving unspecified dimensions.
- B. Counterflashings shall overlap base flashings a minimum of 3".
- C. Where the drawings indicate counterflashings being installed tight to roof membrane flashings, over-break as required to provide spring tension against roof flashing surface.
- D. Fabricate sheet metal using full length sections not less than 8' in length, unless otherwise approved prior to fabrication.
- E. Where loose lock lap joints are specified on the drawings, adjacent sections of metal shall overlap a minimum of 3".
- F. Where joint covers are specified on the drawings, Contractor shall size larger than the primary component to ensure a proper fit. Edges of joint covers shall be tipped toward primary component to form a compression seal.
- G. Where underplates are specified on the drawings, Contractor shall size smaller than the primary component to ensure a proper fit.

- H. Miter all inside and outside corner joints in counterflashing receivers, through-wall flashings, roof divider caps, control joint caps and expansion joint covers. Joints adjacent to inside and outside corners shall be placed exactly 24" each direction from the corner, with full length sheets starting on both sides.
- I. Break sheet metal components where they cross building expansion joints, if applicable.
- J. Horizontal flanges of edge metal and all set-on sheet metal accessories shall be 4" minimum with rounded corners.
- K. All exposed edges of cut sheet metal shall be folded back on concealed surfaces, with 1/2" hem created. Where sheet metal contacts roof system flashings, break hems such that unfolded edges do not contact the roofing material.
- L. Form, fabricate, and install all sheet metal with allowances made for expansion and contraction in the finished work.
- M. At multi-piece sheet metal expansion joint covers, form all pieces, including continuous sliding clips, using one gauge or thickness of material.
- N. Where a continuous clip is specified on the drawings, the primary component shall be continuously crimped along the bottom edge of the clip.
- O. Closed-Face Downspout
  - 1. Downspouts shall be fully enclosed style, fabricated using 24-gauge G90 galvanized steel. Width and depth shall be as noted on drawings.
  - 2. Provide elbow or rectangular-to-round transition at downspout base to match site conditions.
  - 3. Furnish with 2" wide 24-gauge G90 galvanized steel straps with hemmed edges as noted on drawings
  - 4. All galvanized steel components shall have Hylar 5000/Kynar 500 finish. Owner will select color from the Manufacturer's standard color options.

### 3.04 Dissimilar Metals

- A. Dissimilar materials in contact, which are subject to electrolysis and galvanic corrosion, shall be protected against such action prior to installation. Protective materials shall not be visible after installation. Protect metals using coatings recommended by Manufacturer, or separate using felt, sealant tape or EPDM membrane.

### 3.05 Weatherproofing

- A. Finish all sheet metal watertight and weathertight where so required.
- B. Where lap seams are not specified to receive a joint cover or underplate, lap 3" minimum according to pitch.
- C. Make all lap seams in the direction of the water flow.
- D. Weatherproof laps between adjacent sheet metal components using continuous application of specified sealant.

- E. Prior to installing sheet metal, all substrates shall first be protected from water intrusion by use of the specified flashing detail where shown, or by use of supplemental waterproofing using specified roof membrane where not shown. The membrane shall be adhered to the substrates unless otherwise shown on the drawings and shall make the flashing detail watertight independent of the sheet metal components are installed over it. All laps in the membrane material shall be seamed watertight per the Manufacturer's published installation instructions.

### 3.06 Joints

- A. Join parts with closed-end rivets or sheet metal screws where necessary for strength or stiffness.
- B. Provide suitable watertight expansion joints for all sheet metal as required for proper installation in accordance with the schedule of roof-related sheet metal and detail drawings.
- C. Sealant application shall be neatly and thoroughly performed by qualified personnel, for a continuous watertight seal. Sealant shall be continuously installed behind and above sheet metal terminations, within all loose lock joints, under edges of joint covers, between joint underplates and primary components pieces, and in other locations indicated on the drawings.
- D. All exposed sealant joints shall be dry tooled to the profile indicated on the detail drawings. If required, Contractor shall build custom tools on job site, if necessary, to provide the specified profiles.
- E. Concave sealant joint profiles that could potentially hold water will be considered defective and require removal and replacement.
- F. At joint covers, underplates, and scupper face plates, sealant shall be neatly applied so sealant remains concealed following completion of detail work.
- G. All surfaces to receive sealant shall be thoroughly cleaned as recommended by the sealant Manufacturer. All bitumen coating materials, roof cement, adhesive residue, rust, old caulking and/or other contaminants shall be removed down to the substrate to which sealant bonding is intended.
- H. All surfaces to receive sealant shall be primed initially with the sealant Manufacturer's recommended primer. Strictly adhere to Manufacturer's instructions regarding substrate preparation, primer application and wait time, and maximum exposure time before sealant application.
- I. Prepare surfaces to receive sealant tape as recommended by the sealant Manufacturer. Thoroughly remove all release paper during application. Prevent contamination of surfaces that could impede adhesion to substrate or adhesion of overlying material to tape. Lap sealant tape 1/4" minimum at joints.
- J. Provide solder joints where noted on the drawings.
  - 1. Clean surfaces to be soldered, removing oils, oxidation, and foreign matter.
  - 2. Roughen surfaces to be soldered with course abrasive paper. For galvanized steel, remove zinc coating from areas to be soldered.
  - 3. Brush on flux, limiting application to just those surfaces to receive solder.
  - 4. Pre-tin edges to be soldered, 1.5" wide.

5. Heat surfaces to receive solder with a large iron, and flow solder into joint. Do not use torches for soldering. Fill joint completely.
  6. After soldering, promptly and completely remove flux and spatter from exposed surfaces.
  7. Restore zinc coating on galvanized components after soldering.
- K. Provide weld joints where noted on the drawings, per AWS recommendations and standards.

### 3.07 Fastening

- A. Secure sheet metal components as indicated on the drawings. Do not install exposed fasteners on a horizontal plane, unless specifically shown on the drawings or otherwise authorized by the Owner's Representative.
- B. All fasteners exposed to the weather shall have washers with bonded watertight EPDM gaskets. Ensure that fasteners are not overdriven such that EPDM gasket damage results. Remove and replace all such damaged fasteners, using oversized fasteners.
- C. Where predrilling of metal is required, remove any pigtailed prior to installing fasteners.
- D. Where predrilling of concrete and/or masonry is required for fastener installation, utilize bit type and size, and hole depth recommended by the fastener Manufacturer. Remove drilling dust from fastener holes prior to installing fasteners.
- E. Do not fasten adjacent pieces of sheet metal together at laps or at joint covers, so sheet metal components are able to expand and contract.
  1. If a joint cover is specified, gap adjacent pieces of sheet metal at butt joint and fasten joint cover through gap between adjacent pieces. Joint cover shall be neatly crimped on exterior-facing side and secured with EPDM washered fastener at roof-facing side.
  2. If an underplate is specified, install underplate first, then gap adjacent pieces with butt joint centered over plate. Fasten at least 1/2" beyond edges of underlying joint cover.
  3. If a lap joint is specified, fasten each adjacent piece 1/2" beyond the overlap.
- F. For concealed fastening into wood, use specified ring shank roofing nails or screws with modified truss head or pancake head, as indicated on drawings.
- G. Embedded metal flanges shall be fastened 3" o.c. staggered, unless otherwise noted.
- H. For fastening into concrete and masonry use specified threaded or friction-fit fastener as indicated on the drawings. Plastic or nylon anchors shall not be used.
- I. For exposed fastening into wood, use specified screws.

### 3.08 Flashing of Embedded Metal Flanges

- A. Flash embedded sheet metal flanges as per drawings and specifications, meeting membrane Manufacturer's requirements at a minimum. Membrane flashings shall be installed by trained and qualified roofing personnel. Refer to the associated Division 07 roof membrane specification section for related requirements.

**3.09 Protection**

- A. Roof surfaces and flashing shall be adequately protected to prevent damage during the installation of metal work or during storage of the required materials. The Contractor shall replace any damaged construction, at no cost to the Owner.
- B. Protect installed work to ensure no damage or deterioration occurs prior to project completion.

**3.10 Verification**

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

**3.11 Adjusting**

- A. Repair minor damages to finish in accordance with Manufacturer's instructions and as approved by the Owner's Representative.
- B. Remove and replace any damaged components that cannot be successfully repaired, using new material to the approval of the Owner's Representative.

**3.12 Cleaning**

- A. Debris from sheet metal work shall be frequently removed from building site as it accumulates.
- B. Leave job site clean at completion of work, and properly dispose of all construction debris such as metal trimmings, fasteners, rivet nails, sealant tube ends and similar scrap.
- C. Clean materials promptly after installation in accordance with Manufacturer's instructions. Limit cleaners to those recommended by the Manufacturer so as to avoid staining or damaging finishes.
- D. Refer to Section 02 41 20 – Roof Demolition and Cleanup for additional requirements.

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. Furnish and install premanufactured roof-related sheet metal work per the drawings and specifications, including all clips, sealant, fasteners, and joining to make weathertight and watertight. Components and accessories shall be fabricated and supplied by a specified Manufacturing entity.
- B. Components specified in this section include but are not limited to fascia systems, coping caps, edge metal, and gutters.
- C. Contractor may utilize sheet metal Manufacturer's technical representative to perform field measuring, takeoff, shop drawing development and order processing for all sheet metal components specified in this section.
- D. Refer to Section 07 62 00.01 - Sheet Metal Flashing and Trim for roof-related sheet metal work not required to be fabricated and installed under this section.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the Contract Documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. *ANSI/SPRI/FM 4435/ES-1 Test Standard for Edge Systems Used with Low Slope Roofing Systems*, Single Ply Roofing Industry (SPRI)
  - 2. *ANSI/SPRI GT-1 Test Standard for Gutter Systems*, Single Ply Roofing Industry (SPRI)
  - 3. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins
  - 4. *Annual Book of ASTM Standards*, ASTM International
- B. Qualifications of Installers: Use adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this section.
- C. In acceptance or rejection of the work of this section, the Owner will make no allowance for lack of skill on the part of the workers.

**1.03 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Manufacturer's shop drawings including plans, elevations, sections, and details, indicating dimensions, materials, components, fasteners, finishes, and accessories.

2. Submit Manufacturer's product data, including installation instructions.
3. Submit color chart or physical samples for selection of prefinished metal color by the Owner.
4. Submit color chart or physical samples for selection of sealant color by the Owner.

**1.04 Delivery, Storage, and Handling**

- A. Use all means to protect the materials of this section before, during, and after installation and to protect the work and materials of all other trades. Roof surfaces shall be protected from damage at all times.
- B. Deliver only new materials to the job site. Materials to be stored in such a manner as to be protected from wind displacement, rain, snow, or inclement weather. Do not overstress the deck, when storing materials on the roof.
- C. In the event of damage, immediately make all repairs and replacements to the approval of the Owner and at no additional cost to the Owner.
- D. Follow the Manufacturer's recommendations for storage of temperature sensitive materials.

**1.05 Scheduling**

- A. All new sheet metal work shall be closely coordinated with the installation of the new roofing system.
- B. Sheet metal or weathertight temporary coverings shall be installed directly after roofing work such that roofing terminations are not left unprotected by metal.
- C. Coordinate and schedule all specified Manufacturer technical services so as to ensure submittal review, material ordering, lead time, delivery do not impede the Contractor's ability to perform installation within the contract performance period.

**1.06 Warranty**

- A. See Section 01 78 36 - Warranties.

**PART TWO – PRODUCTS****2.01 General**

- A. Manufacturer-supplied V.O.C. compliant products shall be bid and used if V.O.C. regulations are in effect at the project location at the time of bidding.
- B. No product shall contain any asbestos or asbestos-related products.
- C. Approved equal products must be proposed prior to the bid due date, and approval shall be granted by the Owner prior to award of contract. Otherwise, substitutions shall not occur.



- D. Accessories regularly furnished by the metal Manufacturer shall be included and shall be coordinated by the metal Manufacturer and Contractor. These accessories include, but are not limited to screws, nails, joint backup plates, gaskets, clips/cleats, mitered inside/outside corners, transitions, gutter expansion joints, and end caps.
- E. All components shall meet the standards referenced in this section and on the drawings.

**2.02 Materials**

- A. Sheet metal components, metal types, finish types, minimum gauges/thicknesses, and ANSI/SPRI/FM 4435/ES-1 compliance data are specified on the drawings.
- B. Contractor shall use gauges or thicknesses listed in the drawings or as prescribed in the referenced standards for specific girths, whichever is greater.
- C. Where sheet metal material or gauge is not specified on the drawings, provide the highest quality and gauge commensurate with the referenced standards and metal Manufacturer's requirements.
- D. Approved equal products must be proposed prior to the bid due date, and approval shall be granted by the Owner prior to award of contract.

**2.03 Premanufactured Coping**

- A. Coping system shall be fabricated using 22-gauge G90 galvanized steel cover. Form in 12'-0" lengths. Maximum face height shall be as recommended by coping Manufacturer for field-verified finished parapet detail width.
- B. Furnish with 8" wide concealed splice plates with factory-applied, dual, non-curing, isocryl butyl sealant strips at each joint.
- C. All galvanized steel components shall have Hylar 5000/Kynar 500 finish. Owner will select color from the Manufacturer's standard color options.
- D. Anchor clips shall be 20-gauge G90 galvanized steel, 12" wide, spaced as noted on the drawings.
- E. Approved Products
  - 1. Perma-Tite Coping, Existing Slope Version, by Metal-Era, Inc.
  - 2. Perma-Tite Coping, Tapered Version, by Metal Era, Inc.

**2.04 Premanufactured Fascia System**

- A. Anchor bar shall be extruded aluminum supplied in 12'-0" minimum lengths. Anchor bars shall be pre-slotted to receive fasteners. Mitered seams in anchor bars shall be factory welded watertight. Splice plates shall be supplied for anchor bar butt joints, to allow for thermal expansion and contraction of the anchor bar.
- B. Snap-on fascia cover shall be formed from 24-gauge G90 galvanized steel with Hylar 5000/Kynar 500 finish. Owner will select color from the Manufacturer's standard color options.

- C. Approved Products
  - 1. ESE-S65 One Edge Standard Fascia, Single-ply Version, by Metal Era, Inc.

**2.05 Premanufactured Edge Metal – Membrane-Clad Metal**

- A. Edge metal shall be fabricated using 24-gauge G90 galvanized steel with laminated PVC film, as supplied by or approved by roof membrane Manufacturer. Color shall be standard white.
- B. Approved Products
  - 1. One PVC Drip Edge by Metal-Era, Inc.

**2.06 Premanufactured Gutter System**

- A. Gutter system shall be fabricated using 24-gauge G90 galvanized steel. Form in 12'-0" lengths with slotted fastening holes 12" o.c.
  - 1. Provide gutter expansion joints per Manufacturer's standard detail, with spacing not exceeding 50' o.c. Fabricate with expansion joints equally spaced at midpoints between downspouts; adjust expansion joint spacing as necessary.
- B. Furnish with 0.100" mill finish aluminum gutter hangers 24" o.c., 2" wide 24-gauge G90 galvanized steel wind straps 6' o.c., 6" splice plates, end caps, and downspout receivers.
- C. All galvanized steel components shall have Hylar 5000/Kynar 500 finish. Owner will select color from the Manufacturer's standard color options.
- D. Approved Products
  - 1. Seal-Tite Gold IGG-B Industrial Gutter, Model IGGB-C7 by Metal Era, Inc.

**2.07 Fasteners**

- A. All fasteners shall be supplied by the metal Manufacturer and be coordinated by the Contractor and metal component Manufacturer.
- B. Fasteners shall be coordinated with actual dimensions and substrate types, field-verified by the Contractor and metal component Manufacturer.
- C. Screw-type fasteners shall be stainless steel of length, penetration, and type required to meet Manufacturer requirements and referenced standards.
- D. Rivets shall be stainless steel with stainless steel mandrel, color matched to primary components.
- E. 1-1/4" minimum x 11-gauge hot dip galvanized ring shank roofing nails shall be used for concealed fastening into lumber.
- F. Exposed fasteners shall have stainless steel washers with bonded watertight EPDM sealing gaskets.

**2.08 Joint Sealants**

- A. Metal joint sealants are not supplied by the metal Manufacturer and shall be furnished and coordinated by the Contractor. Color of sealant shall be determined in the pre-job submittal process.
- B. For sealing of lap joints and/or splice plates in gutters, edge metal, and copings, Polyether (Hybrid) Sealant shall be used.
  - 1. Approved Products
    - a. MasterSeal NP 150 by Sika Corporation
    - b. SikaHyflex-150 LM by Sika Corporation
    - c. DuraLink 50 by CHEM LINK
    - d. Approved equal
- C. For sealing behind fascia system anchor bars, water cutoff sealant supplied by the membrane Manufacturer shall be used. Refer to the associated Division 07 roof membrane specification section for required product.

**2.09 Flashing Membrane**

- A. Flashing for detailing of sheet metal flanges is not supplied by the metal Manufacturer and shall be furnished and coordinated by the Contractor.
- B. Flashing and detailing of sheet metal gravel stop or drip edge shall be achieved with flashing membrane supplied by the roof membrane Manufacturer. Refer to the associated Division 07 roof membrane specification section for approved products.

**2.10 Aluminum Foil Tape**

- A. Where required on the drawings for butt joint detailing of membrane-clad metal, 2" wide, high-temperature, self-adhering 2-mil soft aluminum foil tape with butyl rubber-based adhesive shall be used.
- B. Refer to associated Division 07 roof membrane specification section for specific products approved for use with each roof system option.
  - 1. Approved Products
    - a. Aluminum Tape by Sika Sarnafil Inc.
    - b. Foil-Grip 1403-181BFX by HARDCAST, a Carlisle Company
    - c. 3M Venture Tape Aluminum Foil Tape 1580 by 3M Company
    - d. Nashua 360-17 FoilMastic Butyl Rubber Tape by Berry Global Inc.
    - e. Approved equal

**PART THREE – EXECUTION****3.01 Inspection**

- A. Examine the areas and conditions under which work of this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.
- B. Verify that the work by all other trades has been completed prior to installing roof-related sheet metal work.

**3.02 Fabrication and Installation**

- A. Sheet metal shall be formed accurately to sheet shapes as indicated on the drawings and in conformance with details on the processed shop drawings. Conform to dimensions provided on the drawings. Contractor and premanufactured metal Manufacturer shall be responsible for coordination of all dimensions. Review of shop drawings by the Consultant shall not be construed as approving unspecified dimensions.
- B. Fabricate sheet metal using full length sections as provided standard by Manufacturer.
  - 1. Any partial pieces required within each run of exterior facing sheet metal, such as copings, drip edge, fascia systems, and gutters, shall be planned and installed for minimum impact on aesthetics.
  - 2. Plan all cuts to avoid any one piece from being less than 48" in length. Layout and space any cut pieces for uniform joint layout.
  - 3. Approved configurations include adding one partial piece centered within the run, or two partial pieces of equal length placed symmetrically within the run.
  - 4. Where fascia extensions are specified, joints in the extensions shall line up with joints in the primary component above, unless otherwise approved in advance.
- C. Provide factory mitered inside and outside corners in copings, fascia systems, and gutters. Full length sheets shall start on either side of corner, unless otherwise approved prior to fabrication and installation.
- D. Install all standard factory fabricated accessories required by site conditions, in Manufacturer-recommended sequence and following Manufacturer's installation instructions.
- E. Horizontal flanges of drip edge and gravel stop shall be 4" minimum with rounded corners.
- F. Install all materials and components in accordance with Manufacturer's instructions, to ensure finished system meets specified standards and FM Global requirements.
- G. Where prefinished sheet metal is used, remove protective vinyl film immediately before installation.
- H. Install materials to provide watertight termination at leading edge of roofing material.

- I. Apply joint sealants continuously at locations shown on the detail drawings, and additionally where required by metal Manufacturer's installation instructions. Preparation of surfaces to be sealed, and application of sealant shall be in accordance with sealant Manufacturer's installation instructions.
- J. Form, fabricate, and install all sheet metal with allowances made for expansion and contraction in the finished work.
- K. Continuous clips shall be fabricated using metal material specified by Manufacturer and tested by Manufacturer with primary component being secured. Meet criteria noted on the drawings at a minimum.
- L. Where continuous clips or cleats are utilized, the primary components shall be continuously hooked along the bottom edges. Match connection used in Manufacturer's ES-1 testing.
- M. At membrane-clad edge metal install butt joints as indicated on the drawings and in accordance with membrane Manufacturer's installation instructions. Nail along butt joint and apply 2" aluminum foil tape, full girth, centered over butt joint.

**3.03 Flashing of Embedded Metal Flanges**

- A. Flash embedded sheet metal flanges per drawings and specifications, meeting membrane Manufacturer's requirements at a minimum. Membrane flashings shall be installed by trained and qualified roofing personnel. Refer to the associated Division 07 roof membrane specification section for related requirements.

**3.04 Protection**

- A. Roof surfaces and flashing shall be adequately protected to prevent damage during the installation of metal work or during storage of the required materials. The Contractor shall replace any damaged construction, at no cost to the Owner.
- B. Protect installed work to ensure no damage or deterioration occurs prior to project completion.

**3.05 Verification**

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

**3.06 Adjusting**

- A. Repair minor damages to finish in accordance with Manufacturer's instructions and as approved by the Owner's Representative.
- B. Remove and replace any damaged components that cannot be successfully repaired, using new material to the approval of the Owner's Representative.

**3.07 Cleaning**

- A. Debris from sheet metal work shall be frequently removed from building site as it accumulates.

- B. Leave job site clean at completion of work, and properly dispose of all construction debris such as metal trimmings, fasteners, rivet nails, sealant tube ends and similar scrap.
- C. Clean materials promptly after installation in accordance with Manufacturer's instructions. Limit cleaners to those recommended by the Manufacturer so as to avoid staining or damaging finishes.
- D. Refer to Section 02 41 20 – Roof Demolition and Cleanup for additional requirements.

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. Furnish and install roof hatches complete, in-place, per the drawings and specifications.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
- B. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work in this section.
- C. In acceptance or rejection of the work of this section, the Owner will make no allowance for lack of skill on the part of the workers.

**1.03 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Complete material list of all items proposed to be furnished and installed under this section.
  - 2. Most recent copy of Manufacturer's literature applicable to products and specifications to be used.
  - 3. Shop drawings showing the location, diagrams, and details of fabrication and installation. Drawings to show type and thickness of all metals used. Thicknesses of metal listed in this section are minimums.

**1.04 Scheduling**

- A. Closely coordinate roof hatch installation with construction of the roof system, to ensure proper work sequence required to prevent a deviation from the flashing detail provided.

**1.05 Warranty**

- A. See Section 01 78 36 - Warranties.

**1.06 Protection of Work**

- A. Protect adjacent construction to remain from damage due to the work of this section.

**PART TWO – PRODUCTS****2.01 Description**

- A. All products necessary for the installation of the work as specified in this section shall be produced by the Manufacturers listed in this section or purchased from a Manufacturer-approved source.
1. All roof hatches shall be designed by the Manufacturer to meet all local building codes.
  2. Roof hatches shall be single leaf with a frame opening size of 2'-6" x 3'-0". Cover(s) shall be 11-gauge aluminum with 3" beaded flange, neatly welded. Cover insulation shall be 1" thick glass fiber, fully covered and protected by a metal liner of 18-gauge aluminum.
  3. Curb shall be 12" in height and of 11-gauge aluminum, fully-enclosed construction with factory installed fiberglass insulation; packed full. Curb shall be formed with a 3 1/2" flange with holes provided for fastening. Curb shall be equipped with an integral metal cap flashing of the same gauge and material as the curb, fully welded at the corners for weathertightness.
  4. Roof hatches shall be completely assembled with heavy pintle hinges and compression spring operators enclosed in telescopic tubes for ease in opening and closing covers. The upper tube shall be the outer tube to prevent accumulation of moisture, grit, and debris inside the lower tube assembly. The lower tube shall interlock with the flanged support shoe that is through bolted to the curb assembly.
  5. Cover shall be equipped with a spring latch with turn handles and padlock hasps inside and outside. The latch strike shall be a casting bolted to the curb assembly. Cover shall automatically lock in the open position with a rigid hold open arm equipped with a 1" diameter red vinyl grip handle to permit easy release for closing.
  6. All hardware shall be zinc plated and chromate sealed. Cover hardware shall be bolted into heavy gauge channel cover supports welded to the underside of the cover and concealed within the insulation space. Cover shall have a heavy extruded thermoplastic rubber gasket fitted into a retainer that is mechanically fastened to the interior of the cover to assure a continuous seal when compressed to the top surface of the curb.
  7. Minimum height of curb shall be 8" above finished roof.
  8. Curbs shall be fabricated to match slope of mounting surface and provide a level cover.
  9. Finish shall be mill-finished aluminum.
  10. Approved Product
    - a. Roof Scuttle Model S-50 by The BILCO Company.



**PART THREE – EXECUTION****3.01 Installation**

- A. Installation shall be in accordance with the latest Manufacturer specifications and installation instructions.
- B. Roof hatches shall be installed where indicated on drawings.
- C. Examine the areas and conditions under which work in this section will be installed. Report any condition detrimental to the proper and timely completion of work. Do not proceed until such conditions have been corrected.
- D. Install roof hatches watertight and weathertight.
- E. Mount curbs so that top is level and slope of curb matches slope of mounting surface.
- F. Set all curb frames in a bed of sealant.
- G. Fasten hatch at metal curb flanges with low profile head, hot dip galvanized threaded fasteners.
- H. Aluminum components that come into contact with dissimilar metals shall receive one coat of asphaltic emulsion paint, zinc chromate, or butyl-backed aluminum foil tape.

**3.02 Verification**

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

**3.03 Cleaning**

- A. Contractor shall comply with the requirements of Section 02 41 20 – Roof Demolition and Cleanup.

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. Work includes designing, manufacturing, furnishing, and installing rooftop equipment support systems.
- B. Where specified, rooftop equipment shall be supported by an engineered prefabricated portable system specifically designed to be installed on the roof without roof penetrations, flashing, or damage to the roofing material. The system shall consist of recycled rubber, plastic, or metal bases; structural steel frame; and suitable hangers and supports. The system shall be custom designed by the support Manufacturer to fit the rooftop equipment and the actual conditions of service.

**1.02 Quality Assurance**

- A. Manufacturer: Company specializing in pipe support systems engineering, design, and manufacturing, with a minimum of five continuous years of documented experience.
- B. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
  - 2. ANSI/MSS SP-69
  - 3. MSS SP-58
  - 4. *Annual Book of ASTM Standards*, ASTM International
- C. Qualifications of Installers: Use adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this section. In acceptance or rejection of the work, the Owner will make no allowance for lack of skill on the part of the workers.
- D. In acceptance or rejection of the work of this section, the Owner will make no allowance for lack of skill on the part of the workers.

**1.03 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Complete material list of all items proposed to be furnished and installed under this section.
  - 2. Manufacturers' specifications and other data required to demonstrate compliance with specified requirements.

3. Shop drawings of all items proposed to be furnished and installed under this section. Include plans, sections, elevations, and details of fabrication and installation.

#### **1.04 Product Handling**

- A. Deliver materials to job site in their original, unopened containers. Package labels shall indicate product model names, catalog numbers, identification numbers, production date, and/or product code. Cover with weatherproof tarps.
- B. Protect roof surfaces in material storage and support erection locations.
- C. Use all necessary means to protect the materials in this section before, during, and after installation and to protect the work and materials of all other trades.
- D. In the event of damage, immediately make all necessary repairs and replacements subject to the approval of and at no additional cost to the Owner.

#### **1.05 Scheduling**

- A. Coordinate support installation with installation of roof system.

#### **1.06 Warranty**

- A. See Section 01 78 36 - Warranties.

### **PART TWO – PRODUCTS**

#### **2.01 Acceptable Manufacturers**

- A. Portable Pipe Hangers, Inc.
- B. Miro Industries, Inc.

#### **2.02 Components**

- A. Bases:
  1. Rubber, polycarbonate, stainless steel, or galvanized steel, as supplied standard by the support Manufacturer.
  2. Base shall be Manufacturer's standard size, and as designed for weight of equipment to be supported, fabricated in the shop with inserts for support members as required.
- B. Framing
  1. Hot dipped galvanized framing as supplied standard by the support Manufacturer.

- C. Pipe Supports and Hangers
  - 1. Metal supports and hangers shall be fabricated of carbon steel where framing is carbon steel, and of stainless steel where framing is stainless steel. Polycarbonate supports shall be used where recommended and supplied by the Manufacturer.
  - 2. Rollers, clevis hangers, or band hangers shall be used as recommended by the Manufacturer for the size of pipe being supported, allowing for expansion and contraction without movement of the bases.
- D. Duct and Equipment Supports
  - 1. Factory-fabricated to support exact duct sizes and equipment to be installed.

### 2.03 Accessories

- A. Provide all clamps, hangers, bolts, nuts, washers, and other devices as required for a complete system. Provide galvanized accessories where framing is galvanized and stainless steel accessories where framing is stainless steel.

### 2.04 Finishes

- A. Galvanized surfaces: Hot dip galvanize metal framing, supports, and hangers, after fabrication is completed, and produce coatings free of roughness, whiskers, unsightly spangle, icicles, runs, barbs, sags, droplets, and other surface blemishes. Galvanizing shall conform to ASTM A 123 for tubing and ASTM A 153 for hardware and accessories.
- B. Bases: Black color for rubber/plastic or polycarbonate bases.

### 2.05 Approved Products

- A. Refer to the support schedule or specific details contained in the drawings.

## PART THREE – EXECUTION

### 3.01 Description

- A. The latest Manufacturer specifications and installation instructions shall be followed along with the following requirements. These specific minimum requirements must be included in the bid and shall not be altered.

### 3.02 Inspection

- A. Examine the areas and conditions under which work in this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until such conditions have been corrected.
- B. Verify that roofing system is complete and that roof surfaces are smooth and flat and are ready to receive work.

### 3.03 Preparation and Surface Conditions

- A. Prepare all surfaces according to applicable specification sections.

- B. Protect adjacent areas from damage with tarps or other durable materials.
- C. Use care in installation of portable pipe support systems not to damage roofing, flashing, equipment, or related materials.
- D. Substrate shall be smooth, free of sharp projections, and free of obvious depressions.
- E. Clean surfaces of roof to receive portable support bases. Remove dirt, dust, oils, and other foreign materials.

### 3.04 Installation

- A. Perform all related work specified elsewhere necessary for the installation of the specified support system.
- B. Bases and support framing shall be located as indicated on drawings and as specified herein. The support of all equipment and piping shall be complete and adequate, whether or not all required devices, equipment, and piping are shown.
- C. The use of wood or wire for supporting equipment and piping will not be permitted.
- D. Deflection of equipment and piping shall not exceed 1/240th of the span.
- E. Framing system shall be installed at designed spacings, but in no case shall spacing be greater than 8' o.c.
- F. Install bases on a piece of system membrane walkway material extending 3" beyond the base on all sides, adhered to the roof membrane.
- G. Accurately locate and align bases.
- H. Set framing posts into bases and assemble framing structure as required.
- I. Use galvanized hardware for all connections.
- J. Trim all the thread support rods to be 1/2" maximum above nuts. Protect roof surface from damage and immediately dispose of related debris.

### 3.05 Verification

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

### 3.06 Cleaning

- A. Remove all packaging, unused fasteners, adhesive, and other installation materials from site.
- B. Remove adhesive from exposed surfaces of supports, pipes, and bases, and leave work in clean condition.

- C. Contractor shall comply with the requirements of Section 02 41 20 – Roof Demolition and Cleanup.

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. Prepare all joints and install sealant where referenced in the contract documents, as required to provide a positive barrier against passage of air and moisture.
- B. Where repair of existing sealant joints is performed, provide sealant material compatible with the composition of the existing adjacent sealant.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
  - 2. *Annual Book of ASTM Standards*, ASTM International
    - a. ASTM C 1521 - Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints
  - 3. Sealant, Waterproofing & Restoration Institute (SWR Institute) written recommendations and technical bulletins.
- B. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work in this section.
- C. In acceptance or rejection of the work of this section, the Owner will make no allowance for lack of skill on the part of the workers.

**1.03 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Most recent copy of Manufacturer's literature applicable to products and specifications to be used.
  - 2. Complete material list of all items proposed to be furnished and installed under this section.
  - 3. Color chart or physical samples for selection of sealant color by the Owner.

**1.04 Delivery, Storage, and Handling**

- A. Deliver materials to the job site in original, unopened containers. Materials are to be stored in a protected area between 40° to 80°F unless otherwise approved by the sealant Manufacturer. Protect unopened containers from heat and direct sunshine.

- B. Do not retain on the job site any material that has exceeded the shelf life recommended by its Manufacturer.
- C. Protect all surfaces from staining or damage. All damaged work shall be repaired or replaced as directed by the Owner's Representative and at no additional cost to the Owner.

**1.05 Scheduling**

- A. All sealant application shall be closely coordinated with installation of related work under the contract.

**1.06 Warranty**

- A. All installed materials and workmanship provided under this section of the specifications shall be guaranteed in writing by the Contractor for two years.
- B. The Contractor shall maintain all sealant work in a functional and weathertight condition without cost to the Owner during the Contractor's warranty period.
- C. See Section 01 78 36 – Warranties.

**PART TWO – PRODUCTS****2.01 General**

- A. Manufacturer-supplied V.O.C. compliant products shall be bid and used if V.O.C. regulations are in effect at the project location at the time of bidding.
- B. No product shall contain any asbestos or asbestos-related products.
- C. Approved equal products must be proposed prior to the bid due date, and approval shall be granted by the Owner prior to award of contract. Otherwise, substitutions shall not occur.

**2.02 Sealants**

- A. General: Unless specifically directed otherwise by the Owner's Representative, use only the type of sealants described in this section. Color of sealant shall be determined in the pre-job submittal process.
  - 1. Approved Products: Polyether (Hybrid) Sealant
    - a. MasterSeal NP 150 by Sika Corporation
    - b. SikaHyflex-150 LM by Sika Corporation
    - c. DuraLink 50 by CHEM LINK
    - d. Approved equal

**2.03 Cleaner**

- A. Industrial solvent recommended by the sealant Manufacturer, such as Isopropyl Alcohol, Naphtha, Mineral Spirits, Xylene, Toluene, MEK, or Manufacturer-supplied cleaner.



**2.04 Primer**

- A. General: Use type of primer recommended by the sealant Manufacturer for use with the selected sealant on the substrate type to receive the sealant.
  - 1. Approved Products: Primer for Polyether (Hybrid) Sealant
    - a. MasterSeal P 173 by Sika Corporation
    - b. Sikaflex Primer 429 by Sika Corporation; porous surfaces only.
    - c. As recommended by CHEM LINK for DuraLink 50

**2.05 Backer Rod**

- A. General: Use only those backup materials that are specifically recommended for this installation by the sealant Manufacturer and that are closed-cell, non-absorbent, non-staining, and non-gassing when punctured. Backup materials must be 1.5 times the width of the joint.
- B. Approved Products
  - 1. MasterSeal 921 by Sika Corporation
  - 2. Sika Backer Rod by Sika Corporation
  - 3. HBR-Rod by CHEM LINK
  - 4. KOOL-ROD by W.R. Meadows, Inc.
  - 5. Approved equal

**2.06 Other Materials**

- A. All other materials not specifically described but required for complete and proper sealant installation shall be first quality of their respective kinds, new, and as selected by the Contractor and subject to the approval of the Owner.

**PART THREE – EXECUTION****3.01 Inspection**

- A. Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

**3.02 Preparation**

- A. General
  - 1. Surfaces must be structurally sound; fully cured; dry; clean; and free of dirt, laitance, moisture, loose particles, oil, grease, asphalt, tar, paint, wax, rust, waterproofings, curing and parting compounds, incompatible sealant and residue, and membrane materials.
  - 2. Prime all surfaces to which sealant bonding is intended.

3. Remove all old sealants, primer, and residue, and joint fillers/backings. If oils from old sealants have penetrated surfaces, grind to new clean surface.
  4. Do not apply sealant when the surface temperature is below 40°F or above 125°F, or when temperature may fall to below 40°F within 24 hours, unless otherwise approved in writing by the sealant Manufacturer. Do not apply materials when surfaces are damp or during cold, rainy, or frosty weather.
- B. Concrete Surfaces
1. All surfaces in contact with the sealant shall be dry, sound, well brushed, and wiped free from dust.
  2. Use solvent to remove oil and grease, wiping the surfaces with clean rags.
  3. Remove all bitumen, coating materials, roof cement, adhesive residue, old sealants and/or other contaminants from all surfaces to which sealant bonding is intended.
  4. Where surfaces have been treated or laitance exists, remove the contaminants by use of sandblasting, wire brushing, or grinding.
- C. Aluminum Surfaces
1. Aluminum surfaces in contact with sealant shall be cleaned of temporary protective coatings, chemical residue, lacquer, dirt, oil, grease, or other contaminants.
  2. Remove all bitumen, coating materials, roof cement, adhesive residue, old sealant, and/or other contaminants from all surfaces to which sealant bonding is intended.
  3. When masking tape is used for a protective cover, remove the tape just prior to applying the sealant.
  4. Use only such solvents to remove protective coatings as are recommended for that purpose by the Manufacturer of the aluminum work and are non-staining.

### 3.03 Priming

- A. Apply primer to the cleaned and prepared joint surfaces by brushing on a thin, uniform coat. Use primer as is; do not thin. Too much primer may act as a bondbreaker. Porous surfaces require more primer; however, do not overapply.
- B. Allow primer to dry tack free before applying sealant. Dry time will vary depending on temperature humidity.
- C. After priming, sealant must be applied within the timeframe required by the sealant Manufacturer, and always during the same workday.

### 3.04 Installation of Backer Rod

- A. Use only the backer rod material recommended by the sealant Manufacturer for each joint and sealant type.
- B. Compress the backer rod material 25 percent to 50 percent to achieve a positive and secure fit.

- C. Do not twist or stretch backer rod material.
- D. Control depth of backer rod installation using a template or roller gauge, as required to ensure proper sealant depth at joint.
- E. Install backer rod after joint preparation and cleaning, and after primer has dried.

### 3.05 Joint Design

- A. Joint depth shall never be greater than width. Strictly follow the sealant Manufacturer's recommended joint dimensions.
- B. Joint dimensions shall meet the following at a minimum:
  - 1. Where joint width is 1/4" to 1/2" wide, sealant depth at midpoint shall be 1/4".
  - 2. Where joint width is 1/2" to 3/4" wide, sealant depth at midpoint shall be 1/4" to 3/8".
  - 3. Where joint width is 3/4" to 1" wide, sealant depth at midpoint shall be 3/8" to 1/2".
  - 4. Where joint width is 1" to 1.5" wide, sealant depth at midpoint shall be 1/2".
- C. Sealant depth shall be controlled using backer rod material to maintain the required joint dimensions.
- D. Use measures to prevent three-point bonding at all joints.

### 3.06 Installation of Sealant

- A. Prior to installation of sealant, verify joint has been primed, verify that the required width to depth ratio has been provided, and verify that the primer has sufficiently dried.
- B. Thoroughly and completely mask all joints where the appearance of sealant on adjacent surfaces would be objectionable.
- C. Do not open cartridges, sausages, or pails until preparatory work has been completed.
- D. Priming and sealant application must be done in the same workday.
- E. Sealant application shall be neatly and thoroughly performed by qualified personnel, for a continuous watertight seal. Install the sealant in strict accordance with the sealant Manufacturer's recommendations, thoroughly filling all joints to the recommended depth.
- F. Apply sealant under pressure with hand or power-actuated gun or other appropriate means. Guns shall have nozzle of proper size and shall provide sufficient pressure to completely fill joints as designed.
- G. Fill joints from the deepest point to the surface by holding a properly sized nozzle against the back of the joint.
- H. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- I. Dry tool all joints to the profile shown on the detail drawings. Contractor shall create custom tool if required to provide the specified joint profile. Do not use soapy water, or other tooling agents.

- J. Tooling shall be done immediately after sealant application.
- K. Remove masking tape immediately after joints have been tooled.
- L. Protect sealants until cured.

**3.07 Verification**

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

**3.08 Cleaning**

- A. Keep adjacent surfaces clean and free from sealant as the installation progresses. Use solvent or cleaning agent as recommended by the sealant Manufacturer, which will not alter the appearance of the cleaned surfaces.
- B. Refer to Section 02 41 20 – Roof Demolition and Cleanup for additional requirements.

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. Furnish and install all paint and related items complete, in-place, per the drawings and specifications.

**1.02 Definition**

- A. The terms "paint or painting" as used in this section shall have reference to primers and paints and the application of these materials.

**1.03 Work Not Included**

- A. Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze, and similar finished materials will not require painting under this section.

**1.04 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
  - 2. SSPC-SP3 – Power Tool Cleaning, Society for Protective Coatings
- B. Qualifications of Manufacturer: Products used in this work shall be produced by Manufacturers regularly engaged in the manufacture of similar items and with a history of successful production acceptable to the Owner's Representative.
- C. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work in this section.
- D. In acceptance or rejection of the work of this section, the Owner will make no allowance for lack of skill on the part of the workers.

**1.05 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Most recent copy of Manufacturer's literature applicable to products and specifications to be used.
  - 2. Complete material list of all items proposed to be furnished and installed under this section.

3. Manufacturer's recommended methods of installation.
  - a. When approved by the Owner, the Manufacturer's recommended methods of installation, unless superseded by the specification, will become the basis for inspecting, and acceptance or rejection of the actual installation procedures used in this work.
4. Provide Manufacturer's standard color chart for selection by Owner.

#### **1.06 Delivery, Storage, and Handling**

- A. Deliver only new materials to the job site in their original, unopened containers with all labels intact and legible at the time of the inspection.
- B. Store all materials in an approved manner, up off the roof deck or ground and protected from exposure to the elements. Any soiled or used rags, waste, and trash shall be removed from the building every night, and every precaution shall be taken to avoid the danger of fire.
- C. Use all necessary means to protect the materials in this section before, during, and after installation and to protect the work and materials of all other trades.
- D. In the event of damage, immediately make all repairs and replacements necessary to the approval of and at no additional cost to the Owner.
- E. Follow the Manufacturer's recommendations for storage of temperature sensitive materials.

#### **1.07 Schedule**

- A. Surface Temperatures: Do not apply solvent-thinned paints when the temperature of surfaces to be painted and the surrounding air temperature are below 45° F., unless otherwise permitted by the Manufacturer's printed instructions.
- B. Weather Conditions: Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85 percent; or to damp or wet surfaces unless otherwise permitted by the Manufacturer's printed instructions.

#### **1.08 Warranty**

- A. See Section 01 78 36 - Warranties.
- B. The Contractor shall guarantee all painting work for a period of two years from the date of completion of the project.

### **PART TWO – PRODUCTS**

#### **2.01 General**

- A. Minimum product requirements have been listed. All of these components must be used and bid. Products not supplied by the Manufacturer are to be purchased from a Manufacturer-approved source.
- B. Manufacturer supplied V.O.C. compliant products shall be bid and used if V.O.C. regulations are in effect at the project location at the time of bidding.

- C. No product shall contain any asbestos or asbestos-related products.

## 2.02 Approved Products

- A. Paint products as manufactured by Rust-Oleum, or approved equal.
  - 1. Primer coat: Rust-Oleum 3181 Gray Primer
  - 2. Finish coat: Rust-Oleum 3100 Speedy Dry Water Based Enamel
- B. Color shall be selected by the Owner from the Manufacturer's standard color offerings.

## 2.03 Application Equipment

- A. Use only equipment recommended by the Manufacturer for application of each particular paint product.

## PART THREE – EXECUTION

### 3.01 Surface Conditions

- A. Before starting any work, surfaces to receive paint finishes shall be examined carefully for defects that cannot be corrected by the procedures specified herein under "Preparation of Surfaces" and that might prevent satisfactory painting results.
- B. Commencement of work in a specific area shall be construed as acceptance of the surfaces, and thereafter, Contractor shall be fully responsible for satisfactory work as required herein.

### 3.02 Protection

- A. The Contractor shall protect all adjacent work and surfaces by suitable covering or other method before and during this work.

### 3.03 Preparation of Surfaces

- A. Perform all preparation and cleaning procedures in strict accordance with Society of Protective Coatings; 1995; SSPC-SP3 - Power Tool Cleaning and the paint Manufacturer's recommendations.
- B. Remove all removable items that are not scheduled to receive paint finish, or provide surface-applied protection prior to surface preparation and painting operations.
- C. Following completion of painting in each space or area, reinstall the removed items.
- D. All surfaces shall be free of any foreign material that will adversely affect adhesion or appearance of applied coating.

### 3.04 Paint Application

- A. Inspect all surfaces to be painted for compliance with this specification. Do not commence painting on unsatisfactory surfaces.
- B. Equipment shall be kept clean, dry, and in proper condition to provide a job commensurate with the intent of this specification.

- C. Stir all materials before application to produce a mixture of uniform density and as required during the application of materials. Do not stir into the material any film that may form on the surface.
- D. All materials shall be applied under adequate illumination, evenly spread, and smoothly flowed on to avoid runs, sags, holidays, brush marks, air bubbles, and excessive roller stipple.
- E. Do not paint any moving parts of operating units, mechanical or electrical parts unless specifically specified herein.
- F. Do not paint over any required labels or equipment identification, performance rating, name or nomenclature plates.
- G. Primer shall be applied to a dry film thickness of 1.5 to 2.5 mils.
- H. Primers shall be applied the same day as the preparation work, and before rust formation.
- I. Finish coat shall be applied to a dry film thickness of 1.5 to 2.5 mils.
- J. Coverage for all coats shall be complete and of uniform thickness.
- K. Special attention shall be given to lapped joints, bolt heads, nut, threads, corners, member intersections, and other deviations from smooth surfaces.
- L. All coats shall be thoroughly dry before applying succeeding coats.
- M. Adequately protect all newly primed and/or painted surfaces to prevent dust and other particles from contaminating paint.

### **3.05 Verification**

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

### **3.06 Cleaning**

- A. Upon completion of the work, Contractor shall remove all paint spots, overspray, or spillage from any adjacent surfaces not scheduled to receive paint.
- B. Contractor shall follow the requirements of Section 02 41 20 – Roof Demolition and Cleanup.

**- End of Section -**



**PART ONE – GENERAL****1.01 Description**

- A. Provide and install roof drains, including all necessary piping, appurtenances, supports, insulation, tools, labor, and equipment for a complete, functional installation.
- B. Drain locations shall be as shown on the drawings; or as determined at the job site as noted.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
- B. All products and workmanship shall meet or exceed the requirements of the local building code.
- C. Qualifications of Contractor: The work specified under this section shall be performed by qualified, licensed, trade contractor(s), subject to the Owner's approval.
- D. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this section.
- E. In acceptance or rejection of the work of this section, the Owner will make no allowance for lack of skill on the part of the workers.

**1.03 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Most recent copy of Manufacturer's literature applicable to products and specifications to be used.
  - 2. Complete material list of all items proposed to be furnished and installed under this section.
  - 3. Manufacturer's recommended methods of installation.
    - a. When approved by the Owner, the Manufacturer's recommended methods of installation, unless superseded by the specification, will become the basis for inspecting, and acceptance or rejection of the actual installation procedures used in this work.

**1.04 Delivery, Storage, and Handling**

- A. Use all means to protect the materials of this section before, during, and after installation and to protect the work and materials of all other trades.
- B. Deliver only new materials to the job site in original, unopened containers. Materials to be stored in such a manner as to be protected from rain, snow, or inclement weather. When storing materials on the roof, do not overstress the deck.
- C. In the event of damage, immediately make all repairs and replacements to the approval of the Owner and at no additional cost to the Owner.

**1.05 Warranty**

- A. See Section 01 78 36 - Warranties.

**PART TWO – PRODUCTS****2.01 Roof Drains**

- A. Roof drains shall be cast iron with no-hub bottom outlet, flanged body, removable cast iron dome strainer, gasketed extension matching insulation thickness at drain, bolted cast iron clamping ring with four bolt locations; and cast iron under deck clamp.
- B. Bottom outlet size shall match the existing.
- C. Approved Products
  - 1. Model 21500-Z-22 by Josam Company
  - 2. Model 1010Y-CID by Jay R. Smith Mfg. Co.
  - 3. Model 3000,NH,42 by Tyler Pipe/Wade Division
  - 4. Model ZC100-NH by Zurn Industries, LLC

**2.02 Piping and Couplings**

- A. Piping shall be no-hub cast iron piping.
- B. Pipe size shall match the existing.
- C. Connections shall be NSF-certified, no-hub rubber or PVC couplings with a minimum of four stainless steel band clamps, two on each side of piping butt joint. Size shall be as required to properly fit adjacent components.
  - 1. Approved Manufacturers
    - a. Fernco, Inc.
    - b. Approved equal

- D. Clamps, hangers, fittings, connections, clean-outs, pipe expansion joints, and all other necessary accessories shall be provided to match piping and existing conditions, while achieving the specified scope of work in accordance with the building code.
- E. Pipe hangers shall accommodate diameter of piping, including insulation, jacketing, and sheet metal insulation shield where applicable.
- F. Sheet metal insulation protection shields shall be used between hangers and pipe insulation jacketing, to prevent compression, crushing, or damage to the insulation and/or jacketing. Shield shall have curvature to match outside of insulation jacketing, provide 180-degree coverage, have flared edges to protect jacketing from damage, standard ribs to position over hanger clevis and prevent future movement, and be G90 galvanized steel composition.
  - 1. Approved Manufacturers
    - a. BUCKAROOS, Inc.
    - b. ANVIL
    - c. Approved equal

### 2.03 Pipe Insulation

- A. Drain plumbing insulation shall be 1" minimum fiberglass insulation with integral jacketing.
- B. Approved Products
  - 1. Micro-Lok by Johns Manville
  - 2. Approved equal

### 2.04 Pipe Insulation Fittings

- A. At fittings, utilize PVC jacketing, associated 1" minimum fiberglass insulation, and installation accessories recommended by the Manufacturer.
- B. Approved Products
  - 1. Zeston 2000 PVC: insulated fitting covers, jacketing, and installation accessories by Johns Manville
  - 2. Approved equal

### 2.05 Fire Stopping Sealant

- A. Sealant for filling gaps around pipe penetrations through interior walls shall be single component, water-based, intumescent acrylic firestop sealant, which will expand to fill voids during a fire.
- B. Approved Products
  - 1. TREMstop Fyre-Sil by Tremco Incorporated
  - 2. Approved equal

**PART THREE – EXECUTION****3.01 Preparation and Installation**

- A. Install 6-mil minimum polyethylene sheeting to protect interior and contain all debris, prior to beginning work.
- B. All roof drains, piping, and associated accessories shall be installed to provide drain plumbing that complies with the applicable plumbing code.
- C. Drains shall be installed with deck flange at the deck surface elevation, unless specified otherwise.
- D. Where required by the project scope, install all no-hub piping as required for a complete drain plumbing system. Slope piping 1/8" per foot, minimum.
- E. Securely support piping system from the building structure 10' o.c. maximum.
- F. Properly support plumbing system adjacent to all fittings and joints, so that they do not bend or warp.

**3.02 Penetrations**

- A. Openings through the roof decking necessary for installation of the specified roof drain assembly shall be accurately placed and neatly. Size of openings shall be carefully coordinated with the Division 22 submittals, and match roof drain Manufacturer's specified dimensions.
- B. Where piping penetrates through an interior wall, backer rod and 1/2" thick application of fire-stopping sealant shall be applied between the piping and the wall. Where pipe insulation is specified, install fire-stopping sealant prior to installing plumbing insulation.

**3.03 Plumbing Insulation**

- A. Install insulation and PVC jacketed fittings at interior plumbing, as specified. Insulation shall be omitted at any wall penetrations where fire-stopping sealant joints are applied.
- B. Joints, seams, and edges of PVC jacketing and pipe insulation vapor retarder shall be detailed as recommended by the Manufacturer.
- C. Provide galvanized steel bearing surfaces over insulation at pipe hanger locations, to prevent crushing or damage to insulation system when pipe is at maximum capacity.

**3.04 Coordination**

- A. Prior to cutting the roof deck, roof system, and/or interior walls, provide 2 days minimum notification to the Contractor and Owner's Representative.
- B. When installing drains, the Plumber shall carefully coordinate all work installation with the Contractor.
- C. Install drains at locations shown on the drawings, or as determined at the job site and approved by the Owner's Representative. Connect drains immediately to piping.

- D. Carefully coordinate roof drain installation with roofing work such that new roof drains are installed before the field membrane installation in the corresponding area. Sequence work to prevent roof patches and/or repairs around roof drains.
- E. Contractor shall leave roof system watertight at the end of each day. In-progress plumbing work shall be watertight and operational at the end of each workday, such that leakage does not occur into the interior of the building or completed areas of roofing.
- F. Functional clamping ring and drain strainer shall be installed in conjunction with roof drain flashing at the end of each workday, to prevent leakage into the roof or clogging of drains.
- G. Extension collar installation shall be phased to allow positive roof drainage at all times. Extension collar shall be installed in conjunction with roof insulation and membrane application in the area immediately surrounding the drain.

### 3.05 Quality Control

- A. The building is to remain absolutely watertight during installation of roof drains and associated plumbing work. The roof deck and roof membrane shall not be cut, if any ponded water exists on roof surface.
- B. Restore all surfaces damaged by the operations of this section to like new condition at no additional cost to the Owner.

### 3.06 Verification

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

### 3.07 Cleaning

- A. Upon completion of all plumbing work, remove all construction debris, interior protection materials, and equipment from the job site. Contractor shall ensure that all building components (ceilings, lights, etc.) are undamaged and properly in place.
- B. Contractor shall follow the requirements of Section 02 41 20 – Roof Demolition and Cleanup.

- End of Section -