UNIVERSITY OF MARYLAND, BALTIMORE COUNTY (UMBC)

MULTI-STEP BID

FOR

UMBC MATH/PSYCH ROOF REPLACEMENT – PROJECT # 09-124
BC-20615-Q

Issued:         Tuesday, April 27, 2009
Pre-Proposal Conference:  Monday, April 27, 2009 at 10:00 a.m.
Second Site Visit       Thursday, April 30, 2009 at 8:00 a.m.
Deadline for Questions: Tuesday, May 5, 2009 by 5:00 p.m.
Due Date for Technical Offer & Bid Price Monday, May 11, 2009, by 2:00 P.M.

Issued by:        University of Maryland, Baltimore County (UMBC)
                  Department of Procurement Services
                  1000 Hilltop Circle
                  Administration Building, Rom 301
                  Baltimore, MD  21250
                  Attn: Sharon Quinn
                  410-455-2540
                  410-455-1009 (fax)
                  E-mail: squinn@umbc.edu

Deliver to:       Same as above
                  Building can be accessed during the hours
                  of 8:00 am to 5:00 pm, Monday through Friday.

WARNING: Prospective VENDORS who have received this document from a source other than the
Issuing Office should immediately contact the Issuing Office and provide their name and mailing
address in order that amendments to the Bid or other communications can be sent to them. Any
prospective VENDORS who fail to notify the Issuing Office with this information assumes complete
responsibility in the event that they do not receive communications from the Issuing Office prior to the
closing date.

SPECIAL ACCESS: Anyone requiring special assistance in obtaining a copy of the solicitation, or in
delivering a bid are requested to contact the Buyer listed above at least 48 hours in advance.
TABLE OF CONTENTS

1  Summary Information
2  Scope of Services
3  Schedule
4  Specifications & Drawings
5  Instructions To Bidders
6  Specifications
7  Submission Requirements
8  Requirements for Technical Offer
9  Requirements for Bid Price
10 Evaluation Process

Appendix A - Technical Offer Forms
Appendix B - Price Proposal Form
Appendix C - Contract Forms
Appendix D - General Information For Proposers
Appendix E - "Specifications" for University of Maryland Baltimore County Math/Psych Building Roof Replacement & "Drawings"
1 **General Information – Submittal of Multi-Step Bid**

1.1 “Multi-step sealed bidding” is defined as a two-phase process. Bidders are required to submit both a **Technical Offer** and a **Bid Price**, in separately identified and sealed packages by the deadlines set forth herein. In the first phase, bidders submit **unpriced** technical offers to be evaluated by the University. Only those bidders whose technical offers have been found to be acceptable during the first phase, that is both responsive and responsible, will have their price bids considered.

1.2 Both phases of this multi-step bid are subject to the terms and conditions contained in this supplement. The two (2) cover bid sheets provided must be completed, signed and returned with each submittal – **Technical Offer** and **Bid Price**.

2 **Scope of Work:**

The work includes removal of the existing roofing systems (2) and installation of the new system per the details contained in the construction documents, found in **Appendix E** for the RFP documents. Refer to **Appendix E** for the Specifications and Drawings associated with this project.

1. **Base Bid:** All work as described except for the areas and scopes described as Alternate #1. Refer to drawings and specifications in **Appendix E**.

2. **Alternate #1:** Rebuilt parapet wall as described in Division One Section Alternate

3 **Anticipated Schedule:**

Bid Package Posted on the UMBC website on: Thursday, 04/23/09
Pre-bid Conference: Monday, 04/27/09, at 10:00 a.m. at 101 Facilities Management
Second Site Visit: Thursday, 04/30/09, at 8:00 a.m. at Math/Psych Building
Written Questions Due: Tuesday, 05/05/09, by 5:00 p.m.
Technical Offers & Bid Prices Due Date: Monday, 05/11/09, by 2:00 p.m.
Bid Price Opening: Anticipated Monday, May 18, 2009, at 2:00 p.m. *(Bid Opening will be private.)*
Contract Awarded: by 05/28/09

Construction Period: 05/28/09 to 08/14/09
4 Drawings and Specifications:

The Specifications are titled as “SPECIFICATIONS FOR UNIVERSITY OF MARYLAND BALTIMORE COUNTY MATH/PSYCH ROOF REPLACEMENT, PRF# 09-124 BID SET dated 04-09-09 prepared by GALE ASSOCIATES, INC. (found in Appendix E).

5 Instructions to Bidders:

5.1 Issuing Office. The issuing office for this solicitation is the following:

Ms. Sharon Quinn  
University of Maryland Baltimore County  
Department of Procurement  
Administration Building, Room 301  
1000 Hilltop Circle  
Baltimore, Maryland 21250  
TEL:  (410) 455-2540  
FAX:  (410) 455-1009  
E-mail:  squinn@umbc.edu

5.2 Procurement Officer

The person indicated above is the procurement officer for this solicitation. The procurement officer shall be the sole point of contact with the University for purposes of preparation and submittal of this bid. The procurement officer may be reached during normal business hours of 8:00 a.m. to 5:00 p.m. weekdays.

5.3 Pre-bid Conference

A Pre-Bid conference will be held on Monday, April 27, 2009 at 10:00 a.m. in Room 101 in the Facilities Management Building (refer to UMBC’s website: www.umbc.edu for the Campus Map). Attendance at the Pre-Bid Conference is not mandatory. If your firm plans to send representatives, please call the Issuing Office by Thursday, April 23, 2009.

Appropriate auxiliary aids and services for qualified individuals with disabilities will be provided upon request. Please call Sharon Quinn at 410-455-2540 with specific requests at least five (5) business days prior to the conference.

5.4 Questions and Inquiries

Questions and inquiries shall be directed in writing to the individual referenced as the procurement officer above. Requests shall include the bid number and name. All questions and inquiries must be received in the Department of Procurement by no later than Tuesday, May 5, 2009 by 5:00 p.m.
5.5 Due Date and Time

5.5.1 One (1) original plus five (5) copies [for a total of six (6) sets] of the Technical Offer for this multi-step bid must be submitted to the Issuing Office by not later than 2:00 p.m. on Monday, May 11, 2009 in order to be considered. The original must be clearly indicated as such.

5.5.2 One (1) original plus two (2) copies [for a total of three (3) sets] of the Bid Price for this multi-step bid must be submitted to the Issuing Office by not later than 2:00 p.m. on Monday, May 11, 2009 in order to be considered. The original must be clearly indicated as such. The Bid opening will take place at that time.

5.5.3 Only those bidders whose Technical Offers are deemed acceptable will have their Bid Price opened. All other Bid Prices will be returned unopened.

5.5.4 Bidders mailing their bids are responsible for allowing sufficient mail delivery time to insure timely receipt by the Issuing Office. Late bids or unsolicited amendments to bids arriving after the due date and time will not be considered. Bids delivered to locations on campus other than the Issuing Office will not be considered “received” by the Department of Procurement until they arrive at the Issuing Office and are time-stamped with the date and time of receipt. UMBC will not waive delay in delivery resulting from the need to transport a bid from another location on campus to the Issuing Office or an error or delay on the part of the carrier.

6 Specifications

Term of Contract: The term of the contract shall be for a period of ninety (90) days beginning with the award of contract, which is anticipated to be May 28th, 2009 and ending on August 14, 2009. Contractor shall provide a five (5) year warranty on the workmanship on this project and a thirty (30) year warranty on the roof manufacturer.

7 Contractor Qualifications, Performance, and Submission

Contractor shall have a minimum of five (5) years of experience in installing the specified roofing system and shall have successfully installed not less than 100,000 SF of the specified roofing system.

7.1 Bidder should submit a certificate from roof membrane manufacturer indicating that installing firm is authorized or licensed to install manufacturer’s product, is eligible to receive manufacturer’s special warranty indicated above, and is authorized to perform warranty repairs

7.2 Bidder should submit five (5) letters of reference on projects as described in Division 7 Section TP Membrane Roofing.
7.3 Bidder should submit documentation from the manufacturer of not less than 5-years experience installing specified roofing system.

7.4 Bidder should complete and submit the “Project Experience Form” (found in Appendix A) for projects where the successful installation of the specified roofing system has been install for up to a cumulative total of 100,000 SF.

7.5 Bidder should submit the qualification forms including the Contractor’s Profile, Contractor’s Experience, and Contractor’s Current Work Load Forms (found in Appendix A).

7.6 The contractor shall schedule a pre-construction conference within 7 calendar days upon Purchase Order or Notice-To-Proceed issuance whichever comes first.

7.7 The contractor shall provide a full work force with a qualified fulltime superintendent on the job site throughout entire work period.

7.8 The work period shall be consecutive days without breakage except for weekends, holidays, and inclement days.

7.9 The contractor shall submit graphic construction and biweekly progress meeting schedule within 7 calendar days upon Purchase Order or Notice-To-Proceed issuance before any construction activities.

7.10 The contractor shall provide daily field superintendent reports, submitted on a weekly basis. Such reports are to include a detailed description of the work performed no later than COB on the following Monday for approval.

7.11 The contractor shall submit schedule of values before the first progress meeting.

8 Requirements for Technical Offers: The following technical criteria are listed in order of importance:

8.1 Certificate from roof membrane manufacturer indicating that installing firm is authorized or licensed to install manufacturer’s product, is eligible to receive manufacturer’s special warranty indicated above, and is authorized to perform warranty repairs.

8.2 Five (5) letters of reference on projects as described in Division 7 Section TP Membrane Roofing. All references for the projects noted above will be checked and will be held in the strictest of confidence. The University reserves the right to verify all information given if it so chooses, as well as, to check any other sources available including itself even if not provided as a reference by the Proposer.

8.3 Documentation from the manufacturer of not less than 5-years experience installing specified roofing system.
8.4 **Project Experience:** The Bidder shall complete the “Project Experience” Form provided in Appendix A on the number of different projects whose cumulative total equals 100,000 SF of successful installation of the specified roofing system. A separate form is to be completed on each of the projects to ensure you provide all of the requested information.

8.5 **Contractor’s Profile:** The Bidder shall complete the “Contractor’s Profile” Form provided in Appendix A.

8.6 **Current Workload:** The Bidder shall complete the “Contractor’s Profile” Form provided in Appendix A.

9. **Requirements for Bid Price:**

9.1 The Bid Price is to be submitted in a separate envelop or box clearly labeled with the Bid Number and the words “Bid Price”. No pricing information is to be included in the Technical Offer.

9.2 Complete the Bid Price Sheet provided in Appendix B of the Bid documents and submit it to the University by the due date and time referenced in Item 5.5.2 noted above.

9.3 Bidder shall submit a lump sum bid price on the Sealed Bid Form.

9.4 Bidder shall submit an itemized cost breakdown per classification and numbering by the Construction Specifications Institute as requested.

9.5 The add alternate is listed in the order in which it will be taken by the University if funding is available.

10 **Evaluation Process**

10.1 **Technical Offer Evaluation**

The Evaluation Committee will first review the Technical Offers for qualifications and compliance with the specifications set forth in the document. Those bidders whose Technical Offers not achieving 75% of the technical points available will not continue or advance further in the procurement process.

Those Bidders whose Technical Offers achieve 75% or better of the available technical points will move into the Bid Price Phase of the procurement, and will have their Bid Price opened on the anticipated date and time noted in Item 3 above.

Technical scoring will be based upon the evaluation of the information provided in the technical offer.
Upon completion of the Technical Offer evaluation, all bidders will be notified as to the results of the evaluation of its firm's technical offer.

10.2 **Price Bid Evaluation**

The University will open the Bid Prices on **Monday, May 18, 2009 at 2:00 p.m.** in **Office of Procurement Services**. Bid Prices will be opened privately. The Bid Price will be evaluated based on the **sum** of the Lump Sum Price and the Price of Alternate #1 Bid. Once the **Bid Prices** are opened, an award will be made to the bidder with the lowest responsive bid price.

10.3 **Right to Reject Bids and/Or Waive Minor Irregularities**

The University reserves the right to reject any and all bids. The University further reserves the right to waive any technicality or irregularity that is deemed minor by the University.

10.4 **Clarifications and Addenda**

If a discrepancy is found in the bid documents, or if a bidder is in doubt as to the meaning or intent of any part of the bid, bidder must contact the Procurement Officer, in writing by **no later than seven (7) working days prior** to the date the **Bids** are due. Failure to make such a request for clarifications is a waiver to any claim by the Bidder for expense made necessary by reason of later interpretation of the bid documents by the University. Requests shall include the bid number and name.

If it becomes necessary to revise any part of this Bid, the Issuing Office will issue a written Addendum. Oral explanations or instructions will not be binding. Only written Addenda will be binding. Any Addenda resulting from these requests will be posted to the eBid Board at [http://www.umbc.edu/adminaffairs/procurement/EBidB.shtml](http://www.umbc.edu/adminaffairs/procurement/EBidB.shtml). It is the responsibility of the bidder to check the website frequently until the opening date of the bid for addendums, amendments and changes. **An “Acknowledgement of the Receipt” Form (found in Appendix A) for all amendments, addenda, and changes issued shall be required from all bidders submitting a bid and must be signed and returned within the Technical Offer** by the due date and time.

10.5 **Modifications and Withdrawal of Multi-Step Bids**

10.5.1 Withdrawal of or modifications to **Technical Offers** and/or **Price Bids** are effective only if written notice thereof is filed to the Issuing Office prior to the time the **Bids** are due. A notice of withdrawal or modification must be signed by an officer with the authority to commit the company.
10.5.2 No withdrawal or modifications will be accepted after the due date and time for Technical Offers/Bid Prices.

11. **Bid Terms and Conditions Terms**

In addition to the terms and conditions stated in this bid document, the Contract in Appendix C will comprise the contract arising from this solicitation.

11.1 **Public Information Act Notice**

Bidders must specifically identify those portions of their bids, if any, which they deem to contain confidential, proprietary information or trade secrets and must provide justification why such material should not, upon request, be disclosed by the State under the Access to Public Records Act, State Government Article, Title 10, Sub-Title 6, of the Annotated Code of Maryland.

Bidders must clearly indicate each and every section that is deemed to be confidential, proprietary or a trade secret (it IS NOT sufficient to preface your bid with a proprietary statement,). Failure to comply may result in rejection of your bid.

11.2 **Bid Affidavit**

The Bid/Proposal affidavit enclosed in this document in Appendix A must be executed by each bidder and submitted with the Technical Offer.

11.3 **Piggyback Clause**

UMBC is a member of the University System of Maryland (‘USM”) and as such, UMBC reserves the right to extend the terms, conditions, and prices of this contract to other institutions of the USM should any of those institutions express an interest in participating in any contract that results from this solicitation. Furthermore, on occasion, other State educational institutions (e.g., St. Mary’s College, Morgan State University, Baltimore City Community College) may desire to take advantage of this contract. Each of the piggyback institutions will issue their own purchasing documents. UMBC assumes no obligation on behalf of the piggyback institutions.

11.4 **Debriefing of Unsuccessful Bidders**

Bidders whose technical offers were determined to be not acceptable/non-responsive/not qualified because of failure to meet the minimum technical requirements will be so notified in writing. A debriefing of an unsuccessful bidder shall be conducted upon written request submitted to the Procurement Officer within ten (10) days after the bidder knew or should have known its bid was unsuccessful. The debriefing shall be limited to discussion of the unsuccessful bidder’s bid only and shall NOT include discussion of a competing bidder’s bid. Debriefings shall be conducted at the earliest feasible time. A summarization of the Procurement Officer’s rationale for the selection may be given.
11.5 **Formation of Agreement/Contract With Successful Bidder**

By submitting a response to this solicitation, the bidder agrees to accept and be bound by the terms, conditions and specifications contained herein. The Contract to be entered into as a result of this solicitation shall be by and between the Bidder as “contractor” and the University and shall consist of the following: (1) the Standard Contract attached as Appendix C; (2) the purchase order; (3) the terms, conditions and specifications of this solicitation and any amendments, additions or changes thereto; and (4) the Bidder’s response to this solicitation and any amendments or changes thereto.

The terms and conditions contained in the Contract (Appendix C) reflect those which are required by Maryland Law and may not be changed or modified. Failure to accept these terms and conditions may result in proposal being deemed unresponsive.

Any additional specific terms and conditions that the Bidder may wish to include, including any contracts which the Bidder proposes to use, **must** be submitted by the solicitation closing date as part of the Technical Offer. Any proposal for terms in addition to or different from those set forth in this solicitation or any attempt by the bidder to vary any of the items of this bid by bidder’s acceptance shall not operate as a rejection of this solicitation, unless such variance is in the terms of the description, quantity, price or delivery schedule but shall be deemed a material alteration thereof, and his solicitation shall be deemed acceptable by the Bidder without the additional or different terms. Terms and conditions submitted by a Bidder after solicitation closing date **shall not be accepted** and will **not** be considered for negotiation or incorporation into the terms of the awarded contract.

11.6 **Order of Precedence**

The contract between the parties will be embodied in the contract documents which will consist of those items named in 11.5 above listed in their order of precedence. Modifications to the Order of Precedence of those items will not be accepted in order to protect the University against obscure, unrecognized conflicts between the solicitation and a Bidders response. In the event of a conflict, the terms of the University shall prevail in the order listed above.

11.7 **Maryland Public Ethics Law, Title 15**

The Maryland Public Ethics Law prohibits, among other things: State employees or officials (and in some cases, former employees) and businesses in which such an individual is employed or holds a financial interest from (i) submitting a bid or proposal, (ii) negotiating a contract, and (iii) entering into a contract with the governmental unit with which the individual is affiliated per the Maryland Code, State Government Article, SS 15-502.
If the bidder/offeror has any questions concerning application of the State Ethics law to the bidder/offeror's participation in this procurement, it is incumbent upon the bidder/offeror to see advice from the State Ethics Commission; John O'Donnell, State Ethics Commission, 300 E. Joppa Road, Suite 301, Towson, Maryland 21286, 410-321-3626.

The procurement officer may refer any issue raised by a bid or proposal to the State Ethics Commission. The procurement officer may require the bidder/offeror to obtain advice from the State Ethics Commission and may reject a bid or proposal that would result in a violation of the Ethics law.

The resulting contract is cancelable in the event of a violation of the Maryland Public Ethics Law by the bidder or any State of Maryland employee in connection with this procurement.

The resulting contract shall be canceled in the event of a violation of the Maryland Public Ethics Law by the bidder or any State of Maryland employee in connection with this procurement.

11.8 Announcement of Award

The award will be announced in eMaryland Marketplace.

END OF SECTION 11
APPENDIX A

TECHNICAL OFFER FORMS

Project Experience Form
Contractor’s Profile Form
Contractor’s Current Work Load Form
Acknowledgement of Receipt of Addenda Form
Bid/Proposal Affidavit
PAGE INTENTIONALLY LEFT BLANK
Provide projects within the last five (5) years for the successful installation of the specified roofing system whose cumulative total is 100,000 SF. Use a separate form for each project.

<table>
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<tr>
<th>CONTRACTOR: ________________________________</th>
<th>ADDRESS: _______________________________________________________________________ TELEPHONE NUMBER: ______________________________</th>
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PROJECT NAME AND LOCATION: __________________________________________________________ START DATE: __________________________

ORIGINAL COMPLETION DATE: ________________, AWARD PRICE: $______________________, FINAL PRICE: $______________________

ACTUAL COMPLETION DATE: ________________, REFERENCE CONTACT NAME AND PHONE NUMBER: ________________________________________

TRADES INCLUDED: (check all that apply)

- [ ] Roofing, [ ] Masonry, [ ] Plumbing, [ ] Sheet Metal, [ ] Mechanical/Electrical

Other Related Trades: ______________________________________________________________

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<th>DESCRIPTION OF THE PROJECT:</th>
<th>SIMILARITIES OF YOUR PROJECT TO THIS PROJECT:</th>
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CONTRACTOR’S PROFILE – MS BID – BC-20615-Q

UMBC Math/Psych Building Roof Replacement
PRF#: 09-124

General Contractor: ___________________________________________________

Subcontractor(s): ___________________________________________________
Submit separate forms for each subcontractors

Date of Incorporation: ____________, State of Incorporation: ________________

Type of work performed (check all that are applicable):
[ ] Roofing [ ] Mechanical/Electrical [ ] Sheet Metal
[ ] Plumbing [ ] Masonry
[ ] Other: __________________________

Number of years in construction business: ________________________________

Number of years in business under present name: __________________________

Other or former names under which your organization has operated:
____________________________________________________________________
____________________________________________________________________

Type of organization (i.e. corporation, partnership, individual joint venture, other):
____________________________________________________________________

Name of principal(s) and title(s): _________________________________________
____________________________________________________________________

Brief history of company: _______________________________________________
____________________________________________________________________

Total number of employees: _____________________________________________

Number of field employees (excluding supervisory): __________________________

Number of field supervisory personnel: _________________________________

Number of office personnel (excluding supervisory): _______________________

Number of office supervisory personnel: _________________________________

Bonding Co.: _________________________ Bonding Capacity: _________________
Provide a list of the current projects on which your firm is committed, the dollar value of each, percentage completed and date of anticipated completion.

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<th>PROJECT NAME</th>
<th>DOLLAR VALUE</th>
<th>PERCENT COMPLETE</th>
<th>ANTICIPATED COMPLETION DATE</th>
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Based on this current workload, provide a description of the proposing firm's ability to accomplish the proposed services on this project within the required time frame:

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
MULTI-STEP BID NO.: BC-20615-Q

TECHNICAL OFFER &
BID PRICE DUE DATE: MONDAY, MAY 11, 2009 AT 2:00 P.M.

MULTI-STPE BID FOR: UMBC MATH/PSYCH BUILDING ROOF REPLACEMENT (Project 09-124)

NAME OF PROPOSER: ____________________________________________

ACKNOWLEDGEMENT OF RECEIPT OF ADDENDA

The undersigned, hereby acknowledges the receipt of the following addenda:

Addendum No. ____ dated ________
Addendum No. ____ dated ________
Addendum No. ____ dated ________
Addendum No. ____ dated ________
Addendum No. ____ dated ________
Addendum No. ____ dated ________

As stated in the solicitation documents, this form is included in our Technical Offer.

________________________________________
Signature

________________________________________
Printed Name

________________________________________
Title

________________________________________
Date

flats: Dv:(Authorized Representative and Affiant)
A. AUTHORIZED REPRESENTATIVE

I HEREBY AFFIRM THAT:

I am the (title) ___________________________ and the duly authorized representative of (business) ___________________________ and that I possess the legal authority to make this Affidavit on behalf of myself and the business for which I am acting.

B. AFFIRMATION REGARDING BRIBERY CONVICTIONS

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business (as is defined in Section 16-101(b) of the State Finance and Procurement Article of the Annotated Code of Maryland), or any of its officers, directors, partners, controlling stockholders, or any of its employees directly involved in the business’s contracting activities including obtaining or performing contracts with public bodies, has been convicted of, or has had probation before judgment imposed pursuant to Criminal Procedure Article, §§-220, Annotated Code of Maryland, or has pleaded nolo contendere to a charge of, bribery, attempted bribery, or conspiracy to bribe in violation of Maryland law, or of the law of any other state or federal law, except as follows (indicate the reasons why the affirmation cannot be given and list any conviction, plea, or imposition of probation before judgment with the date, court, official or administrative body, the sentence or disposition, the name(s) of person(s) involved, and their current positions and responsibilities with the business):

C. AFFIRMATION REGARDING OTHER CONVICTIONS

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business or any of its officers, directors, partners, controlling stockholders, or any of its employees directly involved in the business’s contracting activities including obtaining or performing contracts with public bodies, has:

(1) Been convicted of a violation of §11-205.1 of the State Finance and Procurement Article of the Annotated Code of Maryland;
(2) Been convicted of any criminal violation of a state or federal antitrust statute;
(3) Been convicted under the provisions of Title 18 of the United States Code for violation of the Racketeer Influenced and Corrupt Organization Act, 18 U.S.C. §1961 et seq., or the Mail Fraud Act, 18 U.S.C. §1341 et seq., for acts in connection with the submission of bids or proposals for a public or private contract;
(4) Been convicted of a violation of the State Minority Business Enterprise Law, §14-308 of the State Finance and Procurement Article of the Annotated Code of Maryland;
(5) Been convicted of a violation of §11-205.1 of the State Finance and Procurement Article of the Annotated Code of Maryland;
(6) Been convicted of conspiracy to commit any act or omission that would constitute grounds for conviction or liability under any law or statute described in sub-sections (1)-(5) above;
(7) Been found civilly liable under a state or federal antitrust statute for acts or omissions in connection with the submission of bids or proposals for a public or private contract;
(8) Been found civilly liable under a state or federal antitrust statute for acts or omissions in connection with the submission of bids or proposals for a public or private contract;
(9) Been convicted under §11-205.1 of the State Finance and Procurement Article of the Annotated Code of Maryland, or has pleaded nolo contendere to a charge of, bribery, attempted bribery, or conspiracy to bribe in violation of Maryland law, or of the law of any other state or federal law, except as follows (indicate the reasons why the affirmation cannot be given and list any conviction, plea, or imposition of probation before judgment with the date, court, official or administrative body, the sentence or disposition, the name(s) of person(s) involved, and their current positions and responsibilities with the business, the status of any debarment or suspension)

D. AFFIRMATION REGARDING DEBARMENT

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business or any of its officers, directors, partners, controlling stockholders, or any of its employees directly involved in the business’s contracting activities including obtaining or performing contracts with public bodies, has ever been suspended or debarred (including being issued a limited denial of participation) by any public entity, except as follows (list each debarment or suspension providing the dates of the suspension or debarment, the name of the public entity and the status of the proceedings, the name(s) of the person(s) involved and their current positions and responsibilities with the business, the grounds of the debarment or suspension, and the details of each person’s involvement in any activity that formed the grounds of the debarment or suspension):

E. AFFIRMATION REGARDING DEBARMENT OF RELATED ENTITIES

I FURTHER AFFIRM THAT:

(1) The business was not established and it does not operate in a manner designed to evade the application of or defeat the purpose of debarment pursuant to Sections 16-101, et seq., of the State Finance and Procurement Article of the Annotated Code of Maryland; and
(2) The business is not a successor, assignee, subsidiary, or affiliate of a suspended or debarred business, except as follows (you must indicate the reasons why the affirmations cannot be given without qualification)

F. SUB-CONTRACT AFFIRMATION

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business, has knowingly entered into a contract with a public body under which a person debarred or suspended under Title 16 of the State Finance and Procurement Article of the Annotated Code of Maryland will provide, directly or indirectly, supplies, services, architectural services, construction related services, leases of real property, or construction.

flats: Dv:(Authorized Representative and Affiant)
G. AFFIRMATION REGARDING COLLUSION

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business has:

(1) Agreed, conspired, connived, or colluded to produce a deceptive show of competition in the compilation of the accompanying bid or offer that is being submitted:
(2) In any manner, directly or indirectly, entered into any agreement of any kind to fix the bid price or price proposal of the bidder or offeror or of any competitor, or otherwise taken any action in restraint of free competitive bidding in connection with the contract for which the accompanying bid or offer is submitted

H. FINANCIAL DISCLOSURE AFFIRMATION

I FURTHER AFFIRM THAT:

I am aware of, and the above business will comply with, the provisions of Section 13-221 of the State Finance and Procurement Article of the Annotated Code of Maryland, which require that every business that enters into contracts, leases, or other agreements with the State of Maryland or its agencies during a calendar year under which the business is to receive in the aggregate $100,000 or more shall, within 30 days of the time when the aggregate value of the contracts, leases, or other agreements reaches $100,000, file with the Secretary of State of Maryland certain specified information to include disclosure of beneficial ownership of the business.

I. POLITICAL CONTRIBUTION DISCLOSURE AFFIRMATION

I FURTHER AFFIRM THAT:

I am aware of, and the above business will comply with, Election Law Article, §§14-101—14-108, Annotated Code of Maryland, which requires that every person that enters into contracts, leases, or other agreements with the State of Maryland, including its agencies or a political subdivision of the State, during a calendar year in which the person receives in the aggregate $100,000 or more shall file with the State Board of Elections a statement disclosing contributions in excess of $500 made during the reporting period to a candidate for elective office in any primary or general election.

J. DRUG AND ALCOHOL FREE WORKPLACE

(Applicable to all contracts unless the contract is for a law enforcement agency and the agency head or the agency head’s designee has determined that application of COMAR 21.11.08 and this certification would be inappropriate in connection with the law enforcement agency’s undercover operations.)

I CERTIFY THAT:

(1) Terms defined in COMAR 21.11.08 shall have the same meanings when used in this certification.
(2) By submission of its bid or offer, the business, if other than an individual, certifies and agrees that, with respect to its employees to be employed under a contract resulting from this solicitation, the business shall:
(a) Maintain a workplace free of drug and alcohol abuse during the term of the contract;
(b) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of drugs, and the abuse of drugs or alcohol is prohibited in the business’ workplace and specify the actions that will be taken against employees for violation of these prohibitions;
(c) Prohibit its employees from working under the influence of drugs or alcohol;
(d) Not hire or assign to work on the contract anyone whom the business knows, or in the exercise of due diligence should know, currently abuses drugs or alcohol and is not actively engaged in a bona fide drug or alcohol abuse assistance or rehabilitation program;
(e) Promptly inform the appropriate law enforcement agency of every drug-related crime that occurs in its workplace if the business has observed the violation or otherwise has reliable information that a violation has occurred;
(f) Establish drug and alcohol abuse awareness programs to inform its employees about:
(i) The dangers of drug and alcohol abuse in the workplace;
(ii) The business’ policy of maintaining a drug and alcohol free workplace;
(iii) Any available drug and alcohol counseling, rehabilitation, and employee assistance programs; and
(iv) The penalties that may be imposed upon employees who abuse drugs and alcohol in the workplace;
(g) Provide all employees engaged in the performance of the contract a copy of the statement required by §J(2)(b), above;
(h) Notify its employees in the statement required by §J(2)(b), above, that as a condition of continued employment on the contract, the employee shall:
(i) Abide by the terms of the statement; and
(ii) Notify the employer of any criminal drug or alcohol abuse conviction for an offense occurring in the workplace not later than 5 days after a conviction;
(i) Notify the procurement officer within 10 days after receiving notice under §J(2)(h)(ii), above, or otherwise receiving actual notice of a conviction;
(j) Within 30 days after receiving notice under §J(2)(h)(ii), above, or otherwise receiving actual notice of a conviction, impose either of the following sanctions or remedial measures on any employee who is convicted of a drug or alcohol abuse offense occurring in the workplace:
(i) Take appropriate personnel action against an employee, up to and including termination; or
(ii) Require an employee to satisfactorily participate in a bona fide drug or alcohol abuse assistance or rehabilitation program; and
(k) Make a good faith effort to maintain a drug and alcohol free workplace through implementation of §J(2)(a)-(j), above.
(3) If the business is an individual, the individual shall certify and agree, as set forth in §J(4), below, that the individual shall not engage in the unlawful manufacture, distribution, dispensing, possession, or use of drugs or the abuse of drugs or alcohol in the performance of the contract.
(4) I acknowledge and agree that:
(a) The award of the contract is conditional upon compliance with COMAR 21.11.08 and this certification;
(b) The violation of the provisions of COMAR 21.11.08 or this certification shall be cause to suspend payments under, or terminate the contract for default under COMAR 21.07.01.11 or 21.07.03.15, as applicable; and
(c) The violation of the provisions of COMAR 21.11.08 or this certification in connection with the contract may, in the exercise of the discretion of the Board of Public Works result in suspension and debarment of the business under COMAR 21.08.03.

K. CERTIFICATION OF CORPORATION REGISTRATION AND TAX PAYMENT

I FURTHER AFFIRM THAT:

(1) The business named above is a (domestic _____) (foreign_____) corporation registered in accordance with the Corporations and Associations Article, Annotated Code of Maryland, and that it is in good standing and has filed all of its annual reports, together with filing fees, with the Maryland State Department of Assessments and Taxation, and that the name and address of its resident agent filed with the State Department of Assessments and Taxation is:

Name:
Address:
(If not applicable, so state).

flats: Dv:(Authorized Representative and Affiant)
(2) Except as validly contested, the business has paid, or has arranged for payment of all taxes due the State of Maryland and has filed all required returns and reports with the Comptroller of the Treasury, the State Department of Assessments and Taxation, and the Department of Labor, Licensing and Regulation, as applicable, and will have paid all withholding taxes due the State of Maryland prior to final settlement.

L. CONTINGENT FEES

I FURTHER AFFIRM THAT:

The business has not employed or retained any person, partnership, corporation, or other entity, other than a bona fide employee, bona fide agent, bona fide salesperson or commercial selling agency working for the business, to solicit or secure the Contract, and that the business has not paid or agreed to pay any person, partnership, corporation, or other entity, other than a bona fide employee, bona fide agent, bona fide salesperson, or commercial selling agency, any fee or any other consideration contingent on the making of the Contract.

M. REPEALED

N. ACKNOWLEDGEMENT

I ACKNOWLEDGE THAT this Affidavit is to be furnished to the Procurement officer and maybe distributed to units of: (1) the State of Maryland; (2) counties or other subdivisions of the State of Maryland; (3) other states; and (4) the federal government. I further acknowledge that this Affidavit is subject to applicable laws of the United States and the State of Maryland, both criminal and civil, and that nothing in this Affidavit or any contract resulting from the submission of this bid or proposal shall be construed to supersede, amend, modify or waive, on behalf of the State of Maryland, or any unit of the State of Maryland having jurisdiction, the exercise of any statutory right or remedy conferred by the Constitution and the laws of Maryland with respect to any misrepresentation made or any violation of the obligations, terms and covenants undertaken by the above business with respect to (1) this Affidavit, (2) the contract, and (3) other Affidavits comprising part of the contract.

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF THE MY KNOWLEDGE, INFORMATION, AND BELIEF.

Date: ____________________________ By: ______________________________________ Firm’s Federal Employer Identification Number (FEIN): __________________________________________

(Authorized Representative and Affiant)

END OF FORM
APPENDIX B

BID PRICE FORM

Bid Price Form
### LUMP SUM PRICE BID FORM

<table>
<thead>
<tr>
<th>PROJECT TITLE:</th>
<th>Math Psych Roof Replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>UMBC PROJECT NO.:</td>
<td>09-124</td>
</tr>
<tr>
<td>UMBC PM:</td>
<td>Steve Longo</td>
</tr>
</tbody>
</table>

**SEALED BIDS SHALL BE DELIVERED TO:**
Sharon Quinn, Procurement
UMBC 3rd Floor Administration Bldg.
1000 Hilltop Circle Baltimore, MD 21250
FAX #: 410-455-1009

**BIDDER NAME:**

**BIDDER ADDRESS:**

**BIDDER PHONE NO:**

**BIDDER SIGNATURE:**

**CONSTRUCTION START DATE:** 28 May 2009

**CONSTRUCTION COMPLETION DATE:** 14 August 2009

If this Bid is accepted, and a Purchase Order is issued by UMBC, the Bidder agrees to perform and furnish the Work as indicated in the Bidding Documents for the Bid Price and within the Bid Times indicated in this Bid and in accordance with UMBC Procurement terms and conditions and UMB Contact terms and conditions.

In submitting this Bid, the Bidder represents:
- UMBC has the right to reject the Bid;
- Bidder has examined the Bidding Documents and the project conditions;
- Bidder has correlated the information known to the Bidder and information obtained from site visits with the Bidding Documents;

Bidder has received the following addenda, receipt of which is hereby acknowledged:

<table>
<thead>
<tr>
<th>Addenda Number</th>
<th>Addenda Date</th>
</tr>
</thead>
</table>

| **LUMP SUM PRICE** |  |
| **BASE BID:** | $ |
| Base Bid includes allowance quantities as described in Division One Section Unit Prices. |

| **ALTERNATE 1 BID:** | $ |
| Rebuilt parapet wall as described in Division One Section Alternates. |

| Circuit one: Add/Deduct amount shown for Alternate |

| **UNIT PRICE A BID:** | $ | per Square feet |
| Repointing brick masonry |
| Refer to Division One Section Unit Prices and referenced technical sections for description of unit prices. |

| **UNIT PRICE B BID:** | $ | per linear feet |
| Masonry through-wall flashing |

| **UNIT PRICE C BID:** | $ | per Square feet |
| Brick masonry rebuilding |

| **UNIT PRICE D BID:** | $ | per Square feet |
| Scraping and priming steel deck and framing |

| **UNIT PRICE E BID:** | $ | per Square feet |
| Removal and replacement of steel deck |

flats: Dv:(Authorized Representative and Affiant)
<table>
<thead>
<tr>
<th>UNIT PRICE F BID:</th>
<th>$</th>
<th>per Board foot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reuse of existing wood blocking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UNIT PRICE G BID:</th>
<th>$</th>
<th>per Board foot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Removal and replacement of deteriorated dimensional lumber</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BIDDER NAME: 

NAME OF PERSON AUTHORIZED TO SIGN: 

BIDDER SIGNATURE:  DATE: 

(Signatures to be place don the following page)
A. INDIVIDUAL PRINCIPAL

In Presence of Witness:______________________________

FIRM NAME_____________________________________

ADDRESS_____________________________________

_____________________________________________

_____________________________________________

TELEPHONE NO.___________________________

SIGNED_____________________________________

Printed Name_________________________________

Title:________________________________________

B. CO-PARTNERSHIP PRINCIPAL

(Name of Co - Partnership)

ADDRESS_____________________________________

_____________________________________________

In Presence of Witness:

TELEPHONE NO.___________________________

as to

BY______________________________________

(Partner)

Printed Name:_______________________________

as to

BY______________________________________

(Partner)

Printed Name:_______________________________

as to

BY______________________________________  (Partner)

Printed Name:_______________________________

C. CORPORATE PRINCIPAL

(Name of Corporation)

ADDRESS_____________________________________

_____________________________________________

TELEPHONE NO.___________________________

Attest:

[Printed Name of Corporate (or Assistant Corporate)Secretary]
[Corporate (or Assistant Corporate) Secretary Signature for Identification]

BY:____________________________________
Signature of Officer
____________________________________Printed
Name________________________
Title___________________________
APPENDIX C

CONTRACT FORMS

UMBC Contract
Contract Affidavit
CONTRACT  
BETWEEN  
THE UNIVERSITY OF MARYLAND, BALTIMORE COUNTY  
AND  

By this Contract, made as of the day of ____________, 2005, by and between The University of Maryland, Baltimore County, a constituent institution of the University System of Maryland, agency of the State of Maryland ("University"), 1000 Hilltop Circle, Baltimore, Maryland 21250, and ___________________ ("Contractor"), ____________________, for ___________, the parties hereby agree as follows:

1. **TERM OF CONTRACT:** The term of this Contract shall begin on _______ and terminate on _________.

2. **SCOPE OF CONTRACT:** The Contractor's obligations and duties under this Contract shall include, but are not limited to, the terms, conditions and specifications contained in RFP No. _______ and any amendments or changes thereto as well as the Contractor's proposal submitted in response to the aforementioned RFP (collectively referred to hereinafter as the “Contract Documents”). These obligations and duties are subject to the unilateral right of the University to order, in writing, changes in the work within the scope of the Contract.

3. **COMPENSATION AND METHOD OF PAYMENT:**
   A. As compensation for satisfactory performance of the work described in Paragraph 2, above, the University will pay the Contractor $___________.
   B. The Contractor's Federal Tax Identification Number or, where applicable, Social Security Number is _____________.
   C. The Contractor shall be paid only for items or services that are specifically named in this Contract. No additional costs for items or services will be paid by the University without its prior express written consent.

4. **DELIVERY:** Delivery shall be made in accordance with bid/RFP specifications. The University reserves the right to test any materials, equipment, supplies or services delivered to determine if the specifications have been met. The materials listed in the specifications shall be delivered FOB the point or points specified prior to or on the date specified in the solicitation. Any material that is defective or fails to meet the terms of the specifications shall be rejected. Rejected materials shall be promptly replaced. The University reserves the right to purchase replacement materials in the open market. Contractors failing to promptly replace materials lawfully rejects shall be liable for any excess price paid for the replacement plus applicable expenses, if any.

5. **NON-HIRING OF EMPLOYEES:** No employee of the State of Maryland or any unit thereof, whose duties as such employee include matters relating to or affecting the subject matter of this Contract, shall, while so employed, become or be an employee of the party or parties hereby contracting with the State of Maryland or any unit thereof.

6. **RESPONSIBILITY OF CONTRACTOR:**
   A. The Contractor shall perform the services with that standard of care, skill and diligence normally provided by a Contractor in the performance of services similar to the services hereunder.
   B. Notwithstanding any review, approval, acceptance or payment for the services by the University, the Contractor shall be responsible for professional and technical accuracy of its work, design drawings, specifications and other materials furnished by the Contractor under this Contract.

7. **DISSEMINATION OF INFORMATION:**
   A. During the term of this Contract, the Contractor shall not release any information related to the services or performance of the services under this Contract nor publish any final reports or documents without the prior written approval of the University.
   B. The Contractor shall indemnify and hold harmless the University, its officers, agents and employees, from all liability which may be incurred by reason of dissemination, publication, distribution or circulation, in any manner whatsoever, of any information, data, documents, or materials pertaining in any way to this Contract by the Contractor, its agents or employees.

8. **OWNERSHIP OF DOCUMENTS AND MATERIALS:** The Contractor agrees that all documents and materials, including but not limited to, reports, drawings, studies, specifications, estimates, maps, photographs, designs graphics, mechanical, artwork, and computations prepared by or for it under the terms of this Contract shall at anytime during the performance of the services be made available to the University upon request by the University and shall become and remain the exclusive property of the University upon termination or completion of the services. The University shall have the right to use same without restriction or limitation and without compensation to the Contractor other than that provided by this Contract. The University shall be the owner for purposes of copyright, patent or trademark registration.

9. **PATENTS, COPYRIGHTS AND TRADE SECRETS:**
   A. If the Contractor furnishes any design, device, material, process or other item which is covered by a patent or copyright or which is deemed proprietary to or a trade secret of another, Contractor shall obtain the necessary permission or license to use such item.
   B. Contractor will defend or settle, at its own expense, any claim or suit against the University alleging that any such item furnished by Contractor infringes any patent, trademark, copyright, or trade secret. Contractor also will pay all damages and
costs that by final judgment may be assessed against the University due to such infringement and all attorneys’ fees and litigation expenses reasonably incurred by the University to defend against such a claim or suit. The obligations of this paragraph are in addition to those stated in paragraph 8.3 below.

C. If any products furnished by Contractor become, or in Contractor’s opinion, are likely to become, the subject of a claim of infringement, Contractor will, at its option: (1) procure for the University the right to continue using the applicable item; (2) replace the product with a non-infringing product substantially complying with the item’s specifications; or (3) modify the item so it becomes non-infringing and performs in a substantially similar manner to the original item.

11. **DISPUTES:** This Contract shall be subject to the provisions of University System of Maryland Procurement Policies and Procedures. Pending resolution of a claim, the Contractor shall proceed diligently with the performance of the Contract in accordance with the Procurement Officer's decision. Any dispute that is not subject to the jurisdiction of the Maryland State Board of Contract Appeals, as provided in the University System Procurement Policies and Procedures, shall be brought in and heard by the courts of the State of Maryland, and the parties voluntarily consent to the exclusive jurisdiction of the courts of this State for any such proceeding.

12. **NONDISCRIMINATION IN EMPLOYMENT:** The Contractor agrees: (a) not to discriminate in any manner against an employee or applicant for employment because of race, color, religion, creed, age, sex, sexual orientation, marital status, national origin, ancestry, or physical or mental handicap unrelated in nature and extent so as reasonably to preclude the performance of such employment; (b) to include a provision similar to that contained in subsection (a), above, in any subcontract except a subcontract for standard commercial supplies or raw materials; and (c) to post and to cause subcontractors to post in conspicuous places available to employees and applicants for employment, notices setting forth the substance of this clause.

13. **CIVIL RIGHTS ACT 1964:** Vendors and Contractors providing materials, equipment, supplies or services to the State under this Contract herewith assure the State that they are conforming to the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1988, and the Civil Rights Act of 1991, and Section 202 of Executive Order 11246 of the President of the United States of America as amended by Executive Order 11375, as applicable.

14. **AFFIRMATIVE ACTION:** The Contractor and all subcontractors shall develop and maintain affirmative action plans directed at increasing the utilization of women and members of minority groups on State public works projects, pursuant to the Executive Order 11246 of the President of the United States of America and guidelines on Affirmative Action issued by the Equal Employment Opportunities Commission (EEOC) 29 C.F.R. part 1608 and the Governor of Maryland’s Executive Order 01.01.1993.16.

15. **CONFLICT OF INTEREST LAW:** It is unlawful for any University officer, employee, or agent to participate personally in his manually on command of Vendor.

16. **CONTINGENT FEE PROHIBITION:** The Contractor, Architect, or Engineer (as applicable) warrants that it has not employed or retained any person, partnership, corporation, or other entity, other than a bona fide employee or agent working for the Contractor, Architect, or Engineer, to solicit or secure this agreement, and that it has not paid or agreed to pay any person, partnership, corporation, or other entity, other than a bona fide employee or agent, any fee or any other consideration contingent on the making of this agreement.

17. **INTELLECTUAL PROPERTY:** Contractor agrees to indemnify and save harmless the State, its officers, agents and employees with respect to any claim, action, cost or judgment for patent infringement, or trademark or copyright violation arising out of purchase or use of materials, supplies, equipment or services covered by this Contract.

18. **SOFTWARE CONTRACTS:** [Delete if not applicable and insert “N/A”] As specifically provided by Maryland Code Annotated, Commercial Law Article, Section 21-104, the parties agree that this Contract shall not be governed by the Uniform Computer Information Transaction Act (“UCITA”), Title 21 of the Maryland Code Annotated, Commercial Law Article, as amended from time to time. This Contract shall be governed by the common law of Maryland relating to written agreements, as well as other statutory provisions, other than UCITA, which may apply, and shall be interpreted and enforced as if UCITA had never been adopted in Maryland. Vendor agrees that, as delivered to the University, the software does not contain any program code, virus, worm, trap door, back door, timer or clock that would erase data, or programming or otherwise cause the software to become inoperable, inaccessible, or incapable of being used in accordance with its conditions, or manually on command of Vendor.

19. **EPA COMPLIANCE:** Materials, supplies, equipment and services shall comply in all respects with the federal Noise Control Act of 1972, where applicable. Power equipment, to the greatest extent possible, shall be the quietest available. Equipment certified by the US EPA as a Low Noise Emission Product pursuant to the Federal Noise Control Act of 1972 shall be considered to meet the intent of the regulation. The Contractor must have supply and have immediately available to their employees spill containment equipment/supplies necessary to contain any hazards they may introduce to the job site. The Contractor is responsible for any and all costs incurred by the University in remediating spills or releases of materials he/she introduced onto the job site.
MULTI-YEAR CONTRACTS CONTINGENT UPON APPROPRIATIONS: If the General Assembly fails to appropriate funds or if funds are not otherwise made available for continued performance for any fiscal period of this Contract succeeding the first fiscal period, this Contract shall be canceled automatically as of the beginning of the fiscal year for which funds were not appropriated or otherwise made available; provided, however, that this will not affect either the State's rights or the Contractor's rights under any termination clause in this Contract. The effect of termination of the Contract hereunder will be to discharge both the Contractor and the State of Maryland from future performance of the Contract, but not from their rights and obligations existing at the time of termination. The Contractor shall be reimbursed for the reasonable value of any non-recurring costs incurred but not amortized in the price of the Contract. The State shall notify the Contractor as soon as it has knowledge that funds may not be available for the continuation of this Contract for each succeeding fiscal period beyond the first.

TERMINATION FOR DEFAULT: If the Contractor fails to fulfill its obligation under this contract properly and on time, or otherwise violates any provision of the contract, the University may terminate the contract by written notice to the Contractor. The notice shall specify the acts or omissions relied upon as cause for termination. All finished or unfinished work provided by the Contractor shall, at the University's option, become the University's property. The University shall pay the Contractor fair and equitable compensation for satisfactory performance prior to receipt of notice of termination, less the amount of damages caused by Contractor's breach. If damages are more than the compensation payable to the Contractor, the Contractor will remain liable after termination and the University can affirmatively collect damages. Termination hereunder, including the determination of the rights and obligations of the parties, shall be governed by the provisions of USM Procurement Policies and Procedures.

TERMINATION FOR CONVENIENCE: The performance of work under this Contract may be terminated by the University in accordance with this clause in whole, or from time to time in part, whenever the University shall determine that such termination is in the best interest of the University. The University will pay all reasonable costs associated with this Contract that the Contractor has incurred up to the date of termination and all reasonable costs associated with termination of the Contract. However, the Contractor shall not be reimbursed for any anticipatory profits that have not been earned up to the date of termination. Termination hereunder, including the determination of the rights and obligations of the parties, shall be governed by the provisions of USM Procurement Policies and Procedures.

TERMINATION OF MULTIYEAR CONTRACTS: If the General Assembly fails to appropriate funds or if funds are not otherwise made available for continued performance for any fiscal period of this Contract succeeding the first fiscal period, this Contract shall be canceled automatically as of the beginning of the fiscal year for which funds were not appropriated or otherwise made available; provided, however, that this will not affect either the State's rights or the Contractor's rights under any termination clause in the Contract. The effect of termination of the Contract hereunder will be to discharge both the Contractor and the State from future performance of the Contract but not from their rights and obligations existing at the time of termination. The Contractor shall be reimbursed for the reasonable value of any non-recurring costs incurred but not amortized in the price of the Contract. The State shall notify the Contractor as soon as it has knowledge that funds may not be available for the continuation of this Contract for each succeeding fiscal period beyond the first.

DELAYS AND EXTENSIONS OF TIME: The Contractor agrees to perform this agreement continuously and diligently. No charges or claims for damages shall be made by the Contractor for any delays or hindrances, regardless of cause, in the performance of services under this Contract. Time extensions will be granted only for excusable delays that arise from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, acts of the public enemy, acts of the State in either its sovereign or contractual capacity, acts of another Contractor in the performance of a State Contract, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, or the delay of a sub-contractor or supplier arising from unforeseeable causes beyond the control and without the fault or negligence of either the Contractor or the subcontractors or suppliers.

VARIATIONS IN ESTIMATED QUANTITIES: [Delete is not applicable - if contract does not contain estimated quantity items.] No equitable adjustment shall be permitted in favor of either the State of Maryland or the Contractor in the event that the quantity of any pay item in this Contract is an estimated quantity and the actual quantity of such pay item varies from the estimated quantity stated in the Contract.

LIQUIDATED DAMAGES: [To be included where deemed appropriate by the Procurement Officer or insert “N/A”]

SUSPENSION OF WORK: The procurement officer unilaterally may order the Contractor in writing to suspend, delay or interrupt all or any part of the work for such period of time as the Procurement Officer may determine to be appropriate for the convenience of the University.

PRE-EXISTING REGULATIONS: In accordance with the provisions of Section 11-206 of the State Finance and Procurement Article, Annotated Code of Maryland, the regulations set forth in USM Procurement Policies and Procedures in effect on the date of execution of this Contract are applicable to this Contract.

FINANCIAL DISCLOSURE: The Contractor shall comply with the provisions of Section 13-221 of the State Finance and Procurement Article of the Annotated Code of Maryland, as from time to time amended, which requires that every business that enters into contracts, leases or other agreements with the State of Maryland or its agencies during a calendar year under which the business is to receive in the aggregate $100,000 or more, shall, within 30 days of the time when the aggregate value of these contracts, leases or other agreements reaches $100,000, file with the Secretary of State of Maryland certain specified information to include disclosure of beneficial ownership of the business.
30. **POLITICAL CONTRIBUTION DISCLOSURE:** The Contractor shall comply with Article 33, Sections 14-101 through 14-104, of the Annotated Code of Maryland, which requires that every person that enters into contracts, leases, or other agreements with the State, a county, or an incorporated municipality, or their agencies, during a calendar year under which the person receives in the aggregate $100,000 or more shall file with the State Administrative Board of Election Laws a statement disclosing contributions in excess of $500 to a candidate for elective office in any primary or general election. The statement shall be filed with the State Administrative Board of Election Laws: (1) before a purchase or execution of a lease or contract by the State, a county, an incorporated municipality, or their agencies, and shall cover the preceding two calendar years; and (2) if the contribution is made after the execution of a lease or contract, then twice a year, throughout the contract term, on: (a) February 5, to cover the 6-month period ending January 31; and (b) August 5, to cover the 6-month period ending July 31.

31. **RETENTION OF RECORDS:** The Contractor shall retain and maintain all records and documents relating to this Contract for three (3) years after final payment by the University hereunder or any applicable statute of limitations, whichever is longer, and shall make them available for inspection and audit by authorized representatives of the University, including the Procurement Officer or the Procurement Officer's designee, at all reasonable times.

32. **AUDIT:** The University reserves the right to request an independent review of the Contractor's financial operations and overall contract compliance (“Review”). The Review would be at the Contractor's expense and comprised of an agreed upon procedures engagement by an independent certified public accountant with a protocol acceptable to both parties at the time of the request.

33. **COMPLIANCE WITH LAWS:** The Contractor hereby represents and warrants that:
   
   A. It is qualified to do business in the State of Maryland and that it will take such action as, from time to time hereafter, may be necessary to remain so qualified;
   
   B. It is not in arrears with respect to the payment of any monies due and owing the State of Maryland, or any department or unit thereof, including but not limited to the payment of taxes and employee benefits, and that it shall not become so in arrears during the term of this Contract;
   
   C. It shall comply with all federal, State and local laws, regulations, and ordinances applicable to its activities and obligations under this Contract; and
   
   D. It shall obtain at its expense, all licenses, permits, insurance, and governmental approval, if any, necessary to the performance of its obligations under this Contract.

34. **COST AND PRICE CERTIFICATION:** By submitting cost or price information, the Contractor certifies to the best of its knowledge that the information submitted is accurate, complete, and current as of a mutually determined specified date prior to the conclusion of any price discussions or negotiations for:

   A. A negotiated contract, if the total contract price is expected to exceed $100,000, or a smaller amount set by the procurement officer; or
   
   B. A change order or contract modification, expected to exceed $100,000, or a smaller amount set by the procurement officer.

   C. The price under this Contract and any change order or modification hereunder, including profit or fee, shall be adjusted to exclude any significant price increases occurring because the Contractor furnished cost or price information which, as of the date agreed upon between the parties, was inaccurate, incomplete, or not current.

35. **TRUTH-IN NEGOTIATION CERTIFICATION:** [Mandatory provision for architectural services or engineering services contracts exceeding $100,000. It shall be in substantially the same form as follows: or insert “N/A” if not applicable.] The Contractor by submitting cost or price information, including wage rates or other actual unit costs, certifies to the best of its knowledge, information and belief, that:

   A. the wage rates and other factual unit costs supporting the firm's compensation, as set forth in the proposal, are accurate, complete and current as of the contract date;
   
   B. if any items of compensation were increased due to the furnishing of inaccurate, incomplete or noncurrent wage rates or other units of costs, the State is entitled to an adjustment in all appropriate items of compensation, including profit or fee, to exclude any significant sum by which the price was increased because of the defective data. The University's right to adjustment includes the right to a price adjustment for defects in costs or pricing data submitted by a prospective or actual subcontractor; and
   
   C. If additions are made to the original price of the contract, such additions may be adjusted to exclude any significant sums where it is determined the price has been increased due to inaccurate, incomplete or noncurrent wage rates and other factual costs.

36. **PAYMENT OF UNIVERSITY OBLIGATIONS:** Payments to the Contractor pursuant to this Contract shall be made no later than 30 days after the University's receipt of a proper invoice from the Contractor. Each such invoice must reflect the Contractor's federal tax identification number. Charges for late payment of invoices, other than as prescribed by Title 15, Subtitle 1, of the State Finance and Procurement Article, Annotated Code of Maryland, as from time to time amended, are prohibited.

37. **SET-OFF:** The University may deduct from and set-off any amounts due and payable to the Contractor any back-charges or damages sustained by the University by virtue of any breach of this Contract by the Contractor or by virtue of the failure or refusal of the Contractor to perform the services or any part of the
services in a satisfactory manner. Nothing herein shall be construed to relieve the Contractor of liability for additional costs resulting from a failure to satisfactorily perform the services.

38. **INDEMNIFICATION:** The University shall not assume any obligations to indemnify, hold harmless, or pay attorneys’ fees that may arise from or in any way be associated with the performance or operation of this Contract.

39. **PROHIBITION AGAINST SHIFTING MARYLAND INCOME TO OUT-OF-STATE AFFILIATES:** Contractor may not, for any period during the Contract term, seek to reduce the amount of Contractor’s income subject to Maryland income tax by payments made to an affiliated entity or an affiliate’s agent for the right to use trademarks, trade names, or other tangible property associated with Contractor. Contractor agrees that during the course of this Contract it shall not make any such royalty or similar payments to any affiliated company; and if any such royalty or similar payments are made, Contractor and the affiliated company shall file separate Maryland income tax, under a formula that reasonably apportions the income of the affiliated company among the states, including Maryland, in which the Contractor does business. Contractor agrees that it is authorized to bind its affiliated entities to the terms hereof.

40. **ENTIRE AGREEMENT:**

A. This Contract constitutes the entire agreement of the parties and supersedes all prior written or oral and all contemporaneous oral agreements, understandings, and negotiations between the parties with respect to the subject matter hereof. This Contract is intended by the parties as the final expression of their agreement and may not be contradicted by evidence of any prior or contemporaneous agreement.

B. Headings: All headings are for reference purposes only and must not affect the interpretation of this Contract. All references to “days” in this Agreement mean calendar days, unless otherwise expressly stated. All references to “including” mean “including without limitation.”

C. Partial Invalidity. Any provision of this Contract which is found to be invalid or unenforceable shall be ineffective to the extent of such invalidity or unenforceability, and the invalidity or unenforceability of such provision shall not affect the validity or enforceability of the remaining provisions hereof.

D. Notices. Any notice required to be given hereunder shall be deemed to have been given either when served personally, by facsimile, or when sent by first class mail addressed to the parties at the addresses set forth in this Agreement.

E. Counterparts. This Contract may be executed simultaneously, in two (2) or more counterparts, each of which shall be deemed an original and all of which, when taken together, shall constitute one and the same document. The signature of any party to any counterpart shall be deemed a signature to, and may be appended to any other counterpart.

41. **CONTRACT CONTROLS:** It is mutually agreed that any attached contract, or addenda thereto, by and between the University and the Contractor pertaining to this Contract is supplemental and subordinate to this University of Maryland, Baltimore County Contract. The terms and conditions of this University of Maryland, Baltimore County Contract shall, at all times and in all events and situations, be controlling.

42. **USE OF CONTRACTOR’S FORMS NOT BINDING ON STATE:**

A. The use or execution by the University of any forms, orders, agreements, or other documents of any kind, other than the Contract documents, used pursuant to or in the administration of any contract awarded by the University to the Contractor, shall not bind the University to any of the terms and conditions contained therein except those provisions:

1. Generally describing for the purposes of ordering: equipment or services to be provided, locations, quantities, delivery or installation dates, and, to the extent consistent with the Contract Documents, prices; and
2. not otherwise inconsistent with the Contract Documents.

B. Any such form, order, or others document shall not vary, modify, or amend the terms and provisions of the Contract Documents, notwithstanding any provision to the contrary in such document, unless all of the following conditions are met:

1. the document expressly refers to the particular document and provision of the Contract Documents being modified and plainly and conspicuously identifies any modifications thereto as a modification; and
43. **ASSIGNMENT**: This Contract and the rights, duties, and obligations hereunder may not be assigned or subcontracted by Contractor without the prior written consent of the University.

44. **WAIVER OF JURY**: UNIVERSITY AND CONTRACTOR, HEREBY WAIVE TRIAL BY JURY IN ANY ACTION OR PROCEEDING TO WHICH THEY ARE PARTIES ARISING OUT OF OR IN ANY WAY PERTAINING TO THIS CONTRACT. IT IS AGREED AND UNDERSTOOD THAT THIS WAIVER CONSTITUTES A WAIVER OF TRIAL BY JURY OF ALL CLAIMS AGAINST ALL PARTIES WHO ARE NOT PARTIES TO THIS CONTRACT. THIS WAIVER IS KNOWINGLY, WILLINGLY AND VOLUNTARILY MADE BY UNIVERSITY AND CONTRACTOR, WHO HEREBY REPRESENT AND WARRANT THAT NO REPRESENTATIONS OF FACT OR OPINION HAVE BEEN MADE BY AN INDIVIDUAL TO INDUCE THIS WAIVER OF TRIAL BY JURY OR TO IN ANY WAY MODIFY OR NULLIFY ITS EFFECT.

45. **MARYLAND LAW**: This Agreement shall be governed by and construed in accordance with the laws of the State of Maryland, without regard to its conflicts of law or choice of law principles.

46. **SUCCESSORS AND ASSIGNS**: This Agreement will bind upon and inure to the benefit of the parties hereto and their respective personal representatives/successors and assigns. Successors and assigns shall agree to assume in writing the obligations under this Contract.

47. **CONTRACT AFFIDAVIT**: The Contract Affidavit required by the USM Procurement Policies and Procedures, consisting of Authorized Representative statement, Certification of Corporate Registration and Tax Payment, and Certain Affirmations Valid is attached and is a part of this Contract that must be executed by an authorized representative of the Contractor.

IN WITNESS WHEREOF, the parties have caused this Contract to be executed on their behalf by the undersigned as of the date first shown above.

---

Contractor: ________________________  BY: ________________________

Witness: ________________________  Signature: ________________________

Typed/Printed Name: ________________________

Title: ________________________

Date: ________________________

Telephone Number: ________________________

University of Maryland Baltimore County
CONTRACT AFFIDAVIT

A. AUTHORIZED REPRESENTATIVE

I HEREBY AFFIRM THAT: I am the (title) ____________ and the duly authorized representative of (business) and that I possess the legal authority to make this Affidavit on behalf of myself and the business for which I am acting.

B. CERTIFICATION OF CORPORATION REGISTRATION AND TAX PAYMENT

I FURTHER AFFIRM THAT:

(1) The business named above is a (domestic _) (foreign _) corporation registered in accordance with the Corporations and Associations Article, Annotated Code of Maryland, and that it is in good standing and has filed all of its annual reports, together with filing fees, with the Maryland State Department of Assessments and Taxation, and that the name and address of its resident agent filed with the State Department of Assessments and Taxation is:

Name: __________________________________________________________________________
Address: _______________________________________________________________________

(2) Except as validly contested, the business has paid, or has arranged for payment of, all taxes due the State of Maryland and has filed all required returns and reports with the Comptroller of the Treasury, the State Department of Assessments and Taxation, and the Employment Security Administration, as applicable, and will have paid all withholding taxes due the State of Maryland prior to final settlement.

C. CERTAIN AFFIRMATIONS VALID

I FURTHER AFFIRM THAT to the best of my knowledge, information, and belief, each of the affirmations, certifications, or acknowledgments contained in that certain Bid/Proposal Affidavit dated __________, 2005, and executed by me for the purpose of obtaining the contract to which this Exhibit is attached remains true and correct in all respects as if made as of the date of this Contract Affidavit and as if fully set forth herein.

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

Date: _______________ By: __________________________________ (Authorized Representative and Affiant)

Revised January 2005
APPENDIX D

GENERAL INFORMATION FOR BIDDERS
Appendix D

General Information for Bidders

1. Definitions

1.1 **Award** means the decision by the University to execute the purchase agreement or contract after all necessary approvals have been obtained.

1.2 **Bidder** means any person or entity submitting a response to this solicitation.

1.3 **COMAR** refers to the *Code of Maryland Regulations*.

1.4 **Contract** means the agreement entered into by the University as a result of this solicitation.

1.5 **Contractor** means the successful Bidder receiving a contract as a result of this solicitation.

1.6 **MBE** means “Minority Business Enterprise” which is any legal entity other than a joint venture, organized to engage in commercial transactions which is at least 51 percent-owned and controlled by one or more minority persons, or a nonprofit entity organized to promote the interests of the physically or mentally disabled as certified by the Maryland Department of Transportation. Refer to section 2.20 below.

1.7 **Offer** means the response by a Bidder to a request for technical offers in the solicitation documents issued by a procurement agency to obtain goods or labor. The response may include but is not limited to a Bidder’s price and terms for the proposed contract, a description of technical expertise, work experience, and other information requested in the solicitation.

1.8 **Time** – any time stated in this solicitation (e.g., 11:00 a.m.) is eastern standard time (“E.S.T.”)

1.9 **University or “UMBC”** – means the University of Maryland Baltimore County.

1.10 **USM** means the University System of Maryland.

2. General

The following general information is provided and must be carefully followed by all Bidders to insure that technical offers/bid prices are properly prepared.

2.1 Technical Offers and Bid Prices must be made in the official name of the firm or individual under which business is conducted (showing official business address) and must be signed by a duly authorized person.

2.2 Erasures or other changes must be initialed by the person signing the technical offer and bid price. Technical Offers/Bid Prices signed by an agent of the corporation must be accompanied by evidence of his or her authority.
2.3 All material submitted in response to this solicitation becomes the property of the University and will only be returned to the Bidder at the sole option of the University.

2.4 Addenda and Amendment to the solicitation

The University reserves the right to amend this solicitation at any time prior to the Technical Offer/Bid Price due date. If it becomes necessary to revise any part of this solicitation, notice of the revision will be given in the form of an addendum, which will be provided to all prospective Bidders who are on record with the Procurement Officer as having received this solicitation.

Amendments shall be distributed within a reasonable time to allow Bidders to consider them in preparing their technical offer/bid price. If, in the opinion of the Procurement Officer, the time and date for receipt of technical offer/bid price does not permit preparation, the time shall be increased to the extent possible in the amendment, or, if necessary, by telegram, telephone, or FAX machine and confirmed in the amendment. Any Addenda will be deemed to have been validly given if the Addenda are issued and mailed or otherwise furnished to each Bidder’s contact person of record.

An acknowledgement of the receipt of all amendments, addenda, and changes issued shall be required from all Bidders receiving the solicitation. It is the responsibility of each Bidder to check for announcements, addenda, and other current information regarding this solicitation. Failure to acknowledge receipt of addenda does not relieve the Bidder of the responsibility to perform as required by all solicitation documents including addenda or changes thereto. Therefore, Bidder must make sure that all addenda has been received and acknowledged to avoid later conflict.

2.5 Cancellation of the Solicitation

The University reserves the right to cancel this solicitation, in whole or in part, at any time before the opening of the technical offer/bid prices. Should it become evident during the evaluation of the technical offers that it is no longer in the best interest of the University to make an award under this solicitation, the University reserves the right to cancel the solicitation. The University will not be responsible for any costs incurred due to cancellation of the solicitation.

2.6 Rejection of Technical Offers/Bid Prices

The University reserves the right to reject any and all technical offers/bid prices, in whole or in part, if (among other reasons):

.1 In the determination of the University, if the pricing proposed is unrealistic or exceeds available funding.
.2 The Bidder takes exception to the terms and conditions of this solicitation;
.3 The Bidder fails to comply with the requirements set forth herein for participating in this solicitation process;
.4 The University determines that the technical offer/bid price is incomplete in any way; or
.5 The Bidder fails to meet any of the requirements/specifications set forth in this solicitation;
.6 The University determines that the technical offer/bid price is not in its best interest.

The University will not be responsible for any costs incurred due to rejection of the solicitation.

2.7 Minor Irregularities or Deficiencies in Technical Offer/Bid Prices

The University may request clarifications from any Bidder under consideration. If the University determines that a Bidder has made a minor irregularity or deficiency, the University reserves the right to waive any minor irregularity or deficiency or to allow a Bidder a reasonable opportunity to cure the minor irregularity or deficiency. Such a clarification will not be considered an amendment to the technical offer/bid price.

2.8 Withdrawal of Technical Offer/Bid Prices

Technical Offers/Bid Prices may be withdrawn only if a request is made in writing before the due date and time. No amendment or withdrawal will be permitted after the due date and time.

2.9 Oral Presentations

At the sole option of the University, during the technical evaluation, Bidders who submit technical offers/bid prices may be required to make individual presentations to University representatives in order to clarify their technical offer/bid prices. Bidders are not permitted to disclose or discuss any financial information during these presentations. Doing so may result in rejection of the technical offer/bid price. The University reserves the right to make an award based upon the information submitted without presentations; therefore, Bidders must be certain that technical offers/bid prices are clear and complete when submitted and not rely upon such presentations to present information and/or clarify technical offers.

2.10 Incurred Expenses

The University will not be responsible for any costs incurred by any Bidder in preparing and submitting a technical offer/bid price.

2.11 Economy of Preparation

Technical Offers must be prepared simply and economically, providing a straightforward, concise description of the Bidder’s offer to meet the requirements of the solicitation.

2.12 Bid Bond

All solicitations on all University contracts in excess of $100,000 shall require, of so noted, the submission of bid security in an amount equal to at least 5 percent of the total amount of bid, at the time bid price is submitted. If a contractor fails to accompany its bid price with the required bid security, the bid shall be determined non-responsive. (See Appendix E)
2.13 Surety Bond Assistance Program

Assistance in obtaining bid, performance, and payment bonds may be available to qualifying small businesses through the Maryland Small Business Development Financing Authority ("MSBDBFA"). MSBDBFA can directly issue bid, performance, or payment bonds up to $750,000. MSBDBFA may also guaranty up to 90% of a surety’s losses as a result of a contractor’s breach of contract; MSBDBFA exposure on any bond guaranteed may not, however, exceed $900,000. Bonds issued directly by the program will remain in effect for the duration of the contract, and those surety bonds that are guaranteed by the program will remain in effect for the duration of the surety’s exposure under the contract. To be eligible for bonding assistance, a business must first be denied bonding by at least one surety on both the standard and specialty markets within 90 days of submitting a bonding application to MSBDBFA. The applicant must employ fewer than 500 full-time employees or have gross sales of less than $50 million annually; have its principal place of business in Maryland or be a Maryland resident; must not subcontract more than 75 percent of the work; and the business or its principals must have a reputation of good moral character and financial responsibility. Finally, it must be demonstrated that the bonding or guarantee will have a measurable economic impact, through job creation and expansion of the state’s tax base. Applicants are required to work through their respective bonding agents in applying for assistance under the program. Questions regarding the bonding assistance program should be referred to:

Maryland Department of Business and Economic Development
Maryland Small Business Development Financing Authority
217 E. Redwood Street, 22nd Floor
Baltimore, MD 21202

2.14 Multiple Technical Offers/Bid Prices

Bidders may not submit more than one (1) Technical Offer/Bid Price in response to this solicitation nor may a Bidder submit an alternate technical offer/bid price.

2.15 Evidence of Responsibility

Prior to the award of a contract pursuant to this solicitation, the Procurement Officer may require a Bidder to submit such additional information bearing upon the Bidder’s ability to perform the contract as the Procurement Officer deems appropriate. The Procurement Officer may also consider any information otherwise available concerning the financial, technical, and other qualifications of the Bidder.

2.16 Bid/Proposal Affidavit

State procurement regulations require that responses to solicitations contain certifications regarding non-collusion, debarment, cost and price. The Bid/Proposal Affidavit form must be completed by all respondents and included as part of the Technical Offer (see Appendix A).
2.17 Execution of Technical Offers/Bid Prices

All technical offers/bid prices shall be legibly prepared and shall be signed in ink as and where specified.

Technical Offers/Bid Prices are required to be executed as follows, depending on the Bidder’s form of business organization:

.1 **Sole Proprietorship** – signed by proprietor with full name address.

.2 **Partnership and Joint Venture** - If a technical offer/bid price is submitted by a partnership (including a joint venture), it must be submitted in the partnership name. The partnership name and the identity of each general partner must be made clear and all affidavits and certificates must be executed on behalf of the partnership or on behalf of each general partner. No provision of any agreement among partners will be binding on the State unless it is disclosed in the technical offer. Reasonable evidence satisfactory to the State of the authority of one partner to bind the other purported partner(s) must also be given in the technical offer. It is recommended that the technical offer contain a copy of the partnership agreement, if one exists. If no partnership agreement exists and if the number of general partners is reasonably small, each general partner must execute all required documents, including technical offer/bid prices. At the State’s option all general partners may be required to sign the technical offer/bid price. Failure to present the State with satisfactory information concerning a purported partnership may be grounds for finding a technical offer/bid price unacceptable.

.3 **Corporation** – An officer or authorized agent of the corporation shall sign his/her full name, indicate his/her title and include the name and address of the corporation. In the case of an authorized agent, a letter from an officer of the corporation authorizing said individual to act on behalf of the corporation must be included.

2.18 Arrearages

By submitting a response to this solicitation, a vendor shall be deemed to represent that it is not in arrears in the payment of any obligation due and owing the State of Maryland, including the payment of taxes and employee benefits and that it shall not become so in arrears during the term of the contract is selected for contract award.

2.19 Taxes

The University is exempt from Federal Excise Taxes, Maryland Sales and Use Taxes, and the District of Columbia Sales Taxes and Transportation Taxes, except as noted in the applicable sections of COMAR. Exemption Certificates shall be provided upon request. Where a Contractor is required to furnish and install material in the construction or improvement of real property in performance of a contract, the Contractor shall pay Maryland Sales Tax and the exemption shall not apply.
2.20 Indemnification and Responsibility for Claims and Liability

With respect to any contract, which results from this solicitation, Bidder must note the following:

2.20.1 The Contractor shall indemnify, save harmless and defend, the University of Maryland, Baltimore County, its officers, employees and agents, from any and all claims, liability, losses and causes of actions which may arise out of the performance by the Contractor, its employees, agents, or subcontractors, of the work covered by this Contract.

2.20.2 The State has no obligation to provide legal counsel or defense or pay attorney’s fees to the Contractor or its subcontractors in the event that a suit, claim or action of any character is brought by any person not party to the contract against the Contractor or its subcontractors as a result of or relating to the Contractor’s obligations under this Contract.

2.20.3 The State has no obligation for the payment of any judgments or the settlement of any claims against the Contractor or its subcontractors as a result of or relating to the Contractor’s obligations under this Contract.

2.20.4 The Contractors shall immediately notify the Procurement Officer of any claim or suit made or filed against the Contractor or its subcontractors regarding any matter resulting from or related to the Contractor’s obligations under the Contract, and will cooperate, assist, and consult with the State in the defense or investigation of any claim, suit, or action made or filed against the State as a result of or relating to the Contractor’s performance under this Contract.

2.21 Insurance:

2.21.1 The Contractor shall secure, pay the premiums for, and keep in force until the expirations of this Contract, and any renewal thereof, adequate insurance as provided below, adequate insurance to specifically include liability assumed by the Contractor under this Contract.

   .1 Commercial General Liability Insurance including all extensions:

          $5,000,000 each occurrence;
          $5,000,000 personal injury;
          $5,000,000 products/completed operations;
          $5,000,000 general aggregated

   .2 Workmen’s Compensation Insurance and Unemployment Insurance as required by the laws of the State of Maryland.

   .3 Owner’s Landlord’s and tenant’s and Contractor’s bodily injury liability insurance, with limits of not less than $500,000 for each person and $5,000,000 for each accident.

   .4 Property damage liability insurance with a limit of not less than $2,000,000 for each accident.
If automotive equipment is used in the operation, automobile bodily injury liability insurance with limits of not less than $1,000,000 for each person and $5,000,000 for each accident, and property damage liability insurance, with a limit of not less than $2,000,000 for each accident.

2.21.2 All policies for liability protection, bodily injury or property damage must specifically name or its face, the University of Maryland Baltimore County as an additionally named insured as respects to operations under the contract and premises occupied by the Contractor provided, however, with respect to the Contractor’s liability for bodily injury or property damage under item 2.22.1 above, such insurance shall cover and not exclude Contractor’s liability for injury to the property of the University of Maryland Baltimore County and to the persons or property of employees, students, faculty members, agents, officers, regents, invitees or guests of the University of Maryland Baltimore County.

2.21.3 Each insurance policy shall contain the following endorsements: “It is understood and agreed that the Insurance Company shall notify in writing Procurement Officer thirty (30) days in advance of the effective date of any reduction in or cancellation of this policy.” A certificate of each policy of insurance shall be furnished to the Procurement Officer. With the exception of Workmen’s Compensation, upon the request of the Procurement Officer a certified true copy of each policy of insurance, including the above endorsement manually countersigned by an authorized representative of the insurance company, shall be furnished to the Procurement Officer. A certificate of insurance for Workmen’s Compensation together with a properly executed endorsement for cancellation notice shall also be furnished. Following the notice of Contract award, the requested Certificates and Policies shall be delivered as directed by the Procurement Officer. Notices of policy changes shall be furnished to the Procurement Officer.

2.21.4 All required insurance coverages must be acquired from insurers allowed to do business in the State of Maryland and acceptable to the University. The insurers must have a policyholders’ rating of “A-” or better, and a financial size of “Class VII’ or better in the latest edition of Best’s Insurance Reports.

2.21.5 Each insurance policy shall contain the following endorsements: “It is understood and agreed that the Insurance Company shall notify in writing the Assistant Vice President for Administrative Services thirty (30) days in advance of the effective date of any reduction in or cancellation of this policy.” A certificate of each policy of insurance shall be furnished to the Procurement Officer. With the exception of Workmen’s Compensation, a certified true copy of each policy of insurance, including the above endorsement manually countersigned by an authorized representative of the insurance company, shall be furnished to the Procurement Officer. A certificate of insurance for Workmen’s Compensation together with a properly executed endorsement for cancellation notice shall also be furnished. The above policies and certificate shall be delivered to the Procurement Officer within fifteen (15) days following the date of notice of Contract award. The insurance companies providing the above coverage shall be satisfactory to the University. Notices of policy changes shall be furnished to the Procurement Officer.
2.21.6 Any contract that results from this solicitation and the rights, duties, and obligations hereunder may not be assigned or subcontracted by Contractor without the prior written consent of the University.

END OF APPENDIX D
APPENDIX E

“SPECIFICATIONS” FOR UNIVERSITY OF MARYLAND BALTIMORE COUNTY
MATH/PSYCH BUILDING ROOF REPLACEMENT, PROJECT# 09-124

UNIVERSITY OF MARYLAND BALTIMORE COUNTY
MATH/PSYCH BUILDING ROOF REPLACEMENT - DRAWINGS

flats: Dv:(Authorized Representative and Affiant)
### TABLE OF CONTENTS

#### DIVISION 01 - GENERAL REQUIREMENTS
- 011100 SUMMARY OF WORK
- 012200 UNIT PRICES
- 012300 ALTERNATES
- 013300 SUBMITTAL PROCEDURES
- 015000 TEMPORARY FACILITIES AND CONTROLS
- 016500 PRODUCT DELIVERY REQUIREMENTS
- 017700 CLOSEOUT PROCEDURES

#### DIVISION 02 - EXISTING CONDITIONS
- 024119 SELECTIVE STRUCTURE DEMOLITION

#### DIVISION 04 - MASONRY
- 040120 MAINTENANCE OF UNIT MASONRY

#### DIVISION 05 - METALS
- 051200 STRUCTURAL STEEL FRAMING
- 053100 STEEL DECKING

#### DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES
- 061000 ROUGH CARPENTRY

#### DIVISION 07 - THERMAL AND MOISTURE PROTECTION
- 072200 ROOF AND DECK INSULATION
- 074213 METAL WALL PANELS
- 075400 THERMOPLASTIC MEMBRANE ROOFING
- 076000 FLASHING AND SHEET METAL
- 077200 ROOF ACCESSORIES

#### DIVISION 22 - PLUMBING
- 221426.13 ROOF DRAINS

#### DIVISION 23 - HEATING VENTILATING AND AIR CONDITIONING
- 230510 MECHANICAL/ELECTRICAL GENERAL REQUIREMENTS
APPENDIX A – HALF SIZE DRAWINGS
G-001 COVER SHEET
G-002 STANDARD ABBREVIATIONS, LEGEND, SYMBOLS, AND GENERAL
NOTES
C-101 SITE PLAN
A-101 ROOF AREA PLAN – EXISTING CONDITIONS
A-102 ROOF AREA PLAN – NEW CONSTRUCTION
A-201 RISING WALL ELEVATIONS
A-202 RISING WALL ELEVATIONS
A-301 EXISTING AND NEW ROOF CROSS SECTIONS
A-401 CONCEPTUAL TAPERED ROOF AREA PLAN
A-501 TYPICAL FLASHING DETAILS
A-502 DETAILS – EXISTING CONDITIONS
A-503 DETAILS – NEW CONSTRUCTION
A-504 DETAILS – NEW CONSTRUCTION
A-505 DETAILS – NEW CONSTRUCTION

ATTACHMENT – FULL SIZE DRAWINGS
G-001 COVER SHEET
G-002 STANDARD ABBREVIATIONS, LEGEND, SYMBOLS, AND GENERAL
NOTES
C-101 SITE PLAN
A-101 ROOF AREA PLAN – EXISTING CONDITIONS
A-102 ROOF AREA PLAN – NEW CONSTRUCTION
A-201 RISING WALL ELEVATIONS
A-202 RISING WALL ELEVATIONS
A-301 EXISTING AND NEW ROOF CROSS SECTIONS
A-401 CONCEPTUAL TAPERED ROOF AREA PLAN
A-501 TYPICAL FLASHING DETAILS
A-502 DETAILS – EXISTING CONDITIONS
A-503 DETAILS – NEW CONSTRUCTION
A-504 DETAILS – NEW CONSTRUCTION
A-505 DETAILS – NEW CONSTRUCTION
PART 1 - GENERAL

1.1 SUMMARY

A. This Section outlines the scope of work included in the Math/Psychology Building roof replacement project located at University of Maryland, Baltimore Campus. Refer to the appropriate specification section for further information about installation methods and components to be provided. In general, the work includes, but is not limited to, the following items:

1. Remove and dispose of existing roofing systems (2) and components, including membranes, insulation, base sheets, lightweight concrete topping, flexible and metal flashings, and associated materials and components (Section 024119 - Selective Structure Demolition).

2. Remove existing and install new brick masonry units at deteriorated parapet locations and new throughwall flashing locations and repoint deteriorated masonry mortar joints (Section 040120 – Maintenance of Unit Masonry).

3. Install new steel lintels at Roof Areas E and F walkthroughs (Section 051200, Structural Steel Framing).

4. Repair or remove and replace existing deteriorated steel deck (Section 053100 - Steel Decking).

5. Install new pressure treated wood blocking and plywood at perimeters and penetrations (Section 061000 - Rough Carpentry).

6. Install gypsum board (over steel deck) and temporary membrane and new multilayered insulation system (Section 072200 – Roof and Deck Insulation).

7. Install new flush seam metal wall panels and associated sheet metal flashings at rising walls (Section 074213 - Metal Wall Panels).

8. Install new thermoplastic membrane roof system and associated flashing (Section 075400 – Thermoplastic Membrane Roofing).

9. Install new perimeter and penetration sheet metal flashings and counterflashings, and miscellaneous sheet metal fabrications (Section 076000 - Flashing and Sheet Metal).

10. Install new metal fan curbs (Section 077200 - Roof Accessories).

11. Disconnect and reconnect existing mechanical/electrical components to restore proper operation to rooftop equipment following installation of roofing (Section 230510 - Mechanical/Electrical General Requirements).

12. Install new roof drain assemblies at existing drain locations, augmenting roof drains and leader piping, and extensions at existing vent pipes (Section 221426.13 - Roof Drains).

1.2 PROJECT CONDITIONS

A. It is the intent of the Owner to remove the existing roof system and lightweight concrete topping down to the structural roof decks and install gypsum board over steel deck and temporary 2-ply...
membrane over gypsum board and concrete decks. The temporary membrane shall be watertight at all times, including tie-ins to existing roof system.

B. The building will be occupied and in use during construction. Take necessary precautions to create as little disturbance or disruption to the building and its occupants as possible during the work.

C. Supply, install, and maintain barriers, protection, warning lines, lighting, and personnel required to segregate the work area(s) from pedestrian or vehicular traffic, as well as to prevent damage to the building, its occupants, and the surrounding landscaped and paved areas. The Contractor shall observe all applicable OSHA and MOSHA requirements.

D. Schedule and execute work without exposing the building interior to the effects of inclement weather. Protect the building and its occupants against such risks and repair/replace work-related damage to the Owner’s satisfaction.

E. Supply labor, equipment, tools and appliances necessary for the proper completion of the work.

F. Do not install roofing systems or sealants during precipitation, including fog, or when air temperature is below 40° F (4° C) or is expected to go below 40° F (4° C) during application, or when there is ice, frost, moisture, or visible dampness on the roof.

G. Schedule, coordinate, and execute work to avoid traffic on completed roof areas. Coordinate work to prevent this situation by working away from completed roof areas, toward roof edges and access ways.

H. Supply shoring, supports, and other items or materials necessary to brace and support the structure, fixtures, and facilities affected by the work. This includes, but is not limited to, heating and air handling ducts, lighting, rooftop equipment and other items presently supported by or suspended from the roof decks to be removed, and associated structural members. Supply temporary walkways and ramps necessary to remove existing decking systems and install the replacement deck materials.

I. Roof construction and materials shall comply with these specifications and the latest editions of the following:
   2. Factory Mutual Global (FMG) publications “Loss Prevention Data for Roofing Contractors” and “Building Materials Approval Guide”
   4. All work shall be performed in accordance with applicable Federal, State, and local code requirements and publications.

J. Coordinate the work in this Section with other Sections, including preparatory work, building protection, daily clean-up, and protection of building, and occupants.
K. Supply labor, vacuums, tools and appliances necessary to keep the interior and exterior building and site areas below and around the construction clean, with as little accumulation of dust and debris as possible on a daily basis.

1.3 REFERENCES

A. Applicable publications: Publications listed herein form a part of this Specification to the extent referenced and are indicated in the text by basic designation only. Applicable publications referenced shall be those that were issued and in use at the time of the Bid Submission.

1.4 PRECONSTRUCTION CONFERENCE

A. A preconstruction conference will be held with the Owner, Owner’s Representatives, Contractor, and involved trades to discuss all aspects of the project. The Contractor's foreman or field representative will attend this conference. The foreman must be English-speaking and shall be on site at all times that work is performed.

B. The Owner shall reserve the right to require an alternate superintendent and/or foreman.

C. The preconstruction conference shall not be held until all specified submittals have been received, reviewed and accepted as to form by the Owner and Owner’s Representative.

D. Delivery of materials and commencement of construction shall not proceed until the preconstruction conference is held. Delays in obtaining a complete set of submittals shall not extend the contracted completion date.

1.5 EMERGENCY RESPONSE

A. The Contractor shall provide the Owner with after-hours (24 hour) emergency telephone numbers of the Contractor’s superintendent and foreman.

B. During construction the Contractor must respond to emergency situations or calls (leaks, storm damage to material, material blow-offs, etc.) within two (2) hours.

1.6 CONSTRUCTION SCHEDULE

A. It is the intent of the Owner to have portions of the existing roof assembly removed and replaced in a completed, watertight condition on a daily basis. Phase the demolition and new construction by installing a temporary membrane; refer to Section 072200 - Roof and Deck Insulation, for installation of temporary membrane. The temporary membrane shall be covered with the completed roof system no longer than 30 days after installation. The temporary membrane shall be completely watertight.

B. Proper coordination of all aspects of the work by the Contractor and any sub-trades is critical to ensure proper installation and performance of the work. The Contractor’s Construction Schedule shall clearly outline the coordination between job tasks of all involved disciplines.
Subject to review and acceptance by the Owner, this Schedule will be strictly adhered to by the Contractor and sub-trades.

C. The Contractor’s Construction Schedule shall clearly identify the on-site crew foreman and the size of the crew to be utilized. The crew size shall remain consistent and work shall be continuous throughout the project, from start-up to completion.

D. The Owner shall review the Contractor’s Construction Schedule prior to the start of any work. After defining the location(s) of the work progress, the Owner shall arrange to control occupancy in the building to the greatest extent possible. It shall be the responsibility of the Contractor to supply the Owner with written notice, 72 hours in advance, if his work location(s) for a workday is different from the schedule. The Contractor shall update his Construction Schedule weekly and submit a copy to the Owner for review.

E. The Contractor shall schedule periodic site visits by the Membrane Manufacturer providing the warranty during the construction period. Announce the Manufacturer’s site visit (inspection) to the Owner 72 hours prior to its occurrence. Visits by the Manufacturer’s Representative shall be made prior to project start-up, one week into the start of construction, with inspections prior to the installation of the membrane surfacing, at project completion, and as requested by the Owner. The Contractor shall provide the Owner a copy of the Manufacturer’s written report for each inspection, indicating Manufacturer’s comments pertaining to installation of materials and any corrective recommendations. In addition, the Contractor is responsible to notify and obtain acceptance from the Membrane Manufacturer on detail changes that may affect the roof system warranty.

1.7 SCHEDULE OF VALUES

A. Provide a line item breakdown of construction labor and materials costs for each Specification Section included in these Contract Documents. Additionally, provide line item values for Unit Price, Alternate, and Allowance Work included in these Specifications. Utilize AIA Forms G702 and G703 to prepare and submit the Schedule of Values.

1.8 WORK HOURS

A. The Contractor will be allowed to work at the project site between the hours of 4:00 a.m. and dusk, Monday through Friday. Work outside these hours may be allowed with 72 hours minimum notice to the Owner. Work on Saturday or Sunday may be performed from 8:00 a.m. to dusk, with prior approval from the Owner. The Owner reserves the right to disapprove or suspend a request to work outside of normal working hours. The cost of providing building maintenance personnel on site for weekend work shall be borne by the Contractor.

1.9 PROGRESS MEETINGS

A. Progress meetings shall be scheduled weekly by the Owner or as deemed necessary.
1.10 DIMENSIONS AND QUANTITIES
A. Verify dimensions and quantities in the field prior to bid submission. The Project Plans and Drawings have been compiled from various sources and may not reflect the actual field conditions at the time of construction.

B. The Contractor is solely responsible for means and methods of construction. Make necessary investigations to become familiar with the project conditions.

C. Additional compensation due to unfamiliarity with project conditions will not be considered.

D. In case of inconsistency between Drawings and Specifications or within either document, the better quality and/or greater quantity of work shall be provided, as determined by the Owner.

1.11 MATERIAL AND SAFETY DATA SHEETS
A. Material safety data sheets (MSDS) shall be submitted in complete sets for all products to be used prior to any work being performed.

1.12 GUARANTEES AND WARRANTIES
A. Refer to specific Sections of this specification for systems and product warranty requirements. Verify with Manufacturer of proposed systems and products that specified warranty requirements are acceptable, without exception, prior to selecting materials for use on this project.

B. Submit a full Contractor's Guarantee of the Work to be free from defect in materials and workmanship upon Substantial Completion, and prior to final payment. This Guarantee shall be for a period of five (5) years from the date of Substantial Completion, and shall be signed by a Principal of the Contractor's firm, and sealed if a corporation.

C. Submit a letter from the manufacturer acknowledging that completed Work is acceptable and that warranty remains in effect.

1.13 CLEAN-UP
A. Restore property of the Owner to its original condition prior to the start of construction. Refer to Section 015000 - Temporary Facilities and Controls. General clean-up of the site shall be performed on a daily basis.

B. Clean, restore, and/or replace items stained, dirtied, discolored, or otherwise damaged due to the Work, as required by the Owner.

C. Clean roof, building (interior and exterior), landscaped areas, and parking areas so they are free of trash, debris and dirt caused by or associated with the Work.
D. Clean out drain leaders and piping to the point where it exits the building. Demonstrate roof drainage systems are operating by running water from a hose for 30 minutes into each drain in the presence of the Owner.

E. Sweep paved areas clean.

1.14  PERMITS
A. The Contractor will obtain and pay for any and all permits required to perform the work.

1.15  OWNER OCCUPANCY
A. Owner will occupy premises during entire construction period. Cooperate with Owner in scheduling operations to minimize conflict with Owner’s use of facility.

B. Predetermine and obtain approval, in advance from Owner, for vertical and horizontal transportation of labor and construction materials onto and off of the building roof.

C. Do not transport labor or construction materials to the roof via the interior of the facility.

1.16  PRE-JOB DAMAGE SURVEY OF FACILITY
A. Perform a thorough pre-job survey of property and all affected and adjacent areas of the building with Owner prior to starting the work in order to document existing damage. Contractor shall document the survey on video tape and provide a copy to the Owner prior to commencing work. Damaged items identified during the survey will not be the responsibility of Contractor unless further damaged by Contractor during execution of project.

1.17  CORRECTION OF DAMAGE TO PROPERTY
A. Consider any damage to building or property not identified in the pre-job damage survey as having resulted from execution of this Contract and correct at no additional expense to Owner.

B. The Contractor will include in the Base Bid the cost to perform any roof related repair that is due to Contractor’s faulty workmanship and/or materials.

C. Repair, immediately, damages to facility or site that present a safety hazard or danger to the public.

1.18  SUMMARY OF PROJECT REQUIREMENTS
A. The Work requirements of the Contract are summarized by reference to the Bidding Requirements, the Contract forms, the Conditions of the Contract, the Specification, the Drawings, and Addenda and Contract Modifications, including, but not limited to, the printed matter referenced in these requirements. It is recognized that the Work is affected or influenced
by governing regulations, natural phenomenon (including weather conditions), unforeseen conditions uncovered by the Work, and other forces outside of the Contract Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011100
SECTION 012200 - UNIT PRICES

1.1 SUMMARY

A. The Owner may elect certain aspects of the work, whose quantity cannot be determined at this time, to be performed or deleted by the Contractor. If such work items are elected or are not performed, the Contract price will be adjusted accordingly by the Unit Price amount shown for each item in the Bid Forms.

1.2 DEFINITIONS

A. Unit price is a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

B. Prior to commencing removal or replacement of materials set forth in the schedule of Unit Prices, the Contractor shall notify the Owner in sufficient time to permit proper inspection and measurements to be taken. Only quantities that have been approved in writing by the Owner will be considered in determination of adjustments to the Contract Amount.

C. Unit Price quantities carried in the Base Bid amount are intended for use during construction when the quantity of work is unknown. Work of similar scope with quantities defined by the Construction Documents shall not be considered as Unit Price Work.

D. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

E. List of Unit Prices: A list of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.
PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICES

A. For the repointing of more or less brick masonry mortar joints than the twenty-three hundred (2,300) square feet as outlined in Section 040120 – Maintenance of Unit Masonry.

B. For the provision of more or less brick masonry throughwall flashing installation than the five-hundred (500) linear feet carried in Base Bid as outlined in Section 040120 – Maintenance of Unit Masonry.

C. For the provision of more or less brick masonry rebuilding than the two hundred (200) square feet carried in the Base Bid as outlined in Section 040120 - Maintenance of Unit Masonry.

D. For scraping and priming of more/less surface rusted areas of steel deck and framing than the two-hundred (200) square feet carried in the Base Bid as outlined in Section 053100 - Steel Decking.

E. For removal and replacement of more/less steel deck than the one hundred-fifty (150) square feet carried in the Base Bid as outlined in Section 053100 - Steel Decking.

F. For the reuse of existing perimeter wood blocking scheduled to be removed during demolition on a per board foot unit basis, as outlined in Section 061000 - Rough Carpentry.

G. For the removal and replacement of deteriorated dimensional lumber uncovered during demolition, indicated for reuse, on a per board foot unit basis, as outlined in Section 061000 - Rough Carpentry.

END OF SECTION 012200
SECTION 012300 - ALTERNATES

PART 1 - GENERAL

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

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

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

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

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

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

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

D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.
PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 1: Rebuild north parapet wall of Roof Area D as indicated on the drawings and outlined in the specifications.

END OF SECTION 012300
SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information that requires Architect's responsive action.

B. Informational Submittals: Written information that does not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

B. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.

2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.

3. Resubmittal Review: Allow 15 days for review of each resubmittal.

C. Identification: Place a permanent label or title block on each submittal for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.

3. Include the following information on label for processing and recording action taken:

   a. Project name.
   b. Date.
   c. Name and address of Architect.
   d. Name and address of Contractor.
   e. Name and address of subcontractor.
   f. Name and address of supplier.
   g. Name of manufacturer.
   h. Submittal number or other unique identifier, including revision identifier.

   1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).

   i. Number and title of appropriate Specification Section.
   j. Drawing number and detail references, as appropriate.
   k. Location(s) where product is to be installed, as appropriate.
   l. Other necessary identification.

D. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.

E. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

F. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return submittals, without review, received from sources other than Contractor.

G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

   1. Note date and content of previous submittal.
   2. Note date and content of revision in label or title block and clearly indicate extent of revision.
   3. Resubmit submittals until they are marked "Approved or approved as noted."

H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

I. Use for Construction: Use only final submittals with mark indicating "Approved or approved as noted" taken by Architect.
PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

A. General: Prepare and submit Action Submittals required by individual Specification Sections.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:
   a. Manufacturer's written recommendations.
   b. Manufacturer's product specifications.
   c. Manufacturer's installation instructions.
   d. Manufacturer's catalog cuts.
   e. Compliance with specified referenced standards.

4. Number of Copies: Submit four copies of Product Data, unless otherwise indicated. Architect will return two copies. Mark up and retain one returned copy as a Project Record Document.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal of Architect's CAD Drawings is otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
   a. Dimensions.
   b. Identification of products.
   c. Fabrication and installation drawings.
   d. Roughing-in and setting diagrams.
   e. Shopwork manufacturing instructions.
   f. Templates and patterns.
   g. Schedules.
   h. Notation of coordination requirements.
   i. Notation of dimensions established by field measurement.
   j. Relationship to adjoining construction clearly indicated.
   k. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 40 inches.
3. Number of Copies: Submit two opaque (bond) copies of each submittal. Architect will return one copy.
D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.

2. Identification: Attach label on unexposed side of Samples that includes the following:
   a. Generic description of Sample.
   b. Product name and name of manufacturer.
   c. Sample source.
   d. Number and title of appropriate Specification Section.

3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
   a. Number of Samples: Submit three (3) full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.

5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
   a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned.

E. Product Schedule or List: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location.

1. Number of Copies: Submit three Insert number copies of product schedule or list, unless otherwise indicated. Architect will return one copy.

F. Construction Schedule: Construction schedule showing sequence and duration of activities.

G. Schedule of Values: Itemize separately labor and materials for each technical section within the Specification as they will be shown on the Application for Payment (use AIA form G703).

H. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design.
1. Number of Copies: Submit three copies of subcontractor list, unless otherwise indicated. Architect will return one copy.

2.2 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by other Specification Sections.

1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Architect will not return copies.

2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

3. Test and Inspection Reports: Comply with requirements specified in Division 01 Section "Quality Requirements."

B. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

C. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

D. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

E. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

F. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

G. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

H. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

I. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
J. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.

K. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:

2. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.

L. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

M. Material Safety Data Sheets (MSDSs): Submit information directly to Owner; do not submit to Architect.

1. Architect will not review submittals that include MSDSs and will return them for resubmittal.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

D. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300
SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section contains instructions and requirements for the provision and utilization of temporary facilities to protect the Owner’s property, the site, and construction materials, and for daily maintenance and cleanup of the site during the project.

1.2 CONTRACTOR’S USE OF EXISTING FACILITIES

A. Limit use of the premises to the work indicated, so as to allow for the Owner's uninterrupted occupancy and use. Confine operations to the areas indicated under the Contract. Conformance to the regulations set forth by the Owner regarding use of existing facilities is mandatory.

B. Sanitary facilities shall be provided by the Contractor. Use of the building's sanitary facilities is not permitted.

C. Owner will assist in controlling occupancy. Contractor shall provide and place portable barricades, as coordinated with the Owner, under work areas inside the building.

D. Clean interior and exterior areas affected by the construction on a daily basis. Do not allow construction debris, waste materials, tools, excess packaging materials or other construction related materials to accumulate on the roof, in the facility, or on the exterior grounds and pavements.

E. See Section 016500 - Product Delivery Requirements for product storage facilities and requirements.

1.3 UTILITIES

A. Electrical service will be provided to the Contractor free of charge by the Owner through exterior electrical outlets if available and operable. Use shall be limited to construction hours. The Owner reserves the right to charge the Contractor for excessive electrical service usage (i.e., wasteful usage). Should charges be considered, the Owner will notify the Contractor in writing of his intent, 48 hours in advance.

B. Water for construction purposes will be provided to the Contractor free of charge by the Owner through exterior water spigots if operable. The Owner reserves the right to charge the Contractor for excessive or wasteful use. Should charges be considered, the Owner will notify the Contractor in writing of his intent, 48 hours in advance. Drinking water shall be provided by the Contractor.

C. All other utilities required will be provided by the Contractor.
D. Plumbing, heating, and electrical work, including reinstallation of equipment and other work to be performed by the Contractor, shall be carried out without interference to the building's normal operation. Where work requires interruption of service, the Contractor shall make advance arrangements with the Owner for dealing with such interruption.

E. Ensure proper and safe operation and maintenance of utility systems within the construction limits, whether these are supplied by the Owner's distribution system or otherwise, until the work is accepted by the Owner. Maintain and operate appurtenances within the construction area that serve the distribution system, subject to periodic inspection by the Owner's operating personnel. Inspection by any representative or personnel of the Owner shall not relieve the Contractor of his responsibilities in connection with operation and maintenance of these facilities and equipment.

1.4 ACCESS

A. Provide ladders, scaffolding and staging as required to access the project area(s) in accordance with OSHA and MOSHA guidelines. Should damage to the building occur, restore damaged areas to their original condition, clean up debris, and provide other access to the roof for the duration of the project.

B. Do not interfere with normal building operations. Coordinate activities with the Owner and building occupants.

1.5 BARRIERS

A. Install temporary fencing, warning lines, barriers and guards, as required, to segregate the construction areas from adjacent operational facilities, occupants and the public. In the event that access cannot be interrupted in the construction area, provide protection above doorways and walks in the construction area. Provide guard lights on barriers and lighting as necessary to prevent vandalism of work and storage areas. The Owner is not responsible for Contractor's losses due to damage or theft by vandals.

B. Install protective coverings at paving and building walls adjacent to hoist prior to starting work. Lap protective coverings at least 1 foot, secure against wind, and vent to prevent condensation of moisture on covered surfaces. Maintain the protective coverings in place for the duration of the project. Cover windows adjacent to Contractor operation areas with plywood.

1.6 TEMPORARY PROTECTION

A. Provide suitable Owner approved temporary protection to prevent the entrance of debris and obstructions into the building. Provide warning signs to reroute personnel around areas of dangerous work. Place warning barriers at roof perimeters and at deck openings. Clearly label temporary covers over deck openings. Do not permit openings to remain unprotected overnight. Schedule operations to allow for completion of new roofing over a predetermined area of roof within a day's work. Use special care to avoid damaging roofing and flashing when working on the roof of the building.
B. Provide temporary tie-ins between existing and new roof systems as specified and detailed. Tie-in construction shall completely prevent interior leaks, migration of moisture from existing to new construction and damage of any type to the facility. Provide necessary quality control at tie-ins on a daily basis to prevent leaks.

C. Avoid traffic on completed roof areas. Coordinate work to prevent this situation. Should temporary access be required, provide temporary substrate protection for trafficked areas.

D. Protect drainage systems from debris accumulation during construction. Ensure roof drains and leader pipes are not restricted when Contractor is not on site.

E. Protect materials scheduled to be reused from damage by placing them in labeled containers or wrappings stored in a weathertight trailer.

F. Provide temporary protection such as plywood and tarps for streets, drives, curbs, sidewalks, landscaping and existing exterior improvements during all phases of the project.

1.7 ROOFTOP PROTECTION

A. Provide plywood walkways, with 1/2-inch thick rubber walkway pad or 1-inch thick high density insulation protection beneath, for protection of new or existing roof areas which must be trafficked, and for roof membrane protection below demolition work which occurs above new or existing roof areas.

1.8 DEBRIS REMOVAL

A. The Owner shall designate crane and refuse container locations. These areas shall be sectioned off with proper warning lines.

B. Removed materials shall not be thrown freely from the roof but shall be lowered to the ground by crane in suitable containers or in an enclosed chute, in order to reduce the spread of dust and other debris.

C. Supply adequate covered receptacles for waste, debris and rubbish. One receptacle will be allowed on site at a time, and must be immediately removed from the site when full. Clean the project area daily and prior to moving the receptacle to another location on the site. Locations shall be as permitted by the Owner. Disposal shall be off-site in a legal dump authorized to accept construction demolition solid wastes.

1.9 WEATHER PROTECTION

A. Weather protection includes temporary protection of components adversely affected by moisture, wind, heat and cold by covering, patching, sealing, enclosing, ventilating, cooling and/or heating. Provide protection for locations within the project area as necessary, to protect the building and its contents, trafficked adjacent areas, new construction materials and accessories. The cost of heat, fuel and power necessary for proper weather protection shall be the responsibility of the Contractor.
Installed weather protection shall comply with safety regulations, and provisions for adequate ventilation and fire protection.

1.10 VOLATILE MATERIALS

A. The Contractor is reminded that adhesives, solvents, bitumens, etc., are highly volatile and flammable materials. These materials, along with tools and applicators and rags, shall not be stored on or within the building. No overnight storage on the roof will be allowed. Do not transport materials through the building. Take precautions and closely follow the Specification requirements for fire protection on site during construction.

B. Locate and use flame-heated equipment so as not to endanger the structure, other materials on site, or adjacent property. Do not place flame-heated equipment on the roof. Locate and use flame-heated equipment in specific areas approved by the Owner. Do not relocate flame-heated equipment without prior approval from the Owner.

C. The use of flame-heated equipment or torches on the roof is prohibited unless specifically approved in writing by the Owner.

1.11 FIRE PROTECTION

A. Provide necessary temporary fire protection for the building, its contents and materials during construction. Do not store combustibles inside the building or on the roof. Store adhesives, caulks and cleaning solvents away from the building using a method approved by local fire officials. Should cutting, burning or welding be necessary, provide a fire watch during operations and for four hours minimum after completion of the operations.

B. Do not use open flames near adhesives, caulks or cleaning solvents as they will readily ignite. Rags soaked with cleaning solvent shall not be discarded in the dumpsters, but shall be stored in a separate metal receptacle and removed from the site daily.

C. Comply with local fire codes and obtain permits necessary from the local fire department. Provide a copy to the Owner. Provide recently tested, fully charged fire extinguishers around the storage area, rubbish receptacle and two fire extinguishers on the roof within 50 feet of the Work.

1.12 TANKERS

A. As part of the Contractor's Construction Schedule, the proposed location(s) of tanker equipment shall be submitted for the Owner's review.

B. Kettles will not be permitted on site. Tankers shall only be located in areas accepted by the Owner.

C. Tankers shall be kept a minimum of 15-feet away from exterior building walls and shall be segregated from the surrounding areas by temporary fencing.

D. Heat asphalt in a tanker designed to prevent contact of flame with surfaces of asphalt. Equip tankers with visible thermometer and thermostatic controls set to asphalt temperature limits.
specified herein. Keep controls in working order and calibrated. Use immersion thermometers, accurate within a tolerance of $\pm 2^\circ F (\pm 1^\circ C)$, to check temperatures of the asphalt each hour. Provide these temperatures to the Owner. If temperatures exceed the maximum temperatures specified, remove the asphalt from the site. Do not cut back the asphalt.

E. The designated asphalt tanker operator must remain on the same elevation, within 50 feet and within visual contact of the operational tanker at all times, and perform no other duties than tending the tanker to monitor bitumen temperatures during tanker operation and ensure that safe heating temperatures are not exceeded. The Owner reserves the right to require an alternate tanker operator, without obligation to show cause or reason for the request.

F. Provide a minimum of two fully charged and operable fire extinguishers at the asphalt tanker location. Fire extinguishers shall be of the type designed for the intended use.

1.13 INTERIOR PROTECTION AND RESTORATION

A. Protect and cover fixed items, furniture, equipment, appliances, fixtures, bookcases, etc. within the building below the work areas.

B. At the Owner's direction, remove portable furniture, equipment, appliances, fixtures, materials, stock, etc. within the building below the work area to an adjacent area for protection.

C. Remove, temporarily support, suspend and protect existing items requiring removal during the installation of the new work and properly replace these items to their original condition and to the Owner's satisfaction. These items include but are not limited to suspended ceilings, lighting fixtures, heating and air handling ductwork, electrical conduit, etc.

1.14 CLEAN-UP

A. Clean and restore interior building spaces beneath the work areas to original condition prior to the construction.

B. Debris, dust and dirt shall be swept completely clean at the joists, beams, overhead accessories and similar items. Those items soiled or stained from the work shall be cleaned and refinished.

C. Electrical fixtures damaged by the construction shall be replaced with an equal in shape, color, manufacturer, and capacity at no added expense to the Owner.

D. Interior ceiling finishes which are damaged by the construction shall be repaired or replaced with a system equal in color, texture, and finish at no added expense to the Owner.

E. Floors shall be swept and vacuumed completely clean of dust, dirt and debris. The Owner will wash and re wax floors, but only as part of a normal or routine maintenance procedure. Heavily soiled, stained or damaged floor areas will be cleaned, repaired and/or replaced by the Contractor at no additional cost to the Owner.
F. Open ducts, grills, thermostats, electric boxes or similar fixtures and items which can be soiled or affected by the work or which might conduct dust to other areas shall be masked, protected and cleaned by the Contractor.

G. Windows, blinds, curtains, shelving, edges, lighting, etc. shall be cleaned to their original condition prior to the start of the roof renovation, and to the satisfaction of the Owner.

H. Remove completely temporary protection materials and facilities from the site upon completion of the work and demobilization of the project.

I. Restore streets, drives, curbs, sidewalks, landscaping and existing improvements disturbed by the construction operations to their condition at the start of the work.

1.15 NOTIFICATION

A. Notify the Owner's Representative at least 72 hours in advance of the desire to extend, connect, disconnect, turn on or off HVAC, steam, electric, water or other service from the Owner's supply systems. The actual operation shall be witnessed by authorized representatives of the Owner. Plumbing, heating and electrical work, including installation of equipment and any other work to be performed by the Contractor, shall be carried out without interference with the Owner's normal operation. Where work requires interruption of a service, make advance arrangements with the Owner for dealing with such interruption.

1.16 VEHICLES

A. Acceptable areas for the locations of the Contractor's vehicles shall be as designated by the Owner. No other areas may be utilized without the Owner's permission.

1.17 WALKWAY COVERING

A. Install walkway coverings where designated on the drawings or above entrances which must remain accessible. Coordinate locations with the Owner. The framework supporting the walkway covering shall be free-standing and well braced. The roof covering and support framing shall be designed to support a live load of at least 150 psf. The roof coverings shall be of width sufficient to cover the entire walkway or sidewalk. A minimum height clearance of 6-feet, 8-inches, or as required to allow building doors to open, shall be maintained below coverings. Should coverings obscure the building’s address, a temporary address shall be installed so as to be visible from the street. Lettering shall be approved by the Owner. Protection shall be in accordance with all applicable OSHA standards.
PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 015000
SECTION 016500 - PRODUCT DELIVERY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section contains instructions and requirements for the provision and maintenance of adequate delivery, storage, and handling on site of products and materials to be utilized in the Work.

1.2 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.

B. Delivery and Handling:
   1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
   2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
   3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
   4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.

C. Storage:
   1. Store products to allow for inspection and measurement of quantity or counting of units.
   2. Store materials in a manner that will not endanger Project structure.
   3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
   4. Store cementitious products and materials on elevated platforms.
   5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
   6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
   7. Protect stored products from damage and liquids from freezing.

D. Deliver materials in sufficient quantity to allow continuity of work. Deliver materials to the site in original sealed containers bearing manufacturer's name and brand designation. Where materials are designated by a referenced specification, containers or packages shall bear specification number,
type, and class as applicable. Do not deliver materials that are not approved for use. Remove such materials from the site immediately.

E. Store roofing materials on site in areas designated by the Owner. Materials are to be stored in box trailers or in elevated piles completely wrapped in waterproof tarps. Tilt stock piles for effective drainage and utilize tie-downs to protect tarps against wind blow-offs. Store flammable materials such as adhesives in storage containers suitable for flammable substances. Mark materials that are exposed to the elements for removal from site. Do not incorporate defective or rejected materials in the Work.

F. Handle materials with equipment selected and operated so as not to damage the materials or the roofing. Handle roll materials in a manner to prevent damage to the edges or ends. Seal containers when their contents are not being used to prevent premature curing or damage to materials. Damaged or improperly stored materials shall be marked and removed from the site immediately.

G. No more materials shall be stored on the roof than can be installed in one day. Distribute materials brought to the roof so that the uniform load shall be less than 20 PSF. Evenly distribute materials for daily operations to prevent concentrated loads. The weight of workmen, equipment and materials shall not exceed the capacity of the structure.

H. Misshapen, oval, creased, and/or damaged roll goods shall not be used in the new roof system. The Contractor shall handle and store roll materials to prevent such conditions. The Contractor shall also ensure that roll goods accepted from the manufacturer are in good condition. The Owner will not be responsible for, nor accept, roll goods that are defective.

1.3 TOOLS AND EQUIPMENT

A. Contractor is responsible for delivery, storage, maintenance, and security of tools and equipment.

1.4 INSPECTION AND NOTIFICATION

A. Materials stored on site and subject to damage from wind, precipitation, hail, or other potential climactic conditions will be subject to inspection on a daily basis by the Owner or Owner’s Representative. Absorptive materials such as lumber, insulation and felts will be tested periodically for moisture content.

B. Upon notification by the Owner or Owner’s Representative of insufficient protection of or damage to materials on site, the Contractor shall, within 24 hours, properly restore protection and replace or repair damaged materials and systems. Should the Contractor not accomplish immediate repair or replacement when notified, the Owner shall have the proper protection installed at the Contractor's expense.
1.5 MANUFACTURER’S INFORMATION

A. Submit the roofing system materials manufacturer's written instructions concerning storage and handling of materials, including adhesives, cements, sealants, and accessories. Provide the following information:
   1. Manufacturer’s "shelf-life" of materials including the date of manufacture of perishables such as volatiles, caulking, and mastics.
   2. Acceptable latent moisture content for absorptive materials such as lumber, insulation and felts.
   3. Manufacturer's requirements for storage facilities concerning temperature, humidity, and ventilation.

B. Provide and maintain on site manufacturer's information concerning storage and handling of flammable or volatile materials, such as Material Safety Data Sheets, for the duration of the project.

C. Comply with the manufacturer’s recommendations and these Specifications for on site storage of materials.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 016500
SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout.

1.2 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
3. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
4. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
5. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
6. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
7. Submit certificate of manufacturer's inspection.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.
1.3 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment.
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1.5 CORE SAMPLES

A. The Owner reserves the right to have core sampling performed by the Contractor where moisture contamination is suspected within the new roof system until the expiration of the Contractor's warranty. Core sample locations shall be chosen by the Owner and be performed at no cost to the Owner.

1.6 WARRANTIES

A. Submittal Time: Submit manufacturer's warranties and contractor's guarantees on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

1.7 PROJECT CLOSEOUT SUBMITTALS

A. When both the Owner or Owner's Representative and the Manufacturer's Representative agree that the Contractor has performed according to the Specifications and has installed the materials to the satisfaction of the Manufacturer, submit the following:

1. Specified Contractor's and Manufacturer's Warranties and Guarantees.
2. Lien Releases from Contractor, subcontractor, and suppliers (AIA Forms G706, G706A).
3. Consent of Surety to Final Payment (AIA Form G707).
PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 017700
SECTION 024119 - SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies requirements for the following Scope of Work:

1. Removal and disposal of existing asphalt built-up roofing, spray applied urethane roof overlay, and related materials down to the structural surfaces.

2. Removal and disposal of lightweight concrete topping down to the structural concrete and steel roof decks.

3. Removal and disposal of deteriorated brick masonry mortar joints.

4. Removal and disposal of isolated deteriorated brick masonry units.

5. Removal of brick masonry north parapet of Roof Area D (Alternate #1).

6. Removal of existing brick masonry units at rising wall locations in preparation for new throughwall flashing.

7. Removal of existing brick masonry at new overflow scupper locations.

8. Remove and reinstall electrical conduits designated to remain.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Salvage: Detach items from existing construction and deliver them to Owner.

C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.

D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 SUBMITTALS

A. Schedule of Selective Demolition Activities: Indicate detailed sequence of selective demolition and removal work, with starting and ending dates for each activity, interruption of utility services, and locations of temporary set up areas.
B. Predemolition Photographs or Videotapes: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by selective demolition operations. Submit before Work begins.

C. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

D. Proposed locations of chutes, dumpsters, cranes, hoists, and other temporary equipment or facilities required for demolition work.

E. Proposed methods for interior and exterior protection and clean-up during removal and re-roofing operations.

F. Provide schedule, updated weekly, indicating areas of roof where demolition will occur. Notify Owner of schedule changes.

1.4 QUALITY ASSURANCE

A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.

B. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.


E. Comply with State and Local requirements.

1.5 PROJECT CONDITIONS

A. Owner will occupy portions of building immediately below and adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
   1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Owner will remove hazardous materials under a separate contract.

D. Storage or sale of removed items or materials on-site is not permitted.
E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

1.6 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

1.7 DEMOLITION AND TRANSPORT

A. Conveyances: Buggies or wheelbarrows used on roofs to transport removed debris to chutes or crane apparatus location shall be of size and design to prevent damage to deck and structure.

B. Chutes: Provide enclosed chutes for debris transfer from roof areas to ground. Do not allow debris to spill from bottom of chute directly onto ground. Direct chutes into approved construction debris container (dumpster). Control and contain dust and noise from falling debris by use of breaks in vertical alignment of chute or tarps covering dumpster. Provide hose with nozzle near chute outlet to wet debris, as necessary, for dust control.

C. Hoists/Cranes: Provide hoists or cranes to remove debris and transport materials to and from roof. Secure materials to prevent loss during lifting. Place debris transported from roof directly in approved construction debris containers. Provide proper protection of wall areas for entire height directly adjacent to or under area of hoisting.

D. Use of “bobcat” type removal equipment on roof is prohibited.

E. Mechanical cutting equipment: Roof cutting equipment shall be equipped with operable blade depth setting mechanisms to control cutting depth of blade and prevent damage to structural deck during cutting operations.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

B. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

3.2 GENERAL

A. During removal of existing roofing and related materials, report to Owner areas of damaged, deteriorated, or otherwise unsuitable structural deck or framing materials exposed during work. Do not cover or remove unacceptable deck or framing areas until reviewed by Owner. Provide temporary protection to areas in question. Use care in removal of membrane flashings and decking to prevent damage to substrates.

B. Take precautions to prevent water on or within existing roof system from migrating into building or new roof system.

C. Review available prints and/or inspect interior of structure to ascertain if electrical or other service has been placed above roof deck or in contact with underside of deck.

D. Set cutting blades of mechanical cutting equipment to proper depth to prevent scoring or damage to structural deck. Use care in removal of membrane flashings to prevent damage to substrates.

E. Control visible emissions during roof removal and at dumpster level.

F. Remove roof materials down to structural deck. Sweep, clean, and vacuum debris from deck surfaces, including flutes of steel deck.

3.3 SELECTIVE DEMOLITION

A. Demolish and remove existing construction only to the extent required by new construction and as indicated. Demolition shall include but may not be limited to the following:

1. Remove existing built-up and spray applied urethane foam roofing system(s) and associated components in preparation for new systems.

2. Remove brick masonry units at rising walls of Roof Areas A in preparation for new sheet metal through-wall flashing receivers.

3. Remove brick masonry units at rising walls where deteriorated and where indicated on Drawings in preparation for new overflow scuppers.

4. Removal and disposal of lightweight concrete topping at all roof areas down to the structural concrete deck and steel form.

5. Remove existing sheet metal caps, fascias, edge metal, counterflashings, penetration flashings, and related sheet metal items unless indicated on Drawings to remain.

6. Remove existing perimeter wood blocking where indicated in preparation for new wood blocking.

7. Remove and reinstall existing rooftop mechanical equipment, including existing mechanical unit curbs, in preparation for new roof system. Removals, lengthening/shortening, and reinstallations are to be performed by licensed tradesmen.

8. Remove existing roof drains and associated materials in preparation for new and augmenting drain bowl assemblies and leader pipe connections.
9. Notify Owner prior to disconnection of mechanical equipment.

B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.4 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.5 CLEANING

A. Clean demolition materials and debris from roof daily.

B. Clean debris that has fallen into building, including material on top surface of ceiling.

C. Repair damage to building by replacing damaged material or component in-kind.

D. Clean site daily to satisfaction of Owner.

E. Dispose of debris and demolition materials at landfill in accordance with applicable regulations.

F. Remove construction related debris that accumulates on top of ceiling tiles.

END OF SECTION 024119
SECTION 040120 - MAINTENANCE OF UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies requirements for the following Scope of Work:

1. Repair unit masonry, including replacing units.
2. Repoint deteriorated mortar joints.
3. Rebuild brick masonry on the north parapet wall of Roof Area D.
4. Clean masonry wall repair areas.

1.2 UNIT PRICES

A. Work of this Section is affected by unit prices specified in Section 012200 – Unit Prices.

1.3 SUBMITTALS

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

B. Shop Drawings: For the following:

1. Full-size patterns with complete dimensions for new brick parapet wall and its jointing, showing relation of existing to new units.
2. Provisions for expansion joints or other sealant joints.

C. Samples: For each exposed product and for each color and texture specified.

1.4 QUALITY ASSURANCE

A. Restoration Specialist Qualifications: Engage an experienced masonry restoration and cleaning firm to perform work of this Section. Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance. Experience installing standard unit masonry is not sufficient experience for masonry restoration work.

1. Field Supervision: Restoration specialist firms shall maintain experienced full-time supervisors on Project site during times that clay masonry restoration and cleaning work is in progress.

2. Restoration Worker Qualifications: Persons who are experienced in restoration work of types they will be performing.

B. Mockups: Prepare mockups of restoration to demonstrate aesthetic effects and set quality standards for materials and execution and for fabrication and installation.
1. Masonry Repair: Prepare sample areas for masonry indicated to have repair work performed. If not otherwise indicated, size each mockup not smaller than 2 adjacent whole units or approximately 48 inches in least dimension. Erect sample areas in existing walls unless otherwise indicated, to demonstrate quality of materials, workmanship, and blending with existing work. Include the following as a minimum:

   a. Replacement:

      1) Ten brick units replaced.

2. Repointing: Rake out joints in 2 separate areas, each approximately 36 inches high by 48-inches wide for each type of repointing required and repoint one of the areas. Area to be approved prior to continuing point work.

PART 2 - PRODUCTS

2.1 MASONRY MATERIALS

A. Face Brick: Provide face brick, including specially molded, ground, cut, or sawed shapes where required to complete masonry restoration work.

   1. Provide units with physical properties, colors, color variation within units, surface texture, size, and shape to match existing brickwork meeting ASTM C 216, Grade SW, Type FBS.

      a. For existing brickwork that exhibits a range of colors or color variation within units, provide brick that proportionally matches that range and variation rather than brick that matches an individual color within that range.

B. Concrete Masonry Units:

   1. Shapes: Provide shapes indicated on the drawings.
   2. CMU: ASTM C 90
      a. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2150 psi (14.8 MPa).
      b. Density Classification: Normal weight.
      c. Size (Width): Manufactured to dimension 3/8-inch less than nominal dimensions.

2.2 MORTAR MATERIALS

A. Portland Cement: ASTM C 150, Type I or Type II, white where required for color matching of exposed mortar.

   1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C 114.

B. Hydrated Lime: ASTM C 207, Type S.
C. Mortar Sand: ASTM C 144 unless otherwise indicated.
   1. Color: Provide natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.
   2. For pointing mortar, provide sand with rounded edges.
   3. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.

D. Mortar Pigments: Natural and synthetic iron oxides, compounded for mortar mixes. Use only pigments with a record of satisfactory performance in masonry mortars.

E. Water: Potable.

2.3 PAINT REMOVERS (FOR URETHANE COATING)

A. Low-Odor, Solvent-Type Paint Remover: Manufacturer's standard low-odor, water-rinsable solvent-type gel formulation, containing no methanol or methylene chloride, for removing paint coatings from masonry.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. ABR Products, Inc.; Super Bio Strip Gel.
      b. Cathedral Stone Products, Inc.; [S-301] [S-303] [or] [S-305].
      c. Dumond Chemicals, Inc.; [Peel Away 6] [Peel Away 7] [or] [Peel Away 21].
      d. PROSOCO; [Enviro Klean Safety Peel 1] [or] [Enviro Klean Safety Peel 3].

2.4 CLEANING MATERIALS

A. Water: Potable.

B. Hot Water: Water heated to a temperature of 140 to 160 deg F.

C. Job-Mixed Detergent Solution: Solution prepared by mixing 2 cups of tetrasodium polyphosphate, 1/2 cup of laundry detergent, and 20 quarts of hot water for every 5 gal of solution required.

2.5 MORTAR MIXES

A. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
   1. Mixing Pointing Mortar: Thoroughly mix cementitious materials and sand together before adding any water. Then mix again adding only enough water to produce a damp, workable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 60 to 90 minutes. Add remaining water in small portions until
mortar reaches desired consistency. Use mortar within one hour of final mixing; do not retemper or use partially hardened material.

B. Do not use admixtures in mortar unless otherwise indicated.

C. Mortar Proportions: Mix mortar materials in the following proportions:
   1. Pointing Mortar for Brick: 1 part portland cement, 1 part lime, and 4.5 to 6 parts sand as needed to match existing.
   2. Rebuilding (Setting) Mortar: Comply with ASTM C 270, Proportion Specification, Type N.

2.6 REINFORCEMENT
   A. Epoxy Coated, #4 Steel Reinforcing Bar: ASTM A 615.
   B. Joint Reinforcement: Ladder or Truss type, galvanized.
   C. Epoxy: Powerfast by Powers.

PART 3 - EXECUTION

3.1 PROTECTION
   A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from masonry restoration work.

3.2 BRICK REMOVAL AND REPLACEMENT
   A. At locations indicated, remove bricks that are damaged, spalled, or deteriorated or are to be reused. Carefully demolish or remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
   B. Support and protect remaining masonry that surrounds removal area. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.
   C. Notify Architect of unforeseen detrimental conditions including voids, cracks, bulges, and loose units in existing masonry backup, rotted wood, rusted metal, and other deteriorated items.
   D. Remove in an undamaged condition as many whole bricks as possible.
      1. Remove mortar, loose particles, and soil from brick by cleaning with hand chisels, brushes, and water.
      2. Remove sealants by cutting close to brick with utility knife and cleaning with solvents.
E. Clean bricks surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.

F. Replace removed damaged brick with other removed brick in good quality, where possible, or with new brick matching existing brick, including size. Do not use broken units unless they can be cut to usable size.

G. Install replacement brick into bonding and coursing pattern of existing brick. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.
   1. Maintain joint width for replacement units to match existing joints.
   2. Use setting buttons or shims to set units accurately spaced with uniform joints.

H. Lay replacement brick with completely filled bed and head joints. Wet both replacement and surrounding bricks that have ASTM C 67 initial rates of absorption (suction) of more than 30 g/30 sq. in. per min. Use wetting methods that ensure that units are nearly saturated but surface is dry when laid.
   1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.

I. Provide open head weeps, spaced at 24-inches on center in brick masonry courses located directly above any throughwall flashings for weeps.

3.3 URETHANE COATING REMOVAL

A. Urethane Coating Removal:
   1. Remove loose and peeling paint using low-pressure spray, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
   2. Apply thick coating of paint remover to painted masonry with natural-fiber cleaning brush, deep-nap roller, or large paint brush.
   3. Allow paint remover to remain on surface for period recommended by manufacturer. Agitate periodically with stiff-fiber brush.
   4. Rinse with cold water applied by low-pressure spray to remove chemicals and paint residue.

3.4 REPOINTING MASONRY

A. Rake out and repoint joints to the following extent:
   1. All joints in areas indicated.
   2. Joints where mortar is missing or where they contain holes.
   3. Cracked joints where cracks can be penetrated at least 1/4 inch by a knife blade 0.027 inch thick.
   4. Cracked joints where cracks are 1/16-inch or more in width and of any depth.
   5. Joints where they sound hollow when tapped by metal object.
   6. Joints where they are worn back 1/4 inch or more from surface.
7. Joints where they are deteriorated to point that mortar can be easily removed by hand, without tools.
8. Joints where they have been filled with substances other than mortar.
9. Joints indicated as sealant-filled joints.

B. Do not rake out and repoint joints where not required.

C. Rake out joints as follows, according to procedures demonstrated in approved mockup:
   1. Remove mortar from joints to depth of 2-1/2 times joint width, but not less than 5/8-inch or not less than that required to expose sound, unweathered mortar.
   2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
   3. Do not spall edges of masonry units or widen joints. Replace or patch damaged masonry units as directed by Architect.
      a. Cut out center of mortar bed joints using angle grinders with diamond-impregnated metal blades. Remove remaining mortar by hand with chisel and resilient mallet.

D. Notify Architect of unforeseen detrimental conditions including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted metal, and other deteriorated items.

E. Pointing with Mortar:
   1. Rinse joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen joint surfaces before pointing.
   2. Apply pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8 inch until a uniform depth is formed. Fully compact each layer thoroughly and allow it to become thumbprint hard before applying next layer.
   3. After low areas have been filled to same depth as remaining joints, point all joints by placing mortar in layers not greater than 3/8 inch. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing masonry units have worn or rounded edges, slightly recess finished mortar surface below face of masonry to avoid widened joint faces. Take care not to spread mortar beyond joint edges onto exposed masonry surfaces or to featheredge the mortar.
   4. When mortar is thumbprint hard, tool joints to match original appearance of joints as demonstrated in approved mockup. Remove excess mortar from edge of joint by brushing.
   5. Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours including weekends and holidays.
      a. Acceptable curing methods include covering with wet burlap and plastic sheeting, periodic hand misting, and periodic mist spraying using system of pipes, mist heads, and timers.
   6. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.
F. Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

3.5 REBUILD MASONRY PARAPET WALL (ALTERNATE #1)

A. Set reinforcement bar into concrete deck substrate with epoxy 8-inches minimum spaced 32-inches on center. Extend rebar to a minimum of 20-inches above the roof deck.

B. Layout units in advance for accurate spacing of band patterns.

C. Lay CMU units stacked directly atop one another. Provide wall ties in between the first course and the second course, and the first course and the concrete deck. Provide full beds of setting mortar.

D. Tool mortar joints of CMU block, both surfaces, to a flush surface joint.

E. Lay brick masonry per paragraph 3.2 of this section.

3.6 FINAL CLEANING

A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water, spray applied at low pressure.

1. Do not use metal scrapers or brushes.

2. Do not use acidic or alkaline cleaners.

END OF SECTION 040120
SECTION 051200 - STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 SUMMARY
   A. Replace existing steel lintels at Roof Areas E and F walkthroughs.

1.2 DEFINITIONS
   A. Structural Steel: Elements of structural-steel frame, as classified by AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."

1.3 SUBMITTALS
   A. Product Data: For each type of product indicated.
   B. Shop Drawings: Show fabrication of structural-steel components.
   C. Qualification Data: For qualified Installer.
   D. Mill test reports for structural steel, including chemical and physical properties.
   E. Source quality-control reports.

1.4 QUALITY ASSURANCE
   A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
   B. Comply with applicable provisions of the following specifications and documents:
      1. AISC 303.
      2. AISC 360.
      3. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS
   A. Angles: ASTM A 36
      1. Size: 3.5 x 3.5 x 3/8
      2. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123/A 123M.
PART 3 - EXECUTION

3.1 LINTEL INSTALLATION

A. Shore brick masonry wall above steel lintel to prevent damage to masonry above.
B. Remove brick units as required to install steel lintel.
C. Set steel lintel a minimum of 8-inches into pocket of brick wall to float lintel.
D. Install throughwall flashing as indicated on the details.
E. Reinstall brick masonry as outlined in Section 040120 - Maintenance of Unit Masonry.

END OF SECTION 051200
PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies requirements for the following Scope of Work:
   1. Replace deteriorated steel deck uncovered during demolition operations.
   2. Clean and prime surficially rusted areas of steel decking and framing uncovered during removal operations.
   3. Provide roof drain stiffening plates.

1.2 UNIT PRICES

A. Work of this Section is affected by Unit Prices specified in Division 1, Unit Prices.

1.3 SUBMITTALS

A. Product Data: For each type of deck, accessory, and product indicated.
B. Shop Drawings: Show layout and types of deck panels, anchorage details, reinforcing channels, pans, cut deck openings, special jointing, accessories, and attachments to other construction.
C. Product certificates.
D. Welding certificates.

1.4 QUALITY ASSURANCE

A. Welding: Qualify procedures and personnel according to AWS D1.3, "Structural Welding Code - Sheet Steel."
B. AISI Specifications: Comply with calculated structural characteristics of steel deck according to AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members."
C. Verify profile of existing deck prior to ordering replacement panels.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.
B. Stack steel deck on platforms or pallets and slope to provide drainage. Protect with a waterproof covering and ventilate to avoid condensation.

PART 2 - PRODUCTS

2.1 ROOF DECK

A. Steel Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with "SDI Specifications and Commentary for Steel Roof Deck," in SDI Publication No. 30, and with the following:

1. Galvanized Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grade G90 zinc coating.
2. Deck Profile: To match existing.
3. Profile Depth: To match existing.

2.2 ACCESSORIES

A. General: Provide manufacturer's standard accessory materials for deck that comply with requirements indicated.

B. Fasteners for securing replacement roof deck panels and deck stiffening plates to overlapped deck and structural framing: 1/4-inch x 1-inch, self-drilling, self-tapping screws, hex-head, either stainless steel or factory-treated, fluorocarbon-coated steel (in accordance with FM 4470 requirements) in order to prevent rusting. Fasteners shall be designed to penetrate structural steel over 1/4-inch thick.

C. Fasteners for securing steel deck to structural framing: #12-14 self-drilling, self-tapping screws, 1-inch long, hex-head, either stainless steel or factory-treated, fluorocarbon-coated steel (in accordance with FM 4470 requirements).

D. Primer for steel framing: Rust-inhibitive, Duron Dura Clad Damp Proof Red Oxide Metal Primer, 33115, or accepted substitute. Primer shall be lead and chromate-free.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install deck panels and accessories according to applicable specifications and commentary in SDI Publication No. 30, manufacturer's written instructions, requirements in this Section, and as indicated.
B. Place deck panels on supporting frame and adjust to final position with ends accurately aligned and bearing on supporting frame before being permanently fastened. Do not stretch or contract side-lap interlocks.

C. Place deck panels flat and square and fasten to supporting frame without warp or deflection.

D. Cut and neatly fit deck panels and accessories around openings and other work projecting through or adjacent to deck.

E. Mechanical fasteners may be used in lieu of welding to fasten deck. Locate mechanical fasteners along framing members and install according to deck manufacturer's written instructions, but in no case less than 12-inches on center.

F. End Bearing: Install deck ends over supporting frame with a minimum end bearing of 1-1/2 inches.

G. Lap sides of panels 3-inches, minimum. Secure panel laps at 16-inches on center.

3.2 CLEANING AND PRIMING

A. Surficially rusted steel framing members (uncovered during deck removal work) and surficially rusted deck areas shall be mechanically cleaned of rust and scale according to Society for Protective Coating (SPC) SP-3 Standards and vacuumed clean.

B. Apply alkyd primer to cleaned deck and framing member areas, by brush, at rate of approximately 300 square feet per gallon. Allow 1-2 hours drying time prior to deck/roofing installation.

3.3 PERIMETER STIFFENING PLATE

A. Install augmenting stiffening plates along perimeter where additional steel deck support is necessary. Secure plates with screws spaced at 12-inches on center and staggered on vertical and horizontal flanges.

B. Plate sections shall be 2-feet long, minimum. Secure end laps with screws (2 minimum).

END OF SECTION 053100
SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY
A. This section specifies requirements for the following Scope of Work:
   1. Provide wood blocking, supports, shims, and other miscellaneous products as indicated.
   2. Replace deteriorated wood blocking, as required.

1.2 UNIT PRICES
A. Technical requirements for related Unit Price work are defined in this section. Refer to Section 012200 - Unit Prices, for quantities to be carried in the Base Bid and provided on the Bid Form.

1.3 SUBMITTALS
A. Product Data: For each item specified in Part 2 of this Section.

1.4 PROJECT CONDITIONS
A. Wood blocking shown on Drawings may be greater or less than quantities required to match insulation thickness. Include required quantities in Base Bid.
B. Maintain constant perimeter heights to provide equal edge metal and fascia reveals.
C. Store wood to prevent distortion and to protect from atmospheric moisture.
D. Dimensional lumber and plywood shall be kiln dried unless otherwise indicated. If pressure treated lumber is required by the roof membrane manufacturer, additional compensation will not be considered. Additionally, if pressure treated wood is used, wood shall be separated from all metal components to avoid galvanic corrosion.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL
A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by ALSC.
   1. Factory mark each piece of lumber with grade stamp of grading agency.
   2. Maximum moisture content at time of dressing: 19 percent, maximum, for 2-inch nominal thickness or less, unless otherwise indicated.
2.2 DIMENSION LUMBER

A. General: Of grades indicated according to ALSC National Grading Rule provisions of grading agency indicated.

B. Framing, rooftop equipment bases and support curbs, blocking, structural cants, nailers, furring, grounds: Construction or No. 2 grade and any of following species:
   1. Douglas fir-larch, Douglas fir-larch (north), or Douglas fir-south; NLGA, WCLIB, or WWPA.
   2. Hem-fir or Hem-fir (north); NLGA, WCLIB, or WWPA.
   3. Southern pine; SPIB.
   4. Spruce-pine-fir (south) or Spruce-pine-fir; NELMA, NLGA, WCLIB, or WWPA.

2.3 SHEATHING

A. Plywood Sheathing: APA PS 1 Exposure 1 sheathing, 5/8-inch thick.

2.4 FASTENERS

A. Fasteners, washers, and accessories: Stainless steel or galvanized steel.

B. Wood-to-wood connections: Galvanized, annular-threaded, ring-shank common nails, 3-inches long.

C. Termination bar to wood: Number 12, self-drilling, self-tapping screws of sufficient length to penetrate substrate 1-1/2-inches minimum.

D. Wood blocking to steel deck and steel framing: Number 14, self-drilling, self-tapping screws, factory treated with fluorocarbon coating or stainless steel, of sufficient length to penetrate upper flutes of steel deck or steel framing 1-inch minimum and 1-1/4-inches maximum.

E. Plywood to brick masonry or concrete walls: 1/4-inch diameter, 2-inch long drive pin anchors, with zinc sheath and stainless steel pin.

F. Dimension lumber to masonry or concrete: Masonry screws with high-low threads for tapping concrete and corrosion resistant coating; 1/4-inch diameter, Tapcon, by ITW Buildex, or approved equal.

2.5 ACCESSORIES

A. Batt insulation: See Section 072200 - Roof and Deck Insulation.

B. Rosin sheet: ASTM D 459, 4 pounds per square.
PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Selection of lumber pieces:
   1. Select members so that knots and obvious defects will not interfere with proper fastening and will allow making of proper connections. Cut out and discard defects that render piece unable to serve intended function.
   2. Lumber may be rejected for excessive warp, twist, bow, crook, mildew, fungus, mold, or moisture content, as well as for improper cutting and fitting.

B. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, and similar supports to comply with requirements for attaching other construction.

C. Comply with Factory Mutual (FM) Data Sheet 1-49 for anchoring perimeter blocking. Reduce fastener spacing by half within 8-feet of exterior corners.

D. Cut butt joints in woodwork to provide smooth, uniform line without irregularities. Stagger butt joints at multiple layers of blocking, layer to layer. Gap joints 1/8-inch. Minimum length of any individual piece of woodwork at perimeter edge shall be 3-feet, with minimum of 2 fasteners per piece.

E. Overlap wood blocking joints at corners from layer to layer.

F. Protect installed wood from moisture and weather. Wood degraded by exposure shall be rejected.

3.2 FASTENING OF WOODWORK

A. Wood blocking:
   1. To wood blocking: With annular-threaded, ring-shank nails, 12-inches on center, maximum, and staggered slightly off centerline of member being installed.
   2. To concrete/masonry substrates: With screws spaced 16-inches on center maximum and staggered slightly off centerline of member being secured.
   4. Countersink fasteners below top plane of nailers.
   5. Through-drill material being attached to substrate 1/16-inch larger than fastener threads.
   6. Achieve 1-1/4-inch minimum penetration into substrate when fastening 2x lumber to brick, structural concrete, or 2x lumber. Achieve 1-inch penetration past top flute of metal deck.
   7. For nailer to nailer connections, penetrate member being fastened to 3/4 thickness of member. Fasten 16-inches on center, staggered.
B. Plywood:

1. To concrete/masonry walls: With drive pins spaced at 8-inches on center vertically and 16-inches on center horizontally staggered from row to row. Predrill pilot holes in accordance with fastener manufacturer’s printed instructions.

2. To wood blocking: With nails spaced at 8-inches on center along each framing member.
   a. Countersink fasteners below top plane of plywood.
   b. Provide 1/8-inch gap between successive sections of plywood. Align finished surfaces to vary not more than 1/16-inch from plane of surfaces of adjacent units.
   c. Place panels with long dimension perpendicular to support.
   d. Install roof deck panels in staggered array, with panel ends in successive rows being offset. Minimum panel placement size shall be 48-inches by 48-inches. Each panel shall span minimum of 3 supports.
   e. Center joints accurately over support.

3.3 REPLACEMENT OF PERIMETER WOOD BLOCKING

A. Remove deteriorated perimeter wood blocking uncovered during demolition. Verify dimensions with Owner prior to removal or provide documentation

B. Cut new wood blocking to same size and configuration as existing wood blocking. Provide minimum length of 4-feet for new wood blocking. Secure new wood blocking with nails spaced at 12-inches on center, staggered off centerline.

C. Resecure existing wood blocking scheduled for reuse with screws spaced at 48-inches on center, staggered off centerline.

END OF SECTION 061000
SECTION 072200 - ROOF AND DECK INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. This section specifies requirements for the following Scope of Work:
   1. Provide tapered thermal insulation and cover board.
   2. Provide mechanically attached gypsum board and temporary membrane atop steel decking and temporary membrane atop structural concrete decking.
   3. Provide insulation crickets, fillers, and cants.
   4. Provide temporary membrane atop concrete decking.

1.2 SYSTEM DESCRIPTION

A. Tapered Insulation System:
   1. Maintain minimum insulation thickness to accommodate specified drain sumps.
   2. Provide minimum average R-Value of 17.0 throughout roof areas.
   3. Maintain constant perimeter height at edges of each roof section.
   4. Utilize existing and augmenting drain locations as indicated on Drawings.
   5. Provide full crickets between interior drainage points and half crickets at perimeter walls and corners with sufficient width to result in positive slope to drain at cricket valley.
   6. Provide 4-foot by 4-foot sumps at each drain location.

1.3 SUBMITTALS

A. Product Data: For each product indicated in Part 2 of this Section.

B. Manufacturer’s tapered insulation/cricket plan, minimum 2-feet by 3-feet.
   1. Outline of roof area with drain and major penetration locations.
   2. Profile of tapered sections.
   3. Average R-value of system.

C. Certifications: Provide documentation for requirements described in Paragraph 1.4, Quality Assurance.

D. Insulation attachment pattern: Provide Drawing showing typical fastener pattern and frequency at field, corners, and edges.
1.4 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: Provide insulation and related materials with fire-test-
response characteristics indicated, as determined by testing identical products per ASTM E 84
for surface-burning characteristics, by UL or another testing and inspecting agency acceptable
to authorities having jurisdiction. Identify materials with appropriate markings of applicable
testing and inspecting agency.

B. Securement: Fasten or secure components of system to meet or exceed requirements of FMG
Data Sheets 1-28 and 1-29. Comply with requirements to achieve wind uplift rating of 1-75.

C. Insulation products incorporated into roof system shall be included in roof membrane
manufacturer’s system warranty. Provide documentation from membrane manufacturer that
proposed insulation will be included in required warranty.

D. Tapered insulation plan in Drawings is a conceptual configuration showing basic design intent.
Do not interpret Drawings as approved tapered insulation layout plan.

PART 2 - PRODUCTS

2.1 INSULATION BOARDS

A. Roof insulation system materials shall be manufactured by or acceptable to roof membrane
manufacturer for inclusion in full system warranty to be issued by manufacturer.

B. Polyisocyanurate: ASTM C 1289, Type II; Class I, Grade 2.
   1. Tapered System: 1/4-inch per foot slope, with tapered and flat boards to provide
      consistent slopes; minimum thickness, 1-inch.
   2. Crickets: 1/2-inch per foot, minimum, slope.
   3. Board size, maximum:
      a. For Adhered Installation: 4-feet by 4-feet.
      b. For Mechanically Attached Insulation: 4-feet by 8-feet.

C. Wood Fiberboard: ASTM C 208.
   1. Cants: 4-inch face; 1-1/2-inch thickness.
   2. Tapered Edge Strip: Taper from 1-1/2-inch thickness to feather edge; 2-feet by 4-feet.
   3. Tapered System for Crickets and Drain Sumps: 1/2-inch per foot, minimum, slope.

D. Gypsum Roof Board: Fiberglass faced with moisture resistant core; ASTM C 1177.
   1. Thickness: 1/2-inch.
   2. DensDeck Prime by Georgia Pacific, or approved comparable product.
2.2 MECHANICAL INSULATION

A. Insulation for drain bowls and leader piping: fibrous glass batt type with premolded polyvinyl chloride jackets. Seaming tape for jacket seams shall be as supplied by insulation jacket manufacturer. Minimum thickness 1-inch.

B. Fiberglass batt insulation for use at locations other than hot pipes: Conforming to ASTM C 665, Type II, Class C and E84, I, 3-inches thick.

2.3 ACCESSORIES

A. Asphalt: ASTM D 312, Type III.

B. Adhesive: Polyurethane foam, one-part; Insta-Stik, by Dow Chemical, or approved equal.

C. Temporary Membrane: Two plies of Type IV felt.

D. Fasteners
   1. Gypsum Board Fasteners: Number 12, self-drilling, self-tapping screws; sufficient length to penetrate top flange of steel decking by 1-inch minimum and 1-1/4-inches maximum; with fluorocarbon coating complying with FMG 4470.
   2. Stress Plates: Nominal 3-inch diameter, 26 gauge galvalume coated steel.

PART 3 - EXECUTION

3.1 PREPARATION

A. Ensure that surfaces to receive insulation are clean and dry. If necessary, provide equipment to dry surface prior to application.

B. Remove dirt, debris, and dust from substrates by brooming or vacuuming. Clean dirt and debris from between steel deck ribs.

C. Provide roof insulation boards free of defects, including, but not limited to, broken corners, improperly adhered skins, excessive moisture content (if insulation surface “foams” when hot bitumen is applied, excessive moisture is present), dimensional irregularities, or other defects that may adversely affect replacement roof system. Mark defective insulation boards permanently and remove from site.

3.2 GYPSUM BOARD INSTALLATION

A. Secure gypsum board to deck with specified fasteners, with long dimension of boards perpendicular to deck flutes. Support board ends on top flange of deck. Stagger board ends.
   1. Where vapor barrier is specified or insulation is scheduled to be adhered, fasten in accordance with FMG 1-75 with minimum 1 fastener per 2 square feet.
3.3 TEMPORARY MEMBRANE

A. Install temporary membrane in accordance with manufacturer’s requirements.

B. Clean and prepare temporary roof membrane surface prior to installation of insulation system. Remove temporary flashings that interfere with insulation placement.

3.4 ROOF INSULATION INSTALLATION

A. Adhesive Attachment:
   1. Apply adhesive to substrate in accordance with manufacturer’s requirements and recommendations.
   2. Set boards in adhesive, butting edges tightly. Stagger joints of insulation and coverboard within each layer. Offset joints between layers 12-inches minimum. Fill gaps greater than 1/4-inch.
   3. Walk in boards to ensure adhesion and provide smooth top plane of insulation.

B. Utilize tapered edge strips and filler boards at drain sump locations. Place taper from surrounding insulation system down to drain bowl locations, providing 8-foot by 8-foot minimum drain sumps.

3.5 PIPE INSULATION INSTALLATION

A. Install insulation and jackets at drain bowls as indicated on Drawings, in accordance with manufacturer’s printed instructions. Insulate drain bowl and leader pipe down to the first elbow.

END OF SECTION 072200
1.1 SUMMARY

A. This section specifies requirements for the following Scope of Work:
   1. Provide sheet metal wall panel assemblies complete with subgirts, closures and trim.

1.2 SUBMITTALS

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

B. Shop Drawings: Show fabrication and installation layouts of metal wall panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details. Distinguish between factory-, shop- and field-assembled work.

C. Samples: For each type of exposed finish required.

D. Warranties: Samples of Manufacturer's warranty.

1.3 QUALITY ASSURANCE

A. Quality Control Data: Certificates that installers for project have demonstrated past experience with projects of similar configuration and exposure.

B. Comply with SMACNA standards for seaming, attachment, and detailing unless more stringent requirements are indicated.

C. Comply with panel manufacturer’s written instructions unless more stringent requirements are indicated.

D. Panel manufacturer shall have at least 10 years experience producing the proposed panel system.

1.4 GUARANTEES AND WARRANTIES

A. Contractor Guaranty: Refer to Division 01 Section – "Summary of Work".

B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal wall panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
1. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PANEL MATERIALS
   A. Aluminum Sheet: Coil-coated sheet, ASTM B 209, alloy as standard with manufacturer, with temper as required to suit forming operations and structural performance required.
      1. Surface: Smooth, flat finish.
      2. Profile: 12-inch +/- wide, 1-inch +/- deep interlocking flush seam panels.
      3. Exposed Coil-Coated Finish:
         a. 2-Coat Fluoropolymer: AAMA 620. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Color shall be as selected from the manufacturer's standard color chart.

2.2 MISCELLANEOUS METAL FRAMING
   A. Hat-Shaped, Rigid Furring Channels:
      1. Nominal Thickness: 0.050 inch.
      2. Depth: 7/8 inch.

2.3 FABRICATION SCHEDULE
   A. .040-inch Coated Aluminum
      1. Wall panels
      2. Edge Trim
      3. Closures
      4. Corners
      5. Counterflushing and caps
      6. Miscellaneous flashings
   B. .050-inch Aluminum
      1. Subgirts/Hat Channels

2.4 FASTENERS
   A. Fasteners for securing subgirts and sheet metal to masonry: 1/4-inch diameter, 2-inch long stainless steel masonry screws or 1/4-inch diameter, 2-inch long drive pins. Drive pins shall have lead sheaths and stainless steel pins.
   B. Fasteners for securing wall panels, closures, metal flashings and metal trim to plywood substrates: No. 7, sheet metal screws, pan head, stainless steel 3/4-inch long.
C. Fasteners for securing wall panels, closure strips, metal flashings and metal trim to metal subgirts or wood substrates: stainless steel SDST pan head screws, 12-24 3/4-inch long with minimum of 20 threads per inch.

D. Pop rivets for exposed connections: Monel, color matched with wall panels 1/8-inch diameter.


2.5 ACCESSORIES

A. Touch-up paint: as provided by panel manufacturer, to match panel color.

B. Sealant for wall panel joints: ASTM C 1085, butyl based.

C. Perimeter sealant: ASTM C 920, color to match wall panels.

D. Sealant Tape: pressure sensitive, 100 percent solids, polyisobutylene compound sealant tape, 1/2-inch wide x 1/8-inch thick.

2.6 FABRICATION

A. General: Fabricate and finish metal wall panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

B. Fabricate metal wall panels in a manner that eliminates condensation on interior side of panel and with joints between panels designed to form weathertight seals.

C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

D. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.

E. Refer to Division 7 "Flashing and Sheet Metal" for fabrication of sheet metal accessories and components.

PART 3 - EXECUTION

3.1 PREPARATION

A. Miscellaneous Framing: Install subgirts, base angles, sills, furring, and other miscellaneous wall panel support members and anchorages according to ASTM C 754 and metal wall panel manufacturer's written recommendations. Provide turned-up ends (end dams) in sheet metal at
head and sill flashings at all fenestration end of run locations. Lap, rivet, and seal all bends for watertight assembly.

3.2 METAL WALL PANEL INSTALLATION

A. Interlocking Metal Wall Panels:
   1. Install subgirts perpendicular to direction of wall panels. Space subgirts at not more than 24-inches on center. Secure subgirts with specified fasteners spaced at 16-inches on center, maximum.
   2. Secure panels to properly installed and aligned subgirts with specified fasteners through slotted holes.
   3. Provide 1/4-inch +/- space between abutting panels.
   4. Extend panels vertically for entire length (run) of walls with no horizontal joints.
   5. Provide panels uniform and square with no surface imperfections, bent or damaged interlock surfaces, or similar flaws.
   6. Install panels true to line, with horizontal lines level and vertical lines plumb.
   8. Provide continuous bead of sealant in panel joints, if joints are not presealed with butyl tape by Manufacturer.
   9. Lap inside and outside corner closures onto panels 4-inches minimum. Secure closures to panels with color matched pop rivets along each side spaced 12-inches on center.

3.3 ACCESSORY INSTALLATION

A. General: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for a complete metal wall panel assembly including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.

B. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

3.4 CLEANING AND PROTECTION

A. Remove temporary protective coverings and strippable films, if any, as metal wall panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal wall panel installation, clean finished surfaces as recommended by metal wall panel manufacturer.

B. After metal wall panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.
C. Replace panels with scratches, abrasions, or surface defects in accordance with manufacturer's instructions and to Owner's satisfaction. Finish of completed metal panel surfaces shall be uniform and free from blemishes and variations in color and surface texture. Replace deficient items at no additional cost to Owner.

END OF SECTION 074213
SECTION 075400 - THERMOPLASTIC MEMBRANE ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes adhered membrane roofing systems.

1.2 SUBMITTALS

A. Product Data: For each product indicated.
B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other Work.
C. Samples: For each product included in membrane roofing system.
D. Research/evaluation reports.
E. Maintenance data.

1.3 QUALITY ASSURANCE

A. Qualifications of Roof System Manufacturer:
   1. Products used in this specified roof system will be produced by manufacturers regularly engaged in the manufacturing of these products with a minimum twenty (20) year history of successful production and product installation.
   2. Manufacturer that submits the specified roof system warranty will have been in business for at least twenty (20) years with successful production and product installation of the specific roof system.

B. Qualifications of Contractor:
   1. Contractor will be previously and currently approved by the manufacturer of roof membrane products to be installed under this section.
   2. Verification of approved Contractor status will be written manufacturer’s certification as stated elsewhere and five (5) references from building owners of prior warranted installation of similar roof assembly.
   3. References will contain the following: Owner’s Name, Owner’s Complete Telephone Number, Building Name and Complete Address, Roof Size in Squares, Type of Roof System Installed, Copy of Warranty Issued.
   4. Contractor will provide written documentation of at least five (5) years of experience in the successful application of the specified roof system.
   5. Contractor will also provide written documentation of the successful application of a minimum of 100,000 square feet of the specified roof material.
C. Qualifications of Installers:
   1. Installers will be thoroughly trained and experienced in the necessary crafts. Installers
      will be made familiar with any unique requirements specified for proper performance of
      the work in this section.
   2. The contractor will supply the resumes of each installer listing work experience with the
      specified roof system during the past ten (10) years (if requested by the Owner).

D. Roofing Inspections: Cooperate and coordinate with inspectors, testing agencies and
   manufacturers, in order to facilitate inspection and installation, to include allowance of field
   sampling. Field sampling will only be performed if moisture intrusion is suspected.

E. Source Limitations: Obtain components for membrane roofing system from roofing membrane
   manufacturer.

F. Fire-Test-Response Characteristics: Provide membrane roofing materials with fire-test-response
   characteristics indicated as determined by testing identical products per test method below by
   UL, FMG, or another testing and inspecting agency acceptable to authorities having
   jurisdiction.
   1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and roof slopes
      indicated.

G. Preinstallation Conference: Conduct conference at Project site.

1.4 WARRANTY

A. Special Warranty: Manufacturer's standard form, without monetary limitation, in which
   manufacturer agrees to repair or replace components of membrane roofing system that fail in
   materials or workmanship within 30 years from date of Substantial Completion. Failure
   includes roof leaks.

B. Contractor shall provide all materials and details required by the manufacturer to meet 30 year
   warranty requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, following requirements apply for
   product selection:
   1. Manufacturers: Subject to compliance with requirements, provide products by
      manufacturers specified.
2.2 THERMOPLASTIC ROOFING MEMBRANES

   1. Manufacturer:
      a. Sarnafil Inc.
   2. Thickness: As required for 30 year warranty.

B. KEE/Elvaloy Sheet
   1. Manufacturers
      a. Fibertite
   2. Thickness: As required for 30 year warranty.
   3. Exposed Face Color: White

C. Membrane shall be Energy Star rated.

2.3 AUXILIARY MATERIALS

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

B. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as sheet membrane.

C. Sheet Flashing: Manufacturer's standard unreinforced thermoplastic sheet flashing, 80 mils thick, minimum, of same color as sheet membrane.

D. Bonding Adhesive: Manufacturer's standard water-based bonding adhesive for membrane, and solvent-based bonding adhesive for base flashings.

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

F. Metal Battens: Manufacturer's standard aluminum-zinc-alloy-coated or zinc-coated steel sheet, approximately 1 inch wide by 0.05 inch thick, prepunched.

G. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.

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

2.4 WALKWAYS

A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, solid-rubber, slip-resisting, surface-textured walkway rolls, approximately 3/16 inch thick, and acceptable to membrane roofing system manufacturer.
PART 3 - EXECUTION

3.1 ADHERED ROOFING MEMBRANE INSTALLATION

A. Install roofing membrane over area to receive roofing according to membrane roofing system manufacturer's written instructions. Unroll roofing membrane and allow to relax before installing.
   1. Install sheet according to ASTM D 5036.

B. Bonding Adhesive: Apply water-based bonding adhesive to substrate at rate required by manufacturer and immediately install roofing membrane. Do not apply bonding adhesive to splice area of roofing membrane.

C. Seams: Clean seam areas, overlap roofing membrane, and hot-air weld side and end laps of roofing membrane according to manufacturer's written instructions to ensure a watertight seam installation.
   1. Repair tears, voids, and lapped seams in roofing membrane that does not meet requirements.

3.2 BASE FLASHING INSTALLATION

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

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

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

D. Clean seam areas and overlap and firmly roll sheet flashings into adhesive. Weld side and end laps to ensure watertight seam installation.

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

3.3 WALKWAY INSTALLATION

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

B. Provide walkways to connect all penthouse access ladders and doors and around fans.

3.4 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage qualified independent testing and inspecting agency to perform roof tests and inspections and to prepare test reports.
B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Architect.

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

END OF SECTION 075400
PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies requirements for the following Scope of Work:
   1. Provide perimeter and penetration sheet metal flashings and components at locations indicated on the drawings and as required to properly terminate the roof system.

1.2 SUBMITTALS

A. Product Data:
   1. For each item specified in Part 2 of this Section.
   2. Color charts for paints and coated metals.

B. Shop Drawings: Show layouts, profiles, shapes, seams, dimensions, and details for fastening, joining, supporting, and anchoring sheet metal flashing and trim.

C. Samples: For each type of sheet metal; 2 samples, 6-inches by 6-inches.

1.3 QUALITY ASSURANCE

A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA’s "Architectural Sheet Metal Manual" unless more stringent requirements are specified or shown on Drawings.

B. Mockups: Build mockups to demonstrate aesthetic effects and set quality standards for fabrication and installation. Include seams, attachments, underlayment, and accessories.
   1. Parapet Cap
   2. Roof edge

1.4 WARRANTY

A. Special Warranty on Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within 20 years from date of Substantial Completion.
PART 2 - PRODUCTS

2.1 SHEET METALS

A. Aluminum Sheet: ASTM B 209, Alloy 3004, temper not less than H14; provide with manufacturer’s strippable plastic film. Required finish:
   2. High-Performance Organic Finish: Thermocured system containing not less than 70 percent polyvinylidene fluoride (Kynar/Hylar) resin by weight; complying with AAMA 2604; color as selected by Owner from standard colors.

B. Stainless-Steel Sheet: ASTM A 240, Type 304, No. 2D finish.

2.2 ACCESSORIES

A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.

B. Self-Adhering Membrane Flashing:
   1. Underlayment: 40 mil thick minimum, butyl based such as WR Grace Vycor.

C. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.

D. Exposed Elastomeric Sealant: ASTM C 920, Type S, Grade NS, Class 25, Use A. Use an elastomeric silicone polymer sealant.

E. Concealed Sealant for Metal-to-Metal Connections: ASTM C 1085, single-component, butyl (polyisobutylene) rubber sealant, heavy bodied for hooked-type expansion joints with limited movement.

F. Band Clamps: Stainless steel, including screw-adjustable clamps; 1/2-inch wide.

G. Flux: muriatic acid based with zinc.

H. Solder: ASTM B 32, 50% block tin and 50% pig lead; manufactured for use with stainless steel or copper.

2.3 FASTENERS

A. Nails for Copper Sheet: Copper or hardware bronze, 0.109 inch minimum and not less than 7/8 inch long, barbed with large head.
B. Sheet metal to wood blocking connections (concealed securement): No. 12 annular threaded Series 300 stainless steel nails minimum 1-1/2-inches long.

C. Sheet metal to wood blocking connections and mechanical unit securement (exposed securement): Self-drilling, self-tapping, Number 10, stainless steel hex-washer-head screws, 1-1/2-inch long, with metal-capped EPDM washers.

D. Sheet metal to masonry wall connections: 1/4-inch diameter, concrete/masonry screws of sufficient length to penetrate substrate 1-1/2-inch minimum. Provide metal capped EPDM washers at exposed locations.

E. Sheet metal fascia to wood connections: 1-inch long, #10, Series 300 stainless steel pan head screws.

2.4 FABRICATION – GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA that apply to design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.

B. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
   2. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.

C. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.

D. Expansion Provisions: Where lapped expansion provisions in Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.

E. Provide concealed fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.

F. Provide cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal, and in thickness not less than that of metal being secured.

2.5 FABRICATION SCHEDULE

A. PVDF Coated Aluminum (.040-inch)
   1. Parapet Caps
   2. Closures
   3. Fascia Metal
4. Counterflashing (parapets)
5. Gutter/Downspout
6. Downspout Outlet
7. Securement Clips
8. Conductor Head/Downspout
9. Scupper Face Plate

B. Aluminum (.050-inch)
   1. Cleats

C. Stainless Steel (26 gauge)
   1. Counterflashing (Roof to Wall)
   2. Throughwall Flashing
   3. Counterflashing Receiver
   4. Skirt Flashing/Clips
   5. Expansion Joint Covers
   6. Expansion Joint Counterflashing
   7. Clips (Expansion Joint, Counterflashing)
   8. Caps for Vent Pipes
   9. Pourable Sealer Boxes
  10. Storm Hoods
  11. Chimney Cap

D. PVC Clad Metal
   1. Edge Metal
   2. Scupper Sleeve
   3. Sleeves for Vent Pipes
   4. Shelf Cover

PART 3 - EXECUTION

3.1 PREPARATION

A. Verify that substrate and anchorage materials to receive sheet metal flashings are properly secured and aligned, without gaps, lumps, or offsets that may distort metal.

B. Install underlayment at roof edges, parapets, curbs, and similar transitions, and as shown on Drawings.
3.2 INSTALLATION, GENERAL

A. Comply with SMACNA “Architectural Sheet Metal Manual” for minimum standards of materials and installation practices. Comply with Specifications and Drawings where SMACNA standards are exceeded.

B. General: Anchor sheet metal flashing and trim and other components of Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
   1. Torch cutting of sheet metal flashing and trim is not permitted.

C. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.

D. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.

E. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and butyl sealant.

F. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

G. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet, with no joints allowed within 18 inches of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.

H. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.

I. Non-moving seams and joints on non-solderable metal shall be interlocked, filled with sealant, and riveted, unless otherwise indicated.

J. Seal joints as required for watertight construction. Use elastomeric sealant for exposed conditions. Use butyl sealant for hidden conditions.

K. Provide sheet metal closure components at transitions to rising walls and similar changes in plane for edge metal, parapet caps, expansion joint covers, and other termination flashings. Fully crimp and seal closures to continuous blind nailed cleats.

L. Soldered Joints: Comply with SMACNA requirements. Use conduction soldering methods.
   1. Clean surfaces to be soldered, removing oils and foreign matter. Smooth irregularities and round edges. Pretin edges of sheets to be soldered to width of 1-1/2 inches except where pretinned surface would show in finished Work.
   2. Apply flux to surfaces to receive solder. Remove oxides and other impurities from joint.
3. Position and immobilize parts to be soldered. Heat parts above fluid temperature of solder. Draw solder into joint, creating 1-inch wide lap. Allow to cool before moving parts.

4. Remove flux and acid by cleaning with neutralizing agent.

M. Fabricate sheet metal components to the dimensions and shapes shown on the Drawings.

### 3.3 METAL COMPONENT INSTALLATION

**A. Securement Clips**

1. Securement clips shall be 6-inches long and 2-inches wide.
2. Secure clips to substrate with specified fasteners. Space clips 12-inches on center.
3. Bend clips minimum of 1-inch over bottom drip edge of counterflashing and crimp loosely.

**B. Deck Flanges**

1. Fabricate deck flanges 4-inches wide with hemmed edges unless otherwise indicated.
2. Prime deck flanges and set in bed of sealant.
3. Secure deck flanges at 3-inches on center in staggered pattern. Hold fasteners back 2-inches minimum from edge metal dam.
4. Flash flanges in accordance with membrane requirements and Drawings.

**C. Cleats**

1. Form cleats with 3/4-inch kicks, bent out at 30 degree angle to vertical surface. Height of cleat shall be as indicated on Drawings.
2. Secure continuous cleats to wood blocking with fasteners spaced at 6-inches on center.
3. Provide 1/4-inch gap between cleat sections. Offset from joints in cover metal being secured.

**D. Cover Plates**

1. Fabricate cover plates 6-inches wide, with 4-inch wide deck flanges, and as indicated on Drawings. Hem edges of cover plates to fit snugly against edge metal and fascia sections.
2. Install continuous beads of sealant on each side of edge metal joint.
3. Install cover plates centered over edge metal joint.
4. Secure edge metal cover plates with 2 fasteners driven through center and crimped to edge metal drip.
5. Hook fascia cover plates to drip edge and secure to wood blocking with 2 fasteners at areas that will be concealed by edge metal.

**E. Sheet Metal Transition Closures**

1. Extend sheet metal 4-inches minimum vertically up wall at sheet metal-to-wall transitions.
2. Set sheet metal in full bed of butyl mastic and secure using appropriate screws with EPDM washers spaced at 4-inches along centerline of vertical portions.
3. Fold vertical portion down over fasteners. Provide bead of sealant along sheet metal at wall.

F. Parapet Caps
1. Secure continuous cleat at interior and exterior face.
2. Fabricate parapet cap to dimensions and shapes shown on Drawings and to fit snugly over parapet and membrane flashings.
3. Provide roof membrane over parapet.
4. Provide 1-1/4-inch high standing seams. Hook cap on cleats and crimp. Provide butyl mastic in each standing seam. Fold seams over to form standing seam and fold corners. Provide shop fabricated end and corner sections minimum 18-inches long.

G. Shelf Cover
1. Provide metal section joints at same location as edge metal section joints.
2. Secure shelf cover cleat. Hook cover onto cleat and provide 1/4-inch butt joints between metal sections.
3. Secure shelf cover along top edge at +/- 16-inches on center through slotted holes.
4. Provide cover plates over shelf cover metal section joints.

H. Edge Metal
1. Secure continuous cleats where fascia metal is provided. Secure cleats above the top edge of the fascia. Do not fasten cleat through fascia.
2. Stagger butt joints between cleat and edge metal sections minimum 24-inches.
3. Crimp edge metal onto cleat and set deck flange in bed of sealant. Secure deck flange.
4. Provide cover plates as previously specified.

I. Counterflashing
1. Provide counterflashing with 3-inch minimum sealant-filled section laps. Insert counterflashing into receiver.
2. Secure counterflashings into receivers with stainless steel screws spaced 12-inches on center, minimum 3 screws per length of counterflashing.

J. Reglet Counterflashing
1. Sawcut reglet into brick masonry mortar joints to depth of 1-1/2-inches and width of 3/8-inch. Clean loose particles from reglet and fill reglet with butyl sealant.
2. Form horizontal flange of counterflashing with “V” bend up at 45 degree angle and not less than 3/4-inch long. Provide bend with spring action within reglet.
3. Insert counterflashing into reglet and secure with lead wedges spaced at 8-inches on center. Provide minimum of 3 wedges per length of counterflashing. Ensure that counterflashing and wedges are driven in sufficiently to provide proper sealant coverage. Install sealant above exterior edge of counterflashing.
K. Throughwall Counterflashing Receiver
   1. Form throughwall flashing with integral counterflashing receiver to extend through brick masonry and up interior masonry back-up wall 4-inches minimum.
   2. Set vertical leg of counterflashing in full bed of butyl sealant and secure with masonry screws spaced 8-inches on center.
   3. Prime masonry back-up wall and vertical leg of counterflashing.
   4. Provide continuous 8-inch wide self-adhering modified bitumen over interior vertical leg and onto back-up wall. Provide 4-inch wide end laps on modified bitumen.
   5. Provide termination bar secured 12-inches on center at the tip of the self adhering flashing.
   6. Insert counterflashing into receiver.
   7. Provide turned up ends (end dams) in sheet metal at all fenestration interruptions and at end of run locations. Lap, rivet, and seal all bends for watertight assembly.

L. Pipe Sleeves, Caps, and Hoods
   1. Form pipe sleeves with integral flanges with locked and soldered seams. Provide hemmed edges of deck flanges as indicated on Drawings.
   2. Prior to installing sheet metal sleeves on vent pipes, verify that vent pipes have been extended to 12-inches minimum above finished roof surfaces.
   3. Install vent caps in full beds of sealant to fit snugly over existing vent pipes and new vent pipe sleeves as indicated on Drawings.
   4. Fabricate and install sheet metal hoods on conduit and pipe penetrations to cover sleeve flashings. Clamp tops of sleeves prior to installing hoods. Set hoods in bed of sealant and clamp to penetration.

M. Skirt Flashing
   1. Insert skirt flashing beneath existing and new equipment covers. Lap skirt flashing sections 3-inches minimum.
   2. Secure skirt flashing with sheet metal clips spaced 12-inches on center and minimum of 2 per side of curb.

N. Scupper
   1. Provide sheet metal scuppers with locked and soldered seams.
   2. Provide continuous 4-inch wide flanges on exterior and interior of parapet. Lock and solder flanges watertight.
   3. Set exterior flanges in full beds of sealant.
   4. Counterflash upper exterior flange of scupper box with sheet metal counterflashing set in sawcut reglet. Extend counterflashing 3-inches beyond scupper opening on both sides.
   5. Set interior flanges in sealant. Firmly secure flanges, fastening at 3-inches on center.
   6. Flash interior flanges in accordance with membrane requirements and Drawings.

O. Pourable Sealer Pockets
   1. Provide pourable sealer pockets only where field fabricated pipe flashings cannot be installed.
2. Fabricate pourable sealer boxes 6-inches high, with minimum 2-inch wide clear space on each side around each penetration. Secure integral deck flanges to wood blocking.

3. Prime and flash flanges in accordance with membrane requirements and Drawings.

4. Pour premixed gypsum concrete into box to depth 2-inches from top and allow to set.

5. Fill remaining 2-inches with pourable sealer to top of box and allow to set. Tool pourable sealer to shed water.

6. Provide sheet metal storm hood set in sealant and secured with band clamp as indicated on Drawings.

3.4 CLEANING

A. Remove scrap metal, burrs, fasteners, and related debris from roof daily. Take precautions to prevent damage to roof membrane and flashings.

END OF SECTION 076000
SECTION 077200 - ROOF ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY
A. This Section specifies requirements for the following Scope of Work:
   1. Provide roof fan curbs.
   2. Provide splash blocks at drain pipe outlets.

1.2 SUBMITTALS
A. Product Data: For each type of roof accessory indicated.
B. Shop Drawings: Show fabrication and installation details for roof accessories.
C. Manufacturer Installation Instructions: For each product in Part 2.

1.3 QUALITY ASSURANCE
A. Comply with manufacturer’s recommendations and requirements.
B. Verify locations, dimensions, and substrate conditions before installation.

PART 2 - PRODUCTS

2.1 ROOF CURBS
A. Roof Curbs: Provide metal roof curbs, internally reinforced and capable of supporting superimposed live and dead loads, including equipment loads and other construction to be supported on roof curbs. Fabricate with welded or sealed mechanical corner joints, with integral formed mounting flange at perimeter bottom. Coordinate dimensions with roof openings.
   1. Material: Aluminum sheet, 0.090 inch thick.
   2. Liner: Same material as curb, of manufacturer's standard thickness and finish.
   3. Factory installed wood nailers at tops of curbs.
   4. Factory insulation with 1-1/2-inch thick, glass-fiber board insulation.
   5. Curb height shall be determined by adding thickness of roof insulation and minimum base flashing height recommended by roofing membrane manufacturer.

2.2 SPLASH BLOCK
A. High-density concrete, natural color; 12-inches by 30-inches; to divert water in one direction.
PART 3 - EXECUTION

3.1 INSTALLATION

A. General
   1. Coordinate installation of roof accessories with installation of roof deck, roof insulation, flashing, roofing membranes, penetrations, equipment, and other construction to ensure that combined elements are weatherproof and watertight.
   2. Install roof accessory items according to construction details in NRCA's "Roofing and Waterproofing Manual," unless otherwise indicated.
   3. Separation: Separate metal from incompatible metal or corrosive substrates, including wood, by coating concealed surfaces, at locations of contact, with bituminous coating or providing other permanent separation.
   4. Operational Units: Test-operate units with operable components. Clean and lubricate joints and hardware. Adjust for proper operation.

B. Curb Installation
   1. Set flange on deck and secure with specified fasteners, minimum 2 per side and maximum 24-inches on center.

3.2 REINSTALLATION

A. Reinstall equipment disturbed or disconnected by work of this section. Extend and reconnect electrical and mechanical connections. Restore normal operation of equipment.

3.3 CLEANING

A. Clean exposed surfaces according to manufacturer's written instructions. Touch up damaged metal coatings.

END OF SECTION 077200
SECTION 221426.13 – ROOF DRAINS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies requirements for the following Scope of Work:
   1. Provide drain bowls, strainers, clamping rings, underdeck clamps, and pipe joint connections at all existing and augmenting roof drain locations.
   2. Provide leader pipe and accessories to connect augmenting drains to existing storm piping.
   3. Clear roof drain systems from roof level to the point where the leaders exit the building to achieve a free-flowing system.

1.2 UNIT PRICES

A. Technical requirements for related Unit Price work are defined in this section. Refer to Section 012200 - Unit Prices, for quantities to be carried in the Base Bid and provided on the Bid Form.

1.3 SUBMITTALS

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

1.4 PROJECT CONDITIONS

A. Sections of the existing interior finish ceiling systems will require removal. These areas should be reviewed with Owner prior to removal. Work areas shall be clearly defined and closed-off from building occupants. Areas of ceiling removal shall be as small as possible to effectively install the work. Any adjacent ceilings damaged during installation shall be repaired or replaced by the Contractor at no cost to the Owner.

B. Existing roof drain outlet diameters vary. Contractor shall confirm conditions prior to ordering materials.

C. The plumbing work shall be coordinated with roof work in such a manner that drain bowl assemblies are installed concurrently with the roofing and that no interior portions of the building are left exposed to the elements at the end of a day's work. Install replacement and augmenting drain bowl assemblies before new roofing is in place.

D. The Contractor shall provide all rooftop protection for new and existing roofs.

E. All plumbing work shall be performed by a licensed plumber in accordance with the National Standard Plumbing Code (NSPC).
PART 2 - PRODUCTS

2.1 ROOF DRAIN COMPONENTS

A. Roof drain: Coated cast iron with bottom outlets, large-sump style, with wide roof flanges, such as "Series 21500" manufactured by Josam Company, or approved equal. Outlet diameters shall match the existing leader pipe diameters.

B. Drain strainers: Coated cast iron of suitable size and configuration to be installed on the new drain bowl assemblies.

C. Clamping rings: Non-puncturing type, with integral gravel stops, either coated cast iron or stainless steel, sized to match the drain bowls. Bolts, nuts, and washers required for securement of clamping rings to drain bowls shall be stainless steel.

D. Underdeck clamps: Coated cast iron, provided by the drain bowl manufacturer for application beneath roof decks.

2.2 ACCESSORIES

A. Leader pipe: Coated cast iron, conforming to ASTM A74 specifications. Pipe and connections shall be sized to tie into existing leader piping.

B. Drain bowl to leader pipe connections: 4 band, no hub, neoprene connections.

C. Hangers and fittings: Conforming to Manufacturer’s Standardization Society of Valve and Fittings Industry (MCC) SP-58 and SP-59 guidelines. Hangers and strapping material shall be of approved material that will not promote galvanic reaction. Cast iron fittings shall conform to the American Society of Mechanical Engineers (ASME) B16.4 and B16.12.

D. Fasteners for securing drain stiffening plates to cementitious woodfiber decks: 1/4-inch diameter toggle bolts, carbon steel with factory treated fluorocarbon coating or stainless steel.

E. Steel plate for drain bowl locations shall be minimum 24 gauge hot dipped galvanized plate as provided by the drain bowl manufacturer. Plate shall be a minimum size of 16-inches x 16-inches with central hole of suitable size to receive new drain bowl.

F. Insulation for drain bowls and leader piping: Fibrous glass batt type with premolded PVC jackets. Insulation shall be minimum 1-inch thick.

PART 3 - EXECUTION

3.1 PREPARATION

A. The Owner shall be notified at least 72 hours prior to all underdeck work. All materials, equipment and daily clean-up shall be the responsibility of the Contractor.
B. All flashing-in of the roof drains and membrane repairs as a result of the plumbing work shall be the responsibility of and provided for by the Contractor.

C. The Contractor is cautioned to investigate all existing conditions and materials of construction. All replacement items must be completely compatible with and match the existing system.

D. Comply with Division 1 GENERAL REQUIREMENTS for preparation, protection and clean-up of interior and exterior work areas.

3.2 CEILING REMOVAL

A. Do not remove any ceiling areas without the prior approval of the Owner and Owner's Representative. The limits of ceiling removal to facilitate installation of the new plumbing work shall be clearly defined. All precautions shall be taken to protect the building interior and occupants during ceiling removal and replacement.

B. Do not damage or cut any of the ceiling support system without the Owner's and Owner's Representative's approval. Should the support system be damaged or removed to facilitate plumbing work installation, it shall be replaced with a new support system equal to the existing, at no additional cost to the Owner.

C. All floor and adjacent areas, both interior and exterior, damaged or stained by the installation of the plumbing work shall be cleaned of all dust, debris and any other materials to the Owner's satisfaction.

3.3 DRAIN BOWL ASSEMBLY INSTALLATION

A. Install new roof drains such that the bowl flange with clamping ring and integral gravel stop are at deck level (see Detail Drawings for assembly position).

B. Core existing decking where augmenting roof drains are to be installed.

C. Provide manufacturer supplied, prefabricated, galvanized steel plate over opening. Mechanically attach plate to steel deck with specified fasteners, 2 per side.

D. Make drain to leader connections watertight and of proper strength using no hub connections.

E. Install drain bowl insulation and PVC jackets. Join sections with tape or other methods indicated by the manufacturer. Extend insulation to the first elbow or 2-feet.

F. Drain components shall be completed and flashed in the same day's operation.

G. Check all drain joints with a water test once the roofing and flashing are completed.
3.4 INSTALLATION OF LEADER PIPE
   A. Install new leader pipe, connections, and hangers in accordance with BOCA National Plumbing Code.
   B. Mechanical joint coupling shall be used only to tie new leader piping to existing drain leaders. Mechanical joint couplings shall be installed in accordance with manufacturer’s instructions.
   C. New leader piping shall slope at 1/8-inch per foot.
   D. Hangers shall be spaced 5 feet maximum for horizontal leader runs and 10 feet maximum for vertical leader runs.
   E. Pipes shall be sited to run adjacent to structural steel framing components. Do not cut holes through structural members to facilitate installation.
   F. Insulate new piping with PVC clad fiberglass insulation. Provide 1-inch high block letters at 3-foot spacing indicating piping as "storm water" piping.

3.5 CLEANING OF DRAINAGE SYSTEM
   A. Once the new roof system has been installed, clear all roof drain leader piping and underground leaders of debris and clogs such that the system is free-flowing.
   B. The Contractor shall clear the existing leader pipe with rooter-type equipment from the roof deck level to the point where the drain pipes exit the building.

3.6 WATER TESTS
   A. Perform water tests on roof drain assemblies, including leader piping, and on gutter assemblies and scuppers. Using 3/4-inch garden hose, run water into the drainage components for thirty minutes. Inspect all drainage components for leakage and repair as required. Inform Owner of test findings.

END OF SECTION 221426.13
SECTION 230510 - MECHANICAL/ELECTRICAL GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies requirements for the following Scope of Work:
1. Mechanical disconnection, extension, shortening, and/or reconnection shall be performed in accordance with the International Mechanical Code.
2. Electrical disconnection, extension, shortening, and/or reconnection shall be performed in accordance with the National Electrical Code.
3. Plumbing work shall be performed in accordance with the National Standard Plumbing Code.
4. Details, not shown or specified but necessary for proper installation and operation shall be included within the work as though specified herein.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 GENERAL

A. Mechanical, electrical, and associated work shall be performed by licensed tradesman and shall comply with the applicable code requirements
B. Wherever possible match the existing mechanical and electrical components; replace in kind when made necessary by roofing operations.
C. Lengthening and installation of additional connections for ducts, conduits, control wiring, condensate pipes and similar mechanical and electrical work made necessary by roof replacement work shall be performed by the Contractor.
D. Handle, store, and protect equipment and materials to prevent damage before and during installation.

END OF SECTION 230510
ATTACHMENT
FULL SIZE DRAWINGS
# ROOF REPLACEMENT

**CONSTRUCTION DOCUMENTS**

**UMBC - MATH/PSYCHOLOGY BUILDING**

**1000 HILLTOP CIRCLE**

**Baltimore, Maryland 21250**

**Project Identification: PRF 09-124**

## PREPARED FOR

**University of Maryland, Baltimore County**

**Department of Facilities Management**

**1000 Hilltop Circle**

**Baltimore, MD 21250**

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<table>
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</tr>
</thead>
<tbody>
<tr>
<td>G-001</td>
<td>1 OF 14</td>
<td>COVER SHEET</td>
</tr>
<tr>
<td>G-002</td>
<td>2 OF 14</td>
<td>STANDARD ABBREVIATIONS, LEGEND, SYMBOLS AND GENERAL NOTES</td>
</tr>
<tr>
<td>C-101</td>
<td>3 OF 14</td>
<td>SITE PLAN</td>
</tr>
<tr>
<td>A-101</td>
<td>4 OF 14</td>
<td>ROOF AREA PLAN - EXISTING CONDITIONS</td>
</tr>
<tr>
<td>A-102</td>
<td>5 OF 14</td>
<td>ROOF AREA PLAN - NEW CONSTRUCTION</td>
</tr>
<tr>
<td>A-201</td>
<td>6 OF 14</td>
<td>RISING WALL ELEVATIONS</td>
</tr>
<tr>
<td>A-202</td>
<td>7 OF 14</td>
<td>RISING WALL ELEVATIONS</td>
</tr>
<tr>
<td>A-301</td>
<td>8 OF 14</td>
<td>EXISTING AND NEW ROOF CROSS SECTIONS</td>
</tr>
<tr>
<td>A-401</td>
<td>9 OF 14</td>
<td>CONCEPTUAL TAPERED ROOF AREA PLAN</td>
</tr>
<tr>
<td>A-501</td>
<td>10 OF 14</td>
<td>TYPICAL FLASHING DETAILS</td>
</tr>
<tr>
<td>A-502</td>
<td>11 OF 14</td>
<td>DETAILS - EXISTING CONDITIONS</td>
</tr>
<tr>
<td>A-503</td>
<td>12 OF 14</td>
<td>DETAILS - NEW CONSTRUCTION</td>
</tr>
<tr>
<td>A-504</td>
<td>13 OF 14</td>
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</tr>
<tr>
<td>A-505</td>
<td>14 OF 14</td>
<td>DETAILS - NEW CONSTRUCTION</td>
</tr>
</tbody>
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Boston, Baltimore, Orlando, San Francisco

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**Location Map - Campus**
EXISTING CONDITIONS

NEW CONSTRUCTION

REMOVED ALL ITEMS UNLESS DESIGNATED TO REMAIN

ALL ITEMS ARE NEW UNLESS DESIGNATED AS EXISTING (EXIST)
REMOVE ALL ITEMS UNLESS DESIGNATED TO REMAIN