

SUBMIT BID TO:
UNIVERSITY OF FLORIDA
PROCUREMENT SERVICES
971 ELMORE DRIVE
PO BOX 115250
GAINESVILLE, FL 32611-5250
 Phone: (352) 392-1335 - FAX: (352) 392-8837
 Web Address: <https://procurement.ufl.edu/>

UF UNIVERSITY of FLORIDA
INVITATION TO BID
Commodity
Acknowledgment Form

Page 1 of 45 Pages		BID WILL BE OPENED ON March 30, 2018, at 2:00 P.M. local time and may not be withdrawn within 45 days after such date and time. Questions are due by close of business on March 20, 2018. Mandatory pre-bid will be held March 14, 2018 at 10:00 AM local time at the site.	BID NO.: ITB18KO-129
UNIVERSITY MAILING DATE: 3/8/2018		PURCHASING AGENT KO/jh	BID TITLE: Beaty East – Clean, Point and Seal
VENDOR NAME			
VENDOR MAILING ADDRESS		REASON FOR NOT SUBMITTING BID	
CITY - STATE - ZIP CODE		POSTING OF BID TABULATIONS	
AREA CODE	TELEPHONE NO.	Bid tabulations with intended award(s) will be posted electronically for review by interested parties at www.purchasing.ufl.edu and will remain posted for a period of 72 hours excluding Saturdays, Sundays, or state holidays. Failure to file a protest in accordance with Board of Governors (BOG) Regulation 18.002 or failure to post the bond or other security as required in the BOG regulations 18.002 and 18.003(3), shall constitute a waiver of protest proceedings.	
	FAX NO.		
	WEB ADDRESS		
	EMAIL ADDRESS		

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a bid for the same materials, supplies, or equipment and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this bid and certify that I am authorized to sign this bid for the vendor and that the vendor is in compliance with all the requirements of the Invitation to Bid, including but not limited to, certification requirements. In submitting a bid on behalf of the Board of Trustees, hereinafter known as the University, the vendor offers and agrees that if the bid is accepted the vendor will convey, sell, assign, or transfer to the University all rights, title and interest in and to all causes of action it may now or hereafter acquire under the Anti-trust laws of the United States and the University for price fixing relating to the particular commodities or services purchased or acquired by the University. At the University's discretion, such assignment shall be made and become effective at the time the purchasing agency tenders final payment to the vendor.

 AUTHORIZED SIGNATURE (MANUAL)

 NAME AND TITLE (TYPED)

GENERAL CONDITIONS

SEALED BIDS: All bid sheets and this form must be executed and submitted in a sealed envelope. (DO NOT INCLUDE MORE THAN ONE BID PER ENVELOPE.) The face of the envelope shall contain, in addition to the above address, the date, and time of the bid opening and the bid number. Bids not submitted on the attached bid form shall be rejected. All bids are subject to the conditions specified herein. Those which do not comply with these conditions are subject to rejection.

1. **EXECUTION OF BID:** Bid must contain an original manual signature of authorized representative in the space provided above. Bid must be typed or printed in ink. Use of erasable ink is not permitted. All corrections to prices made by vendor must be initialed.

2. **NO BID:** If not submitting a bid, respond by returning only this vendor acknowledgment form, marking it "NO BID", and explain the reason in the space provided above. Failure to respond to a procurement solicitation without giving justifiable reason for such failure, nonconformance to contract conditions, or other pertinent factors deemed reasonable and valid shall be cause for removal of the supplier's name from the bid mailing list. NOTE: To qualify as a respondent, vendor must submit a "NO BID", and it must be received no later than the stated bid opening date and hour.

3. **BID OPENING:** Shall be public, on the date, location and the time specified on the bid form. It is the vendor's responsibility to assure that the bid is delivered at the proper time and place of the bid opening. Bids which for any reason are not so delivered will not be considered. A bid may not be altered after opening of the bids. NOTE: Bid tabulations will be posted electronically at www.purchasing.ufl.edu. Bid tabulations will not be provided by telephone.

4. **PRICES, TERMS AND PAYMENT:** Firm prices shall be bid and will include all packing, handling, shipping charges, and delivery to the destination shown herein.

(a) **TAXES:** The University does not pay Federal Excise and Sales taxes on direct purchases of tangible personal property or services. The Florida Tax Exempt Number is 11-06-024056-57C. This exemption does not apply to purchases of tangible personal property or services made by vendors who use the tangible personal property or services in the performance of contracts for the improvement of University-owned real property as defined in Chapter 192, F.S.

(b) **DISCOUNTS:** Vendors are encouraged to reflect trade discounts in the unit prices quoted; however, vendors may offer a discount for prompt payment. Prompt

payment discounts will not be considered in the bid award. However, every effort will be made to take the discount within the time offered.

(c) **MISTAKES:** Vendors are expected to examine the specifications, delivery schedule, bid prices, extensions, and all instructions pertaining to supplies and services. Failure to do so will be at vendor's risk. In case of a mistake in extensions the unit price will govern.

(d) **INVOICING AND PAYMENT:** Payment will be made by the University of Florida after the items awarded to a vendor have been received, inspected, and found to comply with award specifications, free of damage or defect and properly invoiced. All invoices shall bear the purchase order number. Payment for partial shipments shall not be made unless specified. An original invoice shall be submitted. Failure to follow these instructions may result in delay in processing invoices for payment. Payment shall be made in accordance with Section 215.422 (1) (2) F.S. **VENDOR OMBUDSMAN:** The University's vendor ombudsman, whose duties include acting as an advocate for vendors may be experiencing problems in obtaining payment from the University, may be contacted at 352-392-1241.

(e) **ANNUAL APPROPRIATIONS:** The University's performance and obligation to pay under any contract awarded is contingent upon an annual appropriation by the Legislature.

(f) **CONDITION AND PACKAGING:** It is understood and agreed that any item offered or shipped as a result of this bid shall be a new, current standard production model available at the time of this bid. All containers shall be suitable for storage or shipment, and all prices shall include standard commercial packaging.

(g) **SAFETY STANDARDS:** Unless otherwise stipulated in the bid, all manufactured items and fabricated assemblies shall comply with applicable requirements of Occupational Safety and Health Act and any standards hereunder.

5. **CONFLICT OF INTEREST:** The award hereunder is subject to the provisions of Chapter 112, F.S. All vendors must disclose with their bid the name of any officer, director, or agent who is also an employee of the University of Florida. Further, all vendors must disclose the name of any University employee who owns, directly or indirectly, an interest of five percent (5%) or more in the vendor's firm or any of its branches.

6. **AWARDS:** As the best interest of the University may require, the right is reserved to make award(s) by individual item, group of items, all or none or a combination thereof; to reject any and all bids or waive any minor irregularity or technicality in bids received. When it is determined there is no competition to the lowest responsible

vendor, evaluation of other bids are not required. Vendors are cautioned to make no assumptions unless their bid has been evaluated as being responsive.

7. INTERPRETATIONS/DISPUTES: Any questions concerning conditions or specifications shall be directed in writing to the Purchasing Department. Inquiries must reference the date of bid opening and bid number. No interpretations shall be considered binding unless provided in writing by the University in response to requests in full compliance with this provision.

8 NOTICE OF BID PROTEST BONDING REQUIREMENT; Any person or entity who files an action protesting a decision or an intended decision pertaining to a competitive solicitation shall at the time of filing the formal protest, post with the University a bond payable to the University in an amount equal to: 10% of the estimated value of the protester's bid or proposal; 10% of the estimated expenditure during the contract term; \$10,000.00; or whichever is less. The bond shall be conditioned upon the payment of all costs which may be adjudged against the person or entity filing the protest action. In lieu of a bond, the University may accept a cashier's check, bank official check or money order in the amount of the bond. FAILURE OF THE PROTESTING PERSON OR ENTITY TO FILE THE REQUIRED BOND, CASHIER'S CHECK, BANK OFFICIAL CHECK OR MONEY ORDER AT THE TIME OF THE FILING THE FORMAL PROTEST SHALL RESULT IN DENIAL OF THE PROTEST.

9. GOVERNMENTAL RESTRICTIONS: In the event any governmental restrictions may be imposed which would necessitate alteration of the material, quality, workmanship or performance of the items offered in this bid prior to their delivery, it shall be the responsibility of the successful vendor to notify the purchaser at once, indicating in writing the specific regulation which requires an alteration. The University reserves the right to accept any such alteration, including any price adjustments occasioned thereby, or to cancel the contract at no expense to the University.

10. LEGAL REQUIREMENTS: Applicable provision of all Federal, State, county and local laws, and of all ordinances, rules and regulations shall govern development, submittal and evaluation of all bids received in response hereto and shall govern any and all claims and disputes which may arise between person(s) submitting a bid response hereto and the University, by and through its officers, employees and authorized representatives, or any other person, natural or otherwise: and lack of knowledge by any vendor shall not constitute a cognizable defense against the legal effect thereof.

11. LOBBYING: Vendor is prohibited from using funds provided under any contract or purchase order for the purpose of lobbying the Legislature or any official, officer, commission, board, authority, council, committee, or department of the executive branch or the judicial branch of state government.

12. ADVERTISING: In submitting a bid, the vendor agrees not to use the results therefrom as a part of any commercial advertising. Vendor may not use the names, logos, or trademarks of the University, its employees, or affiliates without the prior written consent of the University.

13. ASSIGNMENT: Any contract or purchase order issued pursuant to this Invitation to Bid and the monies which may become due hereunder are not assignable except with the prior written approval of the purchaser.

14. LIABILITY: The vendor agrees to indemnify and save the University of Florida, the State of Florida and the Florida Board of Governors, their officers, agents, and employees harmless from any and all judgments, orders, awards, costs and expenses, including attorney's fees, and also all claims on account of damages to property, including loss of use thereof, or bodily injury (including death) which may be hereafter sustained by the vendor, its employees, its subcontractors, or the University of Florida, the State of Florida and the Florida Board of Governors, their officers, agents, or employees, or third persons, arising out of or in connection with any contract awarded and which are the result of the vendor's breach of contract or of the negligent acts of the vendor, its officers, agents, and employees. This clause does not apply to contracts between government agencies.

15. FACILITIES: The University reserves the right to inspect the vendor's facilities at any time with prior notice.

16. ADDITIONAL QUANTITIES: For a period not exceeding ninety (90) days from the date of acceptance of any offer by the University of Florida, the right is reserved to acquire additional quantities up to but not exceeding those shown on bid or the bid level at the prices bid in this invitation. If additional quantities are not acceptable, the bid sheets must be noted "BID IS FOR SPECIFIED QUANTITY ONLY".

17. SERVICE AND WARRANTY: Unless otherwise specified, the vendor shall define any warranty service and replacements that will be provided during and subsequent to this contract. Vendors must explain on an attached sheet to what extent warranty and service facilities are provided.

18. SAMPLES: Samples of items, when called for, must be furnished free of expense, on or before bid opening time and date, and if not destroyed, may upon request, be returned at the vendor's expense. Each individual sample must be labeled with vendor's name, manufacturer's brand name and number, bid number and item reference. Request for return of samples shall be accompanied by instructions which include shipping authorization and name of carrier and must be received with the bid. If instructions are not received within this time, the commodities shall be disposed of by the University.

19. INSPECTION, ACCEPTANCE AND TITLE: Inspection and acceptance will be at destination unless otherwise provided. Title and risk of loss or damage of all items shall be the responsibility of the contract supplier until accepted by the University, unless loss or damage results from negligence by the University. The contract supplier

shall be responsible for filing, processing and collecting all damage claims. However, to assist him in the expeditious handling of damage claims, the University will:

- (a) Record any evidence of visible damage on all copies of the delivering carrier's Bill of Lading.
- (b) Report damage (Visible or Concealed) to the carrier and contract supplier confirming such reports in writing within 15 days of delivery, requesting that the carrier inspect the damaged merchandise.
- (c) Retain the item and its shipping container, including inner packing material until inspection is performed by the carrier, and disposition given by the contract supplier.
- (d) Provide the contract supplier with a copy of the carrier's Bill of Lading and damage inspection report.

20. PATENTS, COPYRIGHTS, TRADEMARKS, ROYALTIES and other Intellectual Property: The vendor, without exception, shall indemnify and save harmless the University and its employees from liability of any nature or kind, including cost and expenses for or on account of any copyrighted, patented, or unpatented invention, process, or article manufactured or used in the performance of the contract, including its use by the University of Florida. If the vendor uses any design, device, or materials covered by letters, patent or copyright, it is mutually agreed and understood without exception that the bid prices shall include all royalties or costs arising from the use of such design, device, or materials in any way involved in the work.

21. CONFLICT BETWEEN DOCUMENTS: If any terms and conditions contained within the documents that are a part of this ITB or resulting contract are in conflict with any other terms and conditions contained therein, then the various documents comprising this ITB or resulting contract, as applicable, shall govern in the following order of precedence: change order, purchase order, addenda, special conditions, general conditions, specifications, departmental description of work, and bid.

22. MANUFACTURERS' NAMES AND APPROVED EQUIVALENTS: Any manufacturer's names, trade names, brand names, information and/or catalog numbers listed in a specification are for information and not intended to limit competition. If bids are based on equivalent products, indicate on the bid form the manufacturer's name and number. Vendor shall submit with the bid, cuts, sketches, and descriptive literature, and/or complete specifications. Reference to literature submitted with a previous bid will not satisfy this provision. The vendor shall also explain in detail the reasons why the proposed equivalent will meet the specifications and not be considered an exception thereto. The University of Florida reserves the right to determine acceptance of item(s) as an approved equivalent. Bids which do not comply with these requirements are subject to rejection. Bids lacking any written indication of intent to quote an alternate brand will be received and considered in complete compliance with the specifications as listed on the bid form.

23. NONCONFORMANCE TO CONTRACT CONDITIONS: Items may be tested and/or inspected for compliance with specifications by any appropriate testing facilities. Should the items fail, the University may require the vendor to reimburse the University for costs incurred by the University in connection with the examination or testing. The data derived from any tests for compliance with specifications are public records and open to examination thereto in accordance with Chapter 119, F.S. Items delivered not conforming to specifications may be rejected and returned at vendor's expense. These items and items not delivered as per delivery data in bid and/or purchase order may result in vendor being found in default in which event any and all procurement costs may be charged against the defaulting vendor. Any violation of these conditions may also result in the vendor's name being removed from the University of Florida's vendor file.

24. PUBLIC RECORDS: Any material submitted in response to this Invitation to Bid will become a public document pursuant to Section 119.07 F.S. This includes material which the responding vendor might consider to be confidential or a trade secret. Any claim of confidentiality is waived upon submission, effective after opening pursuant to Section 119.07 F.S.

25. DELIVERY: Unless actual date of delivery is specified (or if specified delivery cannot be met), show number of days required to make delivery after receipt of purchase order in space provided. Delivery time may become a basis for making an award (see Special Conditions). Delivery shall be within the normal working hours of the University of Florida, Monday through Friday, unless otherwise specified.

26. PUBLIC PRINTING - PREFERENCE GIVEN PRINTING WITHIN THE STATE: The University of Florida shall give preference to vendors located within the state when awarding contracts to have materials printed, whenever such printing can be done at no greater expense than, and at a level of quality comparable to, that obtainable from a vendor located outside of the state.

- (a) **CONTRACTS NOT TO BE SUBLET:** In accordance with Class B Printing Laws and Regulations "Printing shall be awarded only to printing firms. No contract shall be awarded to any broker, agent, or independent contractor offering printing manufactured by other firms or persons."
- (b) **DISQUALIFICATION OF VENDOR:** Reasonable grounds for believing that a vendor is involved in more than one bid for the same work will be cause for rejection of all bids in which such vendors are believed to be involved. Any or all bids will be rejected if there is reason to believe that collusion exists between vendors. Bids in which the prices obviously are unbalanced will be subject to rejection.
- (c) **TRADE CUSTOMS:** Current trade customs of the printing industry are recognized unless accepted by Special Conditions or Specifications herein.
- (d) **COMMUNICATIONS:** It is expected that all materials and proofs will be picked up and delivered by the printer or his representative, unless otherwise specified. Upon request, materials will be forwarded by registered mail.
- (e) **RETURN OF MATERIAL:** All copy, photos, artwork, and other materials supplied by the University of Florida must be handled carefully and returned in good condition upon completion of the job. Such return is a condition of the contract and payment will not be made until return is affected.

END OF SECTION

PROJECT MANUAL

PROJECT: **Beaty East - Clean, Point and Seal**

BUILDING NUMBER: 751

PROJECT NO: HS18307-751

DATE: 2/23/18

PREPARED BY: CHAD WORLEY

PREPARED FOR: UNIVERSITY OF FLORIDA
DEPARTMENT OF HOUSING AND RESIDENCE EDUCATION
PO BOX 112100
GAINESVILLE, FLORIDA 32611-2100

SECTION 00002 - PROJECT DIRECTORY

OWNER: UNIVERSITY OF FLORIDA BOARD OF TRUSTEES

REPRESENTED BY: THE UNIVERSITY OF FLORIDA
DEPARTMENT OF HOUSING AND RESIDENCE EDUCATION
PO BOX 112100
GAINESVILLE, FLORIDA 32611-2100

PROJECT MANAGER: HANS PFALZGRAF

PROCUREMENT AGENT: KAREN OLITSKY, PROCURMENT AGENT III
UNIVERSITY OF FLORIDA
PROCUREMENT SERVICES
PO BOX 115250 / 971 ELMORE DR
GAINESVILLE, FLORIDA 32611
kolitsk@ufl.edu / 352-294-1163

SECTION 00005 - TABLE OF CONTENTS

BIDDING AND CONTRACT REQUIREMENTS:

00002 Project Directory..... 4
00005 Table of Contents..... 5
00020 Invitation to Bid..... 6
00100 Instructions to Bidders 7
00310 Bid Forms..... 11
00430 Subcontractor Listing 13

GENERAL TERMS AND CONDITIONS

General Terms and Conditions (GTC-1 – GTC43): <http://facilities.ufl.edu/forms/contracts/GTC.pdf>

NON-TECHNICAL SPECIFICATIONS

Division 0: <http://facilities.ufl.edu/forms/contracts/Div0NonTechSpecs.pdf>
Division 1: http://facilities.ufl.edu/forms/contracts/Div1_NonTech_Specs_JULY_2017.pdf

TECHNICAL SPECIFICATIONS

01010 Summary of the Work 14
01100 Alternates 15
04000 General Masonry..... 16
04500 Brick Masonry Restoration and Cleaning..... 23
04510 Architectural Precast Stone Cleaning and Restoration..... 29
07120 Fluid-Applied Waterproofing 36
07900 Sealants and Caulking 38
09900 Painting 41

END OF SECTION

SECTION 00020 - INVITATION TO BID

The Invitation to Bid shall be in accordance with the University of Florida Procurement Services "Invitation to Bid Acknowledgement Form" with all relevant information provided therein.

END OF SECTION

SECTION 00100 - INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.1 RELATED SECTIONS:

- A. Documents affecting the work of this Section include, but are not necessarily limited to, the General Terms and Conditions, Non-Technical Division 0 and Division 1 Specifications, and other Sections of these Specifications.

1.2 THE WORK:

PROJECT TITLE: **Beaty East – Clean, Point and Seal**

1.3 SECURING DOCUMENTS:

Copies of the proposed Contract Documents may be obtained from:

University of Florida Procurement Services website.
<https://procurement.ufl.edu/vendors/schedule-of-bids/>

1.4 BID FORM:

In order to receive consideration, make bids in strict accordance with the following:

- A. Make bids upon the forms provided, properly signed and with all items completed. Do not change the wording of the bid form and do not otherwise alter or add words to the bid form. Unauthorized conditions, limitations, or provisions attached to the bid may be cause for rejection of the bid.
- B. Include with bid a completed and signed Invitation to Bid Construction Acknowledgment Form, completed and signed Section 00310 Bid Form and addenda acknowledgment (if applicable).
- C. Bids must be submitted no later than **March 30, 2018 at 2:00 PM**, local time. No bids received after the time fixed for receiving them will be considered. Late bids will be returned to the bidder unopened.
- D. Address bids to Karen Olitsky, Procurement Agent III, and deliver to:

University of Florida
Procurement Services
971 Elmore Drive / PO Box 115250
Gainesville, FL 32611-5250

Submit bid in a sealed envelope that includes the bid number, contractor name and date and time of the bid opening on the outside of the envelope. Submit one (1) original bid and one (1) electronic copy on flash drive or CD/DVD. It is the sole responsibility of the bidder to ensure that bids are received on time. **Faxed and/or emailed bids will not be accepted.**

1.5 PROOF OF COMPETENCY OF BIDDER:

A bidder may be required to furnish evidence, satisfactory to the Owner, that the bidder and the bidder's proposed subcontractors have sufficient means and experience, in the types of work called for, to assure completion of the Contract in a satisfactory manner.

1.6 WITHDRAWAL OF BIDS:

- A. A bidder may withdraw his bid, either personally or by written request, at any time prior to the scheduled time for opening bids.
- B. No bidder may withdraw his bid for a period of forty-five calendar days after the date set for opening thereof, and bids shall be subject to acceptance by the Owner during this period.

1.7 QUALIFICATION OF BIDDERS:

- A. A contract will be awarded only to a responsible bidder, qualified by experience and in a financial position to perform the work specified.
- B. If the bidder has not been pre-qualified with Procurement Services within the fiscal year (July 1 through June 30), the bidder will be required to submit the following evidence of eligibility prior to bid award:
 - 1. Evidence that bidder is licensed by the appropriate government agency to perform the work specified.
 - 2. Experience record showing bidder's training and experience in similar work. Bidder will have not less than five (5) years successful experience in comparable masonry restoration projects and employing personnel skilled in the restoration processes, such as, epoxy injection, polymer cement patching, casting, caulking, swing staging and other operations as indicated. In any stage of work being done, the contractor's and subcontractor's technician doing the work shall have five (5) years verifiable experience.
 - 3. List a brief description of projects of similar size and/or complexity, as mentioned above, satisfactorily completed, with location, dates of contracts, names of contracts, and names and addresses of owners.

1.8 SUBCONTRACTS:

If the Bidder intends to subcontract any of the Work:

- A. A list of all proposed subcontractors shall be provided with the bid for scopes/packages in excess of \$10,000. See Section 00430.
- B. Each subcontractor performing work in excess of \$10,000 must present evidence of being qualified in and licensed for the applicable trade. Such proof of subcontractor licensure shall be provided by the successful bidder after award, but prior to commencement of Work.

1.9 PERFORMANCE AND PAYMENT BOND:

See General Terms and Conditions.

1.10 BID DEPOSIT:

Not required.

1.11 AWARD OR REJECTION OF BIDS:

- A. The Contract, if awarded, will be awarded to the responsible bidder who has proposed the lowest base bid and alternate(s), subject to the owner's right to reject any or all bids and to waive

informality and irregularity in the bids and in the bidding.

- B. Alternates may be accepted in any order or not at all. Acceptance or rejection of alternates will be at the owner's sole discretion.

1.12 MANDATORY PRE-BID CONFERENCE:

A mandatory Pre-Bid Conference will be held prior to the scheduled bid opening for the purpose of considering questions posed by bidders. The conference will be open to interested bidders, prospective subcontractors, and any other interested parties. This conference will be held **March 14, 2018 at 10:00 AM local time at Beaty Service Building, 1308 Diamond Road**. The meeting will begin promptly at 10:00 AM. Vendors arriving late will not be allowed entry.

1.13 EXECUTION OF AGREEMENT:

- A. A Purchase Order (P.O.) will be issued for purposes of fiscal encumbrance and payment. The P.O. itself serves as the form of contract.
- B. Prior to Bid Award, the Contractor is required to submit a list of any subcontractors that will perform a portion of the Work. Once submitted, this list cannot be changed without approval of the Housing Project Manager. (See also Section 00430, Paragraph 1.2)
- C. Upon notice of Bid Award, the bidder to whom the Contract is awarded shall deliver to UF Procurement Services, Certificates of Insurance and Performance and Payment Bonds as required by the Contract Documents.
- D. Bonds and Certificates of Insurance shall be approved by UF Procurement Services before the successful bidder may proceed with the Work.

1.14 INTERPRETATION OF CONTRACT DOCUMENTS PRIOR TO BIDDING:

- A. If any person contemplating submitting a bid for construction of the Work is in doubt as to the true meaning of any part of the Contract Documents, or finds discrepancies in or omissions from any part of the Contract Documents, s/he may submit a written request for interpretation thereof no later than close of business on **March 20, 2018**, to Karen Olitsky, Procurement Agent III, at kolitsk@ufl.edu. The person submitting the request shall be responsible for its prompt delivery.
- B. Interpretations or corrections of proposed Contract Documents will be made only by Addendum and will be available on the Procurement Services "Schedule of Bids" webpage <https://procurement.ufl.edu/vendors/schedule-of-bids/>. The Owner will not be responsible for any other explanations or interpretations of the proposed Contract Documents.

1.15 TIME OF COMPLETION:

Date of beginning, rate of progress and time for completion of Work for this Project are ESSENTIAL CONDITIONS of Contract. Successful Bidder hereby agrees that Work required by this Contract shall be commenced within ten (10) calendar days after issuance date of written Notice to Proceed; that all insurance and permits will be obtained; that all documents and notices will be filed; that all requirements as specified will be met. UF Housing intends to issue the Notice to Proceed on or before May 4, 2028. Work shall be prosecuted regularly, diligently and uninterruptedly at such rate of progress as will insure Substantial Completion of entire Project no later than July 23, 2018, and shall be finally completed within ten (10) calendar days after the date of Substantial Completion.

1.16 MANDATORY SITE VISIT:

The Contractor by his signature on his proposal, represents that he has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents.

1.17 LIQUIDATED DAMAGES:

In as much as failure to complete the project within the time fixed in the agreement will result in substantial injury to the Owner, and as damages arising from such failure cannot be calculated with any degree of certainty, it is hereby agreed that if the project is not substantially completed, according to the definition of "Substantial Completion" in the General Terms and Conditions, or within such further time, if any, as in accordance with the provisions of the contract documents shall be allowed for such Substantial Completion. The Contractor shall pay to Owner as liquidated damages for such delay, and not as a penalty, One Hundred Fifty Dollars (\$150.00) for each and every calendar day elapsing between the date fixed for Substantial Completion and the date such Substantial Completion shall have been fully accomplished. This provision of liquidated damages for delay shall in no manner affect the Owner's right to terminate the contract as provided in Article 22 of the General Terms and Conditions or elsewhere in the contract documents. The Owner's exercise of the right to terminate shall not release the Contractor from his obligation to pay said liquidated damages in the amounts set out in the Agreement.

It is further agreed that the Owner may deduct, from the balance retained by the Owner, the liquidated damages stipulated therein or such portion thereof as the said retained balance will cover.

END OF SECTION

00310 – BID FORM

BID PROPOSAL

FROM: _____
(Name of Bidder)

TO: UNIVERSITY OF FLORIDA PROCUREMENT SERVICES
971 Elmore Drive
P.O. Box 115250
Gainesville, Florida 32611-5250

The undersigned, hereinafter called "Bidder", having reviewed the Bid Documents for the Project entitled **ITB18KO-129, Beaty East – Clean, Point and Seal** and having visited and thoroughly inspected the site of the proposed Project and familiarized himself/herself with all conditions affecting and governing the construction of said Project, hereby proposes to furnish all labor, materials, equipment and other items, facilities and services for the proper execution and completion of the Project, in strict compliance with the Bid Documents, Addenda, and all other Documents relating thereto on file in Procurement Services, and, if awarded the Contract, to complete the said Work within the time limits called for in the Documents and as stated herein, for the sums as enumerated on this and the following pages:

BASE BID (NORTH AND SOUTH ELEVATION):

_____ Dollars

Figures: \$ _____

ADD ALTERNATE 1 (EAST ELEVATION):

_____ Dollars

Figures: \$ _____

ADD ALTERNATE 2 (WEST ELEVATION):

_____ Dollars

Figures: \$ _____

ADDENDA:

Receipt of the following Addenda to the Bid Documents is acknowledged:

ADDENDUM # _____ Dated _____

ADDENDUM # _____ Dated _____

ADDENDUM # _____ Dated _____

COMPLETION DATE:

All Work covered by the Bidding Documents, the foregoing Base Bid and Alternate Bids shall be completed and ready for Owner's occupancy as specified in the contract documents.

SIGNATURE:

I hereby certify that for all statements and amounts herein made on behalf of

(Name of Bidder)

a (Corporation) (Partnership) (Individual) organized and existing under the laws of the State of Florida, I have carefully prepared this Bid Proposal from Contract Documents described herein, I have examined Contract Documents and local conditions affecting execution of Work before submitting this Bid Proposal, I have full authority to make the statements and commitment herein and submit this Bid Proposal in (its) (their) behalf, and all statements are true and correct.

Signed and sealed this _____ day of _____, 2018.

(Signature of Bidder)

(Print Name/Title)

WITNESS:

(Signature of Witness)

(Print Name)

Address: _____

(City)

(State)

(Zip Code)

END OF SECTION

SECTION 00430 - SUBCONTRACTOR LISTING

PART 1 - GENERAL

1.1 RELATED SECTIONS:

- A. Documents affecting the work of this Section include, but are not necessarily limited to, the General Terms & Conditions, Non-Technical Divisions 0 and Division 1 Specifications, and other Sections of these Specifications.

1.2 SUBCONTRACTOR LISTS:

- A. Each bidder shall furnish with its bid a list of all subcontractors for subcontracted scopes/packages of work valued at more than \$10,000.
- B. This list shall identify – for each subcontracted package in excess of \$10,000 – the name and address of the proposed subcontractor and the approximate value of the subcontract.
- C. If the bidder does not intend to subcontract portions of the Work in amounts greater than \$10,000, then a statement to that effect shall be furnished with the bid.

END OF SECTION

SECTION 01010 - SUMMARY OF THE WORK

PART 1 - GENERAL

1.1 RELATED SECTIONS:

Documents affecting the work of this Section include, but are not necessarily limited to, the General Terms and Conditions, Non-Technical Division 0 and Division 1 Specifications, and other Sections of these Specifications.

1.2 DESCRIPTION OF WORK INCLUDED:

The work includes:

Provide all labor, material and equipment necessary to renovate the exterior pointing, sealing and casts in place post and beam, brick and general exterior of the entire north and south elevation of Beaty East Building 751 from the ground to the roofs gravel stop.

1. There is a **NEWER ROOF** on this building that will be protected.
2. Overhead protection with fence.
3. There are **CARD READERS** at each entrance that you will protect from water and dust at all times (**this is very important**).
4. Pressure wash and chemical clean the entire surface under this contract.
5. Total restoration of the columns and the entry on the north and south side. See section 04500.
6. Cleaning, restoration and painting of the exterior ceilings and walls at the entry area.
7. Repair and replace all spalled areas on cast in place concrete, to a minimum of 1" below surface.
8. Point and Tuck all failed mortar joints and replace up to 1200 square feet of brick in the entire work area.
9. Apply one coat of Thoroseal and one coat of Thro Pigmented Sealer to all cast in place concrete (color to match work that has been done).
10. Seal the entire work area with Prim-A-Pell H2O or approved equal.
11. All stages of the work will be inspected. If the work is covered with out the Project Mangers approval the work is subject to rejection.
12. This contract shall include a 2-year NO DOLLAR LIMIT warranty for the area of work under this contract to the owner, submitted with the close out documents. There will be an 18-month inspection from the contract completion date, with the contractor and the owner representative present, to determine the status of the warranted area.

This contract requires a swing stage to perform the work. The building will be occupied during the time of work. Provisions shall be made to protect all occupants below the work area.

END OF SECTION

01010-1

SECTION 01100 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED SECTIONS:

- A. Documents affecting the work of this Section include, but are not necessarily limited to, the General Terms and Conditions, Non-Technical Division 0 and Division 1 and other Sections in these Specifications.
- B. Some of the items mentioned in this Section are described further in pertinent other Sections of these Specifications.

1.2 DESCRIPTION:

A. WORK INCLUDED:

Provide alternative bid proposals as described in this Section.

B. PROCEDURES:

- 1. Provide alternate bids to be added to or deducted from the amount of the Base Bid if the corresponding change in scope is accepted by the Owner.
- 2. Include within the alternative bid prices all costs, including materials, installations, and fees.

PART 2 - ALTERNATE

2.1 SCHEDULE OF ALTERNATES:

A. Add Alternate No. 1 – East Elevation

- 1. Provide price for all labor, material and equipment necessary to renovate the exterior pointing, sealing and casts in place post and beam, brick and general exterior of the entire east elevation of Beaty East Building 751 from the ground to the roofs gravel stop per Technical Specifications provided herein.

B. Add Alternate No. 2 – West Elevation

- 1. Provide price for all labor, material and equipment necessary to renovate the exterior pointing, sealing and casts in place post and beam, brick and general exterior of the entire west elevation of Beaty East Building 751 from the ground to the roofs gravel stop per Technical Specifications provided herein.

END OF SECTION

SECTION 04000 - GENERAL MASONRY

PART 1 - GENERAL

1.1 SCOPE OF WORK:

The work includes:

Total exterior restoration of the entire north and south elevation of Beaty East Building 751 provide all labor materials and equipment necessary to, repair brick masonry, mortar joints and damaged cast in place concrete. Contractor is required to conduct sound test to confirm structural integrity of all cast in place concrete. Remove all delaminated concrete and unsound concrete from the concrete members suffering from rebar corrosion. This requires partial-depth patches. Exposed areas of rebar will be treated with OSPHO the same day it has been ground to prevent any reoccurring rust. Project Manager will have the final say on what stays and what removes. Sealing of repaired surface following completion of all repair work to the satisfaction of the owner.

These buildings will be occupied while work is being accomplished. Proper protection of occupants, buildings, equipment and vehicles shall be the responsibility of the Contractor.

Housing Project Manager must approve all phases of the restoration process prior to commencing with the next phase.

1.2 SUBMITTAL:

- A. **Product Data:** Submit manufacturer's technical data for each product indicated including recommendations for their application and use with contractor stamp and approval.
- B. **Shop Drawings:** Repairs noted and requiring new imbeds are to be submitted to Owner with shop drawings prior to repair. As built will be provided in the form of picture essays to the Owner.

1.3 QUALITY ASSURANCE:

- A. **Restoration Specialist:** Work must be performed by a firm having not less than 5 years successful experience in comparable masonry restoration projects and employing personnel skilled in the restoration processes such as epoxy injection, polymer cement patching, casting, caulking, swing staging and other operations as indicated. In any stage of work being done the contractor's and/or sub-contractor's technician doing the work shall have the 5 years verifiable experience. A list of past references will be required prior to bid award.

1.4 FIELD-CONSTRUCTED MOCK-UPS:

- A. Prior to start of general masonry/cast in place concrete restoration, prepare the following sample panels on the building where directed by Housing Project Manager. Obtain the Housing Project Manager's acceptance of visual qualities before proceeding with the work. Retain acceptable panels in undisturbed condition, suitably marked during construction as a standard for judging completed work.
- B. Division of Housing Project Manager must approve all phases of the restoration process prior to commencing with the next phase.

1.5 RESTORATION CLEANING:

- A. Demonstrate materials and methods to be used for cleaning each type of masonry cast in place concrete surface and condition on sample panels of approximately 25-sq. ft. in

area. Test adjacent non-masonry materials for possible reaction with cleaning materials. Allow a minimum of 7 calendar days after completion of sample cleaning to permit study of sample panels for negative reactions. (This will apply only if contractor submit's products other than specified.)

1.6 DELIVERY, STORAGE AND HANDLING:

- A. Deliver materials to the site in manufacturer's original and unopened containers and packing, bearing labels as to the type and names of products and manufacturers.
- B. A storage area will be set aside by Owner for use by Contractor if needed.

1.7 PROJECT REQUIREMENT:

- A. Clean brick masonry and cast in place in place concrete surface only when air temperatures are above 50 degrees and will remain above 50 degrees until masonry has dried out, but not less than 7 day after completion of cleaning.
- B. Contractor shall keep daily temperature and humidity, records when materials are being applied.

PART 2 - PRODUCTS AND MATERIALS

2.1 CAST IN PLACE CONCRETE SPALL REPAIR:

- A. OSPHO rust inhibitor coating
- B. EUCO ZINC PRIMER anti-corrosion primer
- C. Euclid concrete repair products (Verticoat) or five Star Structural Concrete V/C. No approved equal.
- D. EUCSHOT Silica Fume, Modified shotcrete. Typical application depths range from ½" to 6". This technique is not to be used for the 2 to 3" for the final surface material.

2.2 CEMENTIOUS COATING:

- A. Tinted, waterproof cementitious coating mixed with Acrylic polymer and installed in one coat, and one coat of Thoro Pigmented Sealer. Texture to match previously completed restoration.

- 1. Material: Thorseal with Acryl 60 color Peral Gray (No equals accepted.)

2.3 EPOXY INJECTION MATERIALS

- A. ACCEPTABLE MATERIALS AND PROCEDURES
 - 1. Sikadur 31, 35 and 52 Hi - Mod Gel, used in accordance with manufacture recommendation.
 - 2. Epoxy Injection such as Prime Rez High Mod may be used if the Housing Project Manager approves its use in specific locations, but the large majority of patches will require removal and replacement.

2.4 REINFORCING STEEL:

- A. Galvanized Reinforcing bars; ASTM A 615, GR. 60
- B. Galvanized Steel wire; ASTM A 82
- C. Re-bar shall be coated with Sika Armatec 110 EpoCem instead of galvanized.

2.5 REPLACEMENT PRECAST UNITS:

- A. Use materials and products to match existing.

2.6 MASONRY CLEANING AGENTS:

- A. Cleaning systems are described which will effectively remove paint coatings, atmospheric carbon and dirt, paint oxidation, embedded clay, soil and mud stains, rust, smoke, algae, tar and paint spill from older masonry surfaces and precast concrete. Selection of specific cleaners to be used will be dependent on the type of substrate and its condition and results of tests conducted at job site.
- B. Sandblasting and use of nonproprietary acids or chemicals powdered or liquid will not be permitted.
- C. Materials listed below for masonry cleaning are Sure Klean products as manufactured by Pro SoCo. Inc., and Manning Materials Corp. Equivalent products may be used upon approval by Housing Project Manager when demonstrated by a test sample to achieve required results. Unless otherwise indicated, dilute chemical cleaning materials with water to produce solutions of concentration indicated, but, not greater than recommended by chemical cleaner manufacturer.

Cleaning Materials:

- 1. Sure Klean 509 or 859 Paint Stripper, by Pro SoCo, Inc., for removal of graffiti, paint spills and paint splatters.
- 2. Sure Klean Restoration Cleaner, by Pro SoCo, Inc., or equal, for removing atmospheric carbon and dirt, paint oxidation, rust, smoke, algae, etc.
- 3. Max MP2107 General Purpose Cleaner, Max MP 2106 Fungus and Algae Remover or a combination of either using manufacturer's recommendation for solutions.

2.9 WATER REPELLANT:

- A. ACCEPTABLE PRODUCTS:
 - 1. Chemprobe Prime-A-Pell H2O or approved equal.

PART 3 - EXECUTION

3.1 SAFETY:

- A. Contractor shall require applicators to observe federal, state, industry and manufacturers recommended safety regulations and precautions for all applications.

3.2 PREPARATION:

- A. Mask areas, materials and surfaces not receiving work of this Section to protect from

damage.

- B. Protect surrounding vehicles, persons, landscape and lawn areas from contact with cleaning solutions. Landscape and lawn areas may be protected by keeping them as wet as possible through use of lawn soaker hoses which provide a slow, but steady mist of water adjacent to masonry surfaces being cleaned.
- C. Non-masonry surfaces which are not to be replaced shall be protected from contact with all cleaning solutions. Glass, metal, wooden and painted surfaces shall be protected with sheets of polyethylene or other proven protective materials, firmly fixed and sealed to surface.
- D. Non-masonry surfaces which are not protected shall be kept running-wet with clean water throughout cleaning process of adjacent masonry. Any damage as a result of improper use of cleaning products will be the responsibility of the Contractor.
- E. Surfaces not to be cleaned shall be tested for possible detrimental effect of cleaning solutions and protected as determined necessary by test results.
- F. Open joints shall be temporarily caulked, or otherwise protected, to prevent intrusion of washing waters into wall structure or building interior.
- G. Dispose of run-off from cleaning operations by legal means and in a manner which prevents soil erosion, damage to landscaping, and water penetration into building interiors.
- H. Erect temporary protection covers at pedestrian walkways and vehicle operating areas, entrances & exits, which must remain in operation during masonry and restoration repairs.

3.3 RESTORATION CLEANING:

- A. Any dilution of cleaning materials will be with clean potable water in accordance with manufacturer's instructions printed on container label. Proceed with cleaning in an orderly manner; work from top to bottom of each scaffold width and from one end of each elevation to the other. Use only those cleaning methods indicated for each masonry material and location. Perform each cleaning method indicated in a manner which results in uniform coverage of all surfaces, including corners, moldings, etc., to produce an even effect without streaking or damage to masonry surfaces. Rinse off chemical residue and soil by working upwards from bottom to top of each treated area at each stage or scaffold setting.
- B. All surfaces shall be thoroughly pre-wet with clean water prior to application of cleaning materials (except those containing solvents, such as 509 Paint Stripper).
- C. The purpose of pre-wetting is to limit activity of cleaning solution to masonry surface and prevent cleaning solutions from being readily absorbed by dry masonry. Failure to adequately pre-wet may result in streaking and other residual staining of treated masonry.
- D. High pressure rinsing equipment shall be employed for pre-wetting and rinsing procedures. Pressures of 400 - 800 psi and flow rate of four to six gallons per minute have proved most effective. Or, use pressures applicable to the existing conditions or as recommended by manufacturer of product being applied.
- E. Do not apply cleaning materials by pressure application. This practice may drive cleaning compounds deep into masonry surface making it impossible to rinse treated surfaces free of cleaning residues.

- F. Paint stripper shall be employed for removal of graffiti, paint spills, high strength coatings, etc. in the following manner unless otherwise indicated by testing.
 - 1. Remove as much paint and stain matter as is practical with hand scrapers.
 - 2. Using natural fiber cleaning brush, roller or large paintbrush, apply heavy, thick coating of paint stripper to painted or stained areas.
 - 3. All paint stripper to remain until paint or stain "lifts" or shows signs of dissolving (typical dwell time is from 15 to 20 minutes).
 - 4. Rinse treated surfaces thoroughly with fresh water employing pressure washing equipment, removing all paint strippers and dissolved paint and stain matter.

- G. Restoration cleaning shall be employed for removal of atmospheric staining on masonry surfaces in the following manner unless otherwise indicated by testing or manufacturers recommendations:
 - 1. Thoroughly pre-wet masonry to be cleaned with fresh water.
 - 2. Apply cleaning solution liberally to masonry surface using low-pressure spray or densely packed soft fiber masonry washing brush
 - 3. Allow cleaning solution to remain on wall for three to five minutes depending upon drying conditions (do not allow cleaning solution to dry in) and manufacturer's recommendations.
 - 4. Reapply cleaning solution in a scrubbing manner using a brush for stubborn staining.
 - 5. Rise treated surfaces thoroughly with fresh water employing pressure-washing equipment, removing all cleaning compounds, dirt, etc.

- H. Removal of plant growth: Remove plant, moss, efflorescence scale and shrub growth completely from masonry surfaces prior to cleaning. Remove any loose soil debris from open masonry joints to whatever depth it occurs.

- I. Cast in Place concrete is to be cleaned thoroughly. Light grinding may be needed to touch up some areas if cleaning agents do not work to the satisfaction of the Owner. Any light grinding may be done after inspection and with the approval of the Housing Project Manager.

3.04 REPOINTING:

- A. Repoint damaged, missing, cracked, eroded, or loose areas of mortar.
- B. Cut out and remove damaged mortar. Existing sound mortar in good condition shall be left in place without alteration.
- C. Cut out all defective joints to minimum depth of ½ to one inch (1/2 inch minimum) or to sound mortar. Cut out mortar with "floor chisel" other suitable hand chisel and hammer, or by use of power tools with masonry saw blades. Immediately discontinue use of any power tools that damage brick units in any manner and use hand tools to finish work. Rake out joints to remove loose materials after cutting or chiseling.
- D. Remove loose or disintegrated mortar beyond the minimum dept.

- E. Contractor will exercise precaution to avoid damaging precast units when raking joints. Discontinue any work causing damage to precast units and consult Housing Project Manager on alternate procedures to be used to continue work.
- F. Remove mortar cleanly from joints, leaving square corners at back of cut mortar.
- G. Before filling rinse joints with a jet of water to remove loose particles and dust. When possible, rinse joints the day before filling joints to allow excess water to run off. At time of filling, joints shall be damp, but without standing water.
- H. Fill joints by holding plywood mortar at bottom of joints and pushing mortar into joint with pointing tool. Pointing tool shall be 1/16 inch narrower than joint being filled to achieve good compaction.
- I. Fill areas of joints having depths greater than ½ inch layers. Mortar shall be compacted tightly in joints to fill back corners. Each layer of mortar shall be thoroughly compacted and allowed to become thoroughly hard prior to application of next layer.
- J. After joint has been filled to uniform depth of approximately ½ inch, remaining mortar shall be placed in joint in three layers. First and second layers should each be about 3/16 inch thick (or 2/5 of total depth each) with final third layer the remaining 1/8 inch (or remaining 1/5 of joint depth). Compact each layer tightly in joint to fill back corners and matching the existing color.
- K. As soon as applied mortar has reached thumbprint hardness, apply additional layers of mortar as noted above to fill joint slightly recessed from outer surface of brick. Allow each layer to become stiff before applying subsequent layers.
- L. After final layer of mortar is thumbprint hard, tool to match the historic joints. New mortar shall be recessed slightly where old precast units have worn rounded edges to avoid a joint visually wider than historic joints.
- M. Remove excesses mortar from edge joint by brushing with a bristle brush.
- N. Age new mortar to match original by light brushing with stiff natural brush immediately after tooling.

3.5 SPALL REPAIR:

- A. Spalled areas of cast in place concrete units will be chipped back to sound substrate. If rear corrosion is present the concrete shall be chipped back around rear and all rust removed via mechanical cleaning and corrosion treatment equal to "Osoho" applied to all exposed metal. Any exposed rebar or rebar exposed during the demo process shall be ground back to a minimum of 1" below the surface. Patching materials to be applied in accordance with manufacturer instructions and finished with Vericoat Supreme to match existing contours and shapes. The matching of existing Cast in place concrete is mandatory.
- B. Reinforcing: If rebar has lost more than 50% of its original diameter, new galvanized steel rebar is to be added. Some additional corners or other precast units may require steel or wire where there was none before.
- C. Epoxy Injection: The majority of cracking and damage to precast stone will require taking broken cast in place concrete apart. However, in some situations epoxy injection may be allowed to make necessary repairs. Epoxy injections are to be done only by qualified

mechanics that can show experience in this type of work, as indicated in 1.3 of this Section. (The Housing Project Manager will have the final say when a crack requires removal or injection.)

- D. Epoxy Crack Repair: Cracks not caused by rust which can't be injected will be ground out 2" deep and filled to within ½" of the surface, with High Mod Gel Epoxy. Final ½" filled with grout or mortar to match existing.
- E. Casting: All required casting is to be done with high-strength non-shrink grout poured into forms. After setting, the cast piece will be finished and floated with a tinted thorseal.
- F. Precast Surfaces: All cast in place concrete surfaces shall be free from existing mortar buildup due to existing forming or sealing. This will be accomplished by using a hand held electric grinder.
- G. Water Repellant: Following approval by the Housing Project Manager of all repair work and cleaning of the building, Contractor is to apply an approved water repellant to the repaired and cleaned precast stones and masonry surfaces on exterior of the building according to the manufacturer's recommendations.
- H. Acceptable: Chemprobe Prime-A-Pell H2O or approved equal.
- I. Cementitious Coating: Following approval of spall and crack repairs all precast to receive one coat of thorseal, texture to be uniform. Following approval of thorseal one coat of pigmented sealer shall be applied, color and texture to be uniform.

3.5 CLEANING UP:

- A. Contractor will be responsible for removal and disposal of necessary masking materials following completion of restoration and cleaning operation. Windows and non-masonry areas shall be left clean.
- B. Residue washed from building surfaces will be swept or flushed away from surrounding sidewalk and service areas nightly. Premises shall be clean and neat at all times.
- C. Repointing work that is carefully executed will require little need for cleaning other than the small amount of mortar brushed from edge of joint following tooling. This type cleaning shall be done by a stiff bristle brush after mortar has dried, but before it is fully hardened (one to two hours).
- D. Mortar that has hardened will be removed with a wooden paddle or, if necessary, a chisel.
- E. Additional cleaning as may be required to remove mortar from face of precast will be accomplished with plain water and bristle brushes.
- F. Contractor will be responsible for removing and disposing of all concrete, brick parts, mortar parts, and other debris resulting from this work. University dumpsters are not to be used for disposal of debris or building materials of any kind.

END OF SECTION

SECTION 04500 - BRICK MASONRY RESTORATION AND CLEANING

PART 1 - GENERAL:

Inspect all brick masonry for defects in surface and mortar joints. Repair defective mortar joints, replace broken bricks, fill all voids and holes in brick and mortar and clean the entire surface with chemical cleaners as specified in Section 04500. Make repairs to headers and spalled areas as specified below.

1.01 SCOPE OF WORK:

- A. Clean all masonry surfaces.
- B. Repoint or rebuild damaged, missing, loose, cracked, disintegrating or deteriorated areas of exterior masonry surfaces and mortar joints.
- C. Remove and replace badly fractured missing and broken brick masonry units. Brick with minor damage (smaller than 1 inch diameters) may remain in place.
- D. Remove all anchors, screws, bolts and unused metal devices on exterior walls and windows. Seal all holes in brick and mortar with appropriate materials. Use tinted materials to match original surfaces.
- E. Repair or replace all fractured, eroded, damaged or sprawled cast in place concrete work, restoring them to original lines and grades. See Section 04500, 2.02 for material.
- F. Finish all cast in place concert with specified cementitious coating. See section 04500, 2.02,
- G. Seal finished building surface's using approved sealant. See section 07900 for approved sealants.

Housing Project Manager must approve all phases of the restoration process prior to commencing with the next phase.

1.02 SUBMITTALS:

- A. Shop drawings.
- C. List materials and methods to be used include specifications of materials.

1.03 QUALITY ASSURANCE:

- A. Masonry restoration and cleaning work will be performed by a firm having not less than five (5) years successful experience in compatible masonry restoration processes and operations as required for this project. In any stage of work being done the contractor and sub-contractor's technician doing the work shall have 5 years verifiable experience. A list of past references will be required prior to bid award.
- B. Restoration craftsmen will be competent and experienced with type of work they are performing and will demonstrate reasonable care during execution of this work and be must be on site at all times during the restoration process.
- C. The fundamental consideration for selection of appropriate cleaning procedures will be those materials and techniques adopted do minimal damage to masonry substrates while achieving desired degree of cleaning.

1.04 BRICKWORK MOCK-UP:

- A. Panel, approximately 2' x 4' in area of existing brick masonry shall be repointed to demonstrate joint preparation and repointing work. The panel will be located where directed by Housing Project Manager. Secure the Housing Project Manager's approval of mock-up, illustrating areas of joint preparation as well as finished repointed joints, will demonstrate the quality of work to be achieved on the entire project.

1.05 CLEANING TESTS:

- A. The Housing Project Manager will approve all test areas and application procedures prior to start of full-scale cleaning operations. Approved test areas will demonstrate quality of cleaning to be achieved on the entire project.
- B. Test areas will be cleaned with recommended cleaning materials, to prepare for inspection and approval by Housing Project Manager.
- C. Testing will be conducted on building exposure in unobtrusive location on representative staining conditions. Test will employ the cleaning agents and procedures proposed for general cleaning operation and will include evaluation of all surfaces to be cleaned.
- D. Samples of adjacent non-masonry materials will be tested for possible reaction with cleaning materials. Test procedures will include evaluation of materials and techniques proposed for protection of surrounding and adjacent non-masonry surfaces from cleaning solutions and rinse waters.
- E. A representative of the cleaning material manufacturer will be present during preparation and application of all test areas.

1.06 DELIVERY, STORAGE AND HANDLING:

- A. Deliver materials in manufacturer's original, unopened containers with labels intact and legible.
- B. Store and handle materials to prevent inclusion of foreign materials and damage by moisture.

1.07 PROJECT REQUIREMENTS:

- A. Protect windows, doorways, trim and other surfaces from damage and immediately remove stains, efflorescence, or other foreign materials resulting from the work of this section. Clean all windows at final stage of each drop.
- B. Prevent grouts or mortar from staining face of masonry to be left exposed or other finished surfaces. Immediately remove grout or mortar in contact with such surfaces.
- C. Protect and/or avoid contact with automobile and pedestrian traffic from cleaning solution.
- D. Aluminum, wood and painted surfaces will be protected from exposure to cleaning solution. Plants and shrubbery will also be protected.
- E. Cleaning solution applicators will wear safety equipment as recommended by product manufacturer.
- F. Masonry cleaning SHALL NOT be performed during winds sufficiently strong to spread the sprayed compound to adjacent unprotected surfaces.

- G. Masonry cleaning SHALL NOT be performed with temperature conditions that are not consistent with manufactures recommendations.

PART 2 - PRODUCTS AND MATERIALS:

2.01 MORTAR ADDITIVE:

- A. Type: Acrylic liquid
- B. Composition: Acrylic polymers and modifiers.
- C. Brick Bond Strength: 450 psi; ASTM C 321
- D. Color: Milky White, dries clear.
- E. Acceptable Manufacturers:
 - 1. Thoro Systems; ACRYL 60

2.02 MISCELLANEOUS MATERIALS:

- A. Brick: All color matches will be approved by the project manager.
- B. Hydrated lime: Conform to ASTM C 207, Type S, Hydrated Lime for Masonry Purposes.
- C. Portland Cement: Conform to ASTM C 150, Type II, with not more than 0.6 percent alkali (expressed as sodium oxide) or not more than 0.15 percent water - soluble alkalis by weight (in combination of lime and cement.) Provide white or natural color as required to match existing mortar color.
- D. Sand: Conform to ASTM C 144. Sand will be selected to match the original as closely as possible in color, size and texture to achieve a proper color match. If required to match existing color and texture, purchase sand from more than one source and thoroughly mix to match existing.
- E. Water: Clean, potable, free of oil and free of deleterious amounts of acids alkalies, or organic materials.
- F. Grout: Nonshrink, nonstaining, nonexpanding mixture.
 - 1. Acceptable Manufacturers: Thoro Systems, Thorite and Euclid Vertcoat
- G. Coloring Admix: Provide if required to match original mortar color. Obtain Housing project Manager's approval prior to using color admix.
- H. Brushes: Fiber bristle only.
- I. Precast Concrete Cleaner: Use a non-etching proprietary product that has no residual effect on surface or substrate of precast.
- J. Spray Equipment: Provide equipment for controlled spray application of water, if any at the rate indicated for pressure, measured at the spray tip, and for volume needed. For water applications provide a fan-shape spray tip which disperses water at an angle of not less than 15 degrees. For spray application of chemical cleaners provide a low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with cone-

shaped spray-tip.

- K. Galvanized Steel replacement lintel: None needed on this project
- L. Water Repellant: Acceptable Products: Chemprobe Prime-A-Pell H2O.
- M. Cast In Place concert: Acceptable Products: Verticoat, Eucoshot, Thoroseal, and ACRY60

2.03 MASONRY MORTAR MIXES:

- A. Do not lower the freezing point of mortar by use of admixtures or antifreeze agents.
- B. Mixing Mortars: Cementitious materials and aggregate will be mixed for at least three minutes with the maximum amount of water to produce a workable consistency in a mechanical batch mixer.
 - 1. Mix proprietary as recommended by manufacturer.

2.04 MASONRY MORTAR OR ALTERNATE MORTAR:

- A. Masonry Mortar: New mortar will match existing mortar as closely as possible, both visually and physically. Masons will experiment with mortar mixes, sand and cement to match new mortar to old mortar as closely as possible in color, texture and strength. New mortar will be no stronger than original mortar.
 - 1. Starting point for mortar mix will be approximately as follows:
 - Six parts hydrated lime
 - One part white portland cement
 - 12 parts sand
- B. Portland cement may be added to repointing mortar to increase workability and achieve whiteness in color; however, no more than 20 percent (one part cement to four parts lime) of total volume of lime and portland cement combined will be portland cement.
- C. Use one part bonding agent to two parts water in mortar mix.
- D. Confirm workability or plasticity of mortar as follows:
 - 1. Test mortar mix with a trowel held upside down and shaken once. Mortar should fall off after one shake.
 - 2. If mortar falls off without shaking, it has too much sand.
 - 3. If more than one shake is required for mortar to fall off, it is too sticky or "plastic" and lime content should be decreased.
- E. Match new mortar to old mortar, to project manager's satisfaction, as follows:
 - 1. Tuck point sample area and inspect for match in color and texture to match existing.
 - 2. Make additional samples as required to obtain a good match. Secure the approval by Housing Project Manager, of the mortar match, prior to Proceeding with work.

- F. Dry mortar ingredients will be measured by volume and thoroughly mixed before addition of any water. Make one cubic foot wood boxes for measuring volume, or provide other suitable means for controlling volume of mix materials. Add approximately five minutes. Add remaining water and bonding agent in small portions until desired consistency is reached. Total volume of water and the bonding agent may vary from batch to batch depending upon weather conditions.
- G. Use mortar within 20 minutes of final mixing. Retempering or addition of more water to mixture will not be permitted.
- H. Unspecified additives will not be used without approval of the Housing Project Manager.

PART 3 - EXECUTION:

3.01 INSTALLATION:

- A. All surfaces shall be pressure washed with a 3000psi rotary head.
- B. Where any metal rebar is exposed, the contractor shall grind and treat with "OSPHO" corrosion treatment and EUCON ZINC- PRIME

3.02 REPOINTING:

- A. Repoint damaged, missing, cracked, eroded, or loose areas of mortar.
- B. Cut out and remove damaged mortar. Existing sound mortar in good condition shall be left in place without alteration.
- C. Cut out all defective joints to minimum depth of ½ to one inch (½ inch minimum) or to sound mortar. Cut out mortar with "floor chisel," other suitable hand chisel and hammer, or by use of power tools with masonry saw blades. Immediately discontinue use of any power tools that damage brick units in any manner and use hand tools to finish work. Rake out to remove loose materials after cutting or chiseling.
- E. Remove loose or disintegrated mortar beyond minimum depth.
- E. Contractor will exercise precautions to avoid damaging precast units when raking joints. Discontinue any work causing damage to precast units and consult Housing Project Manager on alternate procedures to be used to continue work.
- F. Remove mortar cleanly from joints, leaving square corners at back of cut mortar.
- G. Before filling rinse joints with a jet of water to remove loose particles and dust. When possible, rinse joints the day before filling joints to allow excess water to run off. At time of filling, joints shall be damp, but without standing water.
- H. Fill joints by holding plywood mortar board at bottom of joints and pushing mortar into joint with pointing tool. Pointing tool shall be 1/16 inch narrower than joint being filled to achieve good compaction.
- I. Fill areas of joints having depths greater than ½ inch to depth of ½ inch by compacting in new mortar in 1/4 inch layers. Mortar shall be compacted tightly in joints to fill back corners. Each layers of mortar shall be thoroughly compacted and allowed to become thoroughly hard prior to application of next layer.

- J. After joint has been filled to uniform depth of approximately ½ inch, remaining mortar shall be placed in joint in three layers. First and second layers should each be about 3/16 inch thick (or 2/5 of total depth each) with final third layer the remaining 1/8 inch (or remaining 1/5 of joint depth). Compact each layer tightly in joint to fill back corners to match the existing color.
- K. As soon as applied mortar has reached thumb-print hardness, apply additional layers of mortar as noted above to fill joint slightly recessed from outer surface of brick. Allow each layer to become stiff before applying subsequent layers.
- L. After final layer of mortar is thumb-print hard, tool to match the historic joints. New mortar shall be recessed slightly where old precast units have worn rounded edges to avoid a joint visually wider than historic joints.
- M. Remove excess mortar from edge joint by brushing with a bristle brush.
- N. Age new mortar to match original by light brushing with stiff natural brush immediately after tooling.
- O. Cleaning Replacement Brick: Pre-wet brick, using approved cleansers and techniques as specified.

3.03 CLEANING UP:

- A. Contractor will be responsible for removal and disposal of necessary masking materials following completion of restoration and cleaning operation. Windows and non-masonry areas shall be left clean.
- B. Residue washed from building surface will be swept or flushed away from surrounding sidewalk and service areas nightly. Premises shall be clean and neat at all times.
- C. Repointing work that is carefully executed will require little need for cleaning other than the small amount of mortar brushed from edge of joint following tooling. This type cleaning will be done by a stiff bristle brush after mortar has dried, but before it is fully hardened (one to two hours).
- D. Mortar that has hardened will be removed with a wooden paddle or, if necessary, a chisel.
- E. Additional cleaning as may be required to remove mortar from face of precast will be accomplished with plain water and bristle brushes.
- F. Contractor will be responsible for removing and disposing of all concrete, brick parts, mortar parts, and other debris resulting from this work. He is not to use University dumpsters for disposal of debris or any building materials of any kind.

END OF SECTION

SECTION 04510 - ARCHITECTURAL PRECAST STONE CLEANING AND RESTORATION

PART 1 - GENERAL:

1.01 SUMMARY:

It is the intent of this specification to clean and remove all plant growth, efflorescence scaling. Restore in place, all pre cast concert to true lines and grades. Total exterior restoration of the north and south elevation of Beaty East Building 751.

Contractor is required to conduct a sound test and confirm structural integrity of all cast in place concert work. Remove all delaminated concrete and all unsound concrete beyond the concert members suffering from rebar corrosion often requires partial-depth patches. Project Manager will have the final say on what stays and what removes. Sealing of entire work area, following completion of all repair work to the satisfaction of the owner.

1.02 SUBMITTAL:

- A. **Product Data:** Submit manufacturer's technical data for each product indicated including recommendations for their application and use with contractor stamp and approval.
- B. **Shop Drawings:** Repairs noted and requiring new imbeds are to be submitted to Owner with shop drawings prior to repair. As-built will be provided in the form of picture essays to the Owner.

1.03 QUALITY ASSURANCE:

- A. **Restoration Specialist:** Work must be performed by a firm having not less than 5 years successful experience in comparable masonry restoration projects and employing personnel skilled in the restoration processes such as epoxy injection, polymer cement patching, casting, caulking and other operations as indicated. In any stage of work being done the contractor and sub-contractor's technician doing the work shall have the 5 years verifiable experience.

1.04 FIELD-CONSTRUCTED MOCK-UPS:

- A. Prior to start of general masonry/precast stone restoration, prepare the following sample panels on the building where directed by Housing Project Manager. Obtain the Housing Project Manager's acceptance of visual qualities before proceeding with the work. Retain acceptable panels in undisturbed condition, suitably marked during construction as a standard for judging completed work.
- B. **Housing Project Manager must approve all phases of the restoration process prior to commencing with the next phase.**

1.05 RESTORATION CLEANING:

- A. Demonstrate materials and methods to be used for cleaning each type of masonry, precast surface and condition on sample panels of approximately 25-sq. ft. in area. Test adjacent non-masonry materials for possible reaction with cleaning materials. Allow a minimum of 7 calendar days after completion of sample cleaning to permit study of sample panels for negative reactions.

1.06 DELIVERY, STORAGE AND HANDLING:

- A. Deliver materials to the site in manufacturer's original and unopened containers and

packing, bearing labels as to the type and names of products and manufacturers.

B. A storage area will be set aside by Owner for use by Contractor if needed.

1.07 PROJECT REQUIREMENT:

A. Clean masonry precast surface only when air temperatures are above 50 degrees and will remain above 50 degrees until masonry has dried out, but not less than 7 day after completion of cleaning.

B. Contractor shall keep daily temperature and humidity, records when materials are being applied.

PART 2 - PRODUCTS AND MATERIALS:

2.01 PRECAST SPALL REPAIR:

A. OSPHO rust inhibitor coating

B. EUCO ZINC PRIMER anti-corrosion primer

C. Euclid concrete repair products (Verticoat) or five Star Structural Concrete V/C. No approved equal.

D. EUCSHOT Silica Fume, Modified shotcrete. Typical application depths range from ½" to 6". This technique is not to be used for the 2 to 3"for the final surface material.

2.02 CEMENTIOUS COATING:

A. Tinted, waterproof cementitious coating mixed with Acrylic polymer and installed in two coats, Texture to match previously completed restoration.

1. Material: Thoroseal with Acryl 60 color Peral Gray (No equals accepted.)

2.03 EPOXY INJECTION MATERIALS

A. Acceptable materials and procedures:

1. Sikadur 31, 35 and 52 Hi - Mod Gel, used in accordance with manufacture recommendation.

2. Epoxy Injection such as Prime Rez High Mod may be used if the Housing Project manager approves its use in specific locations, but the large majority of patches will require removal and replacement.

2.04 REINFORCING STEEL:

A. Galvanized Reinforcing bars; ASTM A 615, GR. 60

B. Galvanized Steel wire; ASTM A 82

C. Re-bar shall be coated with Sika Armatec 110 EpoCem instead of galvanized.

2.05 REPLACEMENT PRECAST UNITS:

A. Use materials and products to match existing.

2.06 MASONRY CLEANING AGENTS:

- A. Cleaning systems are described which will effectively remove paint coatings, atmospheric carbon and dirt, paint oxidation, embedded clay, soil and mud stains, rust, smoke, algae, tar and paint spill from older masonry surfaces and precast concrete. Selection of specific cleaners to be used will be dependent on the type of substrate and its condition and results of tests conducted at job site.
- B. Sandblasting and use of nonproprietary acids or chemicals powdered or liquid will not be permitted.
- C. Materials listed below for masonry cleaning are Sure Klean products as manufactured by Pro SoCo., Inc., and Manning Materials Corp. Equivalent products may be used upon approval by Housing Project Manager when demonstrated by a test sample to achieve required results. Unless otherwise indicated, dilute chemical cleaning materials with water to produce solutions of concentration indicated, but, not greater than recommended by chemical cleaner manufacturer.

Cleaning Materials:

- 1. Sure Klean 509 or 859 Paint Stripper, by Pro SoCo, Inc., for removal of graffiti, paint spills and paint splatters.
- 2. Sure Klean Restoration Cleaner, by Pro SoCo, Inc., or equal, for removing atmospheric carbon and dirt, paint oxidation, rust, smoke, algae, etc.
- 3. Max MP2107 General Purpose Cleaner, Max MP 2106 Fungus and Algae Remover or a combination of either using manufacturer's recommendation for solutions.

2.09 WATER REPELLANT:

- A. Acceptable products:
 - 1. Chemprobe Prime-A-Pell H2O or approved equal.

PART 3 - EXECUTION:

3.01 SAFETY:

- A. Contractor shall require applicators to observe federal, state, industry and manufacturers recommended safety regulations and precautions for all applications.

3.02 PREPARATION:

- A. Mask areas, materials and surfaces not receiving work of this Section to protect from damage.
- B. Paint stripping and cleaning procedures outlined herein shall be completed prior to installation of new window glazing and paint finishes. Failure to do so will make it necessary to protect such finishes from contact with cleaning and paint stripping agents.
- C. Protect surrounding vehicles, persons, landscape and lawn areas from contact with cleaning solutions. Landscape and lawn areas may be protected by keeping them as wet as possible through use of lawn soaker hoses which provide a slow, but steady mist of

water adjacent to masonry surfaces being cleaned.

1. Protection can be eliminated if testing demonstrates no detrimental effect from exposure to cleaning solutions.
- D. Non-masonry surfaces which are not to be replaced shall be protected from contact with all cleaning solutions. Glass, metal, wooden and painted surfaces shall be protected with sheets of polyethylene or other proven protective materials, firmly fixed and sealed to surface.
- E. Non-masonry surfaces which are not protected shall be kept running-wet with clean water throughout cleaning process of adjacent masonry. Any damage as a result of improper use of cleaning products will be the responsibility of the Contractor.
- F. Surfaces not to be cleaned shall be tested for possible detrimental effect of cleaning solutions and protected as determined necessary by test results.
- G. Open joints shall be temporarily caulked, or otherwise protected, to prevent intrusion of washing waters into wall structure or building interior.
- H. Dispose of run-off from cleaning operations by legal means and in a manner which prevents soil erosion, damage to landscaping, and water penetration into building interiors.
- I. Erect temporary protection covers at pedestrian & vehicle walkways, entrances & exits which must remain in operation during masonry and restoration repairs.

3.03 RESTORATION CLEANING:

- A. Any dilution of cleaning materials will be with clean potable water in accordance with manufacturer's instructions printed on container label. Proceed with cleaning in an orderly manner; work from top to bottom of each scaffold width and from one end of each elevation to the other. Use only those cleaning methods indicated for each masonry material and location. Perform each cleaning method indicated in a manner which results in uniform coverage of all surfaces, including corners, moldings, etc., to produce an even effect without streaking or damage to masonry surfaces. Rinse off chemical residue and soil by working upwards from bottom to top of each treated area at each stage or scaffold setting.
- B. All surfaces shall be thoroughly pre-wet with clean water prior to application of cleaning materials (except those containing solvents, such as 509 Paint Stripper).
- C. The purpose of pre-wetting is to limit activity of cleaning solution to masonry surface and prevent cleaning solutions from being readily absorbed by dry masonry. Failure to adequately pre-wet may result in streaking and other residual staining of treated masonry.
- D. High pressure rinsing equipment shall be employed for pre-wetting and rinsing procedures. Pressures of 400 - 800 psi and flow rate of four to six gallons per minute have proved most effective. Or, use pressures applicable to the existing conditions or as recommended by manufacturer of product being applied.
- E. **Do not apply cleaning materials by pressure application.** This practice may drive cleaning compounds deep into masonry surface making it impossible to rinse treated surfaces free of cleaning residues.

- F. Paint stripper shall be employed for removal of graffiti, paint spills, high strength coatings, etc. in the following manner unless otherwise indicated by testing.
 - 1. Remove as much paint and stain matter as is practical with hand scrapers.
 - 2. Using natural fiber cleaning brush, roller or large paintbrush, apply heavy, thick coating of paint stripper to painted or stained areas.
 - 3. All paint stripper to remain until paint or stain "lifts" or shows signs of dissolving (typical dwell time is from 15 to 20 minutes).
 - 4. Rinse treated surfaces thoroughly with fresh water employing pressure washing equipment, removing all paint stripper and dissolved paint and stain matter.

- G. Restoration cleaners shall be employed for removal of atmospheric staining on masonry surfaces in the following manner unless otherwise indicated by testing or manufacturers recommendations:
 - 2. Thoroughly pre-wet masonry to be cleaned with fresh water.
 - 3. Apply cleaning solution liberally to masonry surface using low-pressure spray or densely packed soft fiber masonry washing brush.
 - 4. Allow cleaning solution to remain on wall for three to five minutes depending upon drying conditions (do not allow cleaning solution to dry in) and manufacturer's recommendations.
 - 5. Reapply cleaning solution in a scrubbing manner using a brush for stubborn staining.
 - 5. Rinse treated surfaces thoroughly with fresh water employing pressure-washing equipment, removing all cleaning compounds, dirt, etc.

- H. Removal of plant growth: Remove plant, moss, efflorescence scale and shrub growth completely from masonry surfaces prior to cleaning. Remove any loose soil debris from open masonry joints to whatever depth it occurs.

- I. Precast Stone is to be cleaned thoroughly. Light grinding may be needed to touch up some precast stones if cleaning agents do not work to the satisfaction of the Owner. Any light grinding may be done after inspection and with the approval of the Housing Project Manager.

3.04 REPOINTING:

- A. Repoint damaged, missing, cracked, eroded, or loose areas of mortar.
- B. Cut out and remove damaged mortar. Existing sound mortar in good condition shall be left in place without alteration.
- C. Cut out all defective joints to minimum depth of ½ to one inch (½ inch minimum) or to sound mortar. Cut out mortar with "floor chisel", other suitable hand chisel and hammer, or by use of power tools with masonry saw blades. Immediately discontinue use of any power tools that damage brick units in any manner and use hand tools to finish work.

Rake out joints to remove loose materials after cutting or chiseling.

- D. Remove loose or disintegrated mortar beyond minimum depth.
- E. Contractor will exercise precautions to avoid damaging precast units when raking joints. Discontinue any work causing damage to precast units and consult Housing Project Manager on alternate procedures to be used to continue work.
- F. Remove mortar cleanly from joints, leaving square corners at back of cut mortar.
- G. Before filling rinse joints with a jet of water to remove loose particles and dust. When possible, rinse joints the day before filling joints to allow excess water to run off. At time of filling, joint shall be damp, but without standing water.
- H. Fill joints by holding plywood mortar board at bottom of joints and pushing mortar into joint with pointing tool. Pointing tool shall be 1/16 inch narrower than joint being filled to achieve good compaction.
- I. Fill areas of joints having depths greater than ½ inch to depth of ½ inch by compacting in new mortar in ¼ inch layers. Mortar shall be compacted tightly in joints to fill back corners. Each layer of mortar shall be thoroughly compacted and allowed to become thoroughly hard prior to application of next layer.
- J. After joint has been filled to uniform depth of approximately ½ inch, remaining mortar shall be placed in joint in three layers. First and second layers should each be about 3/16 inch thick (or 2/5 of total depth each) with final third layer the remaining 1/8 inch (or remaining 1/5 of joint depth). Compact each layer tightly in joint to fill back corners and matching the existing color.
- K. As soon as applied mortar has reached thumb-print hardness, apply additional layers of mortar as noted above to fill joint slightly recessed from outer surface of brick. Allow each layer to become stiff before applying subsequent layers.
- L. After final layer of mortar is thumb-print hard, tool to match the historic joints. New mortar shall be recessed slightly where old precast units have worn rounded edges to avoid a joint visually wider than historic joints.
- M. Remove excess mortar from edge joint by brushing with a bristle brush.
- N. Age new mortar to match original by light brushing with stiff natural brush immediately after tooling

3.05 SPALL REPAIR:

- A. Spalled areas of precast units will be chipped back to sound substrate. If rebar corrosion is present the concrete shall be chipped back around rebar and all rust removed via mechanical cleaning and corrosion treatment equal to "Ospho" applied to all exposed metal. Any exposed rebar or rebar exposed during the demo process shall be ground back to a minimum of 1" below the surface. Patching materials to be applied in accordance with manufacturer's instructions and finished with Verticoat Supreme to match existing contours and shapes. The matching of existing precast is mandatory.
- B. Reinforcing: If rebar has lost more than 50% of its original diameter, new galvanized steel rebar is to be added. Some additional corners or other precast units may require steel or wire where there was none before.

- C. Epoxy Injection: **The Majority of cracking and damage to precast stone will require taking broken precast stones apart.** However, in some situations epoxy injection may be allowed to make necessary repairs. Epoxy injection is to be done only by qualified mechanics who can show experience in this type of work. **(Housing Project Manager will have the final say when a crack requires removal or injection.)**
- D. Epoxy crack Repair: Cracks not caused by rust which can't be injected will be ground out 2" deep and filled to within ½" of the surface, with High Mod Gel Epoxy. Final ½" filled with grout or mortar to match existing.
- E. Casting: All required casting is to be done with high-strength non shrink grout poured into forms. After setting, the cast piece will be finished and floated with a tinted Thoroseal.
- F. Precast Surfaces: All precast surfaces shall be free from existing mortar buildup due to existing forming or sealing. This will be accomplished by using a hand held electric grinder.
- G. Water Repellant: Following approval by the Housing Project Manager of all repair work and cleaning of the building, Contractor is to apply an approved water repellant to the repaired and cleaned precast stones and masonry surfaces on exterior of the building according to the manufacturer's recommendations.
- H. Acceptable: Chemprobe Prime-A-Pell H2O or approved equal.
- I. Cementitious Coating: Following approval of spall and crack repairs all precast to receive one coat of Thoroseal, Texture to be uniform. Following approval of Thoroseal, one coat of Pigmented sealer shall be applied, Color and texture to be uniform.

3.06 CLEANING UP:

- A. Contractor will be responsible for removal and disposal of necessary masking materials following completion of restoration and cleaning operation. Windows and non-masonry areas shall be left clean.
- B. Residue washed from building surfaces will be swept or flushed away from surrounding sidewalk and service areas nightly. Premises shall be clean and neat at all times.
- C. Repointing work that is carefully executed will require little need for cleaning other than the small amount of mortar brushed from edge of joint following tooling. This type cleaning shall be done by a stiff bristle brush after mortar has dried, but before it is fully hardened (one to two hours).
- D. Mortar that has hardened will be removed with a wooden paddle or, if necessary, a chisel.
- E. Additional cleaning as may be required to remove mortar from face of precast will be accomplished with plain water and bristle brushes.
- F. Contractor will be responsible for removing and disposing of all concrete, brick parts, mortar parts, and other debris resulting from this work. He is not to use University dumpsters for disposal of debris or any building materials of any kind.

END OF SECTION

SECTION 07120 - FLUID-APPLIED WATERPROOFING

PART 1 - GENERAL:

1.01 RELATED SECTIONS:

- A. Document affecting the work of this Section include, but are not necessarily limited to the General Terms and Conditions, Non-Technical Division 0 and Division 1 Specifications, and other Sections of these Specifications.

1.02 SUMMARY:

- A. When all chemical cleaning and patching of the building has been completed and inspected by Project Manager, Contractor is to apply a water repellant to the cleaned areas, Prim-A-Pell H2O.

1.03 SYSTEM PERFORMANCE REQUIREMENTS:

- A. Performance Requirements, General: Provide fluid-applied waterproofing membrane system that is watertight and complies with manufacturer's performance requirements.

1.04 SUBMITTALS:

- A. Product data for each type of fluid-applied waterproofing specified, including data substantiating that materials comply with specified requirements.
- B. Samples, 3 inches by 6 inches minimum size, of each fluid-applied waterproofing material specified for product.
- C. MSDS are required with all submittals

1.05 QUALITY ASSURANCE:

- A. Installer Qualifications: Engage an experienced Installer who has completed fluid-applied waterproofing applications similar in material, design, and extent to that indicated for project and that has resulted in construction with a record of successful in-service performance.
 - 1. Assign work closely associated with waterproofing, including (but not limited to) waterproofing accessories, and flashing used in conjunction, with waterproofing, expansion joints in membrane, insulation, and protection course on membrane, to Installer of fluid-applied waterproofing, for single undivided responsibility.
- B. Single-Source Responsibility: Obtain primary waterproofing materials of each type require from a single manufacturer.
- C. Pre-Installation Conference: Conduct conference at project site.

1.06 DELIVERY, STORAGE AND HANDLING:

- A. Deliver primary waterproofing materials to job site in manufacturer's original, unopened containers, bearing manufacturer's name and label and the following information:
 - 1. Product name

2. Product description (generic product classification).
3. Batch number under which product was produced.
4. National standard with which the product complies.
5. Application instructions.

1.07 PROJECT CONDITIONS:

- A. Substrate: Proceed with waterproofing operation only after substrate construction and penetrating work have been completed.
- B. Weather: Proceed with waterproofing operation only when existing and forecast weather conditions will permit work to be performed in accordance with manufacturer's recommendations.

Part 2 - PRODUCTS:

2.01 MATERIALS, GENERAL:

- A. Prime -A -Pell H2O or approved equal.

PART 3 - EXECUTION:

3.01 PREPARATION OF SUBSTRATE:

- A. Clean all surface area using a 3000 p.s.i. rotary head.
- B. All areas shall be free from dirt, grease and efflorescence scaling prior to applying waterproofing material. Comply with manufacture recommendation.
- C. Mask off adjoining surfaces not to receive fluid-applied waterproofing to effectively prevent spillage or over spray of liquid materials outside the work area.

3.02 INSTALLATION:

- A. General: Comply with manufacturer's written installation recommendation, including preparation of substrate surfaces, detail coating of joints and planar changes in substrate and priming of substrates.

END OF SECTION

SECTION 07900 - SEALANTS AND CAULKING

PART 1 - GENERAL:

1.01 SUMMARY:

- A. Seal all joints at or where finish materials change to provide a positive barrier against passage of air and moisture.
- B. When all chemical cleaning and patching of the building has been completed and inspected by Project Manager, Contractor is to apply a water repellent to the cleaned areas.
- C. Window Perimeter: Contractor shall caulk around window perimeter with Dow Corning 790 Color: bronze.

1.02 SUBMITTALS:

- A. Product Data: Standard catalog description of products, application instructions, and color chart for color selection.
- B. Samples: 2 inch long cured sample of each color selected for each type of sealant.

1.03 QUALITY ASSURANCE:

- A. Applicator Qualifications: Minimum of five years' experience on equivalent projects. Use personnel specifically trained in proper application procedures and who are thoroughly familiar with product application requirements as specified in this Section.
- B. Compatibility with Substrate and Coatings: Applicator shall be responsible for verifying that sealants used are compatible with joint substrates and coatings to which sealants will come in contact.

1.04 DELIVERY, STORAGE AND HANDLING:

- A. Deliver in manufacturer's original, unopened containers identifying each product specified, relating to product literature submitted.
- B. Store in accordance with manufacturer's recommendation; take precaution to ensure material fitness when installed for design performance.

1.05 ENVIRONMENTAL REQUIREMENTS:

- A. Temperature and dampness conditions may restrict application of sealants. Comply with manufacturer's instructions.

1.06 WARRANTY:

- A. Warrant sealed joints against adhesive or cohesive failure to sealant, and water-tightness of sealed joint for five years.

PART 2 - PRODUCTS:

2.01 SEALANTS: (See line 3.05 for use of each sealant type)

- A. Type 1: Two component polyurethane or polysulfide, with Shore A hardness of 30 - 40; FS TT-S-227(e), Class A, (Type I or II as required). Provide proper sealant for vertical and horizontal uses.

Acceptable:

1. Mameco International; Vulkem 245, Vulkem 227, and Vulkem 922
2. Pecora; Dynatrol II and NR-200
3. W. R. Meadows; Dualthane and Pourtane

- B. Type 2: One component polyurethane or polysulfide with Shore A hardness of 25 - 45; FS TT-S-230, Class A (Type I or II as required). Provide proper sealant for vertical and horizontal uses.

Acceptable:

1. Mameco International; Vulkem 45, Vulkem 116 and Vulkem 921
2. Pecora; Dynatrol 1 and NR-201
3. Sika; Sikaflex 1A

- C. Type 3: One component silicone, non-acid cure construction sealant, minimum 150 percent elongation, Shore A hardness of 15 - 25; FS TT-S-1545 Class A (Amide Cure Only).

Acceptable:

1. Dow Corning; 790

- D. Water Repellant:

1. Chemprobe Prime-A-Pell H2O

- E. Tints: Use only tinting materials recommended by sealant manufacturer or use factory tinted products by approved manufacturers.

2.02 PRIMERS:

- A. Comply with manufacturer's instructions. Manufacturer shall be consulted for all surfaces not specifically covered in submitted application instructions.

2.03 BACKER ROD:

- A. Closed cell polyethylene or open-cell polyurethane as recommended by the sealant manufacturer. Bond Beaker tape shall be used to prevent three-sided adhesion in locations where backer rod cannot be used.

Acceptable Manufacturers:

1. Closed-cell: Dow Corning, Ethafoam
2. Open-cell: Denver Foam, Backer Rod

PART 3 - EXECUTION:

3.01 EXAMINATION:

- A. Examine substrate surfaces to ensure no bond breaker materials contaminate surface to which sealant is to adhere, and that unsound substrates are repaired.
- B. Verify that all joint dimensions are within acceptable tolerances.

3.02 PREPARATION:

- A. Prepare joints in accordance with manufacturer's recommended instruction for maximum adhesion.

3.03 INSTALLATION:

- A. Apply primer as required by manufacturer.
- B. Mix (if required) and install sealant in accordance with manufacturer's recommended instructions. Tint to match existing materials and install to proper width/depth ratio with maximum adhesion contact. Prevent three-sided adhesion.
- C. Install backer rod using only blunt or rounded tools ensuring a uniform depth without puncturing material. Backer rod shall be 33 to 50 percent oversize.
- D. Use standard handguns or mechanical guns as approved by manufacturer of product.
- E. Extrude sealant through nozzles of such diameter to allow full bead of sealant flow into joint. Do not exceed width of joint.
- F. Force sealant into joint by tooling to ensure full contact with sidewalls and backing. Tooling pressure shall cause a wetting, maximizing sealant adhesive contact to substrate.
- G. Unless otherwise indicated, finish horizontal joints flush, vertical joints, distinctly concave in shape.
- H. Finished bead shall be smooth, free from wrinkles, air pockets, and foreign matter.
- I. All miscellaneous holes in mortar, bricks, walls and other penetrations, etc. are to be sealed with Vulkem 116. Color of sealant to be tested to match substrate.
- J. All moving joints in building, all stone to stone joints and all stone to brick joints shall be sealed with Dow 790 or equal in accordance with manufacturer's recommendations.

3.05 SCHEDULE:

A.	Joint Type	Sealant Type		
		1	2	3
1.	Significant movement (Panel, coping, control and expansion joints)	X	X	
2.	Minimal movement (Reglet and Perimeter Joints)	X	X	X

END OF SECTION

SECTION 09900 – PAINTING

PART 1 - GENERAL:

1.01 RELATED SECTIONS:

- A. Document affecting the work of this Section include, but are not necessarily limited to the General Terms and Conditions, Non-Technical Division 0 and Division 1 Specifications, and other Sections of these Specifications.

1.02 SUMMARY:

- A. This section includes surface preparation, painting and finishing of exposed exterior items and surfaces.
 - 1. Surface preparation, priming, and finish coats specified in this section are in addition to shop priming and surface treatment specified under other sections.
 - 2. Window Perimeter: Contractor shall remove loose caulking and paint. All caulking and painting around windows and window trim to be done by Contractor. Contractor will provide caulking (Dow 790). Contractor to clean all glass and window frames.
 - 3. Discontinued window and screen hardware shall be removed by the contractor.
- B. Paint exposed surfaces whether or not colors are designated in schedules, except where a surface or material is specifically indicated not to be painted or is to remain neutral. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces. If color or finish is not designated, the Project Manager will select from standard colors or finishes available.
 - 1. Painting includes field painting concealed and exposed hangers, exposed steel and iron work and primed metal surfaces being installed as part of this contract.
- C. Painting is not required on pre finished items, finished metal surfaces, concealed surfaces, operating parts and labels.

1.03 DEFINITIONS:

- A. Paint includes coating systems materials, primers, emulsions, enamels, stains, sealers, fillers and other applied materials whether used as prime, intermediate, or finish coats.

1.04 SUBMITTALS:

- A. Material submittals are required for all paints, sealers and coatings used on a contractor furnished materials.

1.05 QUALITY ASSURANCE:

- A. Single-Source Responsibility: Use only primer and undercoat paint produced by the same manufacturer as the finish coats.
- B. Coordination of Work: Review other sections in which primers are provided to ensure compatibility of the total systems for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

1. Notify the Owner of problems anticipated using the materials specified.

1.06 DELIVERY, STORAGE AND HANDLING:

- A. Deliver materials to the job site in the manufacturers original, unopened packages and container bearing manufacturers name and label and the following instructions:
 1. Product name or title of material
 2. Product description (generic classification or binder type)
 3. Federal specification number, if applicable
 4. A manufacturers stock number and date of manufacture
 6. Contents by volume, for pigment and vehicle constituents.
 7. Thinning instructions
 8. Application instructions
 8. Color name and number
- B. Store materials not in use in tightly covered containers in well-ventilated area at a minimum ambient temperature of 45°F. Maintain containers used in storage in a clean condition, free of foreign materials and residue.
 1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that worker and work areas are protected from fire and health hazards resulting from handling, mixing and application.

1.07 JOB CONDITIONS:

- A. Painting shall not be performed at temperatures below conditions that are not consistent with manufactures recommendations.
- B. Contractor is responsible to adhere to the manufactures instruction for preparation and application. Do not apply paint in snow, rain, fog or mist, when the relative humidity exceeds 85%, at temperatures less than 50°F, or to damp, or wet surfaces. The project manager may require the contractor to take moisture meter reading on any exterior wood before any painting or priming begins.
 1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by the manufacturer during application and drying periods.

PART 2 - PRODUCTS:

2.01 MANUFACTURERS:

- A. Available Manufacturers:
 1. Sherwin Williams

2. PPG
3. Approved Product

PART 3 - EXECUTION:

3.01 EXAMINATION:

- A. Examine substrates and conditions under which painting will be performed for compliance with requirements for application of paint. Do not begin paint application until unsatisfactory condition have been corrected.
 1. Start of painting will be construed as the applicators acceptance of surfaces and conditions within a particular area.

3.02 PREPARATION:

- A. General Procedures: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items in place that are not to be painted, or provide surface-applied protection prior to surface preparation and painting. Remove these items if necessary for complete painting of the items and adjacent surfaces. Following completion of painting operations in each space or area, have items reinstalled by workers skills in the trade involved.
 1. Clean surfaces before applying paint or surface treatments. Remove oil and grease prior to cleaning. Schedule cleaning and painting so that dust and other contaminants from the cleaning process will not fall on wet newly painted surfaces.
- B. Surface Preparation: Clean and prepare surfaces to be painted in accordance with the manufacturer's instructions for each particular substrate condition and as specified.
 2. Provide barrier coats over incompatible primers or remove and re-prime. Notify Project Manager in writing of problems anticipated with using the specified finish-coat material with substrates primed by others.
 - a. Determine alkalinity and moisture content of surfaces by performing appropriate test. If surfaces are sufficiently alkaline to cause blistering and burning of finish paint, correct this condition before application. Do not paint surfaces where moisture content exceeds that permitted in manufacturers painted directions.
 2. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
 - a. Scrape and clean small, dry seasoned knots and apply a thin coat of white shellac or other recommended knot sealer before application of primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.
 3. Ferrous Metals: Clean non galvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with recommendations of the Steel Structures Painting Council.

- a. Blast steel surfaces clean as recommended by the paint system manufacturer and in accordance with the requirements of SSPC specification SSPC-SP 10.
 - b. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
- C. Materials Preparation: Carefully mix and prepare paint material in accordance with manufacturer's recommendation.
 - 1. Maintain containers used in mixing and application of paint in a clean condition, free of foreign materials and residue.
 - 2. Stir material before application to produce a mixture of uniform density; stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.
 - 3. Use only thinners approved by the paint manufacturer, and only within recommended limits.
- D. Tinting: Tint each undercoat a lighter shade to facilitate identification of each coat where multiple coats of the same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.03 APPLICATION:

- A. Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.
- B. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
 - 1. Paint color, surface treatment, and finishes will be selected by the Project Manager.
 - 2. Provide finish coats that are compatible with primers used.
 - 3. The number of coats and film thickness required is the same regardless of the application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. Sand between applications where sanding is required to produce an even smooth surface in accordance with the manufacturer's directions.
 - 4. Apply additional coats when undercoats, stains, or other conditions show through final coat of paint until paint film is of uniform finish, color and appearance. Give special attention to ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners, receive a dry film thickness equivalent to that of flat surfaces.
- C. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practical after preparation and before subsequent surface deterioration.
 - 1. Allow sufficient time between successive coats to permit proper drying. Do not recoat until paint has dried to where it feels firm, and does not deform or feel

sticky under moderate thumb pressure and where application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

- D. Minimum Coating Thickness: Apply materials at not less than the manufacturers recommended spreading rate. Provide a total dry film thickness of the entire system as recommended by the manufacturer.
- E. Prime Coats: Before application of finish coats, apply a prime coat of material as recommended by the manufacturer to material that is required to be painted or finished and has not been prime coated by others. Re-coat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to assure a finish coat with no burn through or other defects due to insufficient sealing.
- F. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness or other surface imperfections will not be acceptable.
- G. Completed Work: Match approved samples for color texture and coverage. Remove, refinish, or repaint work not in compliance with specified requirements.

3.04 CLEANING:

- A. Cleanup: at the end of each work day, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
- B. Upon completion of painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping, using care not to scratch or damage adjacent finished surfaces.

3.05 PROTECTION:

- A. Protect work of other trades, whether to be painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as acceptable to Project Manager.
- B. Provide wet paint signs to protect newly painted finishes. Remove temporary protective wrappings provided by others for protection of their work after completion of painting operations.
 - 1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.06 EXTERIOR PAINT SCHEDULE:

- A. General: Provide the following paint system for various substrates indicated.
- B. Wood: Primer go on all new and existing wood followed by two finish coats of alkyd paint.
- C. Ferrous Metal: Primer is not required on previously painted items.

END OF SECTION