

**PROJECT MANUAL
and
CONTRACT DOCUMENTS**

FOR

CP1606: VRTC Garage Miscellaneous Concrete Repairs

John Tecklenburg, Mayor



Pre-Bid Meeting (Mandatory): November 9, 2016 at 11:30 AM, on site at 63 Mary Street, beginning at the fountain at the south (Ann Street) pedestrian entrance to the garage.

Bid Opening: November 29, 2016. 2:00 PM. Parks Department Office.

City of Charleston Department of Parks
823 Meeting Street
Charleston, SC 29403
Nate Yokoyama, Project Manager
843-973-7239
yokoyaman@charleston-sc.gov

November 1, 2016

**CP 1606 – VRTC Garage Miscellaneous Concrete Repairs
City of Charleston: Department of Parks**

Table of Contents

SECTION	TITLE	# OF PAGES
.....	Project Manual Cover	1
.....	Table of Contents	1
<u>DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS</u>		<u># OF PAGES</u>
.....	Instructions to Bidders	5
.....	Bid Form	2
.....	MBE Good Faith Effort Program Affidavits A, B, C	5
.....	Local Vendor Recognition Affidavit	1
.....	Bid Bond	1
.....	Certificate of Grantee/Borrower’s Attorney	1
.....	Construction Contract	9
.....	Performance Bond	2
.....	Payment Bond	2
<u>DIVISION 01 - SPECIFICATIONS</u>		<u># OF PAGES</u>
.....	Section 002213 – Special Conditions	4
.....	Section 024119 – Selective Demolition	5
.....	Section 030130 – Concrete Rehabilitation – Formed Applications	4
.....	Section 030140 – Concrete Rehabilitation – Hand Packed Applications	4
.....	Section 079200 – Joint Sealants	6
<u>DIVISION 02 – DRAWINGS</u>		<u># OF PAGES</u>
.....	S-1 – Title Page	1
.....	S-2 – General Notes	1
.....	S-3 – Roof Plan	1
.....	S-4 – Fourth Floor Plan	1
.....	S-5 – Third Floor Plan	1
.....	S-6 – Second Floor Plan	1
.....	S-7 – Repair Type 1	1
.....	S-8 – Repair Type 2	1
.....	S-9 – Repair Type 3, 4, & 5	1
.....	S-10 – Repair Type 6 – Add Alternate #1	1

CP1606: VRTC GARAGE MISCELLANEOUS CONCRETE REPAIRS

City of Charleston Instructions to Bidders

1. RECEIPT AND OPENING OF BIDS

The City of Charleston (the "Owner"), will receive bids for the above Project at the Department of Parks until 2:00 PM on November 29, 2016, where they shall be publicly opened and read aloud. The Owner may consider non-responsive any bid not prepared and submitted in accordance with these instructions and may waive any informality or reject any and all bids. Information not requested that is written on or attached to the Bid Form that could be considered a qualification of the Bid, may be cause for rejection of the Bid. The City shall be the sole judge as to whether Bids submitted meet all requirements contained in this solicitation. This solicitation does not commit the City of Charleston to award a Contract, to pay any costs incurred in the preparation of Bids submitted, or to procure or contract for the services. Any bid may be withdrawn prior to the above scheduled time or authorized postponement. Any bid received after the time and date specified shall not be considered. No Bidder may withdraw a bid within 60 days after the date of the bid opening.

2. CANCELLATION OF INVITATION FOR CONSTRUCTION BIDS

At any time prior to the issuance of the Notice to Proceed for this Project, the Contract may be cancelled for the convenience of the Owner.

3. PREPARATION OF BID

Bids must be submitted in writing on the attached City of Charleston Bid Form in whole dollar amounts. All blank spaces for bid prices must be filled in, in ink or typewritten, and the form must be fully completed and executed when submitted. Failure to provide all requested information as part of the submitted bid may be justification to deem the bid non-responsive, resulting in the rejection of the bid. Each bid must be submitted in a sealed envelope bearing on the outside the name and address of the Bidder and the name of the Project for which the bid is submitted and the Contractor's license number. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed to the City of Charleston Department of Parks; 823 Meeting Street; Charleston, SC 29403.

4. PRE-BID CONFERENCE (if scheduled)

A mandatory PRE-BID Conference will be held at 11:30 AM on November 9, 2016, on site at 63 Mary Street, beginning at the fountain at the south (Ann Street)pedestrian entrance to the garage. Only those prospective Bidders that are represented and are listed on the sign-in sheet will be allowed to submit bids.

5. SUBCONTRACTS

The Bidder is specifically advised that any person, firm or other party to whom it proposes to award a subcontract under this Contract must be acceptable to the Owner. In the event a subcontractor is found to be unacceptable by the Owner, the Owner may require the Bidder to substitute the unacceptable subcontractor or reject the bid.

CP1606: VRTC GARAGE MISCELLANEOUS CONCRETE REPAIRS

6. QUALIFICATIONS OF BIDDER

The Owner may make such investigations as it deems necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the Owner in a timely manner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the Owner of the Bidder's qualifications to perform the work.

7. BID SECURITY

If required, each bid must be accompanied by a Bid Security in the amount of not less than 5% of the Base Bid in the form of a certified cashiers check or a Bid Bond, made payable to the Owner and issued by a surety licensed to do business in the state of South Carolina. The Bid Bond must be accompanied by a certified and current Power of Attorney by the Attorney-in-Fact. The Owner shall have the right to retain the Bid Security of any or all Bidders until such time as one of the three conditions listed below have been met:

1. The Construction Contract has been executed and both Performance and Payment Bonds have been furnished, if required.
2. The specified time has elapsed so that bids may be withdrawn.
3. The Owner has rejected all bids.

8. FAILURE TO ENTER INTO CONTRACT

Failure of the Bidder to execute and deliver the Contract within ten (10) days after bid opening or failure to provide Performance and Payment Bonds and Certificate of Insurance within ten (10) days of receipt of a Notice of Award from the Owner, shall entitle the Owner to consider the Bidder non-responsive and to declare the Bid Security forfeited.

9. DATE OF COMMENCEMENT, COMPLETION AND LIQUIDATED DAMAGES

Bidder must agree to commence work as specified in a Notice to Proceed from the Owner and to fully complete the Base Bid and any awarded Bid Alternates within 45 calendar days after the Date of Commencement. Bidder must agree also to pay as liquidated damages the sum of \$140.00 for each calendar day thereafter that the Project fails to reach Substantial Completion within the time allowed.

10. ADDENDA AND INTERPRETATIONS

No oral interpretation of the meaning of the plans, specifications or other pre-bid documents will be made. Requests for clarification should be made in writing to the A/E or Project Manager identified in the Invitation for Construction Bids and to be given consideration must be received at least five (5) days prior to the date fixed for the opening of bids. Any interpretations, corrections or changes will be issued in the form of written addenda and will be transmitted to all who are known to have received a complete set of bidding documents by telephone, fax or other appropriate means with immediate follow-up with written addenda. Should the original Bid Date be postponed, the new Bid Date shall be no earlier than the fifth (5th) calendar day after the date of issuance of the addendum postponing the original Bid Date. Failure of any Bidder to receive any such addendum or interpretation shall not relieve such Bidder from any obligation under its bid as submitted. All addenda so issued shall become part of the Contract documents.

CP1606: VRTC GARAGE MISCELLANEOUS CONCRETE REPAIRS

11. SUBSTITUTIONS

- A. The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution.
- B. No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of other contracts that incorporation of the proposed substitution would require, shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.
- C. If the Architect approves a proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.
- D. No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

12. LAWS AND REGULATIONS

All applicable State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though herein written out in full.

13. INTENT TO AWARD/EVALUATION OF BID ALTERNATES

It is the intent of the Owner to award a Contract to the lowest responsive and responsible Bidder. When bidding documents include Bid Alternates, the Owner shall have the right to award the Contract to the apparent low bidder based on ANY COMBINATION of the BASE BID plus Bid Alternates or with no Bid Alternates, unless otherwise specifically provided in the Bid Documents. The Owner reserves the right to apply these Alternate prices in any combination or order for the overall benefit of the Project as defined by the Owner. All requested Alternates must be bid. The failure of the Bidder to indicate a price for a BID ALTERNATE shall render the Bid non-responsive. A BID ALTERNATE shall be bid by indicating either a dollar amount or the words "No Change", "Zero", or "0.00". A typed or printed "No Bid", or words of similar meaning, shall render the Bid non-responsive. Bidder must indicate whether the amount of the BID ALTERNATE is an "ADD" to or a "DEDUCT" from the amount of the base bid. The Bid may be determined non-responsive for failure of the Bidder to indicate the appropriate "ADD" or "DEDUCT" for each BID ALTERNATE.

14. OBLIGATION OF BIDDER

At the time of the opening of bids, each Bidder will be presumed to have inspected the site and the conditions relating to construction of the Project, and to have read and become thoroughly familiar with the plans and Contract documents, including all addenda. The failure or omission of any Bidder to visit the site or to examine any form, instrument or document shall in no way relieve any Bidder from any obligation with respect to his bid.

CP1606: VRTC GARAGE MISCELLANEOUS CONCRETE REPAIRS

15. MINORITY/WOMEN BUSINESS ENTERPRISE (MBE) PROGRAM

- A. This Project is covered under the City of Charleston's Minority/Women Business Enterprise (MWBE) Program, administered by Theron Snype, MBR Manager, 75 Calhoun Street, Charleston SC, 29401, (843) 973-7247.
- B. MWBE Goals: The City has established goals for both Minority Business Enterprises (MBE) and Women Business Enterprises (WBE). An MBE is a small business owned and controlled by a minority. A WBE is a small business owned and controlled by a woman. The minority or woman must own fifty-one percent (51%) of the business and they must control the management and daily operations of the business in order to qualify. The goals for this Contract are a 20% combined MBE and WBE participation. These goals will be applied to the overall Contract.
- C. Certification of Eligibility of MBE/WBE: All MBE/WBE subcontractors must have a Certificate of Eligibility on file with the City's Minority Business Enterprise Office. A list of certified minority and women-owned firms can be found on the City of Charleston's web site www.charleston-sc.gov under "BIDLINE" link.
- D. Bidder's MBE/WBE Participation: All bidders must document the extent of their MWBE participation by completing the MWBE Compliance Provision Forms. Bidders must also complete Affidavits A and B or Affidavit C and attach the entire package to the Bid Form. Bidders who fail to submit these documents as required by the Procurement Office shall be deemed non-responsive and will be ineligible for award of the Contract.
- E. The Contractor shall perform the Contract in accordance with the representations made in the Minority/Women-Owned Business Enterprise Compliance Provisions (Affidavit A) and the Work to be Performed by Minority Firms (Affidavit B) submitted as part of the bid proposal.

16. LOCAL VENDOR RECOGNITION

This project is covered under the City of Charleston's Local Vendor Recognition Ordinance which states: The City of Charleston's Procurement Policy shall allow the lowest responsive and responsible local vendor ("Local Vendor") who meets the requirements set forth below the right to match the bid of the lowest responsive and responsible non-local bidder for goods and supplies and thereby be awarded the contract for goods and supplies subject to the following requirements:

- A. The total dollar amount of the lowest responsive and responsible bid for construction services is greater than \$20,000;
- B. The bid of the Local Vendor is within 4% or \$10,000, whichever is lower, of the bid amount of the lowest responsive and responsible non-local bidder;
- C. The Local Vendor has a valid City of Charleston business license which was issued at least 12 months prior to the bid opening date;
- D. The Local Vendor has a physical business address located within the City of Charleston and has been doing business in the corporate limits of the City of Charleston for a period of 12 months or more prior to the bid opening date;

CP1606: VRTC GARAGE MISCELLANEOUS CONCRETE REPAIRS

- E. The Local Vendor provides proof of payment of all applicable City of Charleston licenses, taxes and fees with its bid;
- F. The Local Vendor must submit a City of Charleston Local Vendor Recognition Affidavit and a copy of its current City of Charleston business license with its bid. The form of the affidavit will be provided by the City and will be available in the bid documents for the solicitation of such goods and supplies.

17. LICENSES

The successful Bidder shall obtain a City of Charleston Business License prior to beginning the work of the Contract. Bidder must also be licensed under the laws of the State of South Carolina and City of Charleston for the specific category of work to be performed.

18. PERFORMANCE AND PAYMENT BONDS

The successful Bidder, if required by the Owner, will provide Performance and Payment Bonds, each in the amount equal to 100% of the Contract Award, as a condition of execution of the Contract. Failure to supply such bonds as required by the Contract Documents shall result in forfeiture of the Bid Bond.

19. DRUG FREE WORK PLACE

All Bidders must certify that they will provide a "Drug-Free Workplace" as that term is defined in Section 44-107-30 of the SC Code of Laws, and shall comply with the requirements set forth in Title 44, Chapter 107.

END OF INSTRUCTIONS TO BIDDERS

City of Charleston

Bid Form

BID SUBMITTED BY: Name: _____
Address: _____

FOR PROJECT: **CP1606: VRTC Garage Miscellaneous Concrete Repairs**

OFFER

1. In response to the *Invitation for Construction Bids*, and in compliance with the *Instructions to Bidders* for the above-named Project, the undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into a Contract with the City of Charleston ("Owner") in the form included in the Bidding Documents, and to perform all Work as specified or indicated in the Bidding Documents, for the prices and within the time frames indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.
2. Bidder has submitted Bid Security as follows in the amount and form requested by the Bidding Documents:

Bid Bond with Power of Attorney Cashier's Check
(Bidder check one)
3. Bidder, by submitting this Bid, affirms that it has carefully examined the Bidding Documents and the other related information and data identified in the Bidding Documents, has visited the actual location of the Work, has satisfied itself as to all conditions and understands that, in signing this Bid Form it waives all rights to plead any misunderstanding regarding same and agrees to be bound by the provisions of said Bidding Documents and all statements made therein.
4. Bidder acknowledges the receipt of the following Addenda to the Bidding Documents and has incorporated the effects of said Addenda into its Bid:
ADDENDUM No.(s) _____
5. Bidder acknowledges that neither the Owner nor any of its employees or agents shall be responsible for any bid preparation costs, or any costs or charges of any type, should all bids be rejected or the Project cancelled for any reason prior to the issuance of the Notice to Proceed.
6. By submitting this Bid, Bidder hereby agrees to all of the terms and conditions of the *Invitation for Construction Bids* and to all of the terms and conditions of the *Instructions to Bidders*. Bidder agrees that this Bid, including all Bid Alternates, if any, may not be revoked or withdrawn after the opening of bids, and shall remain open for acceptance for a period of 60 days following the Bid Date, or for such longer period of time that Bidder may agree to in writing upon request of the Owner. Bidder understands that Bid Alternates that are not accepted in an initial award shall remain open for acceptance for the entire period set above and for such longer period as requested by Owner and agreed to by Bidder.
7. Bidder herewith submits its offer to provide all labor, materials, equipment, tools of trades and labor, accessories, appliances, warranties and guarantees, and to pay all royalties, fees, permits, licenses and applicable taxes necessary to complete the construction work in accordance with the Bidding Documents:

7.1 BASE BID: \$ _____

AFFIDAVIT A
Page 1 of 2

City of Charleston, South Carolina Listing of the Good Faith Effort

Affidavit of _____
(Name of Bidder)

I have made a good faith effort to comply with the City of Charleston's MWBE compliance provisions under the following checked areas:

(A minimum of 6 areas must be checked in order to have achieved a "good faith effort")

- 1. Contacted MWBE businesses that reasonably could have been expected to submit a quote and that were known to the Bidder, or available on Federal, State or local government maintained lists, at least 10 business days before the submittal date and notified them of the nature and scope of the work to be performed. **Complete Affidavit A, Page 2.**
- 2. Followed up with contacted MWBE subsequent to the initial contact and at least 72 hours prior to submittal deadline/bid opening either by phone, facsimile or in person.
- 3. Made the construction plans, specifications, and requirements available for review by prospective MWBE businesses, or providing these documents to them at least 10 business days before the submittal deadline/bid opening.
- 4. Itemized elements of the work or combined elements of the work into economically feasible units to facilitate MWBE participation.
- 5. Attended any pre-solicitation meetings scheduled by the City.
- 6. Provided MWBE assistance with getting required bonding or insurance requirements or provided alternatives to bonding or insurance.
- 7. Negotiated in good faith with interested MWBEs and did not reject them as unqualified without sound reasons based on their capabilities. ***(Any rejection of a minority or woman-owned business based on lack of qualifications shall include reasons for rejection documented in writing.)***
- 8. Provided MWBEs assistance with securing needed equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted MWBEs in obtaining the same unit pricing with the Bidder's suppliers in order to help such businesses in establishing credit.
- 9. Provided training or mentoring to at least two (2) MWBEs within 120 days prior to submittal deadline/bid opening. The training or mentoring program should be in conjunction with local trade groups, technical schools or community organizations that provide recruitment, education or skill levels.
- 10. Negotiated joint venture, partnership or other similar arrangements with MWBEs in order to increase opportunities for MWBE participation.
- 11. Provided quick pay agreements and policies to enable MWBE contractors and suppliers to meet cash-flow demands.

I hereby agree to enter into a formal agreement with the firms listed in Affidavit B Work to be performed by Minority Firms conditional upon execution of a contract with the Owner. Failure to abide by this provision will constitute a breach of the contract.

I hereby certify that I have read and agree to the terms of the Minority / Women-Owned Business Enterprise Program, and I am the Bidder or I am authorized to bind the Bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer (Print/Type): _____

Signature: _____

Title: _____

AFFIDAVIT A

Page 2 of 2

City of Charleston, South Carolina Minority/Women-Owned Business Participation Efforts

(Use as many sheets as necessary)

I, _____, hereby certify that on this project we contacted the following minority/women-owned business enterprises as subcontractors, vendors, suppliers, or providers of professional services.

1. Minority Firm Name and Contact	Minority Firm Address
Minority Firm Telephone Number _____ Minority Firm Fax Number _____ DBE Certification Number _____	Minority Group Type <input type="checkbox"/> (African American) <input type="checkbox"/> (Women) <input type="checkbox"/> (Asian American) <input type="checkbox"/> (Hispanic) <input type="checkbox"/> (American Indian) <input type="checkbox"/> (Other) <hr style="width: 50%; margin-left: 0;"/> <input type="checkbox"/> Follow up Verification
2. Minority Firm Name and Contact	Minority Firm Address
Minority Firm Telephone Number _____ Minority Firm Fax Number _____ DBE Certification Number _____	Minority Group Type <input type="checkbox"/> (African American) <input type="checkbox"/> (Women) <input type="checkbox"/> (Asian American) <input type="checkbox"/> (Hispanic) <input type="checkbox"/> (American Indian) <input type="checkbox"/> (Other) <hr style="width: 50%; margin-left: 0;"/> <input type="checkbox"/> Follow up Verification
3. Minority Firm Name and Contact	Minority Firm Address
Minority Firm Telephone Number _____ Minority Firm Fax Number _____ DBE Certification Number _____	Minority Group Type <input type="checkbox"/> (African American) <input type="checkbox"/> (Women) <input type="checkbox"/> (Asian American) <input type="checkbox"/> (Hispanic) <input type="checkbox"/> (American Indian) <input type="checkbox"/> (Other) <hr style="width: 50%; margin-left: 0;"/> <input type="checkbox"/> Follow up Verification
4. Minority Firm Name and Contact	Minority Firm Address
Minority Firm Telephone Number _____ Minority Firm Fax Number _____ DBE Certification Number _____	Minority Group Type <input type="checkbox"/> (African American) <input type="checkbox"/> (Women) <input type="checkbox"/> (Asian American) <input type="checkbox"/> (Hispanic) <input type="checkbox"/> (American Indian) <input type="checkbox"/> (Other) <hr style="width: 50%; margin-left: 0;"/> <input type="checkbox"/> Follow up Verification

I certify, under penalties of perjury, that I have examined the information in this affidavit, and to the best of my knowledge and belief, this information is true, correct and complete.

Date: _____ Name of Authorized Officer (Print/Type): _____

Sworn to before me this ____ day of _____, 20__.

Signature: _____

Notary Public for the State of _____

Title: _____

My Commission Expires: _____

Print Name: _____

Notary Seal:

Phone Number: _____

Address: _____

AFFIDAVIT B

**City of Charleston, South Carolina
Work to be Performed by Minority/Women-Owned Businesses**

Affidavit of _____ . I hereby certify that on the _____
(Name of Bidder)
_____, Total Project Amount \$ _____
(Project Name)

I will make a good faith effort to expend a minimum of _____% of the total dollar amount of the Contract with minority/women-owned business enterprises. Minority/women-owned businesses will be employed as subcontractors, vendors, suppliers, or providers of professional services. Such work will be subcontracted to the following businesses listed below:

(Attach additional sheets if needed)

Name and Phone Number	*Minority Code	Work Description	Dollar Value
			\$
			\$
			\$
			\$
			\$
			\$
			\$

Total MBE Participation: _____ % \$ _____

* Minority categories: African American (**B**); Hispanic (**H**); Asian American (**A**), American Indian (**I**); Woman Owned (**W**); Other (**D**)

I will enter into a formal Contract with the above minority/women-owned business enterprises for the work listed in the above schedule conditional upon execution of a Contract with the Owner.

I certify that I have read the terms of this commitment and I am the Bidder or authorized to bind the Bidder to the commitment set forth herein. I certify, under penalties of perjury, that I have examined the information in this affidavit, and to the best of my knowledge and belief, this information is true, correct and complete.

Date: _____ Name of Authorized Officer (Print/Type): _____

Signature: _____

Title: _____

Sworn to before me this ____ day of _____, 20__.

Notary Public for the State of _____

My Commission Expires: _____

Notary Seal:

Print Name: _____

Phone Number: _____

Address: _____

AFFIDAVIT C

**City of Charleston, South Carolina
Intent to Perform Contract with Own Workforce.**

Affidavit of _____
(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the _____
_____ contract.
(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type Project, and normally performs and has the capability to perform and will perform all the elements of the work on this Project with his/her own current work forces, and

The Bidder agrees to provide any additional information or documentation requested by the Owner in support of the above statement.

I hereby certify that I have read this certification and I am the Bidder or I am authorized to bind the Bidder to the commitments contained herein. I certify, under penalties of perjury, that I have examined the information in this affidavit, and to the best of my knowledge and belief, this information is true, correct and complete.

Date: _____ Name of Authorized Officer (Print/Type): _____

Signature: _____

Title: _____

Sworn to before me this ____ day of _____, 20__.

Notary Seal:

Notary Public for the State of _____

My Commission Expires: _____

Print Name: _____

Phone Number: _____

Address: _____

MWBE Compliance Provisions and Instructions Minority/Women Business Enterprise Program Forms

This Project is covered under the City of Charleston’s Minority/Women Business Enterprise (MWBE) Program, administered by Theron Snype, MBE Manager, 145 King Street, Suite 104, Charleston SC, 29401, (843) 973-7247.

The City has established goals for both Minority Business Enterprises (MBE) and Women Business Enterprises (WBE). An MBE is a small business owned and controlled by a minority. A WBE is a small business owned and controlled by a woman. The minority or woman must own fifty-one percent (51%) of the business and they must control the management and daily operations of the business in order to qualify.

Charleston City Council has adopted a policy setting 20% as the guidelines for combined minority-owned and women-owned business enterprise participation for this project. This MWBE requirement for participation in this Contract for services shall be made a part of any contract resulting from this solicitation. These requirements shall also apply to all subcontracts issued by the successful bidder(s).

Bidder’s MBE/WBE Participation: All bidders must document the extent of their MWBE participation by completing the MWBE Compliance Provision Forms. Bidders must complete Affidavits A and B or Affidavit C and attach the entire package to the Bid Form. Bidders who fail to submit these documents as required by the Procurement Office shall be deemed non-responsive and will be ineligible for award of the Contract.

All MBE/WBE subcontractors must have a Certificate of Eligibility on file with the City’s Minority Business Enterprise Office. A list of certified minority and women-owned firms can be found on the City of Charleston’s web site www.charleston-sc.gov under “BIDLINE” link or by contacting Theron Snype, MBE Manager, 145 King Street, Suite 104, Charleston, SC 29403, (843) 973-7247, snypet@charleston-sc.gov.

COMPLIANCE REQUIREMENTS:

1. The Bidder shall provide, **with their bid form submittal**, the following Affidavits properly executed which signify that the Bidder understands and agrees to abide by the City’s MWBE Compliance Provisions.

Affidavit A - Listing of the Good Faith Effort to Identify & Secure Minority and Women-owned Business Participation.

AND

Affidavit B – Work to be Performed by Minority and/or Women-owned Firms

OR

Affidavit C – Intent to Perform Contract with Own Workforce, in making this certification the Bidder states that the Bidder does not customarily subcontract elements of this type of Project and will perform all elements of the work with his/her own current work forces.

2. All affidavits supplied by the Bidder shall become a part of any resulting Contract between the Bidder and the City of Charleston. Failure to comply with any of the statements, certifications, or intentions stated in the affidavits, or the MBE/WBE compliance provisions shall constitute a breach of the Contract. Any such breach may result in termination of the Contract in accordance with the termination provisions contained in the Contract. It shall be solely at the option of the City of Charleston whether to terminate the contract for breach. In addition to terminating the Contract, the bidder may be prohibited from participation in future solicitations as determined by the City of Charleston.

Name of Company: _____

Signature

Date

Print Name

Title

Witness

CITY OF CHARLESTON LOCAL VENDOR RECOGNITION AFFIDAVIT

Personally appeared before me _____ (the “Bidder seeking Local Vendor Recognition”) who, after being duly sworn, does hereby depose and certify that the Bidder seeking Local Vendor Recognition identified in this bid response and who signs below meets the following qualifications for local vendor recognition as provided in Sections C and E of the City of Charleston’s Procurement Policy:

1. The bid is for construction services or goods and supplies only and is greater than \$20,000;
2. Has a physical business address located within the City of Charleston and has been doing business in the City of Charleston for a period of 12 months or more prior to the bid opening date - (A post office box or temporary construction or office trailer will not be considered a place of business);
3. Has a valid City of Charleston business license which was issued at least 12 months prior to the bid opening date;
4. Provides a copy of its current City of Charleston business license with its bid;
5. Provides proof of payment of all applicable City of Charleston licenses, taxes and fees with its bid;
6. in compliance with any applicable federal, state and local requirements regarding the type of business in which the Local Vendor is engaged.

By submitting this Affidavit, the Bidder seeking Local Vendor Recognition understands that in addition to meeting the requirements set forth above, in order for the Bidder seeking Local Vendor Recognition to qualify for local vendor recognition, his bid must be within 4% or \$10,000, whichever is lower, of the bid amount of the lowest responsive and responsible non-local bidder for said construction services or goods and supplies, and he requests that the local vendor recognition as set forth in Sections C and E of the City’s Procurement Policy be exercised in consideration of the contract award of this bid. Failure to complete and return this Affidavit with the specified attachments set forth above with his bid will result in not being eligible to receive the benefits of the local vendor recognition.

BUSINESS NAME: _____

CHARLESTON STREET ADDRESS: _____

SIGNATURE: _____ TITLE: _____

By: _____
(Print Name)

Sworn to and subscribed before me at _____,
State of _____, this _____ day of _____, 20____.

_____(SEAL)
Notary Public for _____
My Commission Expires _____

FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned, _____
(Name of Principal)

AS PRINCIPAL, AND _____, as SURETY
(Name of Surety)

are held and firmly bound unto The City of Charleston hereinafter called the "Owner", in the penal sum of _____ Dollars, lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the accompanying bid, dated _____, 2016, for:

CP1606: VRTC Garage Miscellaneous Concrete Repairs

Now, THEREFORE, if the Principal shall not withdraw said bid within the period specified therein after the opening of the same, or, if no period be specified, within sixty days after the said opening, and shall within the period specified therefore, or, if no period be specified within ten days after the prescribed forms are presented to him for signature, enter into a written contract with the Owner in accordance with the bid as accepted, and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such contract; or in the event of the withdrawal of said bid within the period specified, or the failure to enter into such contract and give such bond within the time specified, if the Principal shall pay the Owner the difference between the amount specified in said bid and the amount for which the Owner may procure the required work or supplies or both, if the latter amount be in excess of the former, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

The Surety, for value received, hereby agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extensions of the time within which the Owner may accept such BID; and said Surety does hereby waive notice of any such extensions.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals this _____ day of _____, 2016, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

(SEAL) _____
(Name of Principal)

By: _____

(SEAL) _____
(Name of Surety)

By: _____

Sealed and delivered in the presence of:

**CP1606: VRTC GARAGE MISCELLANEOUS
CONCRETE REPAIRS**

At the Contractor's option, this form may be substituted with a Power of Attorney form from the Contractor's Surety Company. The Contractor is cautioned that all pertinent information included on this form shall be incorporated in the executed and submitted security form.

CERTIFICATE OF GRANTEE / BORROWER'S ATTORNEY

I, the undersigned, _____,
the duly authorized and acting legal representative of _____
_____, do hereby certify as follows:

I have examined the attached contract(s) and surety bonds and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties' names thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions and provisions thereof.

(Signature)

(Date)

CP1606: VRTC GARAGE MISCELLANEOUS CONCRETE REPAIRS

City of Charleston Construction Contract

THIS CONTRACT, made this ____ day of ____, 201__, by and between:

The Owner: City of Charleston and the Contractor: _____
Department of Parks _____
823 Meeting Street _____
Charleston, SC 29403

WHEREAS, the Owner requires the construction of the following project, identified as follows:

CP1606: VRTC Garage Miscellaneous Concrete Repairs

Whereas, the CONTRACTOR, whose South Carolina contractor's license is _____, is prepared and qualified to provide such Construction;

NOW THEREFORE, the Owner and Contractor agree to all of the following terms and conditions set forth in this Contract.

TIME OF PERFORMANCE:

THE EFFECTIVE DATE of this contract shall be the date written above.
THE DATE OF COMMENCEMENT shall be the date indicated in the Notice to Proceed.
THE DATE OF SUBSTANTIAL COMPLETION shall be 45 calendar days after the DATE OF COMMENCEMENT, subject to adjustment in accordance with the terms of this Contract.

PAYMENTS TO THE CONTRACTOR for acceptable work performed shall be as follows:

THE CONTRACT SUM OF \$_____ to be paid in response to the Contractor's Applications for Payment as certified by the A/E and subject to the terms of this Contract.

THE CONTRACT SUM is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner: N/A.

LIQUIDATED DAMAGES in the amount of \$140 per day shall be withheld from any amounts otherwise due to the Contractor for each day the Contractor fails to achieve SUBSTANTIAL COMPLETION within the time allowed.

ARCHITECT ENGINEER – The A/E of Record for this Project is: JMT

IN WITNESS WHEREOF, THE PARTIES HERETO HAVE ENTERED INTO THIS CONTRACT ON THE DAY AND YEAR FIRST WRITTEN ABOVE.

OWNER: City of Charleston CONTRACTOR: _____

BY: _____ BY: _____
John J. Tecklenburg, Mayor (Signature of Contractor Representative)

(Name of Contractor Representative)

ITS: _____

General Conditions

ARTICLE 1 – CONTRACT DOCUMENTS

- A. The Contract Documents forming this agreement shall consist of the following:
 - 1. a fully executed Construction Contract (this document) and any listed attachments thereto;
 - 2. The Project Manual dated November 1, 2016.
 - 3. Bid Addenda and dates as follows: _____
 - 4. the Contractor’s completed Bid Form;
 - 5. all Change Orders and Change Directives;
 - 6. other documents as listed in Article 16.

ARTICLE 2 – GENERAL PROVISIONS

- A. The Contractor shall not incur any expense chargeable to the Owner until this Contract has been authorized and fully executed by both the Owner and the Contractor.
- B. The Contractor warrants to the Owner that:
 - 1. it and its subcontractors (if any) are financially able to complete the work;
 - 2. it will perform all obligations, furnish all plant, material, equipment, tools, transportation, supplies and labor to complete the work assigned;
 - 3. it is authorized and licensed to do business in the State of South Carolina and the City of Charleston;
 - 4. it will perform the Work with care and diligence and in a professional and workmanlike manner;
 - 5. it has visited the work site and is reasonably apprised of the conditions in and around the work area.
- C. Contractor’s Rights and Responsibilities
In addition to any other rights and responsibilities contained in this Agreement, the Contractor shall:
 - 1. pay for required construction permits or business license fees, labor, materials, equipment, tools, transportation, supervision, testing, etc, as required for the performance of the Work;
 - 2. visit the work site and obtain information to assist in familiarization with the work site, its conditions and any limitations that would affect the performance of the Work;
 - 3. have the right to rely on information contained in the Contract Documents, but shall give prompt and timely notice to the Owner of any apparent deficiencies or inconsistencies in the information furnished by the Owner or its A/E;
 - 4. be responsible for all construction means, methods, techniques, procedures and safety measures in the performance of the Work;
 - 5. employ only persons skilled in the work for which it is to do, employ an experienced superintendent to supervise the work who shall be responsible for the acts or omissions of the Contractor’s agents and employees or those of sub-contractors and their agents and employees acting on behalf of the Contractor;
 - 6. have, at the time of execution and for the duration of this Contract, all professional and business insurance, licenses and permits required to provide the required Services in the State of South Carolina, the City of Charleston and as required by this Contract.
- D. Owner’s Rights and Responsibilities
In addition to any other rights and responsibilities contained in this Agreement, the Owner shall:
 - 1. provide the contractor with available information regarding the Work and the work area;
 - 2. secure and pay for all design permits, assessments, and easements except as required by the Contract Documents;
 - 3. pay the Contractor for acceptable work performed, in accordance with the provisions of this Contract;
 - 4. if the Contractor fails to begin work within fourteen (14) calendar days of the DATE OF COMMENCEMENT as indicated in the Notice to Proceed, the Owner shall have the right to declare the Contractor in material breach of this Contract and terminate the Contract;
 - 5. act as the A/E in the absence of a licensed design professional.

CP1606: VRTC GARAGE MISCELLANEOUS CONCRETE REPAIRS

E. A/E's Rights and Responsibilities

In addition to any other rights and responsibilities contained in the Agreement, the A/E shall:

1. represent the Owner during the construction process through final completion of the project, and as requested during the warranty period. The A/E will act on behalf of the Owner only to the extent provided in the Contract Documents or otherwise agreed by the Owner;
2. make periodic visits to the site during construction administration to become familiar with the progress and quality of the Work and to determine if the Work is being performed in a manner indicating that the Work is generally progressing in accordance with the Contract Documents;
3. make recommendations to the Owner as to the acceptance or rejection of the Work and communicate the Owner's decision to the Contractor;
4. review and approve or reject shop drawings and samples submitted by the Contractor;
5. respond promptly to all requests for information or clarification from the Owner or the Contractor;
6. make the initial interpretation and decision on matters concerning performance under, and the requirements of, the Contract Documents, upon written request of either the Owner or Contractor. The interpretation or decision of the A/E shall be final, subject to the dispute resolution provisions of this Contract;
7. not be responsible for construction means, methods, techniques, procedures and safety measures in the performance of the work or acts of omission of the Contractor, Subcontractors or any other entity performing work on the site;
8. review periodic requests for payment, and approve or reject the request, in whole or in part;
9. prepare Change Orders or Change Directives as directed by the Owner.

ARTICLE 3 – CONSTRUCTION ADMINISTRATION

A. Shop Drawings and Samples

1. The Contractor shall review and approve Shop Drawings and Samples prior to their submission to the A/E. The Contractor's review shall be for compliance with the requirements of the Contract Documents and to ensure complete coordination of the Work.
2. The Contractor shall submit the number of sets as specified in the Contract Documents, or in the absence of a specification, submit enough copies for the Owner to retain two copies plus the number desired to be returned to the Contractor.
3. The A/E will review the shop drawings and samples with reasonable promptness but only for conformity with the design.
4. The Contractor shall submit samples as required by the Contract Documents. The final installed product shall match the approved sample.

B. Materials and Workmanship

1. The Contractor shall not allow the use of any asbestos-containing product.
2. The Contractor shall not use or allow the use of lead material in public water application. Lead-free solder, flux and pipe must be used in all public drinking water and wastewater applications. Lead-free solder and flux is defined as containing less than 0.2% lead while valves, pipes and appurtenances must contain less than 8.0% lead.
3. The Contractor warrants that unless otherwise specified or permitted by the Contract Documents, all material shall be new, in first class condition, and installed using workmanship of the highest quality in accordance with the Contract Documents.

C. Inspection and Testing of Materials

1. The Contractor shall have performed and documented all inspections and tests required by the Contract Documents, including those required by building officials.
2. The Contractor shall leave uncovered all areas of work that are called out in the Contract Documents to be left uncovered, or the A/E requests to be left uncovered prior to being inspected. The Contractor shall give adequate notice to the A/E of the time requested for an inspection of these areas.

D. Substitutions

1. Wherever the Contract Documents specify a particular product, article, appliance, equipment, or material and it is designated by manufacturer and model number, it is the intent to designate a

CP1606: VRTC GARAGE MISCELLANEOUS CONCRETE REPAIRS

- level of quality, finish, appearance, function, or other factor that was desirable to have incorporated into the design. Equivalent products of alternate manufacturers may be used, but must meet or exceed the specification for the original product and must be approved by the A/E.
2. The Contractor shall not substitute any product, article, appliance, equipment, or material that is specified without prior written approval from the A/E, which shall be granted only with the concurrence of the Owner.
- E. Changes in the Work
1. Only the Owner may authorize changes in the scope of the Contract. Such changes shall be made by issuing either a Change Order or a Construction Change Directive, and the Contractor shall execute the changed work promptly.
 2. The Contractor shall provide supporting information as requested by the A/E or the Owner to document the cost of any changed work.
 3. The Contractor shall prepare its cost proposal including labor and material cost breakdown with overhead and profit added as follows:
 - a. For the Contractor or subcontractor on work performed by its own forces:

Overhead (%)	Profit (%)	Commission (%)
10	7	0
 - b. For the Contractor or subcontractor on work performed by its subcontractors:

Overhead (%)	Profit (%)	Commission (%)
10	0	3
 - c. To a first tier subcontractor on work performed by its subcontractors:

Overhead (%)	Profit (%)	Commission (%)
10	0	3
 - d. No more than three levels of overhead, profit, and commission shall be allowed regardless of the number of subcontractor tiers ("commission" is defined as profit on work performed by others). The Contractor or subcontractor shall not be allowed overhead or commission on the overhead, profit, and/or commission received by its subcontractors. Changes to the Work that decrease the Contract Sum, i.e., deleted work, shall include Overhead, Profit, and Commission.
 4. In the absence of a total agreement concerning the item(s) for a Change Order, a Construction Change Directive shall be issued and the Contractor shall proceed diligently with performance of the work required.
- F. Receiving and Storing Materials and Equipment
1. The Contractor shall have an authorized person or persons to receive all items and shall properly unload, check for completeness of shipments, and in-transit damage.
 2. The Contractor shall properly handle and store materials, supplies, equipment etc. in accordance with the Delivery Order or manufacturer's printed instructions of each product.
- G. Reports
1. The Contractor shall prepare Daily Progress Reports on a form provided by the Owner. Reports shall be submitted to the Owner on a weekly basis.
- H. Time for Completion
1. Requests for time extensions shall be made promptly. Delays of the work due to circumstances beyond the control of the Contractor shall be adequately documented and submitted to the Owner with any request for an extension of the time of Completion.
 2. The time allowed for Substantial Completion includes five (5) calendar days per calendar month for delays due to inclement weather. Delays due to weather beyond the five days may be requested as a time extension to the time for completion. The Contractor shall submit job site weather data supporting the claim for an extension of time.
 3. Should completion of the Project extend past the original or amended contract substantial completion date, the Owner will retain as liquidated damages and not as a penalty the amount listed on Page 1 and reduce the Contractor's final payment by that amount.
- I. Guarantees and Warranties
1. The Contractor shall remedy and make good all defects in material and workmanship at no additional cost to the Owner and pay for any damage to other work or property resulting from

CP1606: VRTC GARAGE MISCELLANEOUS CONCRETE REPAIRS

- such defects for a period of one year from the date of Substantial Completion, excepting damage that is caused by misuse or abuse by the Owner. All warranties may be assigned by the Owner at no cost to the Owner and without the approval of the Contractor.
2. Where guarantees and/or warranties are required in the technical sections of the specifications, or as noted on the drawings, exceeding the one-year guarantee period, the extended warranty period will govern.
- J. Use of the Site
1. The Contractor shall confine its operations to areas permitted by laws and ordinances, and as defined in the Contract Documents. The site must be maintained in a reasonably clean condition, free of trash and debris. The Contractor shall, on a regular basis or as specifically requested by the Owner, remove from the site all trash, debris, tools and equipment no longer needed for the work.
 2. The Contractor shall provide access to the work in progress for representatives of the Owner, the A/E and for all authorities having jurisdiction over the Work.
- K. Taxes
1. The Contractor shall include in its Bid and pay for, all taxes in effect or scheduled to go into effect at the time of bidding or at the completion of negotiations.
 2. The Contractor's attention is directed to Title 12, Chapter 8, of the SC Code of Laws, as amended, concerning withholding of tax for non-residents, employees, contractors and subcontractors.

ARTICLE 4- PAYMENTS

- A. The Owner shall make payments no more often than monthly to the Contractor for acceptable work, as scheduled on page 1 and in accordance with Title 29, Chapter 6 of the SC Code of Laws, as amended.
- B. The Contractor shall make payments to Subcontractors and suppliers for acceptable work performed and materials furnished in accordance with Title 29, Chapter 6 of the SC Code of Laws, as amended.
- C. Accompanying each Application for Payment, the Contractor shall submit to the A/E a Schedule of Values allocating all the various portions of the Work, and a Construction Schedule, to be used by the architect as a basis for reviewing the Application for Payment. The Owner shall make progress payments to the Contractor for acceptable work completed based on the approved Schedule of Values and the A/Es' evaluation of the Contractor's Application for Payment. The Owner shall retain ten (10) percent of the completed work until the Final Application for Payment is paid.
- D. The Contractor's Final Application for Payment may be submitted when the following have occurred:
 1. The Contractor has fully performed the Work of the Contract, including the acceptable completion of all punch list items; and,
 2. The Contractor furnishes a Consent of Surety to Final Payment (for bonded projects) and Releases of Lien from subcontractors and suppliers; and,
 3. The Contractor has furnished to the satisfaction of the A/E and the Owner all operating and maintenance manuals, product information, supplier warranties and guarantees and all other project completion documents; and,
 4. The Contractor has completed all training and other startup/turnover support activities with the Owner staff.
- E. If the work is completed to the satisfaction of the A/E, the A/E shall certify the application and the Owner shall make final payment.

ARTICLE 5 – CLAIMS

- A. Each party may assert a Claim requesting an adjustment of the Contract Sum, a change in the Contract Time for completion, or other relief with respect to the terms of the Contract.
- B. Claims under this Contract shall be submitted by written notice that a Claim is being asserted. The responsibility to substantiate a Claim rests with the party making the Claim.
- C. Claims arising prior to the date final payment is due must be initiated within twenty-one (21) days after occurrence of the event giving rise to such Claim or within twenty-one (21) days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. By failing to give

CP1606: VRTC GARAGE MISCELLANEOUS CONCRETE REPAIRS

written notice of a Claim within the time required by this paragraph a party expressly waives its claim.

- D. Pending a resolution of the Claim, including any dispute resolution under this Contract, the Contractor shall proceed to perform as required by the Contract and the Owner shall continue to make payments in accordance with this Contract.

ARTICLE 6 – DISPUTE RESOLUTION

The parties agree to attempt in good faith to resolve their disputes arising from a claim or controversy arising out of or relating to the Contract. To the extent that the parties are unable to reach a resolution, the parties agree that any suit, action or proceeding arising out of or relating to the Contract shall be instituted and maintained only in a state or federal court located in Charleston County. The Contractor agrees that any act by the Owner regarding the Contract is not a waiver of either the State's sovereign immunity or the State's immunity under the Eleventh Amendment of the United States Constitution. As used in this paragraph, the phrase "the State" includes any governmental entity transacting business with the Contractor pursuant to the Contract (including the Owner).

ARTICLE 7 - SUSPENSION OR TERMINATION OF THE CONTRACT

- A. **Owner's Right of Termination**
1. The Owner may, at any time, terminate the Contract, in whole or in part, with or without cause for the Owner's convenience, upon seven (7) days written notice to the Contractor.
 2. The Owner may, upon written consent of the Contractor, reinstate the terminated portion of this Contract in whole or in part if it is determined that it is necessary or advantageous to the Owner. Compensation shall be equitably negotiated by agreement between the Owner and Contractor.
- B. **Contractor's Right of Termination**
1. The Contractor may terminate the Contract if work is stopped through no fault of the Contractor, or other persons performing work either directly or indirectly for the contractor, for a period of time exceeding sixty (60) consecutive calendar days due to a court order or other public authority having jurisdiction; or a National emergency which requires the work to be stopped.
 2. The Contractor may, upon seven (7) days written notice to the Owner and the A/E, terminate the Contract for the reasons stated above and be compensated for work completed and materials stored in accordance with the Contract Documents.
- C. **Owner's Right of Suspension**
1. The Owner may, at any time, suspend the work, in whole or in part, with or without cause for such period of time as determined by the Owner;
 2. The Contract Sum and Contract Time will be adjusted for increases in cost to the Contractor due to the delay or interruption except that no increase will be granted for delays or interruptions that are, or would have been, the responsibility of the Contractor or an equitable adjustment covered under other provisions of the Contract.

ARTICLE 8 – PROTECTION OF PERSONS AND PROPERTY

- A. The Contractor is responsible for job-site safety and the protection of persons and property within the work site. The Contractor shall comply with all applicable laws, rules and regulations regarding safety.
- B. If during the course of executing the Work, the Contractor encounters material believed to be hazardous or of archeological significance, then the Contractor shall immediately stop work in the affected area and report the conditions to the Owner and the A/E in writing. Except by written agreement of the Owner and Contractor, the Contractor shall not resume work until the material has been rendered harmless, removed or protected.
- C. This Article shall apply only to hazardous, toxic or radioactive materials or substances subject to the regulations of agencies having jurisdiction such as, but not limited to, the S.C. Department of Health and Environmental Control (SCDHEC), the U.S. Environmental Protection Agency (USEPA) and the U.S. Nuclear Regulatory Commission (USNRC).

CP1606: VRTC GARAGE MISCELLANEOUS CONCRETE REPAIRS

- D. For the purposes of this Contract, the term "rendered harmless" shall be interpreted to mean that measured levels of verified hazardous, toxic or radioactive materials or substances are less than the applicable standards established by authorities having jurisdiction. In no event, however, shall the Owner have any responsibility for any substance or material that is brought to the Project site by the Contractor, any Subcontractor, any material supplier, or any entity for whom any of them is responsible, unless such materials or substances were expressly required by the Contract Documents. The Contractor agrees not to use any fill or other materials to be incorporated into the Work that are hazardous, toxic, or radioactive, or made up of any items that are hazardous, toxic, or radioactive.

ARTICLE 9 – INSURANCE AND BONDS

- A. The Contractor shall purchase and maintain insurance to protect against claims that may arise out of the Contractor's operations under the work of this Contract. The limits shall be for not less than the limits set forth in this Article, shall be written on an occurrence basis and shall be in force for the duration of the Contract.
- B. The Contractor's Liability Insurance shall include all major divisions of coverage and is to be based on a Commercial basis including the following:
 - 1. Premises – Operations.
 - 2. Independent Contractor's Protective.
 - 3. Products and Completed Operations.
 - 4. Personal and Advertising Injury.
 - 5. Contractual, including specified provisions for Contractor's obligations.
 - 6. Broad Form Property Damage, including Completed Operations.
 - 7. Owned, Non-Owned and Hired Vehicles.
- C. The Insurance required by this Article shall be written for not less than the following limits or greater if required by law or other provisions in the contract:
 - 1. Commercial General Liability:
 - a. General Aggregate (per project) \$ 1,000,000
 - b. Products/Completed Operations \$ 1,000,000
 - c. Personal and Advertising Injury \$ 1,000,000
 - d. Each Occurrence \$ 1,000,000
 - e. Fire Damage \$ 50,000
 - f. Medical Expense (any one person) \$ 5,000
 - 2. Business Auto Liability (including all owned, non-owned, and hired vehicles):
 - a. Combined Single Limit \$ 1,000,000
 - OR-
 - b. Bodily Injury & Property Damage (each) \$ 1,000,000
 - 3. Workers Compensation
 - a. State Statutory
 - b. Employer's Liability \$ 100,000 Per Accident
\$ 500,000 Disease, Policy Limit
\$100,000 Disease, Each Employee
- D. The aggregate Limits of the Contractor's Insurance shall apply, in total for this Contract. This shall be indicated on the Certificate of Insurance as "Per Project", or in an attached policy amendment.
- E. The Owner shall be listed as the certificate holder of the Contractor's Liability Insurance.
- F. Certificates of Insurance shall be in the form of the latest edition of the ACORD 25S and shall be filed with the Owner prior to commencement of the Work. In addition to Certificates of Insurance, the Contractor shall supply a written endorsement to the Contractor's general liability insurance policy that names the Owner as an additional insured. The endorsement shall provide that the Contractor's liability insurance policy shall be primary, and that any liability insurance of the Owner shall be secondary and noncontributory. These Certificates shall contain a provision that coverages afforded under the policies will not be cancelled unless at least fifteen (15) days prior written notice has been given to the Owner.

CP1606: VRTC GARAGE MISCELLANEOUS CONCRETE REPAIRS

- G. In no event shall any failure of the Owner to receive certified copies or certificates of policies required under this Article or to demand receipt of such certified copies or certificates prior to the Contractor's commencing the Work be construed as a waiver by the Owner of the contractor's obligations to obtain insurance pursuant to this Article. The obligation to procure and maintain any insurance required by this Article is a separate responsibility of the Contractor and independent of the duty to furnish a certified copy or certificate of such insurance policies. Cancellation of insurance shall be grounds for termination of the contract.
- H. Bonds
If required by the Contract Documents, and prior to being issued a Notice to Proceed, the Contractor shall deliver to the Owner properly executed Performance and Payment Bonds. Failure to provide the Bonds may indicate that the Contractor is in material breach of its responsibilities under the Contract.
1. Bonds shall each be in the amount of 100% of the amount of the Contract.
 2. The Surety providing the Bonds shall have, at a minimum a "Best Rating" of "A" as stated in the most current publication of "Best's Key Rating Guide, Property-Casualty". In addition, the Surety shall have a minimum "Best Financial Strength Category" of "Class V" and in no case less than five (5) times the contract amount. The Bonds shall:
 - a. be issued by a surety company licensed to do business in South Carolina; and,
 - b. be accompanied by a current power of attorney and certified by the attorney-in-fact who executes the bond on the behalf of the surety company; and,
 - c. remain in effect for a period not less than one (1) year following the date of Substantial Completion or the time required to resolve any items of incomplete Work and the payment of any disputed amounts, whichever time period is longer; and,
 - d. display the Surety's' Bond Number.
- I. Property Insurance
The Contractor shall purchase and maintain Builder's Risk insurance in the amount of the Contract Sum and all subsequent modifications on a replacement cost basis. The Contractor shall be responsible for any deductibles. Such insurance shall be maintained until final payment has been made.

ARTICLE 10 – CORRECTION OF WORK

- A. The Contractor shall promptly and with due diligence, correct work rejected by the A/E or the Owner for failure to conform to the requirements of the Contract, whether such defective work is observed before or after Final Completion. The Contractor shall pay for correcting the deficient work including additional testing and inspections and any compensation for A/E services and expenses involved.
- B. If the Contractor fails to carry out the work in accordance with the Contract Documents, and fails within a seven (7) day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies they may have, proceed to correct such deficiencies. In such case, an appropriate Construction Change Directive shall be issued deducting from payments to the Contractor the reasonable cost of correcting such deficiencies including the Owners expenses, and compensation to the A/E, if necessary.
- C. The Contractor and the Surety (if the Contract is bonded) remain liable for any excess cost or damages resulting from actions set forth in this Article.

ARTICLE 11 – CONSTRUCTION BY OWNER

- A. The Owner reserves the right to do work with its own forces or award separate contracts for work on the same project.
- B. The Contractor agrees to allow access to the site by the Owner's work force or separate contractor(s), and agrees to assist in coordinating the progress of the work with the Owner.
- C. The Owner shall have the responsibility to coordinate the activities of the various contractors working at the project location.

ARTICLE 12 – SUBCONTRACTORS

CP1606: VRTC GARAGE MISCELLANEOUS CONCRETE REPAIRS

If the Contractor engages subcontractors to provide work on the Contract, then the Contractor shall include, or cause to be included, in the agreement with those entities, all provisions contained in the Contract. Subcontractors and sub-subcontractors shall be bound by the same provisions as the Contractor and shall preserve and protect the rights of the Owner.

ARTICLE 13 – COMPLETION AND CLOSEOUT

- A. The Contractor shall have completed the unfinished and defective work listed in the “punch list” and notify the A/E of its completion. The A/E will schedule a Final Inspection and require the Contractor to demonstrate that all equipment and systems operate as designed. The Owner may elect to have other persons, firms or agencies participate in the inspections.
- B. Failure of the Contractor to achieve completion within the allowed time shall entitle the Owner to consider the Contractor in breach of the Contract.
- C. If more than one Final Inspection is required, the Contractor shall reimburse the Owner for all costs associated with the re-inspection, if any.
- D. Final Payment shall not be due, nor shall retained funds be released, until the Contractor complies with the requirements of Article 4.

ARTICLE 14 – MISCELLANEOUS PROVISIONS

- A. The Contractor and Owner each bind themselves, their partners, directors, officers, successors, executors, administrators, assigns and legal representatives in respect to all provisions of this contract. Neither party shall assign, sublet or transfer their interest in this Contract without the written consent of the other party.
- B. This Contract represents the entire and integrated agreement between the Owner and Contractor. It supersedes any and all prior and contemporaneous communications, representations and agreements, whether written or oral relating to the subject matter of this Contract.
- C. Nothing in this Contract shall be construed to give any rights, contractual relationship or benefit to a third party against either the Owner or the Contractor.
- D. Unless otherwise included in the Contract, nothing shall require the Contractor to discover, handle, remove or dispose of any hazardous or toxic materials in any form at the project site.

ARTICLE 15 – GOVERNING LAW

- A. This contract shall be governed by the laws of the State of South Carolina.

ARTICLE 16 – OTHER PROVISIONS (if any)

- A. The Contractor shall indemnify and save harmless the Owner and the Owner's agents and employees, from and against all losses and claims, demands, payments, suits, actions, recoveries, and judgments of every nature and description brought or recovered against them by reason of any act, omission, or default of the Contractor, its agents, or employees in the execution of this Contract. When the City submits notice, Contractor shall promptly defend any aforementioned action at no cost to the Owner. This obligation shall survive the suspension or termination of this Contract. The limits of insurance coverage required herein shall not serve to limit this indemnity obligation. The recovery of costs and fees shall extend to those incurred in the enforcement of this indemnity.

At the Contractor's option, this form may be substituted with a Performance Bond and Power of Attorney form from the Contractor's Surety Company. The Contractor is cautioned that all pertinent information included on this form shall be incorporated in the executed and submitted security form.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that _____
(Name of Contractor)

at _____
(Address of Contractor)

a _____, hereinafter called "Principal",
(Corporation, Partnership or Individual)

and _____
(Name of Surety)

at _____, hereinafter called "Surety", are held
(Address of Surety)

and firmly bound unto the City of Charleston Department of Parks, 823 Meeting Street, Charleston, SC, 29403, hereinafter called "Owner", in the penal sum of :

_____ Dollars(\$_____)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 2016, a copy of which is hereto attached and made a part hereof for the construction of:

CP1606: VRTC Garage Miscellaneous Concrete Repairs

NOW, THEREFORE, is the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise it shall remain in full force and effect.

PROVIDED FURTHER, that the said Surety, for value hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to work to be performed thereunder or the specifications accompanying the same shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alterations or addition to the terms of the contract or to the work or to the specification.

PROVIDED FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in three (3) counterparts, each one of which shall be deemed an original, this the ____ day of _____, 2016.

ATTEST: _____
(Principal)
By: _____

(Principal) Secretary

(SEAL)

(Witness as to Principal) (Address)

(Surety)

ATTEST: _____
(Surety) Secretary

(SEAL)

By: _____
(Attorney -in-fact)

(Address) (Address)

NOTE: Date of bond must not be prior to date of Contract.
If Contractor is Partnership, all partners should execute bond.

Important: Surety companies executing bonds must appear on the Treasury Department most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

At the Contractor's option, this form may be substituted with a Payment Bond and Power of Attorney form from the Contractor's Surety Company. The Contractor is cautioned that all pertinent information included on this form shall be incorporated in the executed and submitted security form.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

that _____ at _____
(Name of Contractor) (Address of Contractor)

a _____, hereinafter called "Principal", and
(Corporation, Partnership or Individual)

_____ at _____
(Name of Surety) (Address of Surety)

herinafter called "Surety", are held and firmly bound unto the City of Charleston Department of Parks, 823 Meeting Street, Charleston, SC, 29403, hereinafter called "Owner", in the penal sum of _____ Dollars (\$ _____)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 2016, a copy of which is hereto attached and made a part hereof for the construction of:

CP1606: VRTC Garage Miscellaneous Concrete Repairs

NOW, THEREFORE, is the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alterations or addition to the terms of the contract or to the work or to the specification.

PROVIDED FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in three (3) counterparts, each one of which shall be deemed an original, this the _____ day of _____, 2016.

ATTEST:

(Principal) Secretary

(SEAL)

(Witness as to Principal)

(Principal)

By: _____

(Address)

(Surety)

ATTEST:

(Surety) Secretary

(SEAL)

(Address)

By: _____

(Attorney-in-Fact)

(Address)

NOTE: Date of bond must not be prior to date of Contract.
If Contractor is Partnership, all partners should execute bond.

Important: Surety companies executing bonds must appear on the Treasury Department most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

TABLE OF CONTENTS

SECTION 002213 – SPECIAL CONDITIONS

SECTION 024119 - SELECTIVE DEMOLITION

SECTION 030130 - CONCRETE REHABILITATION– FORMED
APPLICATIONS

SECTION 030140 – CONCRETE REHABILITATION – HAND PACKED APPLICATIONS

SECTION 079200 – JOINT SEALANTS



SECTION 00 22 13 - SPECIAL CONDITIONS

PART 1 - GENERAL

1.1 OWNER

A. The term "Owner" as used in the contract documents is defined as "City of Charleston, Department of Parks". The Engineer is referred to as the Architect in the Contract Documents. Refer to Article 12.3.5 of the Construction Contract.

1.2 SCOPE OF WORK

A. The "work" under this contract includes the furnishing of all labor, materials, equipment, and all items and services of every nature whether particularly mentioned or not that is required to complete the project.

1.3 GENERAL DRAWINGS AND SPECIFICATIONS

A. The general drawings and specifications referred to in the Contract Documents and elsewhere are those described below, all of which were prepared by JMT, Inc. for City of Charleston, Department of Parks, and bear various titles as shown below, and dated. Refer to section 3.2 of Instruction to Bidders.

PROJECT DRAWINGS:

<u>SHEET</u>	<u>DRAWING TITLE</u>
S-1	Title Page
S-2	General Notes
S-3	Roof Plan
S-4	Fourth Floor Plan
S-5	Third Floor Plan
S-6	Second Floor Plan
S-7	Repair Type 1
S-8	Repair Type 2
S-9	Repair Type 3, 4, & 5
S-10	Repair Type 6 – Add Alternate #1

1.4 OWNER FURNISHED MATERIALS AND EQUIPMENT

A. Materials and equipment, indicated on the drawings as "Not in Contract" and "Not Included in Contract" will be furnished and installed by Owner, unless specified otherwise hereinafter.

1.5 ELECTRICITY

MISCELLANEOUS CONCRETE REPAIRS – VRTC PARKING GARAGE 2016

- A. The Contractor shall have access to electricity at the garage at no cost to the contractor. The Contractor is required to furnish all temporary lighting, including all wiring, lamps and miscellaneous equipment required for the completion and inspection of the work.

1.6 WATER

- A. Contractor will have access to water at the garage at no cost to the Contractor.

1.7 TEMPORARY HEAT

- A. The Contractor shall provide temporary heat as he feels is required for construction purposes and to protect and dry all work during cold weather. The Contractor shall pay for all cost of all temporary heat required during construction.

1.8 TOILETS

- A. The Contractor will have access to toilets on site at the garage at no cost to the Contractor.

1.9 LINES, GRADES, AND MEASUREMENTS

- A. The Contractor will establish his own working lines and grades from the basic reference lines, benchmarks, and coordinates supplied by Engineer and shall be responsible for accuracy of the same.

1.10 SHOP DRAWINGS

- A. Shop Drawings with engineering calculations shall be submitted to the Engineer with transmittal letter ten (10) days prior to commencing fabrication of such submittable items. Shop Drawings and engineering calculations submitted shall be reproducible. Four (4) copies of each drawing and engineering calculations are required. All shop drawings and engineering calculations submitted must be stamped with the seal of a qualified licensed South Carolina Professional Engineer, and shall be in accordance with the Contract for Construction.

1.11 LIQUIDATED DAMAGES

- A. Liquidated damages will apply as described in the Contract for Construction between Contractor and Owner, and in the Bid Form.

1.12 PAYMENT

- A. The Contractor shall provide a Performance Bond and a Payment Bond as outlined in the Bid Form and in the Instruction to Bidders, and in accordance with the Contract for Construction between Contractor and Owner.

1.13 SCHEDULING

- A. From the date specified on "Notice to Proceed," the Contractor shall complete the project in accordance with the Schedule for the project, and in accordance with the Bid Form and the Contract for Construction. At the pre-construction meeting, the Contractor shall submit a schedule of activities and cost on each bid item with starting and completion dates for each major activity on each item.

1.14 INSURANCE REQUIREMENTS

- A. Contractor shall provide proof of insurance as called for in the Contract for Construction between Contractor and Owner.

PART 2 – PRODUCTS

2.1 GENERAL

- A. All products are to be of the type specified in the Bidding Documents and in accordance with requirements in the Contract for Construction and the Instruction to Bidders. If unspecified, shall meet the minimum industry or local standards. Contractor shall follow guidelines in the Contract for Construction and in the Instruction to Bidders for approval of substitutions of specified products.

PART 3 - EXECUTION

3.1 EXISTING UTILITIES AND STRUCTURES

- A. The Contractor will be held responsible for the workmanlike repair of any damage done to any utilities or structures during work under this contract. The Contractor shall familiarize himself with the existing conditions and be prepared to adequately care for and safeguard himself and the Owner from damage.

3.4 REMOVAL OF OBSTRUCTIONS

- A. The Contractor may, with the Engineer's consent, remove obstructions to his operations, but they shall be removed and replaced at the Contractor's expense.

3.6 VERIFICATION

- A. Commencement of work means acceptance of existing conditions.

3.7 PERMITS

- A. Contractor shall meet the requirements of applicable local, state, and federal agencies in accordance with the Contract for Construction. If Contractor is stopped or altered in construction

MISCELLANEOUS CONCRETE REPAIRS – VRTC PARKING GARAGE 2016

activities due to non-compliance with permit conditions, no additional cost for work stoppage shall be paid by Owner.

END OF SECTION 00 22 13

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.

1.2 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.3 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at the project site. This meeting may take place at the project kick off meeting.

1.4 INFORMATIONAL SUBMITTALS

A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property and for dust control. Indicate proposed locations and construction of barriers.

B. Selective Demolition Plan: Within 30 days prior to demolition, prepare and deliver to the Owner a Demolition Plan which includes removal procedures and sequence, schedules, coordination, sequence of operations, and description of methods. The plan shall include any temporary shoring required. Also the plan shall denote location and construction of barricades, fence, and other temporary work to protect the area under construction. No selective demolition shall commence prior to the submission and approval of the plan.

C. Predemolition photographs or video.

1.5 QUALITY CONTROL AND QUALIFICATIONS

A. After demolition is complete, but prior to final cleaning, the City shall have the opportunity to verify, measure, and photo document the concrete cavities and all exposed reinforcing. Contractor shall advise the City in writing of demolition and reinstatement schedule to allow

adequate time for City to inspect the work if desired. This notification shall be given a minimum of twenty four (24) hours in advance of anticipated work activities.

- B. Contractor to coordinate with City for location of any buried utilities in concrete.
- C. Work must be performed by a firm having not less than 5 years successful experience in comparable selective concrete demolition and cleaning projects, and employing personnel skilled in the processes and operations indicated.

1.6 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Engineer/Owner of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. If suspected hazardous materials are encountered, do not disturb; immediately notify Engineer and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.
- G. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Contractor to perform a survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations. Notify the EOR of any concerns.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

3.3 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
- C. Remove temporary barricades and protections where hazards no longer exist.

3.4 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 - 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 3. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 4. Dispose of demolished items and materials promptly.
- B. Location and Marking of Work Areas – Concrete Demolition
 - 1. The full extents of concrete deck spalls and delaminations (impending spalls) shall be located by sounding the appropriate area with a hammer. Delaminated areas, once located, will be further sounded to define their limits.

C. Concrete Removal and Surface Preparation – Concrete Demolition

1. Delaminated, spalled and unsound concrete shall have their marked boundaries sawcut to a depth of at least ½ inch. All edges shall be straight and patch areas polygon shaped. The edge cut shall be shall be dressed perpendicular to the member face and of uniform depth for the entire length of the cut.
2. All unsound concrete shall be removed from within the marked boundary to a minimum depth to a depth of at least 1 inch at junctures with construction to remain, or until sound concrete is encountered, as indicated on the Drawings. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete.
3. Where reinforcing bars are exposed by concrete removal, extra caution shall be exercised to avoid damaging them during removal of additional unsound concrete. The minimum depth of concrete removal around and beyond the perimeter of the bar for the entire exposed length shall be as indicated on the Drawings.
4. If rust is present on reinforcing bars where the reinforcement enters sound concrete, then additional removal of concrete along the reinforcement is required. Such additional removal shall continue until grey reinforcement is exposed. If rust persists beyond the removal limits, the City shall be notified in writing and have the opportunity to verify and photo document.

D. Preparation of Concrete Bonding Surface – Concrete Demolition

1. The Contractor shall clean and prepare all exposed surfaces to remove laitance and any foreign material that may impair bonding. Cleaning shall be done in accordance with manufacturer recommendations for the product being used for the reinstatement.
2. All concrete bonding surfaces shall be cleaned and prepared prior to repair product placement.

E. Cleaning and Securing of Reinforcing – Concrete Demolition

1. The exposed reinforcement bar(s) shall be cleaned of all rust, scale, oil, and dirt by mechanical cleaning methods.
2. Loose reinforcing bars shall be secured by either tying loose reinforcement to bonded reinforcement or drilling supplemental anchors and installing tie downs. Lead anchors are not permitted. Securing loose reinforcement is incidental to surface preparation and no extras will be allowed for this work.
3. If reinforcing steel is to be exposed to the elements for more than 3 days following initial unsound concrete removal, whether intentionally or unintentionally, a City and/or Engineer approved rebar corrosion inhibiting coating shall be applied per the manufacturer's recommendations until the concrete repair can be completed.

F. Final Preparation – Concrete Demolition

1. Air blasting is required as a final step to remove dust and debris.

G. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

3.5 CLEANING

- A. Remove demolition waste materials from Project site
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.
- C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 030130 - CONCRETE REHABILITATION– FORMED APPLICATIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. This specification describes the patching or overlay of interior and/or exterior horizontal and vertical surfaces with a polymer- modified, portland cement mortar/concrete.

1.2 ACTION SUBMITTALS

- A. Product Data: Submit two copies of manufacturer’s literature, to include: Product Data Sheets, and appropriate Material Safety Data Sheets (MSDS).

1.3 QUALITY ASSURANCE

- A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
- B. Contractor qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
- C. Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, state and federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. All materials must be delivered in original, unopened containers with the manufacturer’s name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
- B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
- C. Condition the specified product as recommended by the manufacturer.

1.5 JOB CONDITIONS

- A. Environmental Conditions: Do not apply material if it is raining or snowing or if such conditions appear to be imminent. Minimum application temperature is 45°F (7°C) and rising.

- B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified material.

1.6 WARRANTY

- A. Provide a written warranty from the manufacturer against defects of materials for a period of five (5) years, beginning with date of substantial completion of the project.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. SikaTop 111 Plus, as manufactured by Sika Corporation, are considered to conform to the requirements of this specification. Other products may be submitted to the Engineer for approval. The use of any other product must be approved by the Engineer prior to use on the project. SikaTop 111 Plus shall be used when the area to be repaired requires forming.

2.2 MATERIALS

- A. Polymer-modified Portland cement mortar:
 - 1. Component A shall be a liquid polymer emulsion of an acrylic copolymer base and additives.
 - a. pH: 4.5-6.5
 - b. Film Forming Temperature: 73°F max.
 - c. Tear Strength: 950-psi min.
 - d. Elongation at Break: 500% min.
 - e. Particle Size: less than 0.1 micron
 - 2. Component A shall contain an organic, penetrating corrosion inhibitor which has been independently proven to reduce corrosion in concrete via ASTM G3 (half-cell potential tests). The corrosion inhibitor shall not be calcium nitrite, and shall have a minimum of 5 years of independent field testing to document performance on actual construction projects.
 - 3. Component B shall be a blend of selected portland cements, specially graded aggregates, admixtures for controlling setting time, water reducers for workability, and an organic accelerator.
 - 4. The materials shall be non-combustible, both before and after cure.
 - 5. The materials shall be supplied in a factory-proportioned unit.
 - 6. The polymer-modified, portland cement mortar must be placeable from 1/2-in. to 1-in. in depth per lift for horizontal applications.
- B. To prepare a polymer-modified portland cement concrete: aggregate shall conform to ASTM C-33. The factory-proportioned unit shall be extended with 42-lb. max. of a 3/8 in. (No.8 distribution per ASTM C-33, Table II) clean, well-graded, saturated surface dry aggregate, having low absorption and high density. Aggregate must be approved for use by the engineer.

2.3 PERFORMANCE CRITERIA

- A. Typical Properties of the mixed polymer-modified, portland cement mortar:
 - 1. Working Time: Approximately 30 minutes
 - 2. Finishing Time: 50-120 minutes
 - 3. Color: concrete gray
- B. Typical Properties of the cured polymer-modified, portland cement mortar (SikaTop 111):
 - 1. Compressive Strength (ASTM C-109 Modified)
 - a. 1 day: 2500 psi min. (17.2 MPa)
 - b. 7 day: 5500 psi min. (37.9 MPa)
 - c. 28 day: 7000 psi min. (48.3 MPa)
 - 2. Flexural Strength (ASTM C-293) @ 28 days: 1500 psi (10.3 MPa)
 - 3. Splitting Tensile Strength (ASTM C-496) @ 28 days 700 psi (4.8 MPa)
 - 4. Bond Strength (ASTM C-882 Modified) @ 28 days: 2500 psi (17.2 MPa)
 - 5. The portland cement mortar shall not produce a vapor barrier.
 - 6. Density (wet mix): 136 lbs. / cu. ft. (2.18 kg/l)
 - 7. Permeability (AASHTO T-277 @ 28 days Approximately 500 Coulombs)

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

- A. Areas to be repaired must be clean, sound, and free of contaminants. All loose and deteriorated concrete shall be removed by mechanical means. Mechanically prepare the concrete substrate to obtain a surface profile of +/- 1/16" (CSP 5 or greater as per ICRI Guidelines) with a new exposed aggregate surface. Area to be patched shall not be less than 1/2" in depth for SikaTop 111.
- B. Where reinforcing steel with active corrosion is encountered, sandblast the steel to a white metal finish to remove all contaminants and rust. Where corrosion has occurred due to the presence of chlorides, the steel shall be high pressure washed after mechanical cleaning. Prime steel with 2 coats of Sika Armatec 110 EpoCem (or approved equal) as directed by manufacturer.

3.2 MIXING AND APPLICATION (For Sika product; Engineer must approve any substitute product prior to use on the project)

- A. Mechanically mix in appropriate sized mortar mixer or with an approved paddle and low speed (400-600 rpm) drill. Pour approximately 4/5 gal Component A into the mixing container. Add Component B while continuing to mix. Mix to a uniform consistency for a maximum of three minutes. Add remaining Component A to mix if a more loose consistency is desired. Should smaller quantities be needed, be sure the components are measured in the correct ratio and that the Component B is uniformly blended before mixing the components together. Mix only that amount of material that can be placed in 30 minutes for SikaTop 111. Do not retemper material.
- B. Mixing of the polymer-modified portland cement concrete: Pour all (1-gal) of Component A into the mixing container. Add Component B while continuing to mix. Add correct amount of the pre-approved coarse aggregate, and continue mixing to a uniform consistency. Mixing time should be 3 minutes maximum.
- C. Placement Procedure: At the time of application, the substrate should be saturated surface dry with no standing water. Mortar and/or concrete must be scrubbed into substrate filling all pores and voids. While the scrub coat is still wet, force material against edge of repair, working toward center. If repair area is too large to fill while scrub coat is still wet use Sika Armatec 110 EpoCem in lieu of scrub coat. After filling, consolidate, then screed. Allow mortar or concrete to set to desired stiffness, then finish with trowel, manual or power, for smooth surface. Broom or burlap drag for rough surface. Areas where the depth of the repair is less than 1-inch shall be repaired with polymer-modified portland cement mortar. In areas where the depth of the repair is greater than 1 inch, the repair shall be made with polymer-modified portland cement concrete.
- D. As per ACI recommendations for portland cement concrete, curing is required. Moist cure with wet burlap and polyethylene and a fine mist of water, or a water-based* compatible curing compound. Moist curing should commence immediately after finishing and continue for 48 hours. Protect newly applied material from rain, sun, and wind until compressive strength is 70% of the 28-day compressive strength. To prevent from freezing, cover with insulating material. Setting time is dependent on temperature and humidity. *Pretesting of curing compound is recommended.
- E. Adhere to all procedures, limitations and cautions for the polymer-modified portland cement mortar in the manufacturers current printed technical data sheet and literature.
- F. Formwork shall be removed 24 hours after curing begins.

3.3 CLEANING

- A. The uncured polymer-modified portland cement mortar can be cleaned from tools with water. The cured polymer -modified portland cement mortar can only be removed mechanically.
- B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

3.4 TESTS:

MISCELLANEOUS CONCRETE REPAIRS – VRTC PARKING GARAGE 2016

- A. The Owner reserves the right to hire an independent testing agency to provide compressive strength testing as needed.

END OF SECTION 030130

SECTION 030140 – CONCRETE REHABILITATION – HAND PACKED APPLICATIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. This specification describes the patching of interior and/or exterior surfaces with a polymer-modified, portland cement mortar.

1.2 ACTION SUBMITTALS

- A. Product Data: Submit two copies of manufacturer's literature, to include: Product Data Sheets, and appropriate Material Safety Data Sheets (MSDS).

1.3 QUALITY ASSURANCE

- A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
- B. Contractor qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
- C. Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, state and federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
- B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
- C. Condition the specified product as recommended by the manufacturer.

1.5 JOB CONDITIONS

- A. Environmental Conditions: Do not apply material if it is raining or snowing or if such conditions appear to be imminent. Minimum application temperature is 45°F (7°C) and rising.

- B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified material.

1.6 WARRANTY

- A. Provide a written warranty from the manufacturer against defects of materials for a period of five (5) years, beginning with date of substantial completion of the project.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. SikaTop 123 Plus, as manufactured by Sika Corporation, is considered to conform to the requirements of this specification. Other products may be submitted to the Engineer for approval. The use of any other product must be approved by the Engineer prior to use on the project. SikaTop 123 Plus shall be used when the area to be repaired requires a hand packed application.

2.2 MATERIALS

- A. Polymer-modified Portland cement mortar:
 1. Component A shall be a liquid polymer emulsion of an acrylic copolymer base and additives.
 - a. pH: 4.5-6.5
 - b. Film Forming Temperature: 73 deg F max.
 - c. Tear Strength: 950-psi min.
 - d. Elongation at Break: 500% min.
 - e. Particle Size: less than 0.1 micron
 2. Component A shall contain an organic, penetrating corrosion inhibitor which has been independently proven to reduce corrosion in concrete via ASTM G3 (half-cell potential tests). The corrosion inhibitor shall not be calcium nitrite, and shall have a minimum of 5 years of independent field testing to document performance on actual construction projects.
 3. Component B shall be a blend of selected portland cements, specially graded aggregates, admixtures for controlling setting time, water reducers for workability, and an organic accelerator.
 4. The materials shall be non-combustible, both before and after cure.
 5. The materials shall be supplied in a factory-proportioned unit.
 6. The polymer-modified, portland cement mortar must be placeable from 1/8" to 1-1/2" in depth per lift for vertical applications and 1/8" to 1" in depth for overhead applications.

2.3 PERFORMANCE CRITERIA

A. Typical Properties of the mixed polymer-modified, portland cement mortar:

1. Working Time: Approximately 10 – 15 minutes
2. Finishing Time: 20-60 minutes
3. Color: concrete gray

B. Typical Properties of the cured polymer-modified, portland cement mortar:

1. Compressive Strength (ASTM C-109 Modified)
 - a. 1 day: 3500 psi min.
 - b. 7 day: 6000 psi min
 - c. 28 day: 7000 psi min.
2. Flexural Strength (ASTM C-293) @ 28 days: 2000 psi (13.8 MPa)
3. Splitting Tensile Strength (ASTM C-496) @ 28 days 900 psi (6.2 MPa)
4. Bond Strength (ASTM C-882 Modified) @ 28 days: 2200 psi (15.2 MPa)
5. The portland cement mortar shall not produce a vapor barrier.
6. Density (wet mix): 132 lbs. / cu. ft. (2.2kg/l)
7. Permeability (AASHTO T-277 @ 28 days Approximately 500 Coulombs)

Note: Tests above were performed with the material and curing conditions @71°F - 75°F and 45-55% relative humidity.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

- A. Areas to be repaired must be clean, sound, and free of contaminants. All loose and deteriorated concrete shall be removed by mechanical means. Mechanically prepare concrete substrate to obtain a surface profile of +/- 1/16" (CSP 5 or greater as per ICRI Guidelines) with a new exposed aggregate surface. Area to be patched shall not be less than 1/8" in depth.
- B. Where reinforcing steel with active corrosion is encountered, sandblast the steel to a white metal finish to remove all contaminants and rust. Where corrosion has occurred due to the presence of chlorides, the steel shall be high pressure washed after mechanical cleaning. Prime steel with 2 coats of Sika Armatec 110 EpoCem as per the technical data sheet.

3.2 MIXING AND APPLICATION

- A. Mechanically mix in an appropriate sized mortar mixer or with a Sika mud paddle and low speed (400-600 rpm) drill. Pour approximately 4/5 gal Component A into the mixing container. Add Component B while continuing to mix. Mix to a uniform consistency for a maximum of three minutes. Add remaining Component A to mix for desired consistency. Should smaller quantities be needed, be sure the components are measured in the correct ratio and that the Component B is uniformly blended before mixing the components together. Mix only that amount of material that can be placed in 10 - 15 minutes. Do not retemper material.
- B. Placement Procedure: At the time of application, the substrate shall be saturated surface dry with no standing water. Mortar must be scrubbed into substrate filling all pores and voids. While the scrub coat is still plastic, force material against edge of repair, working toward center. If repair area is too large to fill while scrub coat is still wet use Sika Armatec 110 EpoCem in lieu of scrub coat. (See spec component SC-200-0699) After filling, consolidate then screed. Allow mortar to set to desired stiffness then finish with trowel for smooth surface. Wood float or sponge float for a rough surface. Areas where the depth of the repair area to sound concrete is greater than 1-1/2", the repair shall be made in lifts of 1-1/2" maximum thickness. The top surface of each lift shall be scored to produce a rough surface for the next lift. The preceding lift shall be allowed to reach final set before applying fresh material. The fresh mortar must be scrubbed into the preceding lift.
- C. As per ACI recommendations for portland cement concrete, curing is required. Moist cure with wet burlap and polyethylene, a fine mist of water or a water-based* compatible curing compound. Moist curing should commence immediately after finishing and continue for 48 hours. Protect newly applied material from rain, sun, and wind until compressive strength is 70% of the 28-day compressive strength. To prevent from freezing cover with insulating material. Setting time is dependent on temperature and humidity. *Pretesting of curing compound is recommended.
- D. Adhere to all procedures, limitations and cautions for the polymer-modified portland cement mortar in the manufacturers current printed technical data sheet and literature.

3.3 CLEANING

- A. The uncured polymer-modified portland cement mortar can be cleaned from tools with water. The cured polymer -modified portland cement mortar can only be removed mechanically.
- B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

3.4 TESTS

- A. The Owner reserves the right to hire an independent testing agency to provide compressive strength testing as needed.

END OF SECTION 030130

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This specification describes the sealing of joints and cracks with a one-component, gun-grade, elastomeric polyurethane sealant.

1.2 QUALITY ASSURANCE

- A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001:2008 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
- B. Contractor qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
- C. Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, state and federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

1.3 DELIVERY, STORAGE & HANDLING

- A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
- B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
- C. Condition the specified product as recommended by the manufacturer.

1.4 JOB CONDITIONS

- A. Environmental Conditions: Do not apply material if it is raining or snowing or if such conditions appear to be imminent. Minimum application temperature 40°F (5°C) and rising.
- B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified coating.

1.5 SUBMITTALS

- A. Submit two copies of manufacturer's literature, to include: Product Data Sheets, and appropriate Material Safety Data Sheets (MSDS).

1.6 WARRANTY

- A. Provide a written warranty from the manufacturer against defects of materials for a period of five (5) years, beginning with date of substantial completion of the project.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. **Sikaflex-1a**, as manufactured by Sika Corporation, 201 Polito Avenue, Lyndhurst, NJ 07071 is considered to conform to the requirements of this specification.

2.2 MATERIALS

- A. Polyurethane sealant:
 - 1. The joint sealant shall be a one-component, gun grade, polyurethane-base material. It shall be applicable in horizontal, vertical, and overhead joints. The sealant shall cure under the influence of atmospheric moisture to form an elastomeric substance.
- B. Any primers, as required, recommended by the manufacturer of the specified product, approved by the engineer.
- C. Backer rod or bond breaker tape, as approved by the engineer.

2.3 PERFORMANCE CRITERIA

- A. Properties of the uncured polyurethane sealant:
 - 1. Initial Cure (Tack-Free Time): TT-S-00230C - 4 hours
Final Cure 4 – 7 days
 - 2. Consistency: non-sag
 - 3. Color: 7 architectural standard colors
- B. Properties of the cured polyurethane sealant:
 - 1. Tensile Properties (ASTM D-412) at 21 days
 - a. Tensile Stress: 175-psi min.(1.37 MPa)

2. Install approved backer rod or bond breaker tape in all joints subject to thermal movement to prevent three-sided bonding and to set the depth of the sealant at a maximum of 1/2 in., measured at the center point of the joint width. Approval of the backer rod or bond breaker tape shall be made by the engineer.
3. Joints shall be masked to prevent discoloration or application on unwanted areas, as directed by the engineer. If masking tape is used, it shall not be removed before tooling, yet must be removed before the initial cure of the sealant. Do not apply the masking tape until just prior to the sealant application.
4. Install sealant into the prepared joints when the joint is at the mid-point of its expansion and contraction cycle. Place the nozzle of the gun, either hand, air, or electric powered, into the bottom of the joint and fill entire joint. Keep the tip of the nozzle in the sealant; continue with a steady flow of sealant preceding the nozzle to avoid air entrapment. Avoid overlapping the sealant to eliminate the entrapment of air. Tool as required to properly fill the joint
5. Adhere to all limitations and cautions for the polyurethane sealant as stated in the manufacturer's printed literature.

B. Cracks:

1. For best performance sealant should be gunned into crack to a minimum of a 1/4" in depth. Place the nozzle of the gun, either hand, air or electric powered, into the bottom of the crack and fill entire crack. Keep the tip of the nozzle in the sealant. Continue with a steady flow of sealant preceding the nozzle to avoid air entrapment. Avoid overlapping the sealant to eliminate the entrapment of air. Tool as required to properly fill the crack.
2. Adhere to all limitations and cautions for the polyurethane sealant as stated in the manufacturer's printed literature.

3.3 CLEANING

- A. The uncured polyurethane sealant can be cleaned with an approved solvent. The cured polyurethane sealant can only be removed mechanically.
- B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

SC-069 Sikaflex® -1a Crack Filler

Figure 1 - Surface Seal

1. Surface seal cracks up to a ¼" wide by gunning **Sikaflex-1a** into crack.
2. Tool as required to properly fill crack.

Note:

Prior to applying any coating, allow sealant to cure for 7 days.

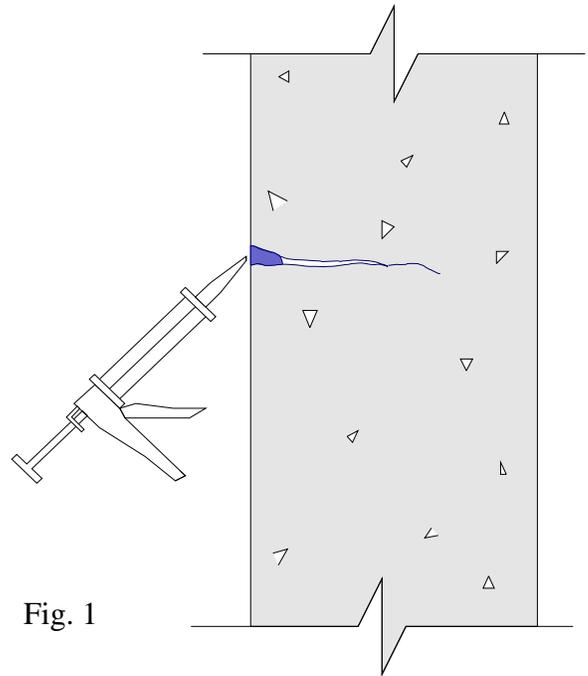


Fig. 1

Figure 2 - Notch & Seal

1. Gun **Sikaflex-1a** into prepared crack to a minimum depth of ¼".
2. Tool as required to properly fill crack.

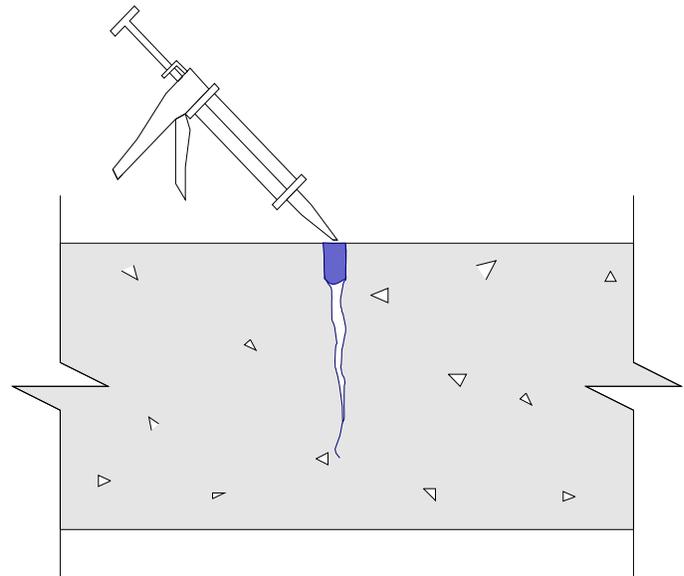
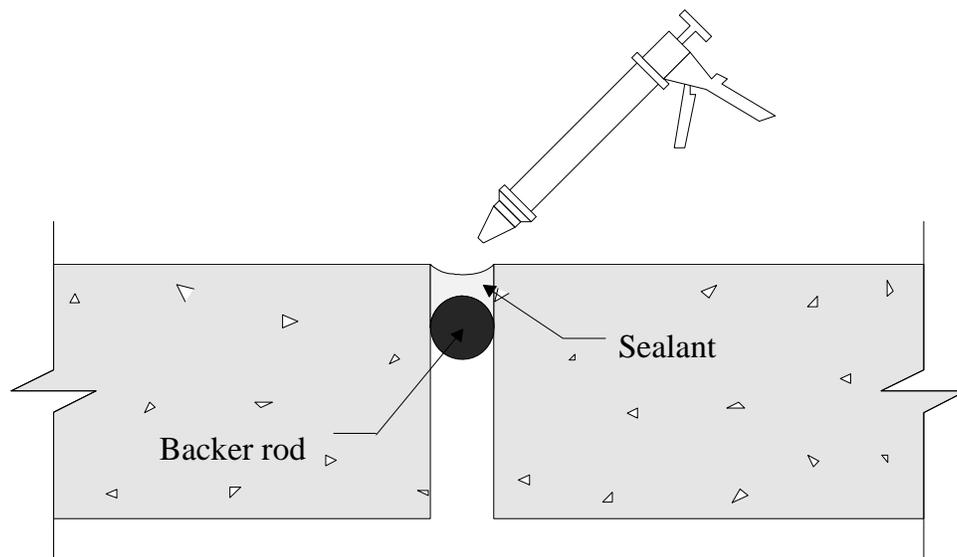


Fig. 2

SC-069 Sikaflex®-1a Expansion Joint Filler



1. Install appropriate backer material to prevent three-sided adhesion and to control sealant depth.
2. **Sikaflex-1a** should be gunned into joint at mid-point of designed expansion and contraction cycle.
3. Tool as required to properly fill joints.

Note: **Sikaflex-1a** is designed for all types of joints where sealant will not exceed ½" in depth. Proper joint design is 2:1 width to depth ratio.

END OF SECTION 079200

MISCELLANEOUS CONCRETE REPAIRS

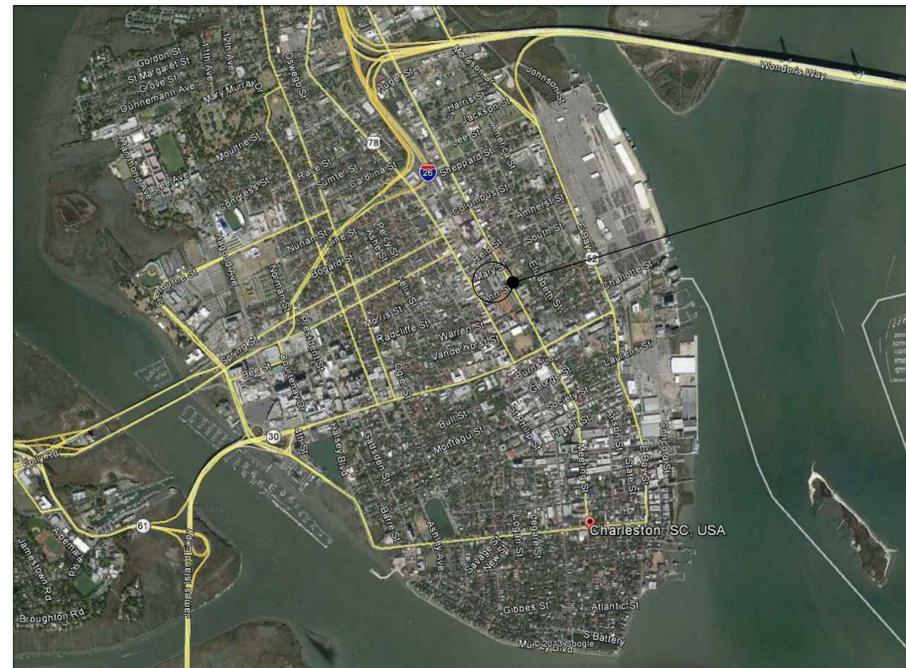
VRTC PARKING GARAGE 2016

CHARLESTON, SC
JMT PROJECT NO.: 13-0493-013

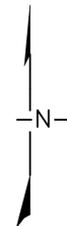
CLIENT:



CITY OF CHARLESTON: DEPARTMENT OF PARKS
823 MEETING ST.
CHARLESTON, SC 29403



PROJECT LOCATION



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PROJECT LOCATION



Know what's below.
Call before you dig.

INDEX OF SHEETS

- S-1 COVER SHEET
- S-2 GENERAL NOTES
- S-3 ROOF PLAN
- S-4 FOURTH FLOOR PLAN
- S-5 THIRD FLOOR PLAN
- S-6 SECOND FLOOR PLAN
- S-7 REPAIR TYPE 1
- S-8 REPAIR TYPE 2
- S-9 REPAIR TYPE 3, 4, & 5
- S-10 REPAIR TYPE 6 - ADD ALTERNATE #1

PLAN PREPARED BY:



JMT, INC.
952 HOUSTON NORTHCUTT BLVD.,
SUITE 100
MT. PLEASANT, SC 29464
843-556-2624
WWW.JMT.COM



ENGINEER OF RECORD



C.O.A.

APPROXIMATE LOCATION OF THE SITE
LONGITUDE: 32° 47' 25.7"
LATITUDE: 79° 56' 15.6"

GENERAL NOTES

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH FEDERAL, STATE AND LOCAL LAWS.
2. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS SPECIFIED ON THESE CONTRACT PLANS AND WITH THE CONTRACT PROJECT SPECIFICATIONS, HEREIN REFERRED TO AS "THE SPECIFICATIONS".
3. ONCE ON SITE THE CONTRACTOR SHALL COMPLETE A SURVEY OF THE PROJECT SITE TO VERIFY THE EXISTING CONDITIONS. ANY CONDITIONS FOUND BY THE CONTRACTOR THAT WERE NOT ANTICIPATED ON THE CONTRACT PLANS AND THAT WILL AFFECT THE COST OF IMPLEMENTATION OF THE SPECIFIED PROJECT SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER.
4. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS ARE ONE PART OF THE CONTRACT DOCUMENTS AND SHALL BE USED IN CONJUNCTION WITH THE REMAINING PARTS OF THE CONTRACT DOCUMENTS. SPECIFICATIONS HAVE BEEN ISSUED IN CONJUNCTION WITH THESE DRAWINGS. FOR ADDITIONAL INFORMATION NOT SHOWN IN DRAWINGS, SEE CONTRACT SPECIFICATIONS.
5. "DRAWINGS" MEANS THE LATEST STRUCTURAL DESIGN DRAWINGS, UON "SPECIFICATIONS" MEANS THE LATEST PROJECT SPECIFICATIONS, UON.
6. IN CASES, IF ANY, WHERE REQUIREMENTS INDICATED ON THE STRUCTURAL DRAWINGS DIFFER FROM THE SPECIFICATIONS, NOTIFY THE STRUCTURAL ENGINEER. FOR PRICING, ASSUME THAT THE DRAWINGS TAKE PRECEDENCE OVER THE SPECIFICATIONS IN THE CASE OF ANY CONFLICTS.
7. ALL DETAILS, SECTIONS, AND NOTES ON THE DRAWINGS ARE INTENDED TO BE TYPICAL WHERE CONDITIONS ARE SIMILAR TO THOSE INDICATED BY DETAIL OR DETAIL TITLE OR NOTE.
8. USE ONLY DIMENSIONS INDICATED ON THE DRAWINGS. DO NOT SCALE DRAWINGS OR USE ANY DIMENSIONS TAKEN FROM ELECTRONIC DRAWING FILES.
9. LOCATIONS AND QUANTITIES SHOWN ON THESE PLANS ARE APPROXIMATE FOR BIDDING PURPOSES. ACTUAL FIELD INSTALLED QUANTITIES MAY VARY. CONTRACTOR SHALL VERIFY LOCATIONS AND QUANTITIES WITH ENGINEER PRIOR TO BEGINNING WORK ON ALL PAY ITEMS.
10. ALL MOBILIZATION, LABOR AND MATERIALS AND OTHER COSTS TO THE CONTRACTOR TO BE INCURRED DURING PERFORMANCE OF WORK ON ANY PAY ITEMS IN THIS CONTRACT SHALL BE INCLUDED IN THE UNIT COST BID FOR EACH PAY ITEM. THIS INCLUDES COORDINATION EFFORTS AND ANY TRAFFIC CONTROL REQUIRED TO PERFORM REPAIR OPERATIONS.
11. THE CITY OF CHARLESTON RESERVES THE RIGHT TO ADD OR DELETE QUANTITIES FROM THIS CONTRACT ACCORDING TO THEIR NEEDS AND BUDGET REQUIREMENTS.
12. PERFORMANCE OF ALL OPERATIONS IN AND AROUND THE PARKING GARAGES DEFINED IN THIS PROJECT SHALL BE COORDINATED WITH THE CITY OF CHARLESTON AND THE CITY'S PARKING GARAGE OPERATOR ABM PARKING SERVICES, CONTACT: JOHN LEAF, (216)535-0164, JOHN.LEAF@ABM.COM.
13. MAINTENANCE OF TRAFFIC PLANS SHALL BE SUBMITTED TO THE CITY AND ABM PARKING SERVICES FOR APPROVAL PRIOR TO THE BEGINNING OF ANY WORK IN AND AROUND THE GARAGES THAT WILL IMPACT TRAFFIC MOVEMENT, BLOCK PARKING SPACES OR OTHERWISE GARAGE OPERATIONS.
14. OPERATIONS REQUIRING AUTOMOBILE AND/OR PEDESTRIAN TRAFFIC TO BE DIVERTED AROUND A PARTICULAR LOCATION, SHALL BE PERFORMED USING APPROVED TRAFFIC CONTROL DEVICES. THE CONTRACTOR MAY STAGE THESE OPERATIONS DURING DAYTIME OPERATING HOURS OR DURING PERIODS OF MINIMAL GARAGE OCCUPANCY AT THE CONTRACTOR'S OPTION AND TO BE COORDINATED WITH THE CITY AND ABM PARKING SERVICES.
15. THE CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO DUST, NOISE AND DEBRIS CONTROL THROUGHOUT THE DURATION OF THIS PROJECT. A CLEAN WORK SITE SHALL BE MAINTAINED AT ALL TIMES. CITY ORDINANCES REGARDING WORKING HOURS AND NOISE LEVELS SHALL BE ADHERED TO. AT NO TIME SHALL NOISY ACTIVITIES BE PERFORMED IN RESIDENTIAL AREAS OR NEAR HOTELS BETWEEN THE HOURS OF 7 PM AND 7 AM.
16. THE CONTRACTOR SHALL GIVE THE CITY AND ABM PARKING SERVICES AT LEAST THREE(3)DAYS WRITTEN NOTICE WHEN OPERATIONS SHALL IMPACT PARKING SPACES, TRAFFIC FLOW OR OTHER GARAGE OPERATIONS SO THAT THE PUBLIC CAN BE NOTIFIED. CONTRACTOR MAY BLOCK PARKING SPACES NECESSARY FOR THE PERFORMANCE OF AN OPERATION TWO (2) DAYS PRIOR TO PERFORMANCE OF THAT OPERATION SUBJECT TO COORDINATION WITH REPUBLIC PARKING.
17. AUTOMOBILES PARKED IN THE GARAGE IN THE VICINITY OF ON-GOING WORK SHALL BE PROTECTED AT ALL TIMES.
18. EVERY ATTEMPT SHALL BE MADE BY THE CONTRACTOR, THROUGH COORDINATION WITH ABM PARKING SERVICES, TO NOTIFY GARAGE PATRONS OF UPCOMING OPERATIONS AND THE BLOCKING-OFF OF SPACES. IF AUTOMOBILES HAVE NOT BEEN REMOVED FROM THE SPACES NECESSARY FOR THE CONTRACTOR TO PERFORM AN OPERATION AFTER THE PUBLIC HAS BEEN GIVEN AT LEAST THREE (3) DAYS NOTICE, THE CONTRACTOR SHALL NOTIFY ABM PARKING SERVICES IMMEDIATELY. IF THE OWNER CAN NOT BE CONTACTED AND THE AUTOMOBILE CAN NOT BE REMOVED, THE CONTRACTOR MAY REQUEST THE CITY TO HAVE THE AUTOMOBILE MOVED TO A SUITABLE LOCATION IN THE GARAGE AWAY FROM THE WORK ZONE.
19. THE PARKING GARAGE SHALL MAINTAIN PUBLIC ACCESS AT ALL TIMES. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EQUIPMENT AND MATERIALS NECESSARY TO PERFORM WORK AND FOR ENSURING THE SAFETY OF THE PUBLIC. CONTRACTOR'S WORK SITE SHALL BE CLEANED OF ALL DEBRIS AT THE END OF EACH OPERATION. NEWLY INSTALLED WORK SHALL BE PROTECTED UNTIL SUCH TIME AS IT CAN BE DRIVEN OR WALKED UPON.
20. THE CONTRACTOR SHALL REPLACE ANY EXISTING PAVEMENT MARKINGS DAMAGED BY CONSTRUCTION PROCEDURES AT THE END OF THE ACTIVITY CAUSING THE DAMAGE. PAYMENT FOR THE REPLACEMENT OF SUCH MARKINGS SHALL BE INCLUDED IN THE UNIT COST BID FOR THAT ITEM, UNLESS SHOWN OTHERWISE.
21. CONSTRUCTION ACTIVITY DESCRIPTIONS LISTED IN THESE PLANS ARE NOT MEANT TO BE ALL INCLUSIVE, BUT RATHER TO OUTLINE THE GENERAL WORK TASKS. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER EXECUTION OF THE WORK AND ADHERENCE TO ALL MANUFACTURER'S RECOMMENDATIONS REGARDING INSTALLATION OF WORK WHEN PROPRIETARY PRODUCTS ARE USED.
22. SUCCESSFUL CONTRACTOR MAY REQUEST TO BORROW ORIGINAL PARKING GARAGE PLANS TO MAKE COPIES AS REQUIRED AT CONTRACTOR'S EXPENSE.
23. CONTRACTOR SHALL PROVIDE ADVANCE NOTIFICATION TO CITY/ENGINEER PRIOR TO COMPLETION OF WORK, SO THAT COMPLETION MAY BE VERIFIED PRIOR TO DEMOBILIZATION.
24. THE CONTRACTOR MAY USE 4 PARKING SPACES FOR STORAGE OR STAGING AND HAVE 2 PARKING SPACES FOR PARKING. THESE 6 PARKING SPACES SHALL BE LOCATED BY THE CITY ON THE TOP LEVEL. ONLY MATERIALS BEING ACTIVELY USED MAY BE KEPT ON-SITE. LONG TERM STORAGE SHOULD BE KEPT OFF-SITE IN A TRAILER OR OTHER LOCATION.
25. THE CONTRACTOR WILL HAVE ACCESS TO WATER, ELECTRICITY, AND TOLIETS ON SITE AT THE GARAGE. THESE WILL BE AVAILABLE AT NO COST TO THE CONTRACTOR .

CODES AND SPECIFICATIONS

1. ALL CONSTRUCTION SHALL BE PERFORMED IN CONFORMANCE WITH THE BUILDING AND DESIGN CODES REFERENCED WITHIN THESE DOCUMENTS. THE PROJECT DOCUMENTS REFER TO THE FOLLOWING CODES AND STANDARDS, UON:

BUILDING CODE : INTERNATIONAL BUILDING CODE 2016

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES, UON:
 - PLATES, ANGLES, CHANNELS: ASTM A36
 - HOLLOW STRUCTURAL SECTIONS: ASTM A500, GRADE B OR 1085
2. FOR ALL STEEL MEMBERS AND EMBEDMENTS, PROVIDE HOT-DIPPED GALVANIZED STEEL.
3. SUBMIT COMPLETE ERECTION AND DETAILED SHOP DRAWINGS OF ALL STRUCTURAL STEEL TO THE ENGINEER FOR REVIEW. MARK ALL ITEMS OF STRUCTURAL STEEL, SHOWING SIZES, LENGTHS, LOCATIONS, COPEs, HOLES, OPENINGS AND ASTM DESIGNATIONS.
4. FIELD MODIFICATION OF STRUCTURAL STEEL IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.
5. FABRICATE AND ERECT STEEL IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION.
6. DURING ERECTION, STRUCTURAL STEEL FRAME SHALL BE ADEQUATELY BRACED IN ALL LINES, TWO WAYS.

STRUCTURAL STEEL CONNECTIONS

1. STRUCTURAL STEEL CONNECTION MATERIAL SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES:
 - ANGLES: ASTM A36
 - PLATES: ASTM A36
 - BOLTS, NUTS, WASHERS: ASTM A325
 - WELD ELECTRODES: E70XX
2. THE DESIGN AND DETAILING OF ALL CONNECTIONS SHALL COMPLY WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS.
3. ALL WELDING SHALL BE PERFORMED BY PREQUALIFIED WELDERS, AND SHALL CONFORM TO THE REQUIREMENTS OF THE STRUCTURAL WELDING CODE, ANSI/AWS D1.1, LATEST EDITION, UON. ALL WELDING ELECTRODES SHALL COMPLY WITH THE REQUIREMENTS OF TABLE 4.1 OF THE STRUCTURAL WELDING CODE, ANSI/AWS D1.1, LATEST EDITION.
4. COLD GALVANIZE EXPOSED WELDS.
5. WELDS NOT OTHERWISE NOTED ON DRAWINGS SHALL BE CONTINUOUS FILLET WELDS. THE MINIMUM SIZE SHALL BE 1/4" OR AS REQUIRED BY THE AISC SPECIFICATIONS, WHICHEVER IS LARGER. THE MINIMUM WELD LENGTH SHALL BE 3".

REINFORCING STEEL

1. REINFORCEMENT SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES:
 - DEFORMED BARS: ASTM A615, GRADE 60
 - WELDED WIRE FABRIC: ASTM A185
2. DETAIL REINFORCEMENT BASED ON THE PROJECT REQUIREMENTS, ACI-318 AND ACI-315.
3. WHERE A 90-DEG. HOOK IS GRAPHICALLY INDICATED, PROVIDE ACI STANDARD 90-DEG. HOOK. WHERE A 135-DEG. HOOK IS GRAPHICALLY INDICATED, PROVIDE ACI STANDARD 135-DEG. HOOK. WHERE A 180-DEG. HOOK IS GRAPHICALLY INDICATED, PROVIDE ACI STANDARD 180-DEG. HOOK.
4. WHERE DOWELS ARE INDICATED BUT NOT SIZED, PROVIDE DOWELS THAT MATCH SIZE AND LOCATION OF MAIN REINFORCEMENT AND LAP SPLICE WITH THE MAIN REINFORCEMENT.
5. REINFORCEMENT SHALL HAVE THE FOLLOWING CONCRETE PROTECTION (CLEAR COVER), UON:
 - FORMED SURFACES EXPOSED TO WEATHER: 2"

CONTRACTOR RESPONSIBILITIES AND COORDINATION

1. THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, AND MATERIALS FOR SUCCESSFUL COMPLETION OF THIS PROJECT.
2. THE SPECIFICATIONS AND STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION, UON. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATION OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS, NEW AND EXISTING, BY MEASUREMENTS AT THE JOB SITE. THE CONTRACTOR SHALL TAKE ANY AND ALL OTHER MEASUREMENTS NECESSARY TO VERIFY CONFORMANCE WITH THE DRAWINGS AND TO PERFORM THE WORK PROPERLY.
4. ALL FIELDWORK SHALL BE COORDINATED AND CONTINUOUSLY SUPERVISED BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL MAKE NO DEVIATION FROM THE DESIGN DRAWINGS WITHOUT WRITTEN APPROVAL FROM THE ENGINEER.
6. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY DISCREPANCIES BETWEEN THE DOCUMENTS AND ANY OTHER DOCUMENTS OR EXISTING CONDITIONS FOR RESOLUTION PRIOR TO PROCEEDING WITH THE WORK.
7. CONTRACTOR IS RESPONSIBLE FOR SAFETY OF THE SITE AND ALL PERSONS ON THE SITE UNTIL PROJECT IS COMPLETE.
8. PROVIDE, ERECT, AND MAINTAIN PROTECTIVE TEMPORARY BARRIERS AND SECURITY DEVICES AROUND WORK.
9. PROTECT AND KEEP OPERABLE EXISTING SITE FEATURES WHICH ARE NOT TO BE SELECTIVELY DEMOLISHED OR TEMPORARILY REMOVED.
10. VIBRATION DURING SELECTIVE DEMOLITION SHALL BE MINIMIZED. CONTRACTOR SHALL COORDINATE SELECTIVE DEMOLITION WORK WITH CITY.
11. COMPLY WITH RECOMMENDATIONS OF MANUFACTURER OF CLEANING FOR PROTECTING SURROUNDING SURFACES AGAINST DAMAGE FROM EXPOSURE TO THEIR PRODUCTS.
12. CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED TESTING FOR QUALITY ASSURANCE.

PAYMENT

1. CONTRACTOR IS TO BID THE ENTIRE PROJECT AS A "LUMP SUM" TO PERFORM WORK INDICATED AT LOCATIONS SHOWN. THE CONTACTOR HAS THE RESPONSIBILITY TO MAKE A SITE VISIT AND DETERMINE QUANTITIES TO RESPONSIBLY BID THE JOB. ALL QUANTITIES PROVIDED ARE FOR REFERENCE ONLY. UNIT PRICES SHALL BE PROVIDED WITH THE BID FOR THE PURPOSE OF DELETING OR ADDING WORK ITEMS AT THE CITY'S DISCRETION.

SUMMARY OF ESTIMATED QUANTITIES

PAY ITEM NUMBER	PAY ITEM	UNIT	TOTAL
0100	REPAIR TYPE 1	LF	11000
0200	REPAIR TYPE 2	EA	37
0300	REPAIR TYPE 3	EA	2
0400	REPAIR TYPE 4	EA	1
0500	REPAIR TYPE 5	EA	1
0600	REPAIR TYPE 6	EA	8

NOTE: QUANTITIES PROVIDED ARE FOR GUIDANCE ONLY. CONTRACTOR SHALL DETERMINE QUANTITIES ON WHICH TO RESPONSIBLY BASE THEIR LUMP SUM BID.

PRODUCTS

1. COMPLY WITH ALL MANUFACTURER'S PRODUCT REQUIREMENTS AND RECOMMENDATIONS FOR HANDLING, STORING, PREPARATION, INSTALLATION AND CURING.
2. PRODUCTS ARE SPECIFIED TO ESTABLISH A QUALITY AND TYPE OF MATERIAL DESIRED. ALL PRODUCTS ARE TO BE SPECIFIED PRODUCT OR APPROVED EQUAL. CONTRACTOR SHALL SUBMIT PRODUCTS DESIRED FOR A SUBSTITUTION PRIOR TO INSTALLATION. SEE SPECIFICATIONS FOR MORE INFORMATION.



**CITY OF
CHARLESTON:
DEPT OF
PARKS**

823 MEETING ST.
CHARLESTON, SC 29403
(843) 579-7552



ENGINEER OF RECORD



C.O.A.



952 HOUSTON NORTHCUTT BLVD.
MT. PLEASANT, SC 29464
843-556-2624
WWW.JMT.COM

**MISC.
CONCRETE
REPAIRS
VRTC
PARKING
GARAGE
2016**

GENERAL NOTES

PROJECT NUMBER: 13-0493-013

Sym.	Revisions	Date

Drawn by: SB
Design by: SB
Checked by: DO
Scale: AS NOTED
Date: 10/2016



**CITY OF CHARLESTON:
DEPT OF PARKS**

823 MEETING ST.
CHARLESTON, SC 29403
(843) 579-7552



ENGINEER OF RECORD



C.O.A.



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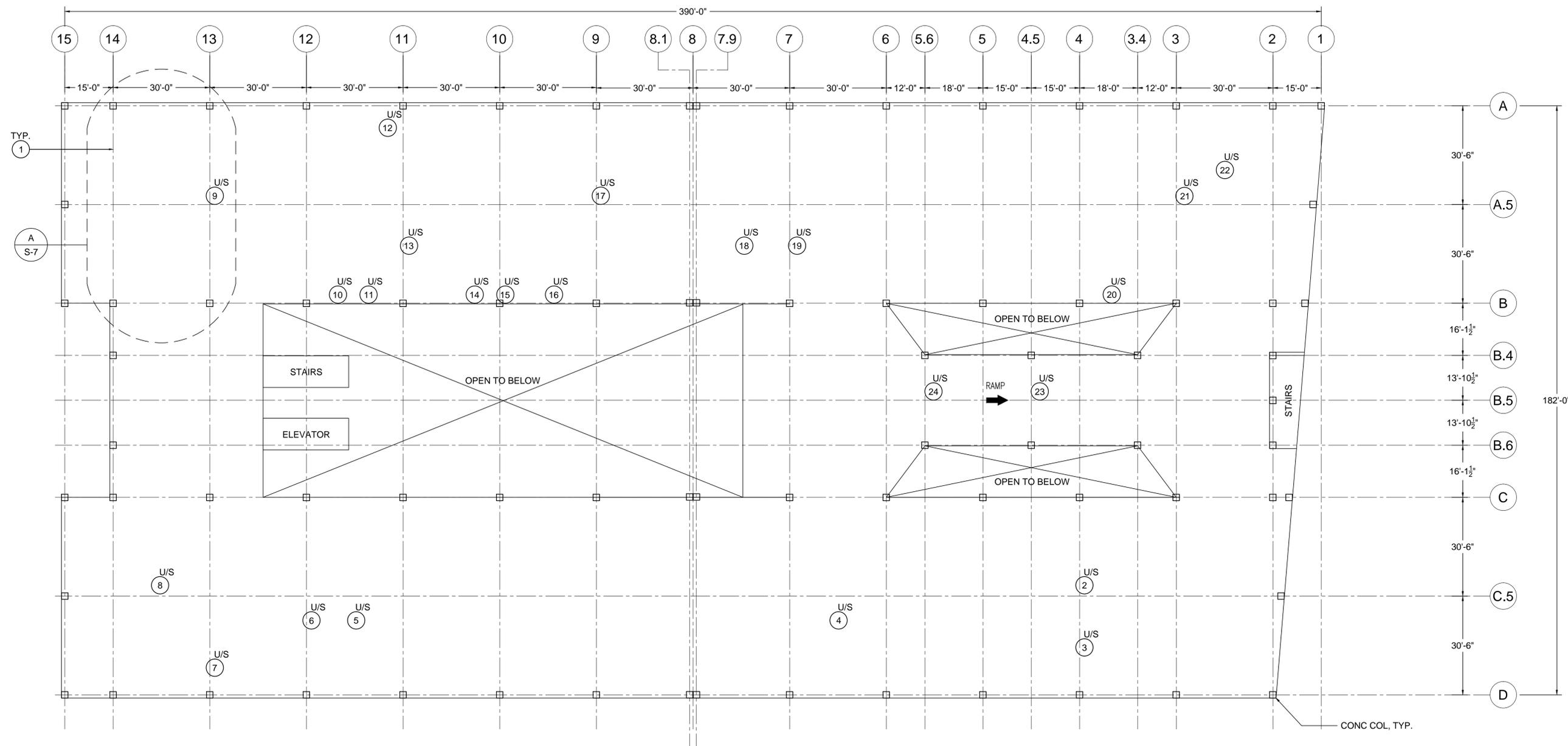
**MISC. CONCRETE REPAIRS
VRTC PARKING GARAGE
2016**

ROOF PLAN

PROJECT NUMBER: 13-0493-013

Sym.	Revisions	Date

Drawn by: SB
Design by: SB
Checked by: DO
Scale: AS NOTED
Date: 10/2016



LEGEND
U/S UNDERSIDE

FIFTH FLOOR (ROOF)

MARK	LOCATION	DESCRIPTION	VISIBLE DAMAGE EXTENT	REPAIR
1	ROOF DECK	FAILING JOINTS AT THE ROOF	-	REPAIR TYPE 1
2	DOUBLE T @ C.5/4	SPALL WITH EXPOSED REBAR	15" x 4" x 3"	REPAIR TYPE 2
3	DOUBLE T @ C.5-D/4	SPALL WITH EXPOSED REBAR	12" x 4" x 2"	REPAIR TYPE 2
4	DOUBLE T @ C.5-D/6-7	3 SPALLS WITH EXPOSED REBAR	15" x 3" x 3" MAXIMUM	REPAIR TYPE 2
5	DOUBLE T @ C.5/11-12	2 IMPENDING SPALL	12" x 3" MAXIMUM	REPAIR TYPE 2
6	DOUBLE T @ C.5/12	2 SPALLS WITH EXPOSED REBAR, 1 IMPENDING SPALL	12" x 3" x 2" MAXIMUM	REPAIR TYPE 2
7	DOUBLE T @ C.5-D/13	1 SPALL WITH EXPOSED REBAR, 1 IMPENDING SPALL	12" x 2" x 2" MAXIMUM	REPAIR TYPE 2
8	DOUBLE T @ B-C/13-14	3 SPALL WITH EXPOSED REBAR, 1 IMPENDING SPALL	15" x 3" x 2" MAXIMUM	REPAIR TYPE 2

MARK	LOCATION	DESCRIPTION	VISIBLE DAMAGE EXTENT	REPAIR
9	DOUBLE T @ C.5/13	SPALL WITH EXPOSED REBAR	6" x 2" x 2"	REPAIR TYPE 2
10	DOUBLE T @ B/11-12	SPALL WITH EXPOSED REBAR	6" x 2" x 2"	REPAIR TYPE 2
11	DOUBLE T @ B-C.5/11-12	2 SPALLS WITH EXPOSED REBAR	8" x 2" x 2" MAXIMUM	REPAIR TYPE 2
12	DOUBLE T @ A/11	SPALL WITH EXPOSED REBAR	52" x 4"	REPAIR TYPE 2
13	DOUBLE T @ A.5/11	1 SPALL WITH EXPOSED REBAR, 1 IMPENDING SPALL	12" x 2" x 2" MAXIMUM	REPAIR TYPE 2
14	DOUBLE T @ B/10-11	SPALL WITH EXPOSED REBAR	6" x 2" x 2"	REPAIR TYPE 2
15	DOUBLE T @ B/10	SPALL WITH EXPOSED REBAR	24" x 1" x 1"	REPAIR TYPE 2
16	DOUBLE T @ B/9-10	SPALL WITH EXPOSED REBAR	8" x 3" x 2"	REPAIR TYPE 2

MARK	LOCATION	DESCRIPTION	VISIBLE DAMAGE EXTENT	REPAIR
17	DOUBLE T @ A-B/9	2 SPALL WITH EXPOSED REBAR, 1 IMPENDING SPALL	12" x 2" x 2" MAXIMUM	REPAIR TYPE 2
18	DOUBLE T @ A.5/7-8	SPALL WITH EXPOSED REBAR	8" x 2" x 2"	REPAIR TYPE 2
19	DOUBLE T @ A.5-B/7	2 SPALLS WITH EXPOSED REBAR	12" x 2" x 2" MAXIMUM	REPAIR TYPE 2
20	DOUBLE T @ B/3-4	SPALL WITH EXPOSED REBAR	9" x 3" x 2"	REPAIR TYPE 2
21	DOUBLE T @ A.5/3	SPALL WITH EXPOSED REBAR	8" x 1" x 1"	REPAIR TYPE 2
22	DOUBLE T @ A.5/2-3	SPALL WITH EXPOSED REBAR	15" x 3" x 3"	REPAIR TYPE 2
23	DOUBLE T @ B.3-B.7/4.5	SPALL WITH EXPOSED REBAR	12" x 3" x 3"	REPAIR TYPE 2
24	DOUBLE T @ B.3-B.7/5.6	BEARING WALKING OUT	-	REPAIR TYPE 3

REQUIRED REPAIR AREA/VOLUME MAY VARY FROM VISIBLE DAMAGE EXTENT NOTED. CONTRACTOR TO MAKE OWN ASSESMENT OF REQUIRED WORK AT EACH LOCATION WHEN PREPARING BID/ESTIMATE.



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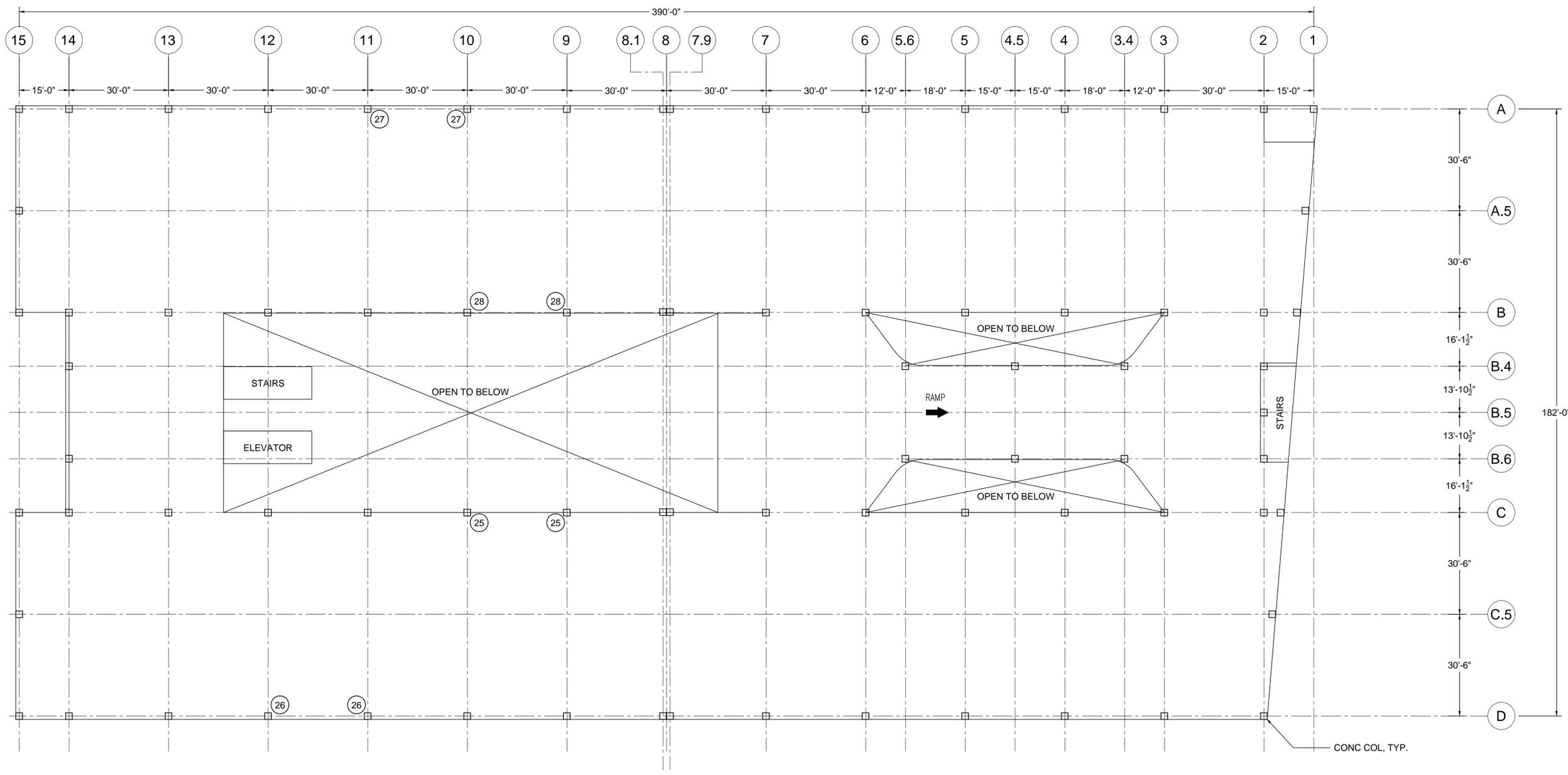
MISC. CONCRETE REPAIRS
VRTC PARKING GARAGE
2016

FOURTH FLOOR PLAN

PROJECT NUMBER: 13-0493-013

Sym.	Revisions	Date

Drawn by: SB
Design by: SB
Checked by: DO
Scale: AS NOTED
Date: 10/2016



FOURTH FLOOR

LEGEND
U/S UNDERSIDE

REPAIR SCHEDULE				
MARK	LOCATION	DESCRIPTION	VISIBLE DAMAGE EXTENT	REPAIR
25	COL/BRACED FRAME @ C/9-10	SPALL/IMPENDING SPALL AT BRACED FRAME AND COL CONNECTION	-	REPAIR TYPE 6 - ADD ALT #1
26	COL/BRACED FRAME @ D/11-12	SPALL/IMPENDING SPALL AT BRACED FRAME AND COL CONNECTION	-	REPAIR TYPE 6 - ADD ALT #1
27	COL/BRACED FRAME @ A/10-11	SPALL/IMPENDING SPALL AT BRACED FRAME AND COL CONNECTION	-	REPAIR TYPE 6 - ADD ALT #1
28	COL/BRACED FRAME @ B/9-10	SPALL/IMPENDING SPALL AT BRACED FRAME AND COL CONNECTION	-	REPAIR TYPE 6 - ADD ALT #1

REQUIRED REPAIR AREA/VOLUME MAY VARY FROM VISIBLE DAMAGE EXTENT NOTED. CONTRACTOR TO MAKE OWN ASSESSMENT OF REQUIRED WORK AT EACH LOCATION WHEN PREPARING BID/ESTIMATE.



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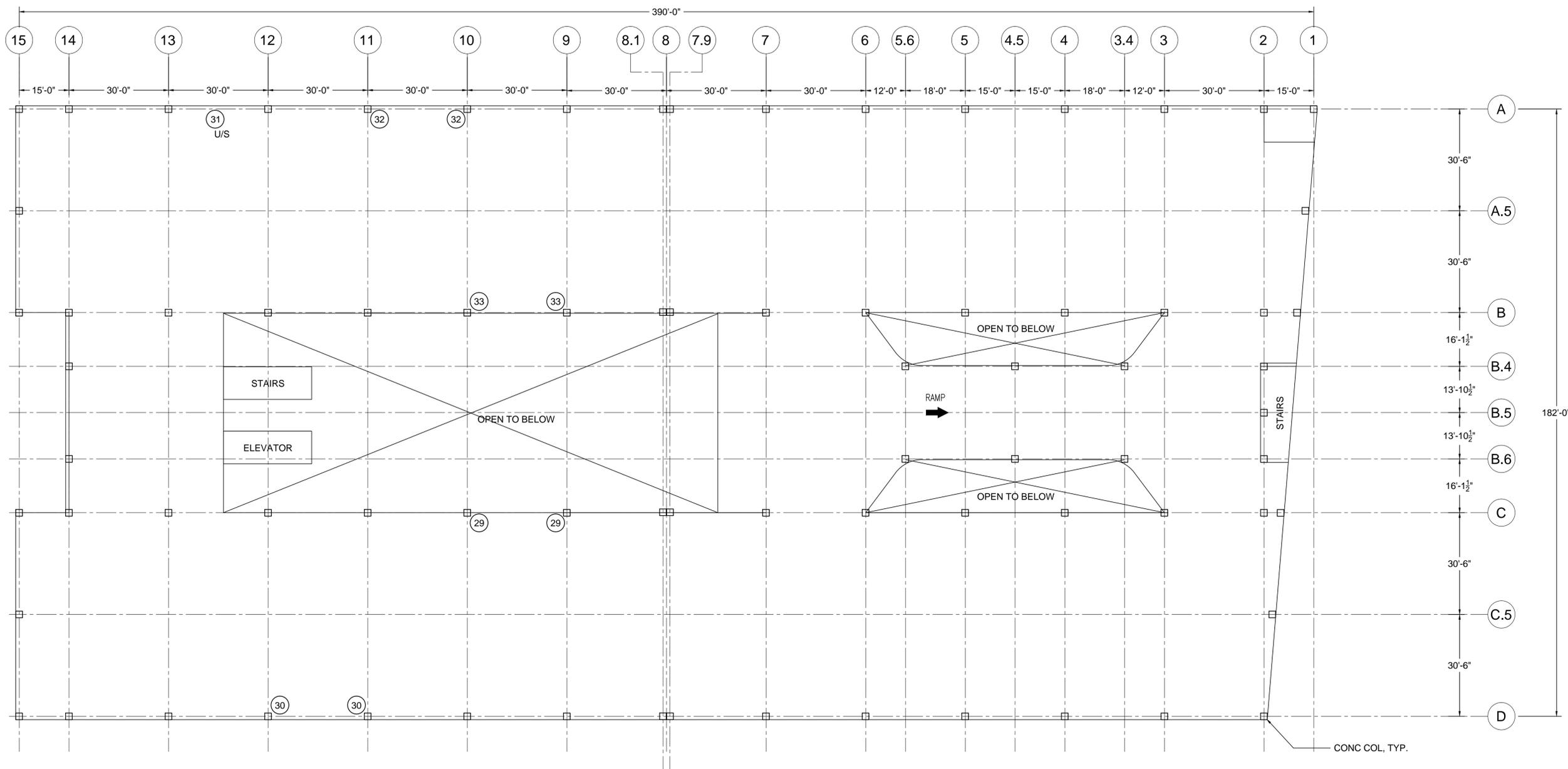
MISC. CONCRETE REPAIRS
VRTC PARKING GARAGE
2016

THIRD FLOOR PLAN

PROJECT NUMBER: 13-0493-013

Sym.	Revisions	Date

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Scale: AS NOTED
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THIRD FLOOR

LEGEND
U/S UNDERSIDE

REPAIR SCHEDULE				
MARK	LOCATION	DESCRIPTION	VISIBLE DAMAGE EXTENT	REPAIR
29	COL/BRACED FRAME @ C/9-10	SPALL/IMPENDING SPALL AT BRACED FRAME AND COL CONNECTION	-	REPAIR TYPE 6 - ADD ALT #1
30	COL/BRACED FRAME @ D/11-12	SPALL/IMPENDING SPALL AT BRACED FRAME AND COL CONNECTION	-	REPAIR TYPE 6 - ADD ALT #1
31	DOUBLE T @ A/12-13	BEARING WALKING OUT	-	REPAIR TYPE 3
32	COL/BRACED FRAME @ A/10-11	SPALL/IMPENDING SPALL AT BRACED FRAME AND COL CONNECTION	-	REPAIR TYPE 6 - ADD ALT #1
33	COL/BRACED FRAME @ B/9-10	SPALL/IMPENDING SPALL AT BRACED FRAME AND COL CONNECTION	-	REPAIR TYPE 6 - ADD ALT #1

REQUIRED REPAIR AREA/VOLUME MAY VARY FROM VISIBLE DAMAGE EXTENT NOTED. CONTRACTOR TO MAKE OWN ASSESSMENT OF REQUIRED WORK AT EACH LOCATION WHEN PREPARING BID/ESTIMATE.



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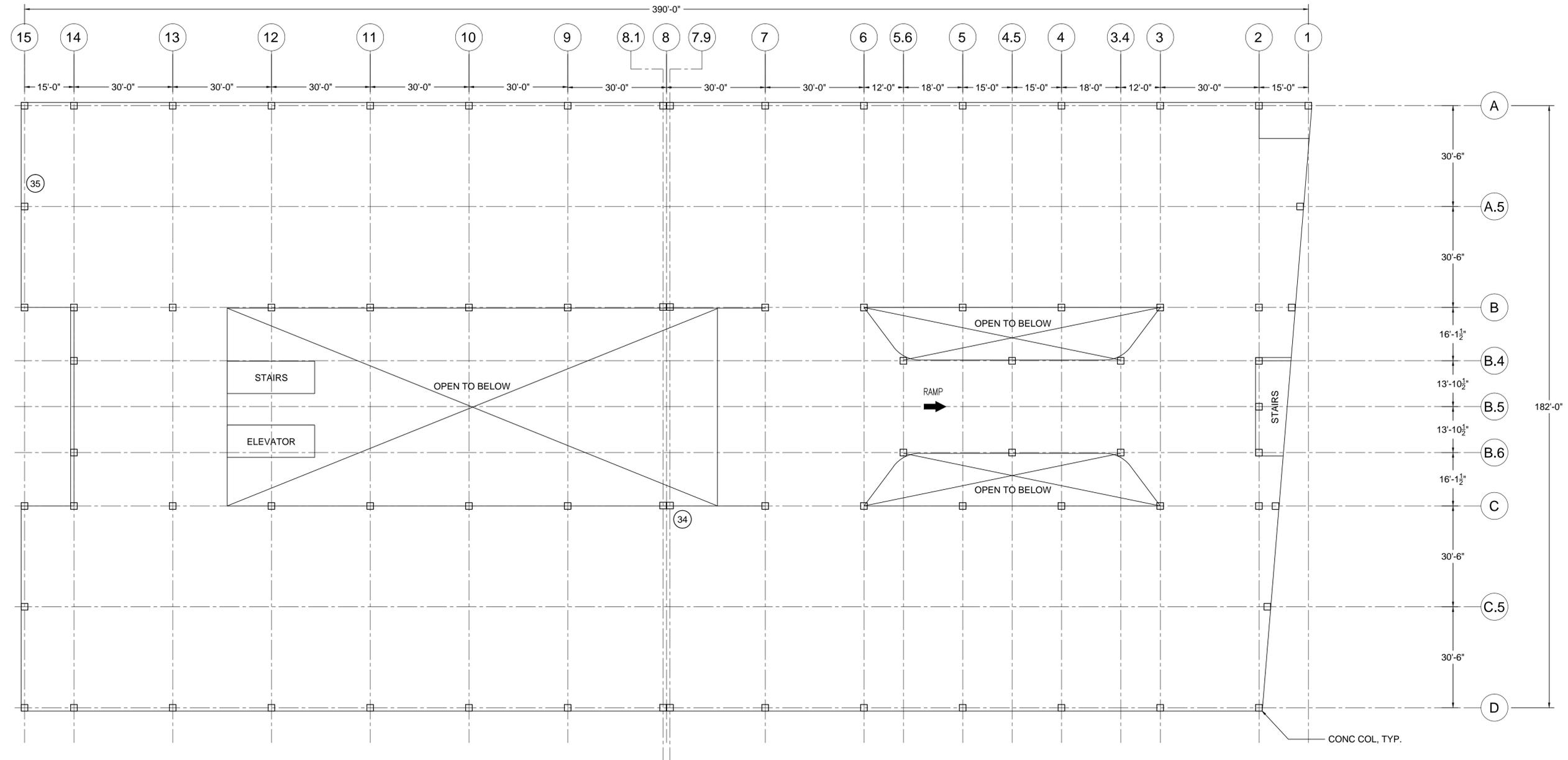
SECOND FLOOR
PLAN

PROJECT NUMBER: 13-0493-013

Sym.	Revisions	Date

Drawn by: SB
Design by: SB
Checked by: DO
Scale: AS NOTED
Date: 10/2016

S-6



SECOND FLOOR

LEGEND
U/S UNDERSIDE

REPAIR SCHEDULE				
MARK	LOCATION	DESCRIPTION	VISIBLE DAMAGE EXTENT	REPAIR
34	COL/BRACED FRAME @ C/7.9	CRACK AT BRACED FRAME BASE PLATE	1/8" X 12"	REPAIR TYPE 4
35	PARAPET @ A-A.5/15	MISSING ANGLE AT PARAPET	-	REPAIR TYPE 5

REQUIRED REPAIR AREA/VOLUME MAY VARY FROM VISIBLE DAMAGE EXTENT NOTED. CONTRACTOR TO MAKE OWN ASSESSMENT OF REQUIRED WORK AT EACH LOCATION WHEN PREPARING BID/ESTIMATE.



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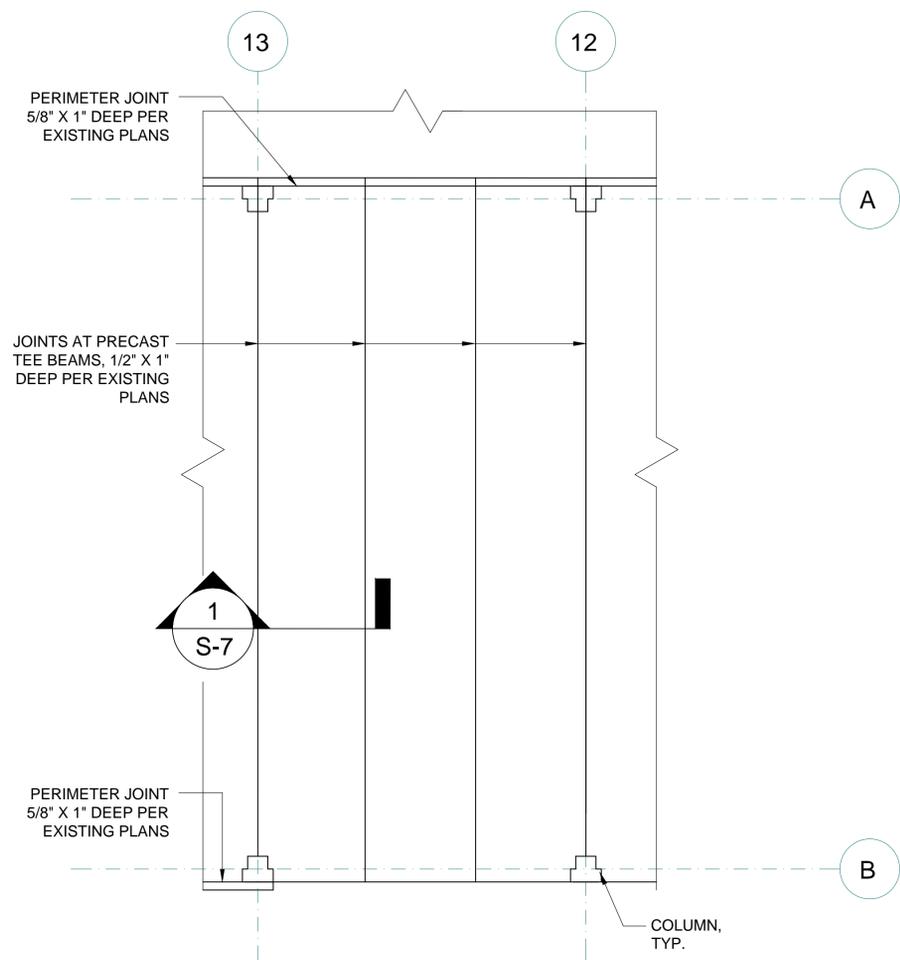
REPAIR TYPE 1

PROJECT NUMBER: 13-0493-013

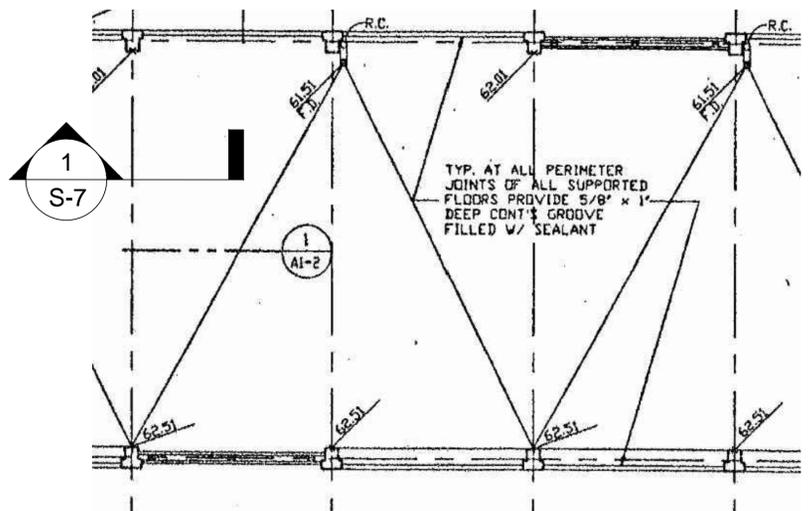
Sym.	Revisions	Date

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Date: 10/2016

S-7



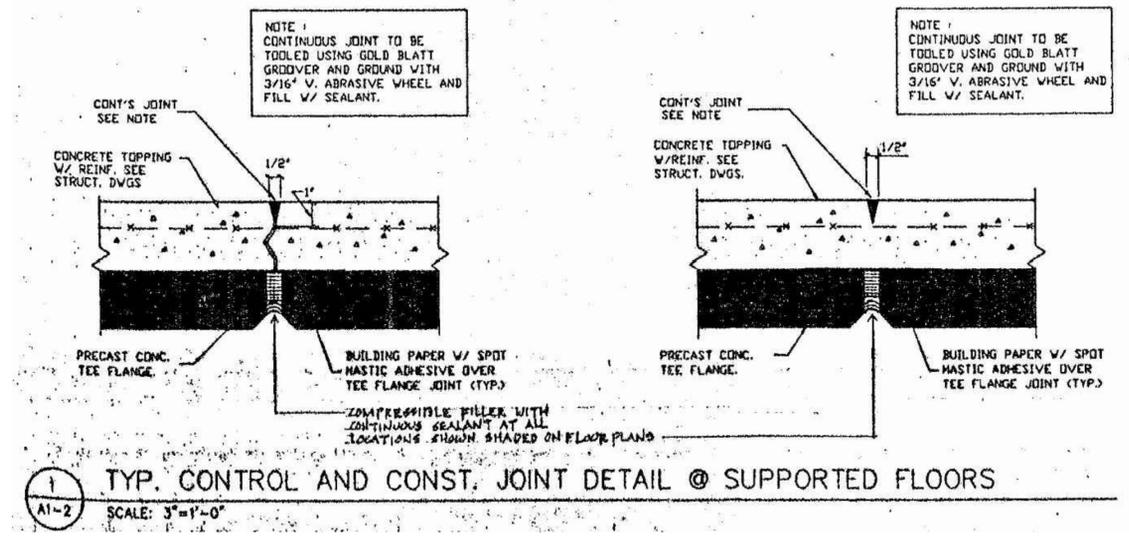
A
S-7
PART PLAN
SCALE: N.T.S.



B
S-7
PART PLAN FROM EXISTING PLANS
SCALE: N.T.S.

JOINT SEALING NOTES

- FOR THE JOINT SEALANT REPLACEMENT DETAIL, ALL EXISTING CONTROL AND CONSTRUCTION JOINTS ON THE ROOF ARE TO HAVE THE EXISTING SEALANT REMOVED AND REPLACED.
- FOR ADDITIONAL INFORMATION NOT SHOWN IN DRAWINGS, SEE CONTRACT SPECIFICATIONS.
- LOCATIONS AND QUANTITIES SHOWN ON THESE PLANS ARE APPROXIMATE FOR BIDDING PURPOSES. ACTUAL FIELD INSTALLED QUANTITIES MAY VARY. CONTRACTOR SHALL VERIFY LOCATIONS AND QUANTITIES WITH ENGINEER PRIOR TO BEGINNING WORK ON ALL PAY ITEMS.
- FOR JOINT LOCATION, FOLLOW CLEAN AND PREPARATION RECOMMENDATIONS OF MANUFACTURER AND REMOVE ALL REMNANTS OF EXISTING JOINT MATERIAL.
- THE JOINT AND ADJACENT SUBSTRATE MUST BE CLEAN, DRY, SOUND AND FREE OF SURFACE CONTAMINANTS. REMOVE ALL TRACES OF THE OLD SEALANT, DUST, LAITANCE, GREASE, OILS, CURING COMPOUNDS, FORM RELEASE AGENTS AND FOREIGN PARTICLES BY MECHANICAL MEANS, I.E. SANDBLASTING, ETC., AS APPROVED BY THE ENGINEER. BLOW JOINT FREE OF DUST USING COMPRESSED AIR LINE EQUIPPED WITH AN OIL TRAP.
- INSTALL APPROVED BACKER ROD OR BOND BREAKER TAPE IN ALL JOINTS SUBJECT TO THERMAL MOVEMENT TO PREVENT THREE-SIDED BONDING AND TO SET THE DEPTH OF THE SEALANT AT A MAXIMUM OF 1/2", MEASURED AT THE CENTER POINT OF THE JOINT WIDTH. APPROVAL OF THE BACKER ROD OR BOND BREAKER TAPE SHALL BE MADE BY THE ENGINEER.
- JOINTS SHALL BE MASKED TO PREVENT DISCOLORATION OR APPLICATION ON UNWANTED AREAS, AS DIRECTED BY THE ENGINEER. IF MASKING TAPE IS USED, IT SHALL NOT BE REMOVED BEFORE TOOLING, YET MUST BE REMOVED BEFORE THE INITIAL CURE OF THE SEALANT. DO NOT APPLY THE MASKING TAPE UNTIL JUST PRIOR TO THE SEALANT APPLICATION.
- INSTALL SEALANT INTO PREPARED JOINTS WHEN THE JOINT IS AT MID-POINT OF ITS EXPANSION AND CONTRACTION CYCLE. GUN OR EXTRUDE THE SEALANT INTO THE PREPARED JOINT IN ONE DIRECTION KEEPING A CONSTANT BEED. AVOID OVERLAPPING THE SEALANT TO ELIMINATE THE ENTRAPMENT OF AIR. TOOL AS REQUIRED TO PROPERLY FILL THE JOINT.
- SEALANT MUST BE RECESSED IN THE JOINT A MINIMUM OF 1/4" FROM THE SURFACE.
- ADHERE TO ALL LIMITATIONS AND CAUTIONS FOR THE SILICONE SEALANT IN THE MANUFACTURER'S PRINTED LITERATURE.



1
S-7
SECTION OF CONTROL AND CONST. JOINTS FROM EXISTING PLANS
SCALE: N.T.S.

REPAIR TYPE 1 DETAILS & NOTES

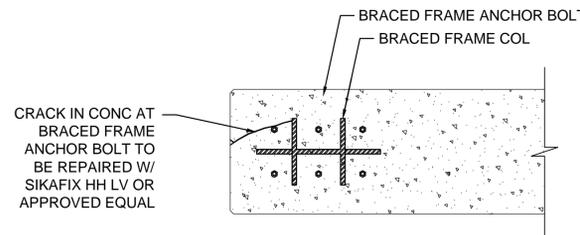
BEARING PAD REPLACEMENT NOTES

1. CONTRACTOR SHALL VERIFY LOCATIONS. IDENTIFIED REPAIRS ARE MARKED AS REPAIR TYPE 3.
2. EXISTING BEARING PADS TO BE REPLACED ARE APPROXIMATELY 1/4" X 7" X 6" PER EXISTING PLANS. EXISTING CONDITIONS MAY VARY AT EACH LOCATION. CONTRACTOR TO SURVEY/FIELD MEASURE PRIOR TO ORDERING MATERIAL AND STARTING FABRICATION.
3. SHORING, JACKING, AND SEQUENCE OF WORK SHALL BE THE CONTRACTORS RESPONSIBILITY AND SHALL BE DESIGNED TO MINIMIZE DIFFERENTIAL MOVEMENT AND COLLATERAL DAMAGE. REPAIR OF AREAS DAMAGED BY CONTRACTORS SEQUENCE OF WORK SHALL BE THE CONTRACTORS RESPONSIBILITY. SUPPORT/JACKING/SHORING PROCEDURE SHALL LIMIT THE DIFFERENTIAL MOVEMENT BETWEEN ADJACENT DOUBLE TEE STEMS SO AS TO AVOID CRACKING OF TOPPING SLAB.
4. ENDS OF DOUBLE TEES WILL REQUIRE TEMPORARY SUPPORT AND/OR JACKING/LIFTING IN ORDER TO REPLACE BEARING PADS. SEQUENCE OF WORK, NEW PAD DIMENSIONS, AND MATERIAL COMPRESSIBILITY SHALL BE ACCOUNTED FOR IN THE CONTRACTOR'S SEQUENCE OF WORK.
5. NEW PADS SHALL BE CENTERED UNDER THE DOUBLE TEE WEB WIDTH, AND CENTERED IN THE DEPTH OF THE SUPPORTING CONCRETE CORBEL. MINIMUM PAD DIMENSIONS TO BE 1/4" X 7" X 6" THICKNESS. TAPERED SHIMS OF A HIGH CAPACITY NON-COMPRESSIBLE MATERIAL SHALL BE USED WHERE TOP OF SUPPORT CORBEL AND BOTTOM OF DOUBLE TEE WEB ARE NOT PARALLEL SURFACES.
6. REPLACEMENT PADS TO BE CAPRALON DUCK PAD BY JVI INC. OR APPROVED EQUIVALENT. AN ADHESIVE COMPATIBLE WITH THE PAD SHALL BE USED TO ATTACH THE PAD TO THE BEARING SURFACES.
7. CONCRETE SURFACES TO RECEIVE NEW PADS SHALL BE CLEANED OF DEBRIS AND PREPARED PER PRODUCT RECOMMENDATIONS PRIOR TO INSTALLATION OF REPLACEMENT PAD.



PHOTOGRAPH OF TYPICAL EXISTING CONDITION FOR REPAIR TYPE 3

REPAIR TYPE 3



PART PLAN AT REPAIR TYPE 4

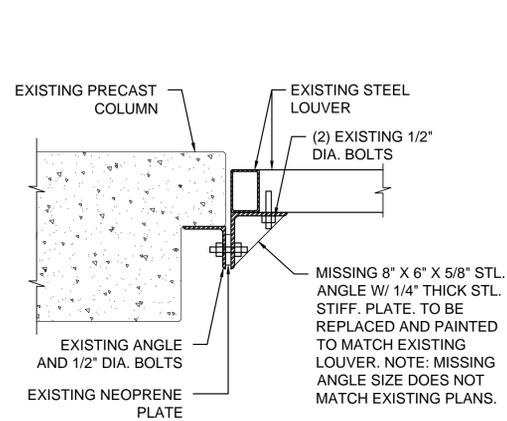
CRACK REPAIR NOTES

1. CONTRACTOR SHALL VERIFY LOCATION. IDENTIFIED REPAIRS ARE MARKED AS REPAIR TYPE 4.
2. CRACK IS TO BE REPAIRED USING SIKAFIX HH LV OR APPROVED EQUAL PER MANUFACTURER'S RECOMMENDATIONS TO PROVIDE A WATERPROOFING TO THE EXISTING CRACK.

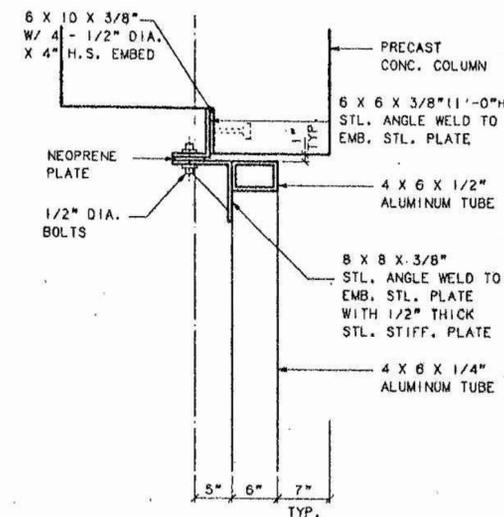


PHOTOGRAPH OF TYPICAL EXISTING CONDITION FOR REPAIR TYPE 4

REPAIR TYPE 4



PART PLAN AT REPAIR TYPE 5



5 LOUVER DETAIL PLAN SCALE: 1"=1'-0"

DETAIL FROM EXISTING PLANS

REPAIR TYPE 5



PHOTOGRAPH OF TYPICAL EXISTING CONDITION FOR REPAIR TYPE 5



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MISC. CONCRETE REPAIRS
VRTC PARKING GARAGE
2016

REPAIR TYPE 3, 4, & 5

PROJECT NUMBER: 13-0493-013

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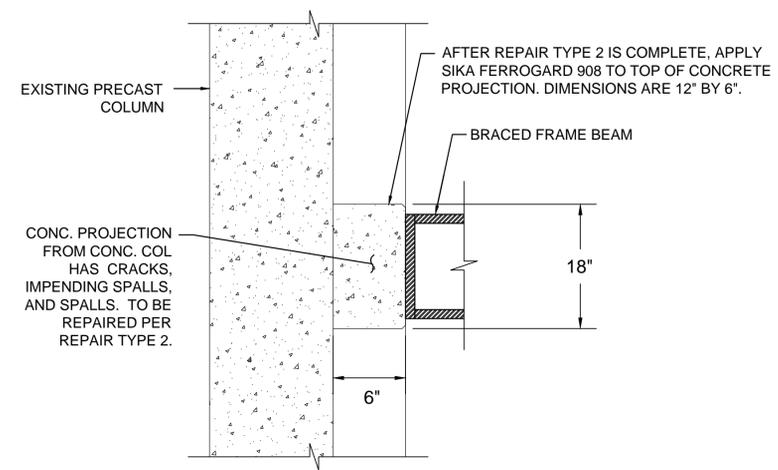
MISC. CONCRETE REPAIRS
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2016

REPAIR TYPE 6 -
ADD ALTERNATE #1

PROJECT NUMBER: 13-0493-013

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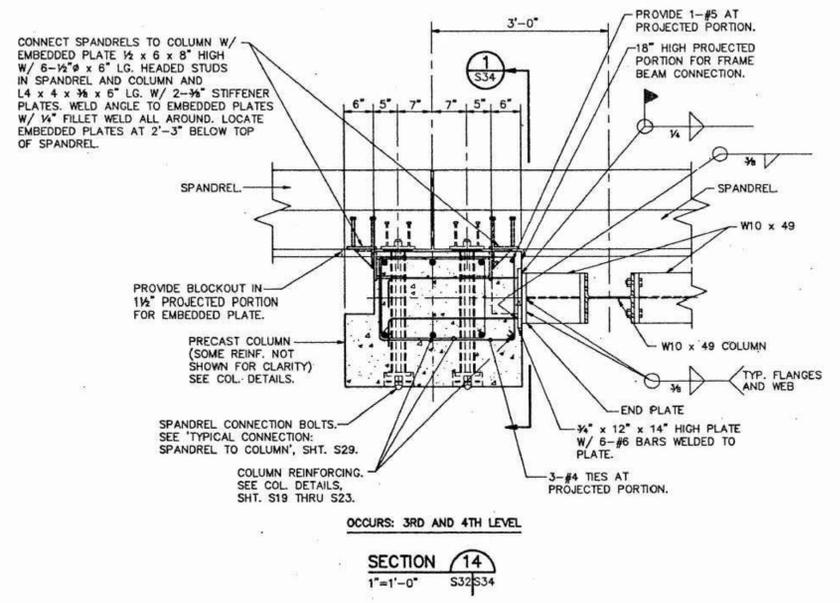
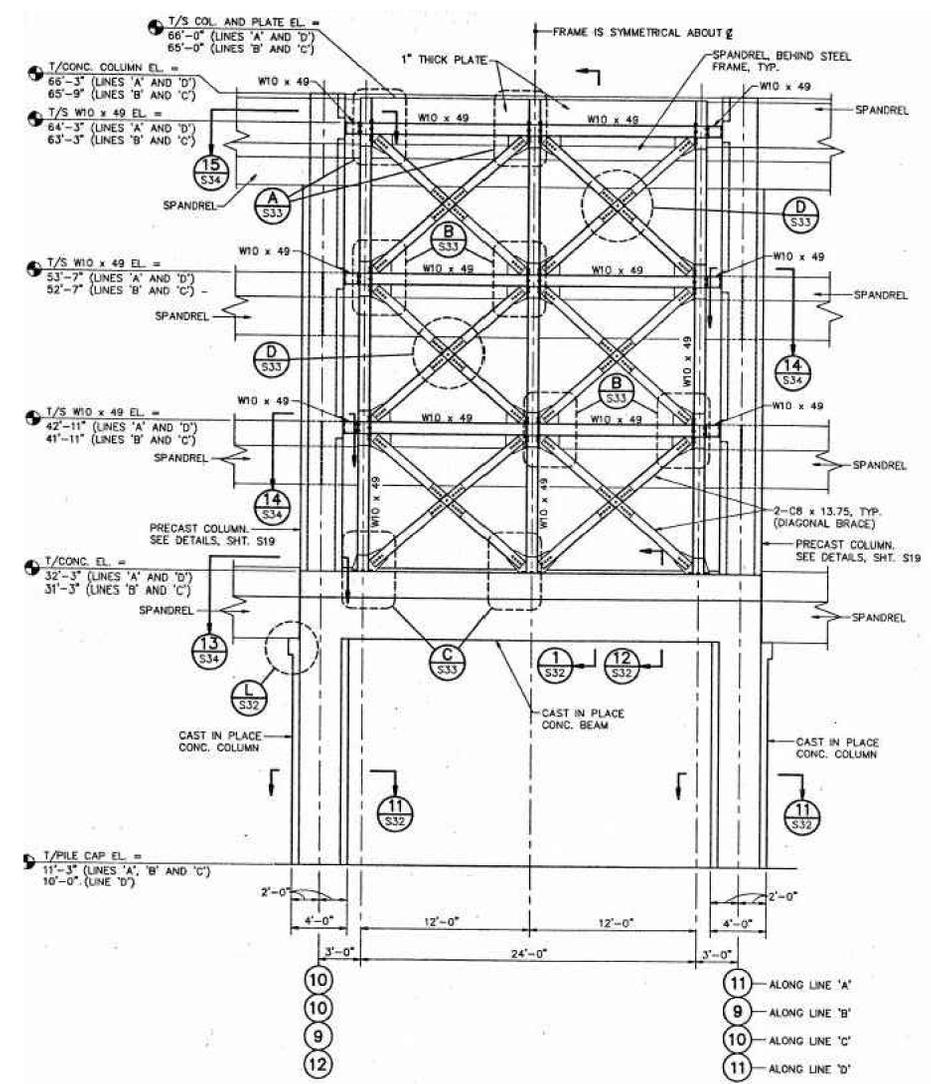
ELEVATION AT REPAIR TYPE 6

REPAIR NOTES

1. CONTRACTOR SHALL VERIFY LOCATION. IDENTIFIED REPAIRS ARE MARKED AS REPAIR TYPE 6.
2. REPAIR THE CRACKS, IMPENDING SPALLS, AND SPALLS IN THE CONCRETE PROJECTION OFF THE COLUMN PER REPAIR TYPE 2. SEE SHEET S-8.
3. WATERPROOFING AND CORROSION INHIBITOR IS TO BE APPLIED AFTER REPAIR TYPE 2 IS COMPLETE.
4. APPLY SIKA FERROGARD 908 OR APPROVED EQUAL PER MANUFACTURER'S RECOMMENDATIONS TO PROVIDE A WATERPROOFING AND CORROSION INHIBITOR TO THE CONCRETE COLUMN PROJECTION.



PHOTOGRAPH OF TYPICAL EXISTING
CONDITION FOR REPAIR TYPE 6



ELEVATION AND SECTION OF BRACED FRAME
FROM EXISTING PLANS FOR REFERENCE