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Contracts and Procurement Director

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INVITATION FOR BIDS
No. 4380-10K

Phase II Repairs to the Charleston County
Parking Garages

PROJECT OVERVIEW (See Section 01000 of the Scope of Work for details)
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DATE:	December 14, 2009
SOLICITATION NUMBER:	IFB No. 4380-10K
DESCRIPTION OF WORK:	Phase II Repairs to the Charleston County Parking Garages
SMALL BUSINESS ENTERPRISE REQUIREMENT:	Charleston County Council has amended its Procurement Ordinance to include a mandatory Small Business Enterprise (SBE) subcontract requirement on most procurements and contracts. See the Required Forms section for details on the requirement for this project.
PRE-BID CONFERENCE:	Mandatory **Late arrivals will not be allowed to sign in.** <u>Tuesday, January 5, 2010 at 9:00 a.m.</u> Cumberland Garage 90 Cumberland Street Charleston, SC 29401
LAST DAY FOR WRITTEN QUESTIONS:	<u>Friday, January 8, 2010 at 5:00 p.m.</u> Fax No. (843) 958-4758 kbadger@charlestoncounty.org
DUE DATE/TIME:	<u>Thursday, January 21, 2010 at 3:00 p.m.</u>
LOCATION:	Procurement Department 4045 Bridge View Drive, Suite B250 North Charleston, SC 29405
PLAN FEE:	Available for download for free or \$5.00 for a copy of the solicitation on CD

****It is a violation of South Carolina law to submit a bid without a current applicable contractor's license.****

This solicitation does not commit Charleston County (the "County") to award a contract, to pay any cost incurred in the preparation of bids submitted, or to procure or contract for the services. The County reserves the right to accept or reject any, all or any part of bids received as a result of this request, or to cancel in part or in its entirety this Invitation for Bids if it is in the best interest of the County to do so. The County will be the sole judge as to whether bids submitted meet all requirements contained in this solicitation.

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INVITATION FOR BIDS (IFB)
GENERAL TERMS AND CONDITIONS
1. PREPARATION, SUBMISSION AND WITHDRAWAL OF BIDS

- A. Bids must be submitted on the forms furnished or copies thereof, and must be manually signed. If erasures or other changes appear on the forms, each erasure or change must be initialed by the person signing the bid. Bids may not be submitted by fax or other facsimile transmittal.
- B. Mailed or hand-delivered bids must be submitted in a sealed envelope showing the solicitation number on the outside of the envelope and must be addressed to Charleston County Procurement Department, 4045 Bridge View Drive, Suite B250, North Charleston, South Carolina 29405. Each sealed envelope containing a bid shall be marked on the outside with the Bidder's complete name, address, bid number, description of services requested by IFB (i.e., Elevator Maintenance, Road Construction), along with the due date and time. Failure to do so may result in premature opening of, or a failure to open, such bid.

Please note: On the day that responses to County-issued bids, proposals or qualifications are due, and to the extent that someone is present at the Procurement Department's desk situated inside the main lobby at the Lonnie Hamilton III Public Services Building, the County will time-stamp said responses at the Procurement Department's desk. **Responses will be time-stamped in the lobby only on the solicitation's due date between 2:45 p.m. and 3:00 p.m.** The County will make every reasonable effort to have someone present to time-stamp responses at the designated date and time. Bids may still be mailed or delivered in person to the Procurement Department in Suite B250 any time prior to a solicitation's due date and time.

- C. **Bids submitted after the "closing" date and time are considered "late bids". "Late bids" will not be opened or considered.**
- D. Bids may be withdrawn by written request received from the Bidder prior to the time set for closing of bids, but not thereafter.
- E. Bidders shall promptly notify the County Procurement Department in writing no later than the last date and time for the submittal of written questions, of any ambiguity, inconsistency or error which they may discover upon examination of the IFB documents or the project premises and local conditions.
- F. Bidders requiring clarification or interpretation of the IFB documents shall make a written request which must be received at the Charleston County Procurement Department no later than the last date and time for submittal of written questions.
- G. Any interpretation, correction or change of the IFB documents will be made by addendum. It is your responsibility to monitor the Procurement website at www.charlestoncounty.org for any additional information, revisions, or addenda that may be posted.

- H. Failure to submit a bid on the form requested or inclusion of any alternates, unit prices, conditions, limitations or provisions not called for, will render the bid irregular; and shall be considered sufficient cause for rejection of a bid. Failure to complete entries in all blanks on the Bid Form shall be considered cause for rejection of a bid.
- I. The County seeks a single, qualified company to be responsible for completion of the work (hereinafter “Work”) described herein (although the County reserves the option to award portions of the project to multiple bidders if such is to the advantage of the County). Therefore, any one bid submitted by more than one company will be deemed to be a proposal for a joint venture between or among the companies so bidding unless the bid clearly and unequivocally describes that only one firm proposes to act as principal and the other firm(s) contractual position is clearly defined. The companies submitting as a joint venture will be held jointly and severally responsible for the entire project and will not be permitted to limit their liability to the County.
- J. The following are included in the Bid Package:
- Special Instructions/Terms and Conditions
 - Scope of Work / Specifications / Drawings
 - Sample Contract
 - Sample Forms
 - Required Forms

2. **NON-COLLUSION OATH**

Every bid must be accompanied by a notarized affidavit of non-collusion, executed by the Bidder or in the case of a corporation, by a duly authorized representative of said corporation. The Non-Collusion Oath is provided herein.

3. **BIDDER REPRESENTATIONS**

Each Bidder, by submitting a bid, represents that:

- A. The Bidder has read and understands this IFB (including all specifications and attachments) and that its bid is made in accordance therewith.
- B. The Bidder has reviewed the IFB, has become familiar with the local conditions under which the Work is to be performed, and has correlated personal observations with the requirements of the IFB and Sample Contract.
- C. The bid is based on the terms, materials, systems and equipment required by this IFB, without exception.
- D. The Bidder and its subcontractors comply with the regulations promulgated in the State of South Carolina General and Mechanical Contracting Act as enforced by the South Carolina Contractor’s Licensing Board, if applicable.
- E. The Bidder is qualified to provide the services and equipment required under this IFB and, if awarded the Contract, will do so in a professional, timely manner using Bidder's best skill and attention.

4. CONDITIONS AFFECTING THE WORK

The successful Bidder shall be responsible for having taken steps reasonably necessary to ascertain the nature and location of the Work, and the general and local conditions which can affect the Work or the cost thereof. Any failure by the successful Bidder to do so will not relieve Bidder from responsibility for successfully performing the Work without additional expense to the County. The County assumes no responsibility for any understandings or representations concerning conditions made by any of its officers, agents or consultants prior to the submission of its bid or the execution of any contract related thereto, unless such understandings or representations by the County are expressly stated in the Contract documents.

5. AWARD OF CONTRACT

- A. Award of Contract will be made to the lowest responsive and responsible Bidder(s) whose bid, conforming to the IFB, is most advantageous to the County, price and other factors considered.
- B. The County reserves the right to 1) reject any or all bids or any part of a bid; 2) waive informalities, technical defects, and minor irregularities in bids received; and 3) award the bids received on the basis of individual items or groups of items or the entire list of items.
- C. The County shall be the sole judge of the suitability of the items or services to be provided pursuant to this IFB.

6. NOTICE OF AWARD OF CONTRACT

The successful Bidder will be notified of acceptance of bid by a written Notice of Award of contract. The successful Bidder shall not undertake any work, and the County will not be responsible for payment for any work whatsoever undertaken by successful Bidder prior to issuance of the Notice to Proceed.

The successful Bidder shall be required to submit acceptable Insurance Certificate(s) and Endorsement(s) within five (5) business days after the issuance of the Notice of Award.

7. CONTRACT DOCUMENT

The successful Bidder shall be required to execute a formal contract within five (5) business days after issuance of a Notice of Award. Said Contract shall be virtually identical in substance and form to the Contract which is attached and marked "Sample Contract". The only anticipated changes to the Sample Contract will be to include additional exhibits, to fill in the blanks to identify the successful Bidder, and terms relating to compensation, or to revise the Contract to accommodate corrections, changes in the scope of Work, or changes pursuant to addenda issued prior to the bid closing. **Bidders should raise any questions regarding the terms of the Contract, or submit requested changes in said terms, in the form of written questions or submittals, subject to the deadline for questions.** Because the signed contract will be substantively and substantially derived from the Sample Contract, Bidder is urged to seek independent legal counsel as to any questions about the terms, conditions or provisions contained in the Sample Contract, before submitting a bid. Again, the Sample Contract, contains important legal provisions and is considered part and parcel of this IFB. Failure or refusal to sign aforesaid

Contract shall be grounds for the County to revoke any Notice of Award which has been issued, forfeit bid security, and award the Contract to another Bidder.

8. MODIFICATION

The County has defined this section in the Sample Contract under Article Twenty.

9. INSURANCE REQUIREMENTS

The successful Bidder, at its own expense, shall at all times during the term of the Contract, carry insurance as required herein (see Sample Forms).

The County shall not issue a Notice to Proceed until the successful Bidder has submitted acceptable Insurance Certificate(s) and Endorsement(s), which must be submitted within five (5) business days after receipt of the Notice of Award, and which reflect that the required coverages are in place and that all premiums have been paid. Refusal or failure to submit such Certificate(s) and Endorsement(s) shall constitute grounds for the County to revoke its Notice of Award, forfeit bid security, and award the Contract to another successful Bidder. The County may contact the successful Bidder's insurer(s) or insurer(s)' agent(s) directly at any time regarding successful Bidder's coverages, coverage amounts, or other such relevant and reasonable issues related to this Contract. The successful Bidder shall also require any sub-contractors to carry the same coverages in the same amounts.

Faxed Insurance Certificate(s) and Endorsement(s) will be accepted if received no later than the time of contract execution and the original documents are received within one (1) business day after receipt of the fax transmittals.

The County must be advised immediately of any changes in required coverages.

10. NOTICE TO PROCEED

A Notice to Proceed will be issued after the successful Bidder has executed the Contract and has submitted acceptable performance and payment bonds (if applicable) to the County as well as other submittals specified herein as required to be delivered before the Notice to Proceed is issued.

The successful Bidder shall not deliver any equipment to the work site or commence work until the successful Bidder has received a written Notice to Proceed from the Contracts and Procurement Director.

11. BIDDER'S QUALIFICATIONS

Prior to execution of the Contract, the successful Bidder will be required to provide a copy of its current applicable contractor's license issued by the State of South Carolina and/or the County, including those subcontractors subject to licensing.

12. SUBCONTRACTORS

A. If any subcontractors will be used for this project, the Bidder shall provide to the Contracts and Procurement Director a list of names of any of the intended subcontractors, the subcontractor's applicable license number(s), and a description of the work to be done

by each subcontractor on the Subcontractor Data Report Form included herein (see Required Forms).

- B. The successful Bidder shall not substitute other subcontractors without the written consent of the Contracts and Procurement Director.
- C. The successful Bidder shall be responsible for all services performed by a subcontractor as though they had been performed by the successful Bidder. Responsibilities include, but are not limited to, compliance with any applicable licensing regulations.
- D. If at any time the Contracts and Procurement Director determines that any subcontractor is incompetent or undesirable, the Director shall notify the successful Bidder accordingly, and the successful Bidder shall take immediate steps for cancellation of the subcontract and replacement.
- E. Nothing contained in any contract resulting from this IFB shall create any contractual relationship between any subcontractor and the County.
- F. It shall be the successful Bidder's responsibility to ensure that all terms required in the attached Contract are incorporated into all subcontracts.

13. STATE AND LOCAL TAXES

- A. Except as otherwise provided, Contract prices shall include all applicable state and local taxes.
- B. If applicable, two percent (2%) income tax withholding shall be withheld from each and every payment pursuant to Sections 12-8-540 and 12-8-550 of the South Carolina Code of Laws (1976, as amended) for certain out-of-state contractors, and such sums will be paid over to the South Carolina Department of Revenue (the "SCDOR"). When and if the County receives an executed SCDOR Form I-312, Nonresident Taxpayer Registration Affidavit - Income Tax Withholding, such withholding shall cease.
- C. The successful Bidder shall calculate that portion of the Contract which is subject to the seven and one half percent (7.5%) South Carolina sales and/or use tax, which amount shall be itemized and shown on all invoices, and shall be paid to the SCDOR by the successful Bidder. If the successful Bidder is a non-South Carolina company, the County will withhold the amount from all invoices and remit payment to the SCDOR, unless the successful Bidder furnishes the County with a valid South Carolina Use Tax Registration Certificate Number.
- D. The successful Bidder shall indemnify and hold harmless the County for any loss, cost or expense incurred by, levied upon or billed to the County as a result of the successful Bidder's failure to pay any tax of any type due in connection with this Contract.
- E. The successful Bidder shall ensure that the above sections are included in all subcontracts and sub-subcontracts, and shall ensure withholding on out of state sub and sub-subcontractors to which withholding is applicable.

14. DRUG-FREE WORKPLACE ACT

The successful Bidder shall comply with the South Carolina Drug-free Workplace Act, Section 44-107-10 et seq., South Carolina Code of Laws (1976, as amended). The County requires all contractors executing contracts for a stated or estimated value of \$50,000 or more to sign a Drug-free Workplace Certification form prior to the issuance of the Notice to Proceed.

15. INDEMNIFICATION

The County has defined this section in the Sample Contract under Article Thirteen.

16. TERMINATION

The County has defined this section in the Sample Contract under Article Nineteen.

SPECIAL INSTRUCTIONS/ TERMS AND CONDITIONS

SPECIAL INSTRUCTIONS/TERMS AND CONDITIONS
1. SUMMARY OF WORK

The project consists of the Phase II Repairs to the Charleston County King & Queen Street and Cumberland Street Parking Garages as required herein and as shown on the specifications and plans prepared by Sutton-Kennerly & Associates, Inc.

See Section 01000 of the Specifications for a brief description of the Work.

2. PRE-BID CONFERENCE

Interested Bidders are required to attend a **MANDATORY** pre-bid conference on **Tuesday, January 5, 2010 at 9:00 a.m.** at the **Cumberland Garage located at 90 Cumberland Street, Charleston, SC 29401**. Attendees shall meet outside of the Operations Office – if standing on Cumberland Street and facing the garage, this office is located at the far left side of the garage on the first floor. Bids will only be considered from contractors whose firms have sent an authorized representative to the pre-bid walk-through. Attendees must sign the County's sign-in sheet at the beginning of the walk-through. No attendees will be allowed to sign once the walk-through has begun and all attendees must remain until the County's Procurement Department Representative, in conjunction with the County's Facilities Department Representative, officially conclude the walk-through.

In order to eliminate confusion, solicitation packages will not be distributed at the pre-bid conference. All packages should be obtained prior to or after the conference.

3. WRITTEN QUESTIONS DEADLINE

The last day and time for submittal of written questions shall be no later than **Friday, January 8, 2010 at 5:00 p.m.** Written questions should be mailed, emailed, faxed or hand-delivered to the Procurement Department.

4. BID SUBMITTAL DEADLINE

Bids will be received until **Thursday, January 21, 2010 at 3:00 p.m.**, *(as indicated on the official clock in the Procurement Department)* after which time will be publicly opened and read. Bidders are invited to attend the closing of this bid at the time stated above.

Please note: On the day that responses to County-issued bids, proposals or qualifications are due, and to the extent that someone is present at the Procurement Department's desk situated inside the main lobby at the Lonnie Hamilton III Public Services Building, the County will time-stamp said responses at the Procurement Department's desk. **Responses will be time-stamped in the lobby only on the solicitation's due date between 2:45 p.m. and 3:00 p.m.** The County will make every reasonable effort to have someone present to time-stamp responses at the designated date and time. Responses may still be mailed or delivered in person to the Procurement Department in Suite B250 any time prior to a solicitation's due date and time.

5. PROJECT TIME OF COMPLETION

Time of completion for this project shall be **one hundred twenty (120) calendar days** from the issuance of a Notice to Proceed.

6. DAMAGES

A. Liquidated Damages

It is critical that the successful Bidder recognize that time is of the essence in completing the project. The successful Bidder agrees that, if the Work, or any part thereof, is not completed within the time agreed upon in a contract resulting from this IFB (or any extension thereof), the successful Bidder and its surety shall be liable to the County, in the amount of **Two Hundred Forty Dollars and 00/100 (\$240.00)** per day for each and every calendar day Substantial Completion (as defined in the contract) is delayed beyond the contract time of **one hundred twenty (120) calendar days after the effective date stated in the Notice to Proceed, as further defined in the Contract.**

The County, or its assignee, shall have the right to deduct from and retain out of monies which may be then due or which may become due and payable to the successful Bidder, the amount of such liquidated damages; and if the amount so retained by the County, or its assignee, is not sufficient to pay in full such liquidated damages, the Bidder shall pay to the County, or its assignee, the amount necessary to effect payment in full of such liquidated damages. Thirty (30) calendar days are allotted for completion of punch list items following Substantial Completion. See additional terms in the contract.

B. Actual Damages

The County reserves the right to include a provision detailing actual damages in its Contract.

7. MISCELLANEOUS

- A. Before a bid is considered for award, the Bidder must submit a completed AIA Document A305 Contractor's Qualification Statement.
- B. The Bidder shall familiarize itself with existing site conditions. The previously prepared Lead Report is included. No warranty of conditions shall be deemed to have been given by the release of this information.
- C. The successful Bidder is required to have a superintendent on-site on a full-time basis whenever the Work is being performed and to list certain key supervisors.
- D. The successful Bidder is responsible for, and shall bear the cost of, disposal of all construction debris. Note that Bee's Ferry Landfill no longer accepts commercial construction debris.

8. SECURITY REQUIRED

A. Bid Security

Each bid must be accompanied by a bid bond acceptable to the County. Bid bonds must be issued by a corporate surety registered and authorized to do business in the State of South Carolina. Bid bonds shall be payable to the County, shall be for at least five (5%) percent of the total amount of the bid, and shall serve as a guarantee deposit that the bid

will be carried out to the complete satisfaction of the County. In lieu of a bond, Bidder may submit a certified check or cashiers check in aforesaid amount payable in U.S. funds. Pursuant to County policy, bid security in the form of checks will be deposited with the County Treasurer into the County General Fund. Faxed bid bonds will not be acceptable.

B. Forfeiture of Bid Security

Non-performance by the successful Bidder, or its failure to execute the Contract and meet performance and payment bond requirements and insurance requirements within five (5) business days after issuance of Notice of Award, shall result in its bid security being forfeited as liquidated damages, and the Notice of Award and Contract will be rescinded and awarded to another Bidder. Withdrawal of a bid after the closing date and time but prior to final award, may also result in forfeiture of bid security.

C. Return of Bid Security

Bid security will be returned to all bidders after the successful Bidder has executed the Contract and delivered all required bonds and Insurance Certificate(s) and Endorsement(s). Bidders will not be entitled to any interest earnings on returned funds, and in the case of bid security by check, such will be returned in the form of a County check.

D. Payment and Performance Security

1. The successful Bidder shall provide performance and payment bonds, in a form satisfactory to the County (see Sample Forms), in the following amounts:

Payment Bond: 100% of the total amount of the Contract.

Performance Bond: 100% of the total amount of the Contract.

2. The aforesaid payment and performance bonds must be issued by a corporate surety registered and authorized to do business in South Carolina and must be counter-signed by a licensed, authorized South Carolina agent.
3. Attorneys-in-fact who sign bid bonds or performance bonds must file with each bond a certified and effective, dated copy of their power of attorney.
4. The time to be covered by the performance bond shall commence on the date of execution of any contract resulting from this IFB and terminate two (2) years after final payment to Bidder by the County.

The time to be covered by the payment bond shall commence on the date of execution of any contract resulting from this IFB and terminate twelve (12) months after the date of final acceptance of the Work by the County.

5. The successful Bidder may submit its payment bond and performance bond by fax; however, the original documents must be received within one (1) business day after receipt of the fax.

9. SMALL BUSINESS ENTERPRISE (SBE) PROGRAM

Charleston County Council has amended its Procurement Ordinance to include a mandatory Small Business Enterprise (SBE) subcontract requirement on most procurements and contracts. See the Required Forms for details on the requirement for this project.

10. DISADVANTAGED BUSINESS ENTERPRISE GOAL

Charleston County Council has established a goal of 20% for Disadvantaged Business Enterprise (DBE) participation on all contracts and procurements.

11. LOCAL VENDOR PREFERENCE OPTION

- A. A Local Vendor Preference Option is available to local vendors. Assuming a local vendor does not provide the lowest price/fee on a particular bid, the local vendor preference option allows the lowest local vendor the opportunity to match the low bid if the local vendor's bid is within 5% or \$10,000 of the non-local lowest responsive bid.
 - 1. Any vendor claiming the local preference option must meet qualifications stated in Paragraph B below.
 - 2. The Local Vendor Preference Option will be allowed only for bids in which the lowest responsive bid amount exceeds \$10,000.
 - 3. In the event the procurement is to be made pursuant to state or federal guidelines that prohibit or restrict local preference, then there shall be no local preference used in award.
- B. A local vendor claiming local preference status must meet the following qualifications for the local preference status:
 - 1. Has a principal place of business located within the limits of Charleston County. (A post office box or temporary construction or office trailer shall not be considered a place of business).
 - 2. Has a valid business license issued at least twelve months prior to the particular bid closing in which preference is being asked. The business license may be for any municipality within Charleston County or business license for the County.
 - 3. Has been engaged in business in Charleston County for at least twelve (12) months.
 - 4. Has proof of payment of all applicable Charleston County taxes and fees.
- C. Local vendors must state in their bid submittal that they are requesting consideration for Local Vendor Preference.

12. ADDITIONAL INFORMATION INQUIRIES

Questions or clarifications concerning this should ***only*** be directed to:

Kerry S. Badger, Senior Buyer
County of Charleston
4045 Bridge View Drive, Suite B250
North Charleston, SC 29405
Tel: 843-958-4754
Fax: 843-958-4758
Email: kbadger@charlestoncounty.org

If the Buyer named above is unavailable, please contact:

E. Steven Taylor C.P.M., Contracts and Procurement Director
Tel: 843-958-4750
Fax: 843-958-4758

SCOPE OF WORK

**Attachment A: Specifications (attached)
and**

Attachment B: Drawings (separate package available for download)

SAMPLE CONTRACT

FIXED PRICE CONSTRUCTION CONTRACT

Phase II Repairs to the Charleston County Parking Garages



BETWEEN

CHARLESTON COUNTY, SOUTH CAROLINA

AND

(TO BE COMPLETED UPON AWARD)

STATE OF SOUTH CAROLINA)
)
 COUNTY OF CHARLESTON)

Contract No. 4380
Phase II Repairs to the Charleston County
Parking Garages

THIS CONTRACT is entered into this ____ day of (Month) 2010 between CHARLESTON COUNTY, SOUTH CAROLINA, a public body corporate and politic and political subdivision of the State of Carolina (the "County"), and _____ a _____ Sole Proprietorship/Partnership/Corporation, (choose one) the address of which is _____ (the "Contractor"), ("Party" as to each; collectively the "Parties").

WITNESSETH:

WHEREAS, the County wishes to contract for the project identified as construction of the _____; and

WHEREAS, the Contractor has represented to the County that its staff is qualified to provide the work and perform this Contract in a professional and timely manner; and

WHEREAS, the County has relied upon the above representations by the Contractor; and

WHEREAS, the County's Facilities Director has recommended that a contract for aforesaid construction be entered into with the Contractor; and

NOW, THEREFORE, in consideration of the promises and covenants set forth herein, it is agreed by and between the Parties as follows:

ARTICLE 1 **DOCUMENTS INCORPORATED BY REFERENCE**

This Contract includes the plans and specifications for the Project, specifically identified as the following:

Exhibit A:	Invitation for Bids (IFB) No. 4380-10K and Addenda __ through __
Exhibit B1:	Specifications
Exhibit B2:	Drawings
Exhibit C:	Contractor's Insurance Certificate(s) and Endorsement(s)
Exhibit D:	Contractor's Bid dated _____, 2010
Exhibit E:	Drug-free Workplace Certification (Required on contracts over \$50,000)

All of which are hereby incorporated herein by reference and made a part hereof (hereinafter collectively referred to as the "Contract Documents"). Change orders issued hereafter, Construction Change Directives, a Direction for a Minor Modification in the work issued by the County, and any other amendments executed by the County and the Contractor shall become and be a part of this Contract.

In the event of any conflict, discrepancy, or inconsistency among any of the documents which make up this Contract, the following shall control:

- a. As between the Contract and the Contract Documents or any other document to include, but not limited to the plans or specifications, the Contract shall govern.

- b. In the event of any conflict, discrepancy, or inconsistency among any of the other Contract Documents, the Contractor shall notify the County immediately upon discovery of same, and the County will notify the Contractor of the resolution.
- c. Any documents not included or expressly contemplated in this Contract do not, and shall not, form a part of this Contract. The Contract Documents are intended to be complementary, and a requirement in one document shall be deemed a requirement in all documents.

ARTICLE 2

DEFINITIONS

- Application for Payment: the Contractor's certified request for payment for completed portions of the Work and for materials or equipment suitably stored pending their incorporation into the Work; interchangeable with Payment Request
- Architect/Engineer: the Architect/Engineer for the Work is Sutton-Kennerly & Associates, Inc.; unless otherwise directed by the County in writing, the Architect/Engineer will perform those duties and discharge those responsibilities, if any, allocated to the Architect/Engineer in this Contract
- Change Order: a bilateral amendment to the Contract signed by the County, the Architect and the Contractor authorizing a change in the Work or an adjustment in the Contract Price or the Contract Time or both
- Construction Change Directives: a written order prepared by the County directing a change in the Work stating a proposed basis for adjustment, if any, in the Contract Price or Contract Time
- Contract Price: the sum stated in the Contract, which is the total amount payable by the County to the Contractor for performance of the Work under the Contract Documents
- Contract Time: the period of time allotted in the contract Documents for Substantial Completion of the Work, including authorized adjustments hereto
- Direction for Minor Modification: supplemental instruction given in advance by the County to the Contractor, which may or may not include a change in the Contract Price
- Final Completion: denotes that the Work has been completed in accordance with the terms and conditions of the Contract Documents
- Final Payment: the last payment made by the County to the Contractor of the entire unpaid balance of the Contract Price as adjusted by Change Orders and/or modifications
- Payment Request: used interchangeably with Application for Payment
- Project: the total construction and/or furniture, furnishings and equipment of which the Work performed under the Contract Documents may be the whole or a part; used interchangeably with Work in this Contract
- Project Site: geographic location of the Project, usually defined by legal boundary lines; used interchangeably with the Work Site

- Schedule of Values: a statement furnished by the Contractor reflecting the portions of the Contract Price allocated to the various portions of the Work and used as the basis for reviewing the Contractor's Application for Payment
- Substantial Completion: that point at which, as certified in writing by the Architect / Engineer and approved by the County, the Work, or a designated portion thereof, is sufficiently complete in accordance with the Contract Documents such that the County or its designee can enjoy beneficial use or occupancy and can legally occupy, use or operate it in all respects, for its intended purpose
- Work: the construction and services required by the Contract Documents, whether completed or partially completed, and including all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations; may constitute a whole or a part of the Project; used interchangeably with Project in this Contract
- Work Site: the geographic location of the Work; used interchangeably with the Project Site

ARTICLE 3

REPRESENTATIONS OF THE CONTRACTOR

In order to induce the County to execute this Contract and recognizing that the County is relying thereon, the Contractor, by executing this Contract, makes the following express representations to the County:

- 3.A The Contractor is fully qualified to act as the general contractor for the Project and has, and shall maintain, any and all licenses, permits or other authorizations necessary to act as the general contractor for, and to construct the Project; and
- 3.B The Contractor has become familiar with the Project Site and the local conditions under which the Project is to be constructed and operated; and
- 3.C The Contractor has received, reviewed and examined all of the Contract Documents, including, but not limited to all plans and specifications, and has found them to the best of its knowledge, to be complete, accurate, adequate, consistent, coordinated and sufficient for construction.

ARTICLE 4

INTENT AND INTERPRETATION

With respect to the intent and interpretation of this Contract, the County and the Contractor agree as follows:

- 4.A This Contract (along with its exhibits), together with the Contractor's and surety's performance and payment bonds for the Project constitute the entire and exclusive Contract between the Parties with reference to the Project, and said Contract supersedes any and all prior discussions, communications, representations, understandings, negotiations, or contracts; and
- 4.B Anything that may be required, implied or reasonably inferred by the documents which make up this Contract, or any one or more of them, shall be provided by the Contractor for the Contract Price; and

- 4.C Nothing contained in this Contract shall create, nor be interpreted to create, privity or any other relationship whatsoever between the County and any person except the Contractor; and
- 4.D When a word, term, or phrase is used in this Contract, it shall be interpreted or construed first, as defined herein; second, if not defined, according to its generally accepted meaning in the construction industry; and third, if there is no generally accepted meaning in the construction industry, according to its common and customary usage; and
- 4.E Wherever this Contract calls for "strict" compliance or conformance with the Contract Documents as to matters other than compliance with time limits, providing an updated schedule, and claim and Change Order procedures, the term shall mean within tolerances as described specifically in the Contract Documents, or if not specifically described, within industry standards and tolerances for deviation for the specific item or procedure in question; and
- 4.F The words "include", "includes", or "including", as used in this Contract, shall be deemed to be followed by the phrase, "without limitation"; and
- 4.G The listing herein of any items as constituting a material breach of this Contract shall not imply that any other, non listed item will not constitute a material breach of this Contract; and
- 4.H The Contractor shall have a continuing duty to read, examine, review, compare and contrast each of the documents which make up this Contract, shop drawings, and other submittals and shall give written notice to the County of any conflict, ambiguity, error or omission which the Contractor may find with respect to these documents, before proceeding with the affected Work. The express or implied approval by the County Facilities Department of any shop drawings or other submittals shall not relieve the Contractor of the continuing duties imposed hereby, nor shall any such approval be evidence of the Contractor's compliance with this Contract. The County has prepared documents for the Project, including the plans and specifications for the Project, which are accurate, adequate, consistent, coordinated and sufficient for construction. The Contractor shall not be liable to the County for damage resulting from errors, inconsistencies or omissions in the Contract Documents unless the Contractor recognized, or reasonably should have recognized, such error, inconsistency or omission and knowingly failed to report it to the County. If the Contractor performs any activity knowing it involves an error, inconsistency or omission which was recognized, obvious, or reasonably should have been recognized, without such notice to the County, the Contractor shall assume responsibility for such performance and shall bear the costs for correction.

ARTICLE 5

INDEPENDENT CONTRACTOR

The Contractor is an independent contractor and shall not be deemed the agent or employee of the County for any purpose whatsoever. The Contractor shall not hold itself out as an employee of the County, and shall have no power or authority to bind or obligate the County in any manner, except the County shall make payment to the Contractor for services and expenses as herein provided. The Contractor shall obtain and maintain all licenses and permits required by law for the performance of this Contract or its employees, agents, and servants. The Contractor shall be liable for and pay all taxes required by local, state or federal governments, including, but not limited, to social security, Workers' Compensation, employment security, and any other taxes and licenses or insurance premiums required by law. No employee benefits of any kind shall be paid by the County to or for the benefit of the Contractor or its employees, agents, or servants by reason of this Contract.

ARTICLE 6
OWNERSHIP OF THE DOCUMENTS WHICH MAKE UP THE CONTRACT

As between the County and the Contractor, the documents which make up this Contract, and each of them, as well as any other documents furnished by the County, shall remain the property of the County. The Contractor shall have the right to keep one (1) copy of the Contract upon Final Completion of the Project; provided, however, that in no event shall the Contractor use, or permit to be used, any portion or all of such Contract on other projects without the County's prior written authorization.

ARTICLE 7
CONTRACTOR'S PERFORMANCE

The Contractor shall perform all of the Work required, implied or reasonably inferable from this Contract including, but not limited to, the following:

- 7.A The Contractor will complete the entire Work described in the Contract Documents, except as specifically identified therein as the Work of other parties, in accordance with the terms herein, Exhibits A, B1, and B2, all as may be amended from time to time; and
- 7.B The furnishing of any and all required surety bonds and Insurance Certificate(s) and Endorsement(s); and
- 7.C The provision or furnishing, and prompt payment therefor, of labor, supervision, services, materials, supplies, equipment, fixtures, appliances, facilities, tools, transportation, storage, disposal, power, fuel, heat, light, cooling, or other utilities, required for construction and all necessary building permits and other permits or licenses required for the construction of the Project; and
- 7.D The creation and maintenance of a detailed and comprehensive copy of the drawings, specifications, addenda, Change Orders and other modifications depicting all as-built construction. Said items shall be submitted to the County, along with other required submittals upon Final Completion of the Project, and receipt of same by the County shall be a condition precedent to Final Payment to the Contractor. The Contractor shall prepare and submit final as-built drawings to the County.

ARTICLE 8
TIME FOR CONTRACTOR'S PERFORMANCE; DELAYS

- 8.A The Contractor shall commence the performance of this Contract on the date set forth in the Notice to Proceed, issued by the Contracts and Procurement Director, and shall diligently continue its performance to and until Final Completion of the Project. **The Contractor shall accomplish Substantial Completion of the Project no more than one hundred twenty (120) calendar days following the issuance of a Notice to Proceed** (sometimes hereinafter referred to as the "Contract Time"). By signing this Contract, the Contractor agrees that the Contract Time is a reasonable time for accomplishing Substantial Completion of the Project. There will be no monetary early completion incentive. The Contractor shall submit its initial progress schedule in accord with Subarticle 12.G below.
- 8.B.1 The Contractor shall pay the County the sum of **Two Hundred Forty Dollars and 00/100 (\$240.00)** per day for each and every calendar day of unexcused delay in achieving Substantial Completion beyond the date set forth herein for Substantial Completion. Any sums due and

payable hereunder by the Contractor shall be payable, not as a penalty, but as liquidated damages representing an estimate of delay damages likely to be sustained by the County, estimated at the time of executing this Contract. When the County reasonably believes that Substantial Completion will be inexcusably delayed, the County shall be entitled, but not required, to withhold from any amounts otherwise due the Contractor an amount then believed by the County to be adequate to recover liquidated damages applicable to such delays. If and when the Contractor overcomes the delay in achieving Substantial Completion, or any part thereof, for which the County has withheld payment, the County shall promptly release to the Contractor those funds withheld, but no longer applicable, as liquidated damages; and

- 8.B.2 If the Contractor fails to achieve Final Completion of all punch list items within thirty (30) calendar days of the date of Substantial Completion, the County reserves the right to contract with other parties to complete the Work, or to use other forces, utilizing funds retained or collected under this Contract as set forth in Subarticle 9.G below. This Subarticle is not limited by the terms of Subarticle 11.A below; and

In addition to other remedies of the County, actual damages may be withheld or collected for failure to meet the date for Final Completion, as set forth in Subarticle 8.B above.

- 8.C Partial use or occupancy of the Project shall not result in the Project being deemed substantially complete, and such partial use or occupancy shall not be evidence of Substantial Completion.
- 8.D All limitations of time set forth herein are material and are of the essence of this Contract.
- 8.E The Contractor agrees to punctually and diligently perform all parts of the Work at the time scheduled as determined in Subarticle 12.G below. In this connection, the Contractor agrees that it will keep itself continually informed of the progress of the job and will, upon its own initiative, confer with the County so as to plan its work in coordinated sequence with the work of the County and of others and so as to be able to expeditiously undertake and perform its work at the time most beneficial to the entire Project. The Contractor will be liable for any loss, costs, or damages sustained by the County for delays in performing the Work hereunder, other than for excusable delays, as set forth in Subarticle 8.F below, for which the Contractor may be granted a reasonable extension of time.
- 8.F If the Contractor is delayed at any time in the progress of the Work by any separate contractor employed by the County, or by changes in the Work, or by labor disputes, fire, unusual delay in transportation, unusually severe weather conditions, unavoidable casualties, delays specifically authorized by the County, or by causes beyond the Contractor's control, avoidance, or mitigation, and without the fault or negligence of the Contractor and/or subcontractor or supplier at any tier, then the Contract Time shall be extended by Change Order for such reasonable time, if any, as the County may determine that such event has delayed the progress of the Work, or overall completion of the Work if the Contractor complies with the notice and documentation requirements set forth below.

If the Contractor is delayed, obstructed, hindered or interrupted for a period of time exceeding seven (7) calendar days by any act or neglect of the County, an adjustment shall be made for any increase in the direct cost of performance of this Contract (excluding profit, extended home office overhead, incidental or consequential damages or disruption damages) and the Contract modified in writing accordingly. The Contractor must assert its right under this Article by giving written notice to the County Facilities Department within ten (10) calendar days of the beginning of a delay, obstruction, hindrance or interruption by the County. No adjustment shall be made for any

delay, obstruction, hindrance or interruption after Final Payment under this Contract or to the extent that performance would have been so delayed, obstructed, hindered or interrupted by any other cause, including, but not limited to concurrent cause or fault or negligence of the Contractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this Contract. The direct costs described above shall be limited to those direct costs attributable solely to this Project, and shall be subject to documentation and verification of costs as required by the County. If unit prices are established in the Contract Documents or subsequently agreed upon, they shall form the basis for cost calculations under any claims for delay.

Any claim for extension of time shall be made in writing to the County, not more than ten (10) business days from the beginning of the delay. The notice shall indicate the cause of delay upon the progress of Work. If the cause of the delay is continuing, the Contractor must give such written notice every ten (10) business days. Within ten (10) business days after the elimination of any such delay, the Contractor shall submit further documentation of the delay and a formal Change Order request for an extension of time for such delay.

The written request for a time extension shall state the cause of the delay, the number of calendar days extension requested, and such analysis and other documentation as is reasonably requested by the County to demonstrate a delay in the progress of the Work or the overall Project completion. If the Contractor does not comply with the above notice and documentation requirements, the claim for the delay shall be waived by the Contractor. The above notice and documentation requirements shall also be a condition precedent to the Contractor's entitlement to any extension of time.

Extensions of time will be the Contractor's primary remedy for any and all delays, obstructions, hindrances, or interference. Payment or compensation, for direct costs only (as set forth above), may be made to the Contractor for hindrances or delays solely caused by the County if such delays or hindrances are within the County's ability to control and are not partially caused by the Contractor or any of its agents, subcontractors or others for whom it is responsible. No payment or compensation will be made for interference, obstructions, hindrances or delays which are not solely caused by the County or which arise from the County's actions under Article 11.

Without limitation, the County's exercise of its rights under Article 16, regardless of the extent or number of such changes, or the County's exercise of any of its remedies or any requirement to correct or re-execute defective work, shall not under any circumstances be construed as delays, hindrances or interference compensable further than as described herein.

Weather delays are generally referred to as "rain days." Time for hot, cold, and/or windy conditions have been allowed for in the allocated date of completion. An average number of rain days has also been included in the completion date determination. This was determined by the following method: all calendar days in each month in which rainfall in any part of the day exceeded .10 inch has been calculated and averaged. These averages are as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
9	10	8	8	9	9	14	16	11	16	7	12

Rain delays, therefore, will only be considered when the number of calendar days in any month in which rainfall, as recorded by the Charleston National Weather Service at the Charleston International Airport location, as .10 inch or greater, exceeds the number of calendar days shown. In considering a claim for rain days, the actual conditions at the Work Site shall control.

Notwithstanding the requirements pertaining to the filing of claims herein, the Contractor shall make a claim for a time extension due to rain delays no later than the tenth (10th) calendar day of the month following the release of the NOAA monthly report.

ARTICLE 9

FIXED PRICE AND CONTRACT PAYMENTS

- 9.A The County shall pay, and the Contractor shall accept, as full and complete payment for the Contractor's timely performance of its obligations hereunder the fixed price of _____ **Dollars and xx/100 (\$_____)**. The price set forth in this Subarticle 9.A shall constitute the Contract Price, which shall not be modified except by Change Order or adjustment pursuant to approved unit prices, if any, as provided in this Contract.
- 9.B Prior to review of the first Payment Request, the Contractor must submit to the County and receive the County's approval for the Schedule of Values apportioning the entire Contract Price among the different elements of the Project for purposes of periodic and Final Payment. The Schedule of Values shall be presented in whatever format, with such detail including labor and material breakout, and backed up with whatever supporting information the County requests (see also the specifications for additional information). The Contractor shall not imbalance its Schedule of Values, nor artificially inflate any element thereof. The violation of this provision by the Contractor shall constitute a material breach of this Contract. The Schedule of Values will be utilized for the Contractor's Payment Requests but shall only be so utilized after it has been approved in writing by the County.

Format: [Formatting instructions can be found in the Specifications, Schedule of Values.]

- 9.C The County shall pay the Contract Price to the Contractor in accordance with the procedures set forth in this Article 9. On or before the tenth (10th) calendar day of each month after commencement of performance, but no more frequently than once monthly, the Contractor may submit a Payment Request for the period ending the last calendar day of the previous month. The Payment Request shall be in such format and include whatever supporting information as may be required by the County. Therein, the Contractor may request payment for ninety percent (90%) of that part of the Contract Price allocable to Contract requirements properly provided, labor, materials and equipment properly incorporated in the Project, and materials or equipment necessary for the Project and properly stored at the Project Site (or elsewhere if offsite storage is approved in writing by the County), less the total amount of previous payments received from the County. Payment for materials stored offsite shall be at the discretion of the County and if approved, the Contractor shall provide appropriate documentation to substantiate materials are stored in a bonded warehouse or facility, title or other proof of ownership has been transferred to the County, and that materials have been purchased and paid for by the Contractor (copies of paid invoices must be submitted to the County with Payment Request). Risk of loss shall be borne by, and insurance must be provided by the Contractor while in storage and in transit. At seventy-five percent (75%) completion of the Contract, by dollar value, and at the option of the County, retainage will be reduced to five percent (5%) plus an additional amount as detailed in Article 7.G below for defective or non-conforming work and anticipated liquidated damages.

Amounts reflected in Change Orders may be included in Payment Requests to the extent they are not in dispute and subject to final approval of cost to the County for such changes in the Work.

Each Payment Request shall be signed by the Contractor and shall constitute the Contractor's representation that the quantity of Work has reached the level for which payment is requested,

that the Work has been properly installed or performed in strict compliance with this Contract, and that the Contractor knows of no reason why payment should not be made as requested.

Thereafter, the County shall review the Payment Request and may also review the Work at the Project Site or elsewhere to determine whether the quantity and quality of the Work is as represented in the Payment Request and is as required by this Contract. The amount of each such payment shall be the amount approved for payment by the County less such amounts, if any, otherwise owing by the Contractor to the County or which the County shall have the right to withhold as authorized by this Contract, subject to approval by the County. Approval of the Contractor's Payment Requests shall not preclude the County from the exercise of any of its rights as set forth in Subarticle 9.F herein below.

The submission by the Contractor of a Payment Request also constitutes an affirmative representation and warranty that all Work for which the County has previously paid is free and clear of any lien, claim, or other encumbrance of any person whatsoever. As a condition precedent to payment, the Contractor shall, if required by the County, also furnish to the County properly executed waivers of lien or claim, in a form acceptable to the County, from all subcontractors, materialmen, suppliers or others having lien or claim rights, wherein said subcontractors, materialmen, suppliers or others having lien or claim rights, shall acknowledge receipt of all sums due pursuant to all prior Payment Requests and waive and relinquish any liens, lien rights or other claims relating to the Project Site. Furthermore, the Contractor warrants and represents that, upon payment of the Payment Request submitted, title to all Work included in such payment shall be vested in the County.

- 9.D When payment is received from the County, the Contractor shall within seven (7) business days pay all subcontractors, material men, laborers and suppliers the amounts they are due for the Work covered by such payment. The Parties expressly acknowledge the terms of Section 29-7-10 of the South Carolina Code of Laws (1976, as amended), which provides that contractors shall pay laborers, subcontractors and material men out of the funds received under the construction contract, and Section 29-7-20 of the South Carolina Code of Laws (1976, as amended) which provides, inter alia, that it shall be a criminal offense for the Contractor to fail to so pay laborers, material men and subcontractors. In the event the County becomes informed that the Contractor has not paid a subcontractor, material man, laborer, or supplier as provided herein, the County shall have the right, but not the duty, to issue future checks and payment to the Contractor of amounts otherwise due hereunder naming the Contractor and any such subcontractor, material man, laborer, or supplier as joint payees. The County shall notify the Contractor of its intent to implement such a procedure, and will give the Contractor a reasonable period to cure any such failure prior to implementing the procedure. Such joint check procedure, if employed by the County, shall create no rights in favor of any person or entity beyond the right of the named payees to payment of the check and shall not be deemed to commit the County to repeat the procedure in the future.
- 9.E Neither payment to the Contractor, utilization of the Project for any purpose by the County, nor any other act or omission by the County shall be interpreted or construed as an acceptance of any Work of the Contractor not strictly in compliance with this Contract.
- 9.F After written notice to the Contractor and a reasonable opportunity to cure, the County shall have the right to refuse to make payment, in whole or in part, and, if necessary, may demand the return of a portion or all of the amount previously paid to the Contractor due to:

1. The quality of a portion, or all, of the Contractor's Work not being in accordance with the requirements of this Contract; and
2. The quantity of the Contractor's Work not being as represented in the Contractor's Payment Request, or otherwise; and
3. The Contractor's rate of progress being such that, in the opinion of the County, Substantial Completion may be inexcusably delayed; and
4. The Contractor's failure to use Contract funds, previously paid the Contractor by the County, to pay the Contractor's Project-related obligations including, but not limited to, subcontractors, laborers and material and equipment suppliers; and
5. Claims made, or likely to be made, against the County or its property for which the Contractor or its agents or subcontractors or others for whom it is responsible are, or reasonably appear to be, at fault; and
6. Loss caused by the Contractor; and
7. The Contractor's failure or refusal to perform any of its obligations to the County, after written notice and a reasonable opportunity to cure as set forth above.

In the event that the County makes written demand upon the Contractor for amounts previously paid by the County as contemplated in this Subarticle 9.F, the Contractor shall promptly comply with such demand. The County's rights hereunder survive the term of this Contract, are not waived by Final Payment and/or acceptance, and are in addition to the Contractor's obligations in Article 17 and elsewhere herein.

- 9.G When the Contractor believes that Substantial Completion has been achieved, the Contractor shall notify the County in writing and shall furnish a listing of those matters yet to be finished. The County will thereupon conduct a site review to confirm that the Work is in fact substantially complete. Upon its confirmation that the Contractor's work is substantially complete, the County will therein set forth the date of Substantial Completion for approval. After approval the County, will so notify the Contractor. If the County, through its review, fails to find that the Contractor's work is substantially complete, and is required to repeat all, or any portion, of its Substantial Completion review, the Contractor shall bear the cost of such repeat site review(s) which cost may be deducted by the County from any payment then or thereafter due to the Contractor.

Guarantees and equipment warranties required by this Contract shall commence on the date of Substantial Completion.

Upon Substantial Completion, the County shall pay the Contractor an amount sufficient to increase total payments to the Contractor to one hundred percent (100%) of the Contract Price **less** any amounts attributable to damages, **and less** one hundred fifty percent (150%) of the costs, as reasonably determined by the County for completing all incomplete work, correcting and bringing into conformance all defective and nonconforming work, and handling any outstanding or threatened claims. Such a calculation by the County of costs for completing all incomplete work, correcting and bringing into conformance all defective and nonconforming work, and handling any outstanding or threatened claims shall not bar the County from exercise of its rights elsewhere herein, in Article 18 below, or otherwise as provided by law for any incomplete, defective or nonconforming work or claims which are discovered by the County after the date of

making such calculation or after the date of any partial or Final Payment, whether or not such incomplete, defective or nonconforming work or claims were obvious or should have been discovered earlier.

- 9.H When the Project is finally complete and the Contractor is ready for a final review, it shall notify the County thereof in writing. Thereupon, the County will perform a final site review of the Project. If the County concurs that the Project is complete in full accordance with this Contract and that the Contractor has performed all of its obligations to the County hereunder, the Contractor will furnish a final Application for Payment to the County certifying to the County that the Project is complete and the Contractor is entitled to the remainder of the unpaid Contract Price, less any amount withheld pursuant to this Contract. If the County is unable to issue its final Application for Payment and is required to repeat its final review of the Project, the Contractor shall bear the cost of such repeat review(s), which costs may be deducted by the County from the Contractor's Final Payment.
- 9.I Prior to being entitled to receive Final Payment, and as a condition precedent thereto, the Contractor shall furnish the County, in the form and manner required by the County, if any:
1. An affidavit that all of the Contractor's obligations to subcontractors, laborers, equipment or material suppliers, or other third parties in connection with the Project, have been paid or otherwise satisfied, or a warranty that they will be paid out of the Final Payment; and
 2. If applicable, consent(s) of surety to Final Payment; and
 3. All other items listed in the quantities stated, in the project manual as requirements for Final Completion and Final Payment.
- 9.J The County shall, subject to its rights set forth in Subarticle 9.F above, endeavor to make Final Payment of all sums due the Contractor within thirty (30) calendar days of the final Application for Payment, with the exception of items in dispute or concerning which the County has exercised any of its rights to investigate or remove.

ARTICLE 10

INFORMATION AND MATERIAL SUPPLIED BY THE COUNTY

- 10.A.1 The County shall furnish to the Contractor, prior to the execution of this Contract, any and all written and tangible material in its possession concerning conditions at the site of the Project. Such written and tangible material is furnished to the Contractor only in order to make complete disclosure of such material as being in the possession of the County and for no other purpose. By furnishing such material, the County does not represent, warrant, or guarantee its accuracy either in whole, in part, implicitly or explicitly, or at all.
- 10.A.2.a DIFFERING SITE CONDITIONS: The Contractor shall promptly, and before such conditions are disturbed, notify the County in writing of: (i) subsurface or latent physical conditions at the site differing materially from those indicated in the Contract, or (ii) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in this Contract. The County shall investigate the conditions, and if it finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the Work under this Contract, whether or not changed as a result of

such conditions, an adjustment shall be made, through negotiation and mutual agreement, and the Contract modified in writing accordingly.

- 10.A.2.b No claim of the Contractor under this clause shall be allowed unless the Contractor has given the notice required in Subarticle 10.A.2.a. above: provided, however, the time prescribed therefor may be extended by the County.
- 10.A.2.c No claim by the Contractor for an adjustment hereunder shall be allowed if asserted after Final Payment under this Contract.
- 10.B The Contractor is responsible for obtaining all permits or fees required of the Contractor by this Contract, or permits and fees customarily the responsibility of the Contractor, including, but not limited to, applicable licenses from the County's Building Inspection and Revenue Collections Departments. Contractor's License Number, Person's Name, and Business Name must all be shown on all required licenses. The Contractor shall coordinate with the City of Charleston and all other authorities having jurisdiction.
- 10.C The County will provide the Contractor five (5) copies of the complete Contract Documents. The Contractor may arrange to purchase additional copies of the Contract Documents which it may require.
- 10.D The County's Facilities Department shall be the sole authorized representative of the County. Other than in matters of public safety or in time of natural disaster or crisis, the Contractor shall not take direction or act upon information from any County personnel other than the Facilities Department's authorized representative(s). This provision shall in no way limit the authority of the Contracts and Procurement Director as described herein or of the County Legal or Building Inspections Departments.

ARTICLE 11

CEASE AND DESIST ORDER/COUNTY'S RIGHT TO PERFORM WORK

- 11.A In the event the Contractor fails or refuses to perform the Work, or any separable part thereof, as required herein, or with the diligence that will ensure its proper, timely completion in accordance with the Contract Documents, the County may instruct the Contractor, by written notice, to cease and desist further Work, in whole or in part, or to correct deficient Work. Upon receipt of such instruction, the Contractor shall immediately cease and desist, or proceed, as instructed by the County. In the event the County issues such instructions to cease and desist, the Contractor must, within seven (7) calendar days of receipt of the County's instructions, provide a written, verified plan to eliminate or correct the cause of the County's order, which plan appears to the County to be reasonable, actually attainable and in good faith. In the event that the Contractor fails and/or refuses to provide such a plan or diligently execute an approved plan, then the County shall have the right, but not the obligation, to carry out the Work, or any portion thereof, with its own forces, or with the forces of another contractor, and the Contractor shall be fully responsible and liable for the costs of the County performing such work, which costs may be withheld from amounts due to the Contractor from the County. The rights set forth herein are in addition to, and without prejudice to, any other rights or remedies the County may have against the Contractor.

If Work completed by the County or other contractor affects, relates to, is to be attached onto or extended by later Work of the Contractor, the Contractor shall, prior to proceeding with the later Work, and to the extent visible, report any apparent defects or variance from the Contract requirements which would render the Contractor's later Work not in compliance with the Contract

requirements or defective or not in compliance with warranties or other obligations of the Contractor hereunder.

- 11.B The provisions of this Article shall be in addition to the County's ability to remove portions of the Work from this Contract and complete it separately.

ARTICLE 12

DUTIES, OBLIGATIONS AND RESPONSIBILITIES OF THE CONTRACTOR

In addition to any and all other duties, obligations and responsibilities of the Contractor set forth in the Contract Documents, the Contractor shall have and perform the following duties, obligations and responsibilities to the County:

- 12.A Reference is hereby made to the continuing duties set forth in Subarticle 4.H which are by reference hereby incorporated in this Subarticle 12.A. The Contractor shall not perform Work without adequate plans and specifications, or without, as appropriate, approved shop drawings, or other submittals. If the Contractor performs Work knowing or believing, or if through exercise of reasonable diligence it should have known that such Work involves an error, inconsistency or omission in the Contract without first providing written notice to the County, the Contractor shall be responsible for such Work and shall correct same bearing the costs set forth in Subarticle 4.H above.
- 12.B All Work shall strictly conform to the requirements of this Contract. To that end, the Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work, unless otherwise specified in the Contract Documents.
- 12.C The Work shall be strictly supervised, the Contractor bearing full responsibility for any and all acts, errors or omissions of those engaged in the Work on behalf of the Contractor, including, but not limited to, all subcontractors and their employees. The Contractor shall maintain an on-site superintendent while any portion of the Work is being performed.
- 12.D The Contractor hereby warrants that all laborers furnished under this Contract shall be qualified and competent to perform the tasks undertaken, that the product of such labor shall yield only first-class results, that all materials and equipment provided shall be new (unless otherwise specified) and of high quality, that the completed Work will be complete, of high quality, without defects, and that all Work strictly complies with the requirements of this Contract. Any Work not strictly complying with the requirements of this Subarticle shall constitute a breach of this Contractor's warranty.
- 12.E The Contractor is responsible for obtaining all licenses and permits and shall bear the cost of all fees, and calling for all inspections, that are customarily the responsibility of the Contractor. The Contractor will cooperate with and abide by the decision of inspectors having jurisdiction. The Contractor shall comply with all legal requirements applicable to the Work.
- 12.F The Contractor shall employ and maintain at the Project Site only competent, qualified full time supervisory personnel. Key supervisory personnel assigned by the Contractor to this Project are as follows:

NAME	FUNCTION

So long as the individuals named above remain actively employed or retained by the Contractor, they shall perform the functions indicated next to their names unless the County otherwise agrees in writing. In the event one or more individuals not listed above subsequently assumes one or more of those functions listed above, the Contractor shall be bound by the provisions of this Subarticle 12.F as though such individuals had been listed above. Notices given to the persons listed above, or their successors, will constitute sufficient notice to bind the Contractor. If at any time the County reasonably determines that any employee of the Contractor is not properly performing the Work in the best interest of the Project, or is hindering the progress of the Work, or is otherwise objectionable, the County shall so notify the Contractor, which shall replace the employee as soon as possible, at no increased cost to the County.

- 12.G The Contractor must submit to the County the Contractor’s schedule for completing the Work as described in the Specifications. The County will not review any Payment Request until such schedule has been submitted and approved. Such schedule shall be in a form as specified in the specifications, which shall provide for expeditious and practicable construction of the Project. The Contractor’s schedule shall be updated no less frequently than monthly (unless the Parties otherwise agree in writing) and shall be updated to reflect conditions encountered from time to time and shall apply to the total project. Each such revision shall be furnished to the County. Strict compliance with the requirements of this Subarticle 12.G shall be a condition precedent to payment to the Contractor, and failure by the Contractor to strictly comply with the requirements shall constitute a material breach of this Contract.
- 12.H The Contractor shall keep an updated copy of the Contract Documents at the site. Additionally, the Contractor shall keep a copy of approved shop drawings and other submittals. All of these items shall be available to the County during all regular business hours.
- 12.I Shop drawings and other such submittals from the Contractor do not constitute a part of the Contract. The Contractor shall not do any work requiring shop drawings or other submittals unless such shall have been approved in writing by the County or as required by the Contract Documents. All work requiring approved shop drawings or other submittals shall be done in strict compliance with such approved documents or Contract requirements. However, approval by the County shall not be evidence that work installed pursuant thereto conforms with the requirements of this Contract, and shall not relieve the Contractor of responsibility for deviations from the Contract unless the County has been specifically informed of the deviation in writing submitted by the Contractor and has approved the deviation in writing.

The delivery of submittals shall constitute a representation by the Contractor that it has verified that the submittals meet the requirements of the Contract, or will do so, including field measurements, materials and field construction criteria related thereto.

The County shall have no duty to review partial submittals or incomplete submittals. The Contractor shall have the duty to carefully review, inspect, examine and physically stamp and sign any and all submittals before submission of same to the County.

- 12.J The Contractor shall maintain the Project Site and adjacent areas affected by its work and/or the acts of its employees, materialmen and subcontractors in a reasonably clean condition during performance of the Work. Upon Substantial Completion, the Contractor shall thoroughly clean the Project Site of all debris, trash and excess materials or equipment. If the Contractor fails to do so, the County may complete the cleanup, by its own forces or by separate contract, and shall be entitled to charge the Contractor for same through the collection or withholding of funds through the mechanisms provided elsewhere herein.
- 12.K At all times relevant to this Contract, the Contractor shall permit the County and its consultants to enter upon the Project Site and any offsite lay down areas, and to review or inspect the Work and any materials on any such site, without formality or other procedure.
- 12.L The County may undertake or award other contracts for portions of the Work or additional work, and the Contractor shall fully cooperate with and ensure that its forces reasonably accommodate such other contractors and County employees, coordinate its schedule with the work of other contractors, and carefully fit its own work with such work as may be directed by the County. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other contractor or by County employees. If the Contractor claims that delay or damage results from these actions of the County, it shall promptly submit a claim as provided herein.
- 12.M PROTECTION OF PERSONS AND PROPERTY.

It shall be the responsibility of the Contractor to initiate, continue and supervise all safety programs and precautions in the performance of the terms of this Contract. The Contractor shall take reasonable precautions for the safety of, and shall provide reasonable protection to prevent damage, injury or loss to its employees, subcontractors' employees, employees of the County and members of the public, the Work itself and unassembled components thereof, and other property at the site or adjacent thereto. As part of the Contractor's obligations hereunder, the Contractor shall erect and maintain safeguards, barriers, signs, warnings, etc.

With notice to the County, the Contractor shall promptly remedy loss or damage to the Work or any person or property described herein caused in whole or in part by the acts of the Contractor or any subcontractor, sub-subcontractor or materialman. This obligation shall be in addition to the requirements of Article 13 herein. The County may direct the Contractor to remedy violations of applicable laws, rules, regulations, and interpretations related to safety when and if observed on the site. However, through exercising this authority, the County shall not incur any obligations to monitor, initiate, continue, or supervise safety programs and precautions such to diminish the Contractor's primary role in same. The County shall have the right to report suspected safety violations to the Occupational Safety and Health Administration (OSHA).

The Contractor shall promptly notify the County upon discovery of any unidentified material which the Contractor reasonably believes to be asbestos, lead, PCB, or other hazardous material, and shall immediately stop Work in the affected area of the Project. The Contractor shall not be responsible for removal or other work with regard to such hazardous material unless otherwise agreed between the County and the Contractor. In the case of Work stopped hereunder, Article 8 shall apply to claims for delay, hindrance or interference. Work will resume in the affected area of the Project immediately after such time as the hazardous material has been removed or rendered harmless, as certified by an industrial hygienist to be engaged by the County.

ARTICLE 13
INDEMNIFICATION

Except for expenses or liabilities arising from the negligence or intentional acts of the County, the Contractor hereby expressly agrees to indemnify and hold the County harmless against any and all expenses and liabilities arising out of the negligent performance, action or inaction of the Contractor in conduct of this Contract, as follows:

For matters other than those arising from the rendering or failure to render construction services, the Contractor expressly agrees to the extent that there is a causal relationship between its negligence, action or inaction, or the negligence, action or inaction of any of its employees or any person, firm or corporation directly or indirectly employed by the Contractor and any damage, liability, injury, loss or expense (whether in connection with bodily injury or death or property damage) that is suffered by the County and/or its officers or employees or by any member of the public, to indemnify and save the County and its officers and employees harmless against any and all liabilities, penalties, demands, claims, lawsuits, losses, damages, costs, and expenses arising out of the negligence, action or inaction of the Contractor, regardless of whether such liabilities, penalties, demands, claims, lawsuits, losses, damages, costs and expenses are caused in part by the County. Such costs are to include, without limitation, defense, settlement and reasonable attorney's fees incurred by the County and its employees. This promise to indemnify shall include, without limitation, bodily injuries or death occurring to the Contractor's employees and any person, directly or indirectly employed by the Contractor (including, without limitation, any employee of any subcontractor), the County's officers or employees, the employees of any other independent contractors, or occurring to any member of the public. When the County submits notice, Contractor shall promptly defend any aforementioned action.

For matters arising out of the rendering or failure to render construction services, the Contractor will indemnify and save the County and its officers and employees harmless from and against all liabilities, penalties, demands, claims, lawsuits, losses, damages, costs and expenses arising out of or resultant from any negligent act, error or omission of the Contractor in the rendering or failure to render construction services under this Contract. Such costs are to include, without limitation, defense, settlement and reasonable attorneys' fees incurred by the County and its officers and employees. This promise to indemnify shall include, without limitation, bodily injuries or death occurring to the Contractor's employees and any person, directly or indirectly employed by the Contractor (including, without limitation, any employee of any subcontractor), the County's officers or employees, the employees of any other independent contractors, or occurring to any member of the public. When the County submits notice of a claim that triggers the indemnity, the Contractor shall promptly defend any aforementioned action at its own cost.

The limits of insurance required in the Contract shall not limit the Contractor's obligations under this Article. The terms and conditions contained in this Article shall survive the termination of the Contract or the suspension of the Work hereunder. To the extent that any liabilities, penalties, demands, claims, lawsuits, losses, damages, costs and expenses are caused in part by the acts of the County, the Contractor's obligations shall be reduced in proportion to the County's fault. The obligations herein shall also extend to any actions by the County to enforce this indemnity obligation. The recovery of costs and fees all extend to those incurred in the enforcement of this indemnity.

ARTICLE 14
CLAIMS BY THE CONTRACTOR

Claims by the Contractor against the County, **other than for time extensions covered by Article 8 hereof**, are subject to the following terms and conditions:

- 14.A All Contractor claims against the County shall be initiated by a written claim submitted to the County. Notice of such claim shall be received by the County no later than either ten (10) calendar days after the event, or ten (10) calendar days after the first appearance of the circumstances causing the claim, whichever is sooner, and same shall set forth in detail all known facts and circumstances supporting the claim. Final costs associated with any claim upon which notice has been filed must be submitted in writing to the County within thirty (30) calendar days after notice has been received; and
- 14.B The Contractor and the County shall continue their performance hereunder regardless of the existence of any claims submitted by the Contractor including claims set forth in Article 8 hereof; and
- 14.C In the event the Contractor discovers previously concealed and unknown site conditions which are materially at variance from those typically and ordinarily encountered in the general geographical location of the Project, the Contract Price may, with the approval of the County, be modified, either upward or downward, upon the written notice of claim made by either Party within ten (10) business days after the first appearance to such Party of the circumstances. Final costs must be submitted within thirty (30) calendar days after such notice is received by the County, unless extended by written contract of the Parties. As a condition precedent to the County having any liability to the Contractor due to concealed and unknown conditions, the Contractor must give the County written notice of, and an opportunity to observe, such condition prior to disturbing it. The failure by the Contractor to give the written notice and make the claim as provided by this Subarticle 14.C and Subarticle 10.A.2 shall constitute a waiver by the Contractor of any rights arising out of or relating to such concealed and unknown condition; and
- 14.D In the event the Contractor seeks to make a claim for an increase in the Contract Price, as a condition precedent to any liability of the County therefor, unless emergency conditions exist, the Contractor shall strictly comply with the requirements of Subarticle 14.A above and such claim shall be made by the Contractor before proceeding to execute any Work for which a claim is made. Failure to comply with this condition precedent shall constitute a waiver by the Contractor of any claim for additional compensation; and
- 14.E In connection with any claim by the Contractor against the County for compensation in excess of the Contract Price, any liability of the County for the Contractor's cost shall be limited to those cost categories set forth in Subarticle 16.E below.

ARTICLE 15
SUBCONTRACTORS

- 15.A Prior to execution of this Contract, the Contractor shall have identified to the County in writing, those parties required to be listed on the proposal form as subcontractors on the Project. Any changes to this list at any time shall be subject to the prior approval of the County. The County shall, in writing, state any objections the County may have to one or more of such subcontractors. The Contractor shall not enter into a subcontract with an intended subcontractor to whom the County objects. If at any time the County objects to a subcontractor, the Contractor shall solicit

proposals from potential replacements and shall submit the three lowest proposals to the County, along with the Contractor's proposed choice as replacement. If the approved replacement subcontractor's cost is verified to be higher than the removed subcontractor, the excess shall be added to the Contract Price, unless the subcontractor in question has to be removed due to a default, or deficient performance.

If the approved replacement subcontractor's cost is lower than the removed subcontractor, the difference shall be deducted from the Contract Price. Subcontractor markups shall be limited to those listed in Subarticle 16.E below.

All subcontracts shall afford the Contractor rights against the subcontractor which correspond to those rights afforded to the County against the Contractor herein, including those rights of Contract termination as set forth herein below.

- 15.B Each and every subcontract related to the Project is hereby assigned by the Contractor to the County, contingent upon the termination of this Contract for default or convenience as provided herein, and only as to those subcontracts which the County accepts in writing directed to the Contractor. This contingent assignment is subject to the prior rights of any surety obligated under a bond related to this Contract. This contingent assignment will operate prospectively from the effective date of assignment, and will not obligate the County to any liabilities existing on the effective date of the assignment, or arising from events, acts, failures to act, facts or circumstances existing prior to the effective date of the assignment. The contracts subject to this contingent assignment shall also be further assignable by the County, at the County's sole option. The Contractor shall bear the responsibility of notifying subcontractors of this contingent assignment and including it in all subcontracts in connection with the Project.

ARTICLE 16

CHANGE ORDERS

One or more changes to the Work within the general scope of this Contract, may be ordered by Change Order. The County may also issue written directions for minor changes in the Work and may issue Construction Change Directives, as set forth below. The Contractor shall proceed with any such changes or Construction Change Directives without delay and in a diligent manner, and same shall be accomplished in strict accordance with the following terms and conditions:

- 16.A A Change Order may include a change in the Contract Price, (other than a change attributable to damages to the Contractor for delay as provided in Article 8 hereof), or the time for the Contractor's performance, or any combination thereof. Where there is a lack of total agreement on the terms of a Change Order or insufficient time to execute a bilateral change, the County may also direct a change in the Work in the form of a Construction Change Directive, which will set forth the change in the Work and the change, if any, in the Contract Price or time for performance, for subsequent inclusion in a Change Order. Construction Change Directives shall include a not-to-exceed preliminary price, against which the Contractor may begin billing (subject to the requirements for pay applications elsewhere herein) as the Work is performed.
1. The Contractor shall furnish a price breakdown, itemized as required and within the time specified by the County, with any proposal for a contract modification.

2. The price breakdown:
 - a. must include sufficient detail to permit an analysis of all costs for material, labor, equipment and subcontracts, and
 - b. must cover all Work involved in the modification, whether the Work was deleted, added or changed.
3. The Contractor shall provide similar price breakdowns to support any amounts claimed for subcontracts.
4. The Contractor's bid shall include a complete justification for any time extension proposed.

16.B Any change in the Contract Price resulting from a Change Order shall be determined as follows:

1. By mutual agreement between the County and the Contractor as evidenced by (a) the change in the Contract Price being set forth in the Change Order, (b) such change in the Contract Price, together with any conditions or requirements relating thereto, being initialed by both Parties and (c) the Contractor's execution of the Change Order; or,
2. If no mutual contract occurs between the County and the Contractor, the change in the Contract Price, if any, shall be derived by determining the reasonable actual costs incurred or savings achieved, resulting from revisions in the Work. Such reasonable actual costs or savings shall include a component for direct job site overhead and profit but shall not include home-office overhead or other indirect costs or components. The calculation of actual costs shall conform to the markup schedule in Subarticle 16.E below. Any such costs or savings shall be documented in the format, and with such content and detail as the County requires.

The Contractor shall promptly submit such documentation and other backup as the County may require in evaluating the actual costs incurred.

- 16.C The execution of a Change Order by the Contractor shall constitute conclusive evidence of the Contractor's contract to the ordered changes in the Work, this Contract as thus amended, the Contract Price and the time for performance by the Contractor. The Contractor, by executing the Change Order, waives and forever releases any claim against the County for additional time or compensation for matters relating to, arising out of or resulting from the Work included within or affected by the executed Change Order of which the Contractor knew or should have known.
- 16.D The Contractor shall notify and obtain the consent and approval of the Contractor's surety with reference to all Change Orders if such notice, consent or approval are required by the County, the Contractor's surety or by law. The Contractor's execution of the Change Order shall constitute the Contractor's warranty to the County that the surety has been notified of, and consents to, such Change Order and the surety shall be conclusively deemed to have been notified of such Change Order and to have expressly consented thereto.

16.E For the purpose of Change Orders, the following definitions of terms apply:

Contractor's or Subcontractor's Materials shall include the cost of materials, sales tax, and the cost of all transport. The cost of items listed shall be directly related to the Change Order. Indirect costs not specifically related to the Change Order shall not be considered.

Contractor's or Subcontractor's Direct Labor Cost shall be limited to the hourly rate of directly involved workmen, employer contributions towards company standard benefits, pensions, unemployment or social security (if any), and employer costs for paid sick and annual leave.

Contractor's or Subcontractor's overhead shall include license fees, bond premiums, supervision, wages of timekeepers and clerks, incidentals, home and field office expense, and vehicle expense directly related to the Project, and all other direct Project expenses not included in the Contractor's materials, direct labor, and equipment costs.

The allowance for overhead and profit shall be limited to the following schedule:

1. For the Contractor, for any work performed by the Contractor's own forces, 15% of the Subtotal of Costs to the Contractor.
2. For the Contractor, for any work performed by its Subcontractor, 7% of the amount due the Subcontractor.
3. For each Subcontractor or Sub-subcontractor involved, for any work performed by their own forces, 15% of their materials and direct labor costs.
4. For each Subcontractor, for work performed by its Sub-subcontractor(s), 7% of the amount due the Sub-subcontractor.

For Change Orders the total cost or credit to the County shall be based on the following schedule:

Contractor's Materials Cost
 + Contractor's Direct Labor Costs
 + Contractor's Equipment Costs (includes owned/rental equipment)¹
 + Applicable Subcontractor Costs
 Subtotal of Costs to the Contractor
 + Contractor's Overhead and Profit
 Total Cost or Credit to the County

¹ Owned Equipment For equipment owned by the Contractor, actually used in Change Order work including sales tax, or any related business entity, regardless of whether Contractor leases such equipment from the related business entity, the cost shall be the lesser of (i) the Contractor's actual ownership cost, or (ii) 85% of the applicable ownership cost listed in the most recent edition of the Contractor's Equipment Cost Guide, published by Dataquest.

Third Party Rental Equipment For equipment actually rented by the Contractor, actually used in Change Order work including sales tax, from an unrelated third party, the cost shall be the lesser of (i) the Contractor's actual rental cost, or (ii) 85% of the applicable equipment rates based on the most recent edition of the Rental Rate Bluebook for Construction published by Dataquest. A reasonable rental cost shall be allowed as determined by the Program/Construction Manager when machinery and construction equipment not so listed is required.

- 16.F Nothing contained in this Article shall be deemed to contradict or limit the terms of Subarticle 8.E herein.

ARTICLE 17

DISCOVERING AND CORRECTING DEFECTIVE OR INCOMPLETE WORK

- 17.A In the event that the Contractor covers, conceals or obscures its work in violation of this Contract or in violation of an instruction from the County, such work shall be uncovered and displayed for review by the County and/or its consultants upon request, and shall be reworked at no cost in time or money to the County.
- 17.B If any of the work is covered, concealed or obscured in a manner not covered by Subarticle 17.A above, it shall, if directed by the County, be uncovered and displayed for the County and/or its consultants. If the uncovered work conforms strictly with this Contract, the costs incurred by the Contractor to uncover and subsequently, replace such work shall be borne by the County. Otherwise, such costs shall be borne by the Contractor.
- 17.C The Contractor shall, at no cost in time or money to the County, correct work rejected by the County as defective or failing to conform to this Contract. Additionally, the Contractor shall reimburse the County for all testing, review, inspections and other expenses incurred as a result thereof.
- 17.D In addition to its warranty obligations set forth elsewhere herein and any manufacturer's warranties provided on the Project, and in addition to other remedies provided herein or by law to the County, the Contractor shall be specifically obligated to promptly correct any and all defective or nonconforming work, whether obvious or after-discovered, for a period of twelve (12) months following Substantial Completion upon written direction from the County.
- 17.E The County may, but shall in no event be required to, choose to accept defective or nonconforming work. In such event, the Contract Price shall be reduced by the greater of (1) the reasonable costs of removing and correcting the defective or nonconforming work, or (2) the difference between the fair market value of the Project as constructed and the fair market value of the Project had it not been constructed in such a manner as to include defective or nonconforming work. If the remaining portion of the unpaid Contract Price, if any, is insufficient to compensate the County for the acceptance of defective or nonconforming work, the Contractor shall, upon written demand from the County, pay the County such remaining compensation for accepting defective or nonconforming work. The Contractor shall have an opportunity to correct any defect or non-conformance prior to the County taking the above actions. The Contractor, upon written notice of any defect or non-conformance, shall have ten (10) calendar days to make corrections, unless the County agrees that the correction will require more than ten (10) calendar days to correct.

ARTICLE 18

COUNTY'S RIGHT TO SUSPEND CONTRACTOR'S PERFORMANCE

- 18.A In addition to the County's rights under Article 11 and elsewhere herein, the County shall have the right at any time to direct the Contractor to suspend its performance, or any designated part thereof when in the interests of the County. If any such suspension is directed by the County, the Contractor shall immediately comply with same.

- 18.B In the event the County directs a suspension of performance under this Article, through no fault of the Contractor, if the suspension is lifted other than by termination, the County shall pay the Contractor as full compensation for such suspension, the Contractor's ordinary and reasonable costs, actually incurred and paid, of:
1. demobilization and remobilization, including such justifiable costs paid to subcontractors (cost categories and markups limited to those set forth in Subarticle 16.E above); and
 2. preserving and protecting work in place; and
 3. approved storage of materials or equipment purchased for the Project, including insurance thereon; and
 4. substantiated extended field office overhead (no home office overhead).
- 18.C The County may order suspension of the Work in whole or in part for such time as deemed necessary because of the failure of the Contractor to comply with any of the requirements of this Contract, and the Contract's completion date shall not be extended on account of any such suspension of Work.
- When the County orders any suspension of the Work under this Subarticle 18.C, the Contractor shall not be entitled to any payment for Work which the Contractor performs after notice of suspension and/or during the suspension period and shall not be entitled to any costs or damages resulting from such suspension.
- 18.D The County's rights under this Article shall be in addition to those contained elsewhere herein or provided by law.

ARTICLE 19

TERMINATION BY THE COUNTY

19.A For Convenience

The Contracts and Procurement Director, by advance written notice, may terminate this Contract when it is in the best interests of the County. If this Contract is so terminated, the Contractor shall be compensated for all necessary and reasonable direct costs of performing the Work actually accomplished. The Contractor will not be compensated for any other costs in connection with a termination for convenience. The Contractor will not be entitled to recover any damages in connection with a termination for convenience.

19.B For Default

If the Contractor refuses or fails to perform the Work or any separable part thereof in a timely or workmanlike manner in accordance with the Contract Documents, or otherwise fails, in the sole opinion of the County, to comply with any of the terms and conditions of the Contract Documents deemed, in the sole opinion of the County, to be material (including, without limitation, the requirement that Contractor obtain and maintain in force all necessary permits), such refusal or failure shall be deemed a default under this Contract.

In the event of a default under this Article, the County shall have the right to terminate forthwith this Contract by written notice to the Contractor. In the event of such default, the advance notice period for termination is waived and the Contractor shall not be entitled to any costs or damages resulting from a termination under this Article.

Whether or not the Contractor's right to proceed with the Work is terminated, it and its sureties shall be liable for any damage to the County resulting from Contractor's default. Any wrongful termination for default shall be deemed by the Parties a termination for convenience.

19.C Termination for Non-Appropriation of Funds

The Contracts and Procurement Director, by written advance notice, may terminate this Contract in whole or in part in the event that sufficient appropriation of funds from any source (whether a federal, state, County or other source) are not made or sufficient funds are otherwise unavailable, in either case, to pay the charges under this Contract. If this Contract is so terminated, the Contractor shall be compensated for all necessary and reasonable direct costs of performing the Work actually provided to the date of such termination. The Contractor will not be compensated for any other costs in connection with a termination for non-appropriation. The Contractor will not be entitled to recover any damages in connection with a termination for non-appropriation, including, but not limited to, lost profits.

19.D Rights Cumulative

The rights and remedies of the County provided in this Article are in addition to any other rights and remedies provided by law or under this Contract.

ARTICLE 20 MODIFICATION

The Contracts and Procurement Director has the unilateral right to modify this Contract, within the general scope of Work, when the modification is in the best interest of the County, provided however, the Contractor is given written notice of any such modification and the County is responsible for paying the Contractor for any additional expenses incurred by the Contractor which relate to said modification. Subject to the above, the Contractor shall immediately notify the County in writing of any proposed adjustment in its fee. The Contractor is obligated to perform the revised contract when so directed by the Contracts and Procurement Director and the County is obligated to pay for the work performed pursuant to the modification.

No claim by the Contractor for an adjustment hereunder shall be allowed if asserted after Final Payment under this Contract.

ARTICLE 21 CONTRACTOR'S WARRANTIES AND REPRESENTATIONS

21.A The Contractor represents that its staff is knowledgeable about and experienced in performing the Work required in this Contract and warrants that it will use its best skill and attention to provide above described Work in a professional, timely manner.

- 21.B The Contractor warrants and represents that it shall be responsible for all subcontractors working directly for it, as well as for their work product, as though Contractor had performed the Work itself.
- 21.C If equipment, materials and supplies are to be a part of the service provided, all equipment, materials, and supplies incorporated in the Work covered by the bid and provided by the Contractor are to be new and of the most suitable grade for the purpose intended. Unless otherwise specifically provided in the Contract, reference to any equipment, material, supply or patented process, by trade name, make or catalog number, shall not be construed as limiting competition. When requested, the Contractor shall furnish to the County for approval the name of the manufacturer, the model number, and other identifying data and information respecting the performance, capacity, nature and rating of the machinery and mechanical and other equipment which the Contractor contemplates incorporating in the Work. When required by the Contract or when called for by the County, the Contractor shall provide full information concerning the material or supplies which Bidder contemplates incorporating in the Work. Machinery, equipment, material and supplies installed or used without the required prior approval shall be at the risk of subsequent rejection.
- 21.D Any and all manufacturers' warranties on any equipment or materials will be passed on to the County and copies of said warranties will be furnished by the Contractor to the County upon completion and final acceptance of the Work.
- 21.E The Contracts and Procurement Director may, in writing, require the Contractor to remove from the Work Site any employee the Director deems incompetent, careless or otherwise objectionable.
- 21.F In addition to any manufacturer's warranties, all labor and materials are warranted to be free from defects for a period of twenty-four (24) months after the date of Final Payment by the County.

ARTICLE 22

INSURANCE REQUIREMENTS

The Contractor, at its own expense, shall at all times during the term of this Contract maintain insurance as included in Exhibit B, Contractor's Insurance Certificate(s) and Endorsement(s), which is attached hereto and previously incorporated by reference. The County may contact the Contractor's insurer(s) or insurer(s)' agent(s) directly at any time regarding Contractor's coverages, coverage amounts, or other such relevant and reasonable issues related to this Contract. The Contractor shall also require any subcontractors to carry the same coverages in the same amounts. The County must be advised immediately of any changes in required coverages.

ARTICLE 23

SURETY BONDS

The Contractor shall furnish separate performance and payment bonds to the County, as required by the IFB. Each bond shall set forth a penal sum in an amount not less than the Contract Price. Each bond furnished by the Contractor shall incorporate by reference the terms of this Contract as fully as though they were set forth verbatim in such bonds. In the event the Contract Price is adjusted by Change Order executed by the Contractor, the penal sum of both the performance bond and the payment bond shall be deemed increased by like amount. The performance and payment bonds furnished by the Contractor shall be in form suitable to the County and shall be executed by a surety, or sureties, reasonably acceptable to the County.

ARTICLE 24
PROJECT RECORDS

All documents relating in any manner whatsoever to the Project, or any designated portion thereof, which are in the possession of the Contractor, or any subcontractor of the Contractor, shall, upon written request by the County, be made available to the County, its consultants, any state grantor agency, federal grantor agency, any other regulatory authority, any assignee or any of their duly authorized representatives for review, inspection, auditing and copying. Said records include, but are not limited to, all drawings, plans, specifications, submittals, correspondence, minutes, memoranda, tape recordings, videos, or other writings or things which document the Project, its design, and its construction. Said records expressly include those documents reflecting the cost of construction to the Contractor. The Contractor shall maintain and protect these documents for no less than three (3) years from the date of Final Payment, or until the end of any audit, or the closure of all pending matters under this Contract, or for any longer period of time as may be required by law or good construction practice, whichever is later. The Contractor further agrees to include these provisions in any subcontracts issued in connection with this Contract.

ARTICLE 25
APPLICABLE LAW

The laws of South Carolina shall govern this Contract. All litigation arising under this Contract shall be litigated only in a non-jury hearing in the Court of Common Pleas, Ninth Judicial Circuit, in Charleston County, South Carolina. The prevailing Party shall be entitled to recover attorney's fees and costs of the litigation.

ARTICLE 26
SUCCESSORS AND ASSIGNS

Each Party binds itself, its successors, assigns, executors, administrators or other representatives to the other Party hereto and to successors, assigns, executors, administrators or other representatives of such other Party in connection with all terms and conditions of this Contract. The Contractor shall not assign this Contract without prior written consent of the County. The Contractor shall not assign any money due or to become due under this Contract without the prior written consent of the County.

ARTICLE 27
COMPLIANCE WITH LEGAL REQUIREMENTS

- 27.A The Contractor shall comply with all federal, state and local laws, ordinances, rules and regulations of any authorities throughout the duration of this Contract. The Contractor shall be responsible for compliance with any such law, ordinance, rule or regulation, and shall hold the County harmless and indemnify it in the event of non-compliance.
- 27.B By signing a bid, the Bidder certifies that it will comply with the applicable requirements of Title 8, Chapter 14 of South Carolina Code of Laws and agree to provide to the State upon request any documentation required to establish either; (a) that Title 8, Chapter 14 is inapplicable to the Bidder and its subcontractors or sub-subcontractors; or (b) that the Bidder and its subcontractors or sub-subcontractors are in compliance with Title 8, Chapter 14.

Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony and, upon conviction, must be fined within the discretion of the Court or imprisoned for not more than five years, or both."

Bidder agrees to include in any contracts with subcontractors, language requiring subcontractors to (a) comply with applicable requirements of Title 8, Chapter 14, and (b) include in their contracts with the sub-contractors language requiring the sub-subcontractors to comply with the applicable requirements of Title 8, Chapter 14.

ARTICLE 28
NON-DISCRIMINATION

The Contractor shall certify agreement to abide by the requirements under Title VI of the Civil Rights Act of 1964. The Contractor shall abide by the requirements under Federal Executive Order Number 11246, as amended, including specifically the provisions of the equal opportunity clause.

ARTICLE 29
DRUG-FREE WORKPLACE ACT

The Contractor shall comply with the South Carolina Drug-free Workplace Act, Section 44-107-10 et seq., South Carolina Code of Laws (1976, as amended). The County requires all contractors executing contracts for a stated or estimated value of \$50,000 or more to sign a Drug-free Workplace Certification form prior to the issuance of the Notice to Proceed.

ARTICLE 30
STATE AND LOCAL TAXES

- 30.A Except as otherwise provided, Contract prices shall include all applicable state and local taxes.
- 30.B If applicable, two percent (2%) income tax withholding shall be withheld from each and every payment pursuant to Sections 12-8-540 and 12-8-550 of the South Carolina Code of Laws (1976, as amended) for certain out-of-state contractors, and such sums will be paid over to the South Carolina Department of Revenue (the "SCDOR"). When and if the County receives an executed SCDOR Form I-312, Nonresident Taxpayer Registration Affidavit - Income Tax Withholding, such withholding shall cease.
- 30.C The Contractor shall calculate that portion of the Contract which is subject to the seven and one half percent (7.5%) South Carolina sales and/or use tax, which amount shall be itemized and shown on all invoices, and shall be paid to the SCDOR by the Contractor. If the Contractor is a non-South Carolina company, the County will withhold the amount from all invoices and remit payment to the SCDOR, unless the Contractor furnishes the County with a valid South Carolina Use Tax Registration Certificate Number.
- 30.D The Contractor shall indemnify and hold harmless the County for any loss, cost or expense incurred by, levied upon or billed to the County as a result of the Contractor's failure to pay any tax of any type due in connection with this Contract.
- 30.E The Contractor shall ensure that the above sections are included in all subcontracts and sub-subcontracts, and shall ensure withholding on out of state sub and sub-subcontractors to which withholding is applicable.

ARTICLE 31
GRATUITIES AND KICKBACKS

- 31.A Gratuities. It shall be unethical for any person to offer, give or agree to give any employee or former employee, or for any employee or former employee to solicit, demand, accept, or agree to accept from another person a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter pertaining to any program requirement of a contract or subcontract, or to any solicitation or proposal therefore.
- 31.B Kickbacks. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime Contractor, or to hire any subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.
- 31.C Violation of this clause may result in Contract termination.

ARTICLE 32
NOTICES

Any and all notices required to be sent under this Contract or otherwise shall be sent to the following:

If to the County:

Charleston County Facilities Department
Attn: Mr. Daniel Chandler, P.E. - Director
4045 Bridge View Drive – Suite B217
Charleston, South Carolina 29405

If to the Contractor:

(To be completed upon award)

ARTICLE 33
ENTIRE CONTRACT

This Contract constitutes the entire understanding and contract between the Parties and supersedes all prior and contemporaneous written and oral contracts between the Parties and their predecessors in interest regarding the subject matter of this Contract. This Contract may not be changed, altered, amended, modified, or terminated orally, except as specifically provided, and any such change, alteration, amendment, or modification must be in writing and executed by the Parties.

ARTICLE 34
SEVERABILITY

Should any part of this Contract be determined by a Court of competent jurisdiction to be invalid, illegal, or against public policy, the offending section shall be void and of no effect and shall not render any other section, nor this Contract as a whole, invalid. Any terms which, by their nature, should survive the suspension, termination or expiration shall be deemed to survive.

ARTICLE 35
WAIVER

Any waiver of any default by either Party to this Contract shall not constitute waiver of any subsequent default, nor shall it operate to require either Party to waive, or entitle either Party to a waiver of, any subsequent default under this Contract.

IN WITNESS WHEREOF, the Parties have executed this Contract under their respective seals the day and year first written above.

CONTRACTOR:

CHARLESTON COUNTY:

Name:
Title:

E. Steven Taylor, C.P.M.
Contracts and Procurement Director

Attest:

Attest:

1)_____
2)_____

1)_____
2)_____
Charleston, SC

SAMPLE FORMS

INSURANCE REQUIREMENTS (Contracts Greater Than \$25,000)

Contractors working for Charleston County are required to procure and maintain for the duration of their Contract with the County insurance against claims for injuries to persons or damages to property which may arise from or in connection with work performed by the Contractor, its agents, representatives, employees or subconsultants. The cost of such insurance shall be the responsibility of the Contractor.

- A. The Contractor shall carry liability insurance with a reliable company licensed to do business in South Carolina. Coverage shall be at least broad as:
 - 1. Insurance Services Office Commercial General Liability Coverage Form (“occurrence”) CG 00 01 10 93.
 - 2. Insurance Services Office Business Auto Coverage Form CA 00 01 6 92 covering automobile liability, code 1 “any auto”.
- B. Contractor shall carry workers’ compensation as required by the State of South Carolina and Employers Liability insurance (including applicable occupation disease provisions and all state endorsements.)
- C. Contractor shall maintain limits no less than the following:
 - 1. **GENERAL LIABILITY** : \$1,000,000 combined single limit per occurrence for bodily injury, property damage, and personal injury with a \$2,000,000 general aggregate limit.
 - 2. **AUTOMOBILE LIABILITY**: \$1,000,000 combined single limit per accident for bodily injury and property damage.
 - 3. **WORKERS’ COMPENSATION**: Statutory limits are required by South Carolina state law, and employer’s liability limits of \$100,000 per accident.
- D. Required policies are to contain, or be endorsed to contain, the following provisions:
 - 1. General Liability and Automobile Liability Coverages

The County, its officials, employees and volunteers are to be covered as additional insureds as respects: Liability arising out of activities performed by or on behalf of the Contractors; premises owned, occupied or used by the Contractor; or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the County, its officials, employees or volunteers. To accomplish this objective, the County shall be named as an additional insured under the Contractor’s general liability policy by attaching Insurance Services Office Commercial General Liability Endorsement CG2010 10 93 (Additional Insured - Owners, Lessees or Contractors - Form B) or its equivalent. Contractors’ insurance coverage shall be primary insurance as respects the County, its officials, employees and volunteers. Any insurance or self-insurance maintained by the County, its officials, employees, or volunteers shall be in excess of the Contractor’s insurance and shall not be required to contribute. To accomplish this objective, the following wording should be incorporated in the previously referenced additional insured endorsement.

Other Insurance: This insurance is primary, and our obligations are not affected by any other insurance carried by the additional insured whether primary, excess, contingent or on any other basis.

Any failure to comply with reporting provisions of the Contractor's policies shall not affect coverage provided to the County, its officials, employees or volunteers.

2. Workers' Compensation

The Contractor shall agree to waive all rights of subrogation against the County, its officials, employees and volunteers for losses arising from work performed by the Contractor for the County.

- E. Any deductibles or self-insured retentions larger than \$5,000 must be declared to and approved by the County.
- F. Each insured policy required by the County shall be endorsed to state that coverage shall not be suspended, voided, canceled by either Party, reduced in coverage or in limits except after thirty (30) days prior written notice has been given to the County.
- G. All coverages for subconsultants shall be subject to all the requirements stated herein.
- H. Insurance must be placed with an approved insurance company with current Best's rating of A+, A, or A-. Exceptions to this requirement must be approved in writing by the Department of Risk Management.
- I. If the County elects to assign the attached contract to the Charleston Public Facilities Corporation as set forth in the Contract, then the Charleston Public Facilities Corporation shall be named an additional insured along with the County of Charleston and shall be equally entitled to all coverages and benefits of the policies.
- J. Contractor shall furnish the County with Certificates of Insurance noting the Endorsements. The Certificates and Endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All Insurance Certificates and Endorsements are to be received and approved by the County's Procurement Department before work commences. The County reserves the right to require complete, certified copies of all required insurance policies, at any time.

Required certificates should be mailed to:

Charleston County Procurement Department
Attn: Chuck Wiggins
4045 Bridge View Drive – Suite B250
North Charleston, South Carolina 29405

POLICY NUMBER:

**COMMERCIAL GENERAL LIABILITY
CG 20 10 10 93**

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED - OWNERS, LESSEES OR
CONTRACTORS (FORM B)**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization:

THE COUNTY OF CHARLESTON, CHARLESTON, SOUTH CAROLINA
THE CHARLESTON PUBLIC FACILITIES CORPORATION (if applicable)

(See Assignment Section in the attached Contract to determine whether Charleston Public Facilities Corporation is applicable.)

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of your ongoing operations performed for that insured.

CHARLESTON COUNTY SAMPLE CERTIFICATE OF INSURANCE						
Producer ABC AGENCY 123 MAIN STREET ANYTOWN, SC 12345			This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policies below.			
Insured XYZ CONTRACTOR P.O. BOX 000 ANYTOWN, SC 12345			COMPANIES AFFORDING COVERAGE			
			Company A (Issuing Company)			
			Company B			
COVERAGES						
This is to certify that the policies of insurance listed below have been issued to the insured named above for the policy period indicated, notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain. The insurance afforded by the policies described herein is subject to all the terms, exclusions, and conditions of such policies. Limits shown may have been reduced by paid claims.						
CO LTR	Type of Insurance	Policy Number	Policy Eff. Date (MM/DD/YY)	Policy Exp. Date (MM/DD/YY)	LIMITS	
	GENERAL LIABILITY ☒ Comm. General Liability ☐ Claims Made ☒ Occur ☐ Owner's & Contract's Prot ☒ Holder Named as Additional Insured	XXXXXXXXXX	XX/XX/XX	XX/XX/XX	General Aggregate	\$2,000,000
					Prod-Comp/Op Agg	\$1,000,000
					Pers. & Adv. Injury	\$1,000,000
					Each Occurrence	\$1,000,000
					Fire Damage (One Fire)	\$50,000
					Med Exp. (Any one Person)	\$5,000
	AUTOMOBILE LIABILITY ☒ Any Auto ☐ All Owned Autos ☐ Scheduled Autos ☐ Hired Autos ☐ Non-Owned Autos	XXXXXXXXXX	XX/XX/XX	XX/XX/XX	Combined Single Limit	\$1,000,000
					Bodily Injury (Per Person)	
					Bodily Injury (Per Accident)	
					Property Damage	
	GARAGE LIABILITY ☐ Any Auto				Auto Only - Ea Accident	
					Other Than Auto Only	
					Each Accident	
					Aggregate	
	EXCESS LIABILITY ☐ Umbrella Form ☐ Other Than Umbrella Form				Each Occurrence	
					Aggregate	
	Workers Compensation and Employers' Liability The Proprietor/Partners/Executive Officers Are: ☐ Incl ☐ Excl	XXXXXXXXXXXX Waiver of Subrogation Included	XX/XX/XX	XX/XX/XX	☐ Statutory Limits	
					Each Accident	\$100,000
					Disease - Policy Limit	\$500,000
					Disease - Each Employee	\$100,000
	OTHER					
DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS: ADDITIONAL INSURED - OWNERS, LESSEES, OR CONTRACTORS (FORM B (ISO-2010 10/93) IS INCLUDED, NAMING HOLDER AS ADDITIONAL INSURED. THIS INSURANCE IS PRIMARY, AND OUR OBLIGATIONS ARE NOT AFFECTED BY ANY OTHER INSURANCE CARRIED BY THE ADDITIONAL INSURED WHETHER PRIMARY, EXCESS, CONTINGENT, OR ON ANY OTHER BASIS.						
CERTIFICATE HOLDER				CANCELLATION		
COUNTY OF CHARLESTON ATTN: PROCUREMENT DEPARTMENT LONNIE HAMILTON, III PUBLIC SERVICES BUILDING 4045 BRIDGE VIEW DRIVE N. CHARLESTON, SC 29405				Should any of the above described policies be canceled before the expiration date thereof, the issuing company will endeavor to mail 30 days written notice to the certificate holder named to the left, but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representative		
				AUTHORIZED REPRESENTATIVE		



**Charleston County Government
Labor and Material Payment Bond**

(This bond is issued simultaneously with Performance Bond in favor of the Owner conditioned on the full and faithful performance of the Contract)

KNOW ALL MEN BY THESE PRESENTS, that _____
(Insert full name and address or legal title of Contractor)

as Principal, hereinafter called Principal, and, _____
(Insert full name and address or legal title of Surety)

as Surety, hereinafter called Surety, are held and firmly bound unto Charleston County Government, 4045 Bridge View Drive, North Charleston, South Carolina 29405, as Oblige, hereinafter called Owner, in the amount of _____ Dollars (\$ _____), for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Principal has by written agreement dated _____, 2010, entered into a contract with

Owner for _____
(Insert full name, address and description of project)

in accordance with the Drawings and Specifications prepared by _____
(Insert full name and address or legal title of the Design Professional)

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
2. The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.
3. No suit or action shall be commenced hereunder by any claimant:
 - a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: the Principal, the
- Owner, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner, or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.
- b) After the expiration of one (1) year following the date on which Principal ceased Work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
- c) Other than in a nonjury hearing before the Circuit Court for the Ninth Judicial Circuit sitting in Charleston, South Carolina.
4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

Signed and sealed this _____ day of _____, 2010.

_____ (Witness)	_____ (Principal) (Seal)
_____ (Witness)	_____ (Title)
_____ (Witness)	_____ (Surety) (Seal)
_____ (Witness)	_____ (Title)



**Charleston County Government
Performance Bond**

KNOW ALL MEN BY THESE PRESENTS, that _____
(Insert full name and address or legal title of Contractor)

as Principal, hereinafter called Contractor, and, _____
(Insert full name and address or legal title of Surety)

as Surety, hereinafter called Surety, are held and firmly bound unto Charleston County Government and Charleston Public Facilities Corporation, 4045 Bridge View Drive, North Charleston, South Carolina 29405, as Obligee, hereinafter called Owner, in the amount of _____ Dollars (\$ _____), for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Contractor has by written agreement dated _____, 2010, entered into a contract with

Owner for _____
(Insert full name, address and description of project)

in accordance with the Drawings and Specifications prepared by _____
(Insert full name and address or legal title of the Design Professional)

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

1. Complete the Contract in accordance with its terms and conditions, or
2. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible

bidder, or, if the Owner elects, upon determination by the Owner and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as Work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion of the Work, but not exceeding the Contract Price excluding other costs and damages for which Surety may be liable hereunder.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of the Owner.

Signed and sealed this _____ day of _____, 2010.

_____ (Witness)	_____ (Principal) (Seal)
_____ (Witness)	_____ (Title)
_____ (Witness)	_____ (Surety) (Seal)
	_____ (Title)



STATE OF SOUTH CAROLINA
DEPARTMENT OF REVENUE
NONRESIDENT TAXPAYER
REGISTRATION AFFIDAVIT
INCOME TAX WITHHOLDING

IFB No. 4380-10K
I-312
(Rev. 5/7/04)
3323

The undersigned nonresident taxpayer on oath, being first duly sworn, hereby certifies as follows:

1. Name of Nonresident Taxpayer: _____
2. Trade Name, if applicable (Doing Business As): _____
3. Mailing Address: _____
4. Federal Identification Number: _____
5. ____ Hiring or Contracting with:
Name: _____
Address: _____

____ Receiving Rentals or Royalties From:
Name: _____
Address: _____

____ Beneficiary of Trusts and Estates:
Name: _____
Address: _____
6. I hereby certify that the above named nonresident taxpayer is currently registered with (check appropriate box):
☐ The South Carolina Secretary of State or
☐ The South Carolina Department of Revenue
Date of Registration: _____
7. I understand that by this registration, the above named nonresident taxpayer has agreed to be subject to the jurisdiction of the South Carolina Department of Revenue and the courts of South Carolina to determine its South Carolina tax liability, including estimated taxes, together with any related interest and penalties.
8. I understand the South Carolina Department of Revenue may revoke the withholding exemption granted under Code Sections 12-8-540 (rentals), 12-8-550 (temporarily doing business or professional services in South Carolina), and 12-8-570 (distributions to nonresident beneficiary by trusts or estates) at any time it determines that the above named nonresident taxpayer is not cooperating with the Department in the determination of its correct South Carolina tax liability.

The undersigned understands that any false statement contained herein could be punished by fine, imprisonment, or both.

Recognizing that I am subject to the criminal penalties under Code Section 12-54-44 (B)(6)(a)(i), I declare that I have examined this affidavit and to the best of my knowledge and belief, it is true, correct and complete.

(Signature of Nonresident Taxpayer (Owner, Partner or Corporate Officer, when relevant) (Seal) _____
Date

If Corporate Officer, state title: _____

(Name - Please Print)

Mail to: The company or individual you are contracting with.

INSTRUCTIONS
NONRESIDENT TAXPAYER REGISTRATION AFFIDAVIT

REQUIREMENTS TO MAKE WITHHOLDING PAYMENTS

Code Section 12-8-550 requires persons hiring or contracting with a nonresident taxpayer to withhold 2% of each payment made to the nonresident where the payments under the contract exceed \$10,000. However, this section does not apply to payments on purchase orders for tangible personal property when those payments are not accompanied by services to be performed in this state.

Code Section 12-8-540 requires persons making payment to a nonresident taxpayer of rentals or royalties at a rate of \$1,200 or more a year for the use of or for the privilege of using property in South Carolina to withhold 7% of the total of each payment made to a nonresident taxpayer who is not a corporation and 5% if the payment is made to a corporation.

Code Section 12-8-570 requires trusts or estates making distribution of South Carolina taxable income to a nonresident beneficiary to withhold 7% of the beneficiary's distribution which is attributable to South Carolina taxable income.

PURPOSE OF AFFIDAVIT

A person is not required to withhold taxes for a nonresident taxpayer who submits an affidavit certifying that they are registered with either the South Carolina Secretary of State or the South Carolina Department of Revenue.

Our Internet address is: www.sctax.org

County of Charleston
Drug-free Workplace Certification
(Contractor/Vendor Other Than Individuals)

This certification is required by the Drug-free Workplace Act, Section 44-107-10 et seq South Carolina Code of Laws (1976, as amended). The regulations require certification by Contractors/Vendors prior to award, that they will maintain a drug-free workplace as defined below. The certification set out below is a material representation of fact upon which reliance will be placed when determining the award of a contract. False certification or violation of the certification shall be grounds for suspension of payments, suspension or termination of contract, or suspension or debarment from the right to submit bids or proposals for Charleston County projects.

For purposes of this Certification, "Drug-free Workplace" is defined as set forth in Section 44-107019 (1), South Carolina Code of Laws (1976, as amended). The aforesaid Section defines workplace to include any site where work is performed to carry out the Contractor's/ Vendor's duties under the contract. Contractor's/Vendor's employees shall be prohibited from engaging in the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance in accordance with the requirements of the Drug-free Workplace Act.

By signing this document, the Contractor/Vendor hereby certifies that it will provide a drug-free workplace by:

- (1) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the Contractor's/Vendor's workplace and specifying the actions that will be taken against employees for violation of the prohibition;
- (2) Establishing a drug-free awareness program to inform employees about:
 - (a) The dangers of drug abuse in the workplace;
 - (b) The Contractor's/Vendor's policy of maintaining a drug-free workplace;
 - (c) Any available drug counseling, rehabilitation, and employee assistance programs; and
 - (d) The penalties that may be imposed upon employees for drug violations;
- (3) Making it a requirement that each employee to be engaged in the performance of the contract be given a copy of the statement required by paragraph (1) above;
- (4) Notifying the employee in the statement required by paragraph (1) that, as a condition of employment under the contract, the employee will:
 - (a) Abide by the terms of the statement, and
 - (b) Notify the employer of any criminal drug statue conviction for a violation occurring in the workplace no later than five (5) days after the conviction;

- (5) Notifying the using agency within ten (10) days after receiving notice under subparagraph (4) (b) from an employee or otherwise receiving actual notice of the conviction;
- (6) Taking one of the following actions, within thirty (30) days of receiving notice under subparagraph (4) (b) with respect to any employee who is convicted:
 - (a) Taking appropriate personnel action against the employee, up to and including termination; and
 - (b) Requiring the employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a federal, state, or local health, law enforcement, or other appropriate agency;
- (7) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (1), (2), (3), (4), (5), and (6) above.

Charleston County Contract Number: 4380

Project Name: Phase II Repairs to the Charleston County Parking Garages

Contractor/Vendor Name:_____

Address:_____

Authorized Representative Name/Title:_____

Signature:_____ **Date:**_____

Witness:_____

Note: This certification form is required for all contracts for a stated or estimated value of \$50,000 or more.

REQUIRED FORMS

BID FORM**Page 1 of 4****Date:** _____, 2010**By submitting this bid, the undersigned Bidder represents:**

1. That it has carefully examined the plans and specifications, related IFB documents and the site and is familiar with all the conditions surrounding the performance of the Work, including the availability of materials, equipment, supplies, and labor;
2. That, if awarded the Contract, it will provide all labor, supervision, material, supplies, and equipment to execute the Work in accordance with the Contract Documents;
3. That, if awarded the Contract, it will enter and execute a contract, provide all bonds and insurance coverage as required herein and will establish services after the issuance of a Notice to Proceed as required in the IFB;
4. That, if awarded the Contract, it agrees that if the Work or any part thereof is not completed within the Contract Time (including any extension thereof), it will be liable for damages in accordance with the Contract;
5. That it understands that the County reserves the right to reject any or all bids which do not meet the requirements, or all bids in the event that the Work is canceled, postponed, or if it is in the best interest of the County;
6. That it will hold its bid open for a period of sixty (60) calendar days from the date that bids are due.
7. That it is legally able to enter into and perform a contract, if awarded;
8. That it is current on all taxes and fees owed to the County.

Charleston County Taxes: Please note that the Procurement Department is required to verify that all taxes have been paid to the County. If you owe delinquent taxes, your bid may be disqualified from consideration. If you wish to inquire as to your tax status, you may contact the Charleston County Delinquent Tax Office Department at (843) 958-4570.

Business License: Does your business have a valid Charleston County Business License? ☐ No ☐ Yes # _____

You must possess a valid Charleston County business license for business undertaken in the *unincorporated* areas of the County. Contact the Revenue Collections Department at (843) 202-6080 with any questions. *Note: Work performed inside the corporate limits of a municipality will necessitate a business license for that municipality.*

Small Business Enterprise (SBE) Program: Charleston County Council has amended its Procurement Ordinance to include a mandatory Small Business Enterprise (SBE) subcontract requirement on most procurements and contracts. See the Required Forms for details on the requirement for this project.

Charleston County Disadvantaged Business Goal: Charleston County Council has established a goal of 20% for Disadvantaged Business Enterprise (DBE) participation. This goal is in addition to the Small Business Enterprise (SBE) Program requirements set forth herein.

Business Ownership Certification

Are you a certified Charleston County Small Business Enterprise (SBE)? ☐ No ☐ Yes - Certification No. _____

Regarding the ownership of your company, please mark all that apply:

☐ White Male	___%	☐ Hispanic/Latino Male	___%	☐ American Indian/Alaskan Native Male	___%
☐ White Female	___%	☐ Hispanic/Latino Female	___%	☐ American Indian/Alaskan Native Female	___%
☐ Black Male	___%	☐ Asian Male	___%	☐ Native Hawaiian/Pacific Islander Male	___%
☐ Black Female	___%	☐ Asian Female	___%	☐ Native Hawaiian/Pacific Islander Female	___%

Name of Bidder: _____

Authorized Signature: _____

BID FORM**Page 2 of 4**

I certify that I am entitled to represent the firm, empowered to submit the bid, and authorized to sign a Contract to provide all materials, equipment, labor and supervision for Phase II Repairs to the Charleston County Parking Garages as described by this IFB for the following costs:

A. Unit Rates The Contractor shall provide the following unit rate prices, the sum of which should equal the price given for the below Item B: Lump Sum Base Bid. The unit prices shall apply throughout the life of the Contract. Unit prices shall be applied as appropriate to adjust the lump sum cost for the work up or down depending on the actual quantities encountered. The lump sum bid shall include the quantities listed.

	<u>Quantity</u>	<u>Unit Price</u>	<u>Extended Price</u>
1. <u>General Conditions</u> (mobilization, insurance, bonds, permits, etc)	Lump Sum		\$ _____
2. <u>Cumberland Street Parking Deck</u>			
2a. Repair type 'C': Install epoxy anchor at spandrel panel connection.	1 EA	\$ _____/EA	\$ _____
2b. Repair type 'DD': Installation of deck drains and connect to existing storm drain piping system.	6 EA	\$ _____/EA	\$ _____
2c. Repair type 'P': Painting of exposed spandrel connections.	540 EA	\$ _____/EA	\$ _____
2d. Repair type 'P': Painting of exposed steel angle supports.	125 LF	\$ _____/LF	\$ _____
2e. Repair type 'PT-S': Repair damaged sheathing and patch concrete.	3 CF	\$ _____/CF	\$ _____
2f. Repair type 'RS': Route and seal construction joints on original deck.	1,100 LF	\$ _____/LF	\$ _____
2g. Repair type 'SP-SR': Horizontal concrete repairs.	70 CF	\$ _____/CF	\$ _____
2h. Repair type 'SP-SR': Vertical and Overhead concrete repairs.	14 CF	\$ _____/CF	\$ _____
3. <u>King & Queen Streets Parking Deck</u>			
3a. Repair type 'BP': Install temporary shoring and install (2) new bearing pads below double-tee stems.	5 EA	\$ _____/EA	\$ _____
3b. Repair type 'D1': Install new deck drain and connect to existing storm drain piping.	3 EA	\$ _____/EA	\$ _____
3c. Repair type 'D2': Remove existing deck drain and repair hole.	1 EA	\$ _____/EA	\$ _____
3d. Repair type 'DT': Install temporary shoring and a new supplemental support bracket below double-tee stem and girder end.	2 EA	\$ _____/EA	\$ _____

BID FORM
Page 3 of 4

3e. Repair type 'O': Install mortar overlay at ramp.	5 CF	\$ _____/CF	\$ _____
3f. Repair type 'SP-SR': Horizontal concrete repairs.	125 CF	\$ _____/CF	\$ _____
3g. Repair type 'SP-SR': Vertical and Overhead concrete repairs.	80 CF	\$ _____/CF	\$ _____

B. Lump Sum Base Bid

The Contractor shall perform all work shown on the Drawings and as generally described in Section 01010 in its entirety, for the lump sum of:

\$ _____ (\$ _____) **Lump Sum Total**

****Bid Prices must include all costs for the project and any and all applicable taxes****

C. Options /Additional Items Provide a cost for the following option(s). Cost should include installation, if required. Failure to provide a cost figure or explanation may cause to deem the bid non-responsive. It is at the County's discretion whether to accept any, all or none of the options.

	<u>Quantity</u>	<u>Unit Price</u>	<u>Extended Price</u>
4. <u>Cumberland Street Parking Deck</u>			
4a. Repair type 'A': Perform surface preparation and apply a migrating corrosion inhibitor to horizontal concrete surfaces at "SP-SR" repair locations. Application shall extend one (1) foot around the perimeter of the repair.	2600 SF	\$ _____/SF	\$ _____
4b. Repair type 'F': Install new supplemental support channels below new "DD" repair locations where the existing slab thickness is less than 5 inches.	EA	\$ _____/EA	\$ _____
4c. Repair type 'PT': Remove and replace section an intermediate section of an existing, damaged tendon. Includes two concrete excavations, two coupling devices, tensioning, repairing sheathing and patching surfaces at exposed cables.	EA	\$ _____/EA	\$ _____
4d. Repair type 'PT-A': Excavate concrete at intermediate anchor to access and allow installation of new tendon section within Repair Type 'PT' work area.	EA	\$ _____/EA	\$ _____
4e. Repair type 'PT-B': Excavate concrete at intermediate anchor to access and allow installation of new tendon section outside of Repair Type 'PT' work area.	EA	\$ _____/EA	\$ _____

5. King & Queen Streets Parking Deck

5b. Repair type 'SP-SR': Overhead concrete repair at pedestrian bridge. 0.33 CF \$ _____/CF \$ _____

1 Contractor Qualification Statement, AIA Document A305.
2 Preliminary schedule for Construction
3 Bid Bond
4 SBE Forms
5 Subcontractor Data Form

My company meets the requirements and wishes to request the local vendor preference. ☐ No ☐ Yes

By: _____
Signature _____ Print Name _____

Title: _____ (e.g. Owner, Partner, Corporate Officer, etc.)

Mailing Address:

City: _____ State: _____ Zip: _____

Remittance Address:

City: _____ State: _____ Zip: _____

Telephone: _____ **Fax:** _____ **FEIN:** _____

Email Address:

Vendor is a/an:

☐ Sole Proprietorship ☐ Partnership ☐ LLC ☐ Corporation – list the state of incorporation _____

SC Contractor's License Type: _____ **Number:** _____

DRAFT AIA[®] Document A305[™] – 1986

Contractor's Qualification Statement

This form is approved and recommended by the American Institute of Architects (AIA) and The Associated General Contractors of America (AGC) for use in evaluating the qualifications of contractors. No endorsement of the submitting party or verification of the information is made by AIA or AGC.

The Undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

SUBMITTED TO:

ADDRESS:

SUBMITTED BY:

NAME:

ADDRESS:

PRINCIPAL OFFICE:

Corporation ☐

Partnership ☐

Individual ☐

Joint Venture ☐

Other ☐

NAME OF PROJECT (if applicable): Sample A305 - Website Posting

TYPE OF WORK (file separate form for each Classification of Work):

☐ General Construction

☐ HVAC

☐ Plumbing

☐ Electrical

☐ Other (please specify)

§ 1. ORGANIZATION

§ 1.1 How many years has your organization been in business as a Contractor?

§ 1.2 How many years has your organization been in business under its present business name?

§ 1.2.1 Under what other or former names has your organization operated?

§ 1.3 If your organization is a corporation, answer the following:

§ 1.3.1 Date of incorporation:

§ 1.3.2 State of incorporation:

§ 1.3.3 President's name:

§ 1.3.4 Vice-president's name(s)

§ 1.3.5 Secretary's name:

§ 1.3.6 Treasurer's name:

§ 1.4 If your organization is a partnership, answer the following:

§ 1.4.1 Date of organization:

§ 1.4.2 Type of partnership (if applicable):

§ 1.4.3 Name(s) of general partner(s)

§ 1.5 If your organization is individually owned, answer the following:

§ 1.5.1 Date of organization:

§ 1.5.2 Name of owner:

§ 1.6 If the form of your organization is other than those listed above, describe it and name the principals:

§ 2. LICENSING

§ 2.1 List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration or license numbers, if applicable.

§ 2.2 List jurisdictions in which your organization's partnership or trade name is filed.

§ 3. EXPERIENCE

§ 3.1 List the categories of work that your organization normally performs with its own forces.

§ 3.2 Claims and Suits. (If the answer to any of the questions below is yes, please attach details.)

§ 3.2.1 Has your organization ever failed to complete any work awarded to it?

§ 3.2.2 Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers?

§ 3.2.3 Has your organization filed any law suits or requested arbitration with regard to construction contracts within the last five years?

§ 3.3 Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? (If the answer is yes, please attach details.)

§ 3.4 On a separate sheet, list major construction projects your organization has in progress, giving the name of project, owner, architect, contract amount, percent complete and scheduled completion date.

§ 3.4.1 State total worth of work in progress and under contract:

§ 3.5 On a separate sheet, list the major projects your organization has completed in the past five years, giving the name of project, owner, architect, contract amount, date of completion and percentage of the cost of the work performed with your own forces.

§ 3.5.1 State average annual amount of construction work performed during the past five years:

§ 3.6 On a separate sheet, list the construction experience and present commitments of the key individuals of your organization.

§ 4. REFERENCES

§ 4.1 Trade References:

§ 4.2 Bank References:

§ 4.3 Surety:

§ 4.3.1 Name of bonding company:

§ 4.3.2 Name and address of agent:

§ 5. FINANCING

§ 5.1 Financial Statement.

§ 5.1.1 Attach a financial statement, preferably audited, including your organization's latest balance sheet and income statement showing the following items:

Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses);

Net Fixed Assets;

Other Assets;

Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes);

Other Liabilities (e.g., capital, capital stock, authorized and outstanding shares par values, earned surplus and retained earnings).

§ 5.1.2 Name and address of firm preparing attached financial statement, and date thereof:

§ 5.1.3 Is the attached financial statement for the identical organization named on page one?

§ 5.1.4 If not, explain the relationship and financial responsibility of the organization whose financial statement is provided (e.g., parent-subsidiary).

§ 5.2 Will the organization whose financial statement is attached act as guarantor of the contract for construction?

§ 6. SIGNATURE

§ 6.1 Dated at this day of .

Name of Organization:

By:

Title:

§ 6.2

M being duly sworn deposes and says that the information provided herein is true and sufficiently complete so as not to be misleading.

Subscribed and sworn before me this day of 20

Notary Public:

My Commission Expires:

SMALL BUSINESS ENTERPRISE (SBE) PROGRAM

NOTICE: There is a mandatory subcontract requirement on this project. Failure to complete and return the attached two-page SBE form will result in your submittal being deemed “non-responsive.”

The MANDATORY subcontract requirement for this contract is 12.2% of the total bid amount.

See attached forms for full details.



Small Business Enterprise (SBE) Program How to Complete the Mandatory SBE Subcontract Requirement Form

This form must be completed and included with your response.
Failure to comply will result in the Bidder/Offeror being deemed non-responsive.

*Charleston County Council unanimously passed a Small Business Enterprise (SBE) Program Ordinance in 2007, which requires **mandatory** subcontract requirements for solicitations expected to be at least \$25,000. The Contract percentage required is stated on the **Mandatory SBE Subcontract Requirement Form** (see Page 2). **Under certain circumstances (such as when there are no SBEs certified in the business category required for the Contract), the mandatory subcontract requirement will be stated as 0%, and the prime will then be required to make a good faith effort to locate and subcontract with non-certified small businesses on the project. Details of the good faith effort requirement are stated in Section B of the form.***

▪ **If the prime contractor is itself a certified SBE, the mandatory subcontract requirement becomes voluntary (prime must still complete and submit the form (Page 2)).**

▪ Charleston County Procurement will attach a **Mandatory SBE Subcontract Requirement Form** to any solicitation which is expected to be at least \$25,000. **If the properly completed Mandatory SBE Subcontract Requirement Form is not attached, your submittal will be deemed non-responsive and will not be considered.**

▪ The percentage requirement is specific to the solicitation and applies to any change orders, additional services, modifications, or revisions to the original proposal. A listing of Certified SBEs is available on the County's Website at www.charlestoncounty.org/SBE or by calling the Procurement Department at 843.958.4750. Businesses certified as DBEs by the South Carolina Department of Transportation (SCDOT) may also be counted toward the subcontract requirement provided their gross annual income does not exceed \$7.5 million as averaged over the previous three years and as verified by federal tax returns for that period. Income will be verified prior to contract award.

▪ If a 0% requirement is stated for the solicitation, and the prime is not itself a certified SBE, the prime is required to make a good faith effort to locate and utilize non-certified small business enterprises on the project. The prime must document the effort in Section B of the **Mandatory SBE Subcontract Requirement Form** (Page 2). **Failure to correctly complete Section B on Page 2 will result in the submittal being considered non-responsive.**

▪ A vendor or subcontractor does not have to be a certified SBE to participate in the County's contracting and purchasing activities. However, it is our goal to attempt to certify any vendor or subcontractor who may qualify. Information on how to become certified as an SBE and the one-page application form can be accessed at www.charlestoncounty.org/SBE or by calling the Procurement Department at 843.958.4750.

▪ A Bidder/Offeror may not apply one of its own subsidiary companies or its own workforce toward meeting the **mandatory** SBE subcontract requirement unless the Bidder/Offeror is itself a certified Charleston County SBE. In that event, the work performed by the prime contractor/vendor will be counted toward the requirement, and the **mandatory** subcontract requirement becomes voluntary.

▪ The contractor will maintain records showing: subcontractor/supplier awards, subcontractor payment history, specific efforts to identify and award contracts to SBEs, and copies of executed contracts with SBEs. The contractor may be required to provide access to books, records, and accounts to authorized officials of the County for verification purposes. All County contracts are subject to SBE audit.

▪ Properly documented appeals to the subcontract requirement may be submitted to the Contracts and Procurement Director in accordance with the provisions of *Charleston County Procurement Ordinance, Division 7, Legal and Contractual Remedies*. The Procurement Ordinance is available online at www.charlestoncounty.org, or by calling the Procurement Department at 843.958.4750.



**Small Business Enterprise (SBE) Program
Mandatory SBE Subcontract Requirement Form**

**This form must be completed and included with your response.
Failure to comply will result in the Bidder/Offeror being deemed non-responsive.**

***The mandatory subcontract requirement for this contract is 12.2%
of the total bid amount.**

Name of prime contractor firm _____

*If the prime is itself a certified Charleston County SBE, the above goal becomes voluntary.

Is your business a certified Charleston County SBE? ☐ No ☐ Yes

If yes, sign here: _____

If you checked "yes," you are not required to complete the rest of this form; however, your voluntary completion and good faith effort is encouraged.

Section A Complete this section **ONLY** if there is a **mandatory** percentage requirement stated above and the prime is NOT itself a certified SBE. All other primes must list all subcontractors that you intend to be counted toward the percentage requirement. To be counted toward the requirement, the subcontractor must be a Charleston County certified SBE. Firms certified as DBEs by the South Carolina Department of Transportation (SCDOT) can be counted toward the goal provided their gross annual income does not exceed \$7.5 million as averaged over the previous three years. Income will be verified prior to contract award.

Total Bid Amount _____

Name of Small Business	Contact Person & Phone No.	Charleston County SBE Certification No. (if DBE, attach certificate)	Estimated \$ Amount of Subcontract	Estimated % of Total Bid

Section B Complete this section **ONLY if there is a 0% requirement stated above**. If the prime is itself a certified SBE, this section becomes voluntary. All others must list any small businesses (whose annual gross revenues are believed not to exceed \$7.5 million) that you have contacted as subcontractors for this contract. Charleston County Procurement will contact these firms to attempt to certify them as SBEs. Fulfillment of this requirement constitutes a good faith effort on your part **AND IS MANDATORY**. **Failure to comply with and fully document this section will result in a submittal being deemed non-responsive.**

Name of Small Business	Contact Person & Phone No.	Service/Supplies to be Provided by Subcontractor	Estimated \$ Amount of Subcontract	Estimated % of Total Bid

NOTE FOR IFBs: COMPLETE THIS FORM AND RETURN IT WITH YOUR RESPONSE. SUBSTITUTIONS FOR THIS FORM ARE NOT ACCEPTABLE.

SUBCONTRACTOR DATA FORM

Use this form to list all subcontractors to be used on this project.

Attach additional copies of this form if needed. Substitutions for this form are not acceptable.

Prime Contractor: _____ City & State _____ Phone: __ (____) _____

Form Prepared by: _____ Title: _____ Date: _____ Total Bid Amount \$ _____

Sub's Name, Address, Phone and Principal	Short Description of Goods or Services to be Provided by Subcontractor	Subcontractor's Required License Number(s) (*See note below)	Indicate if Multiple Ownership is <i>Less Than 51%</i> for any Controlling Interest	Indicate if Ownership is <i>at Least 51%</i>	Indicate if Ownership is <i>at Least 51%</i>	Dollar Amount of Subcontract	Subcontract Percentage of Total Bid Amount
			☐ Publicly Traded Co. ☐ No Controlling Interest Owns More Than 50%	☐ Male ☐ Female	☐ Asian American ☐ Black American ☐ Hispanic American ☐ Native American ☐ Pacific Islander ☐ White American		
			☐ Publicly Traded Co. ☐ No Controlling Interest Owns More Than 50%	☐ Male ☐ Female	☐ Asian American ☐ Black American ☐ Hispanic American ☐ Native American ☐ Pacific Islander ☐ White American		
			☐ Publicly Traded Co. ☐ No Controlling Interest Owns More Than 50%	☐ Male ☐ Female	☐ Asian American ☐ Black American ☐ Hispanic American ☐ Native American ☐ Pacific Islander ☐ White American		
			☐ Publicly Traded Co. ☐ No Controlling Interest Owns More Than 50%	☐ Male ☐ Female	☐ Asian American ☐ Black American ☐ Hispanic American ☐ Native American ☐ Pacific Islander ☐ White American		

*List all licenses required for the subcontractor to conduct business in the state of South Carolina.

Compliance with Illegal Immigration Act

By signing a bid/proposal, the Bidder/Offeror certifies that it will comply with the applicable requirements of Title 8, Chapter 14 of South Carolina Code of Laws and agree to provide to the State upon request any documentation required to establish either; (a) that Title 8, Chapter 14 is inapplicable to the Bidder/Offeror and its subcontractors or sub-subcontractors; or (b) that the Bidder/Offeror and its subcontractors or sub-subcontractors are in compliance with Title 8, Chapter 14.

Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony and, upon conviction, must be fined within the discretion of the Court or imprisoned for not more than five years, or both."

Bidder/Offeror agrees to include in any contracts with subcontractors, language requiring subcontractors to (a) comply with applicable requirements of Title 8, Chapter 14, and (b) include in their contracts with the sub-contractors language requiring the sub-subcontractors to comply with the applicable requirements of Title 8, Chapter 14.

Charleston County Contract Number: 4380

Project Name: Phase II Repairs to the Charleston County Parking Garages

Contractor/Vendor Name: _____

Address: _____

Authorized Representative Name and Title: _____

Signature of Authorized Representative: _____

Witness (Print Name and Sign): _____

Non-Collusion Oath

COUNTY OF:

STATE OF:

Before me, the Undersigned, a Notary Public, for and in the County and State aforesaid, personally appeared _____ and made oath that the Bidder herein, its agents, servants, and/or employees, to the best of its knowledge and belief, have not in any way colluded with anyone for and on behalf of the Bidder, or themselves, to obtain information that would give the Bidder an unfair advantage over others, nor have they colluded with anyone for and on behalf of the Bidder, or themselves, to gain any favoritism in the award of the Contract herein.

SWORN TO BEFORE ME THIS _____ DAY OF _____, 2010

Notary Public

Authorized Signature for Bidder

For the State of: _____

Please print Bidder's name and address:

My Commission Expires: _____

Print Name: _____

Address: _____

Telephone: _____

(Note: Notary seal required for Out of State Bidder)

Equal Employment Opportunity Certification
(For Contractors/Vendors Other Than Individuals)

Charleston County requires compliance with state and federal regulations governing Equal Employment Opportunity, External Equal Opportunities (EO), External On-the-Job Training (OJT), Title VI, and the Americans with Disabilities Act (ADA) programs.

Sub-recipients of federal-aid contracts must include notifications in all solicitations for bids of work or material and agreements subject to Title VI of the Civil Rights Act of 1964 and other nondiscrimination authorities. Sub-recipients, contractors and subcontractors may not discriminate in their employment practices or in the selection and retention of any subcontractor.

By signing this document, the Contractor/Vendor hereby certifies their commitment to assure nondiscrimination in its programs and activities to the effect that no person shall on the grounds of race, color, national origin, sex, age, disability or income status be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination or retaliation under any federally or non-federally funded program or activity administered by the sub-recipient and/or its contractors.

Charleston County Contract Number: 4380

Project Name: Phase II Repairs to the Charleston County Parking Garages

Contractor/Vendor Name:_____

Address:_____

Authorized Representative Name and Title:_____

Signature of Authorized Representative:_____

Witness (Print Name and Sign):_____

ATTACHMENT A

Attachment A: Table of Contents

- ✓ **Report of Special Inspections**
- ✓ **Schedule of Special Inspection Services**
- ✓ **Scope of Work**
- ✓ **Special Forms**
- ✓ **Lead Report**

6. Report of Special Inspections

Project: Phase II Repairs Charleston County Parking Garages -
Cumberland Street Parking Deck Permit Number: _____

Project Location: SE Corner of Cumberland Street and Meeting Street

Owner/Address: Charleston County Capital Projects City Charleston, SC Zip 29405
4045 Bridge View Road, Suite B217

Registered Design Professional
In Responsible Charge: Michael L. Parker, P.E.

Address: 4651 Charlotte Park Drive, Suite 150

City: Charlotte State: NC Zip: 28217 Phone: 704-424-9663

Fax: 704-424-9665 E-mail: mlp@suttonkennerly.com

This statement of Special Inspections attached is submitted as a condition for permit issuance in accordance with Section 1704 of the 2006 International Building Code. It includes a Schedule of Special Inspection Services applicable to the above referenced project as well as the identity of the individuals, agencies, or firms intended to be retained for conducting these inspections. The Special Inspector(s) shall keep records of all inspections and shall furnish interim inspection reports to the registered design professional in responsible charge at a frequency agreed upon by the permit applicant and building official prior to the start of work. Discrepancies shall be brought to the immediate attention of the contractor and design professional in responsible charge for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the building official by the registered design professional in responsible charge prior to the completion of that phase of work. A Final Report of Special Inspections ([click here](#)) shall be submitted by the design professional in responsible charge to the building official at the conclusion of the project and before a certificate of occupancy will be issued.

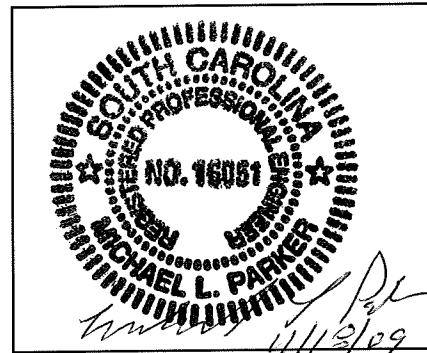
Prepared by:

Michael L. Parker, P.E.

Type or Print Name

Michael L. Parker
Signature

4/18/09
Date



Preparer's Seal and Signature Required

To be filled out by the jurisdiction and returned to applicant
Building Official's Acceptance of Special Inspections

Frequency of Interim reports: ☐ Monthly ☐ Bi-Monthly ☐ Upon Completion ☐ Per Attached Schedule

Signature

Date

TMS

Permit Number

6. Report of Special Inspections

Project: Phase II Repairs Charleston County Parking Garages - King and Queen Street Parking Deck Permit Number: _____

Project Location: NW Corner of King Street and Queen Street

Owner/Address: Charleston County Capital Projects City Charleston, SC Zip 29405
4045 Bridge View Road, Suite B217

Registered Design Professional
In Responsible Charge: Michael L. Parker, P.E.

Address: 4651 Charlotte Park Drive, Suite 150

City: Charlotte State: NC Zip: 28217 Phone: 704-424-9663

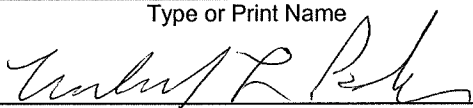
Fax: 704-424-9665 E-mail: mlp@suttonkennerly.com

This statement of Special Inspections attached is submitted as a condition for permit issuance in accordance with Section 1704 of the 2006 International Building Code. It includes a Schedule of Special Inspection Services applicable to the above referenced project as well as the identity of the individuals, agencies, or firms intended to be retained for conducting these inspections. The Special Inspector(s) shall keep records of all inspections and shall furnish interim inspection reports to the registered design professional in responsible charge at a frequency agreed upon by the permit applicant and building official prior to the start of work. Discrepancies shall be brought to the immediate attention of the contractor and design professional in responsible charge for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the building official by the registered design professional in responsible charge prior to the completion of that phase of work. A Final Report of Special Inspections ([click here](#)) shall be submitted by the design professional in responsible charge to the building official at the conclusion of the project and before a certificate of occupancy will be issued.

Prepared by:

Michael L. Parker, P. E.

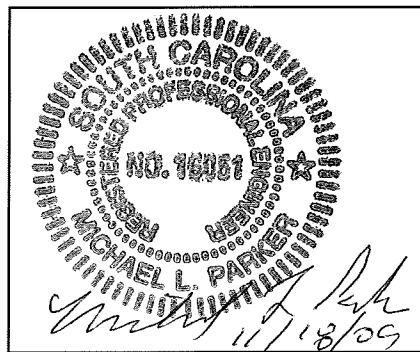
Type or Print Name



Signature

11/18/09

Date



Preparer's Seal and Signature Required

To be filled out by the jurisdiction and returned to applicant
Building Official's Acceptance of Special Inspections

Frequency of Interim reports: ☐ Monthly ☐ Bi-Monthly ☐ Upon Completion ☐ Per Attached Schedule

Signature

Date

TMS

Permit Number

5. SCHEDULE OF SPECIAL INSPECTION SERVICES

MATERIAL / ACTIVITY	SCOPE OF SERVICE	NAME OF INSPECTOR	PRIOR APPROVAL	
			YES	NO*
1704.2 Inspection of Fabricators				
<u>Metal Building Fabrication</u> : Verify Fabrication/Quality Control Procedures				
<u>Pre-Cast Concrete Fabrication</u> : Verify Fabrication/Quality Control Procedures				
<u>Prefabricated Trusses</u> : Verify Fabrication/Quality Control Procedures				
<u>Steel Bar Joist Fabrication</u> : Verify Fabrication/Quality Control Procedures				
<u>Structural Steel Fabrication</u> : Verify Fabrication/Quality Control Procedures				
1707.2 Structural Steel (Seismic)				
Continuous inspection of structural welding in accordance with AISC Seismic Provisions				
1708.4 Structural Steel (Seismic)				
Ultrasonically test for discontinuities behind and adjacent to welds with base metal thicker than 1.5 inches where subject to through-thickness weld shrinkage strains				
1704.3 Steel Construction				
High Strength Bolts, Nuts, and Washers	Required for Cumberland Street	S&ME		
Inspection of High-Strength Bolting				

MATERIAL / ACTIVITY	SCOPE OF SERVICE	NAME OF INSPECTOR	PRIOR APPROVAL	
			YES	NO*
1704.3 Steel Construction				
Structural Steel				
Weld Filler Materials				
Structural Steel Welding	Required for King & Queen Street	S&ME		
Reinforcing Steel Welding				
Inspection of steel frame joint details for compliance with approved construction documents				
1704.4 Concrete Construction				
Inspection of Reinforcing Steel installation				
Inspection of prestressing steel installation	Required for Cumberland Street	S&ME		
Prestressed concrete force application	Required for Cumberland Street	S&ME		
Inspection of cast-in-place bolts				
Verification of required design mix				
Fresh Concrete Sampling				
Concrete Placement	Required for Cumberland Street	S&ME		
Concrete Curing Operations				
Erection of Pre-Cast Concrete	Required for Cumberland Street	S&ME		
Evaluation of Concrete Strength				

MATERIAL / ACTIVITY	SCOPE OF SERVICE	NAME OF INSPECTOR	PRIOR APPROVAL	
			YES	NO*
1704.4 Concrete Construction				
Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs	Required for Cumberland Street	S&ME		
1708.3 Reinforcing and Prestressing Steel (Seismic)				
Review Certified Mill Test Reports				
Verify Reinforcing Steel Weldability				
1704.5 Masonry Construction				
Verify proportions of site prepared mortar and grout				
Verify construction of mortar joints				
Verify location of reinforcement and connectors				
Verify size and location of structural masonry elements				
Verify type, size, and location of anchors, including details of anchorage of masonry to structural members, frames, or other construction				
Verify size, grade, and type of reinforcement				
Verify welding of reinforcing bars				
Verify protection of masonry during hot/cold weather				

MATERIAL / ACTIVITY	SCOPE OF SERVICE	NAME OF INSPECTOR	PRIOR APPROVAL	
			YES	NO*
1704.5 Masonry Construction				
Verify grout space is clean prior to grouting				
Verify grout placement complies with code and construction document provisions				
Observe preparation of group specimens, mortar specimens, and/or prisms				
1708.1 Masonry (Seismic)				
Certificates of compliance used in masonry construction				
Verification of $f'm$ prior to construction				
Verification of $f'm$ every 5,000 SF during construction				
1704.6 Wood Construction				
Inspection of Pre-fabricated Wood structural elements				
Inspection of High Load Diaphragms. Table 2306.3.2				
1707.3 Structural Wood (Seismic)				
Continuous inspection of field gluing operations of elements of seismic-force resisting system				

MATERIAL / ACTIVITY	SCOPE OF SERVICE	NAME OF INSPECTOR	PRIOR APPROVAL	
			YES	NO*
1704.7 Soils				
Verify site preparation complies with approved soils report				
Verify placement and compaction of fill materials complies with approved soils report				
Verify dry-density of compacted fill complies with approved soils report				
1704.8 Pile Foundations				
Observe installation of pile foundations				
Observe pile foundation load tests				
1704.9 Pier Foundations				
Observe installation of pier foundations				
1707.4 Cold-Formed Steel Framing (Seismic)				
Periodic inspection during welding operations of elements of the seismic-force-resisting system				
Periodic inspections for screw attachment, bolting, anchoring and other fastening of components within the seismic-force-resisting system				

MATERIAL / ACTIVITY	SCOPE OF SERVICE	NAME OF INSPECTOR	PRIOR APPROVAL	
			YES	NO*
1704.10 Wall Panels/Veneers				
Observe installation of exterior and interior architectural wall panels				
Observe anchoring of veneers to the building structure				
1704.10 Sprayed Fire-Resistant Materials				
Verify surface condition preparation of structural members				
Verify average thickness applied to structural members				
Verify density with approved fire resistant design				
Verify the cured cohesive/adhesive bond strength				
1704.12 Exterior Insulation and Finish Systems (EIFS)				
Inspect EIFS applications				
1704.14 Smoke Control Systems				
Test Smoke Control Systems				

MATERIAL / ACTIVITY	SCOPE OF SERVICE	NAME OF INSPECTOR	PRIOR APPROVAL	
			YES	NO*
1704.13 Special Cases				
Work unusual in nature, including but not limited to alternative construction materials, unusual design applications, systems or materials with special manufacturer requirements.				
1707.5 Storage Racks and Access Floors (Seismic)				
Periodic inspection during the anchorage of access and storage racks 8 feet or greater in height				
1707.6 Architectural Components (Seismic)				
Periodic inspection during the erection and fastening of exterior cladding				
Periodic inspection during the erection and fastening of non-load bearing walls				
1707.7 Mechanical and Electrical Components (Seismic)				
Periodic inspection during the anchorage of electrical equipment for emergency or standby power systems				
Periodic inspection during installation of piping systems intended to carry flammable, combustible, or highly toxic contents and their associated mechanical units				
Periodic inspection during the installation of HVAC ductwork that will contain hazardous materials				

MATERIAL / ACTIVITY	SCOPE OF SERVICE	NAME OF INSPECTOR	PRIOR APPROVAL	
			YES	NO*
1708.5 Mechanical and Electrical Equipment				
Submit certificate of compliance for designated seismic system components				
1709 Structural Observations (Seismic D, E. or F)				
Observe compliance with structural drawings				

*This Information Is The Sole Property Of Sutton-Kennerly & Associates, Inc. (SKA) And Is
Not To Be Duplicated By Any Means Without Written Consent Of SKA*

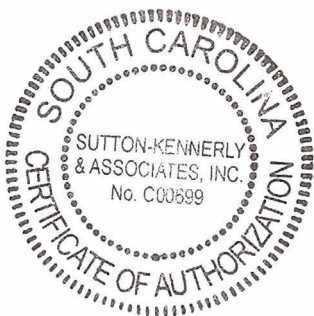
**Project Manual
for
Phase II Repairs
Charleston County Parking Garages
Charleston, South Carolina
SKA Project No. 070117.6 and 070117.8**

November 18,2009



Michael L. Parker, P.E.

SKA SC License No. 699



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SET NO. _____

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DRAWINGS

Sheet Number:

Drawing Title:

Cover

Cover Sheet

CUMBERLAND STREET PARKING DECK

CS1.00	Cumberland St. - Appendix B- Building Code Summary
CS1.10	Cumberland St. - Statement of Special Inspections
CS 2.1	Level 1 Plan- Original
CS 2.2	Level 2 Plan- Original
CS 2.3	Level 3 Plan- Original
CS 2.4	Level 4 Plan- Original
CS 2.5	Level 5 Plan- Original
CS 2.6	Level 6 Plan- Original
CS 2.11	Level 1 Plan- Addition
CS 2.12	Level 2 Plan- Addition
CS 2.13	Level 3 Plan- Addition
CS 2.14	Level 4 Plan- Addition
CS 2.15	Level 5 Plan- Addition
CS 2.16	Level 6 Plan- Addition
CS 7.1	Concrete Repair and Deck Drain Installation Details
CS 7.2	Alternate Bid Details: Post-Tensioning Repair
CS 7.3	Alternate Bid Details

KING AND QUEEN STREET DECK

KQ1.00	Appendix B- Building Code Summary
KQ1.10	Statement of Special Inspections
KQ 2.1	Levels 1 & 2
KQ 2.2	Levels 3 & 4
KQ 2.3	Levels 5 & 6
KQ 2.4	Levels 7 & 8
KQ 2.5	Levels 8 & 9
KQ 7.1	Concrete Repair Details
KQ 7.2	Double-Tee Bracket and Bearing Pad Installation Details

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KQ 7.3
KQ 7.4

Deck Drain Installation and Removal Details
Double-Tee Bracket and Bearing Pad Installation Details

SECTION 01000

GENERAL REQUIREMENTS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS:

- A. Drawings and General Provisions of the Contract apply to this section.

1.02 SUMMARY:

- A. Section includes:

1. Contract description.
2. Work by Owner.
3. Contractor's Use of Premises.
4. Contract Documents.
5. Specification Conventions.
6. Allowances.
7. Permits, Testing and Inspection.
8. Schedule of Values.
9. Applications for Payment.
10. Change Order Procedures.
11. Unit Prices.
12. Fees.
13. Additional Bid.
14. Coordination.
15. Field Engineering.
16. Preconstruction Meeting.
17. Progress Meetings.
18. Cutting and Patching.
19. Submittal Procedures.
20. Construction Progress Schedules.
21. Manufacturer's Instructions.
22. Manufacturer's Certificates.
23. Quality control.
24. Tolerances.
25. References.
26. Manufacturer's Field Services and Reports.
27. Examination.
28. Preparation.
29. Temporary Utilities, Facilities and Controls.
30. Protection of Installed Work.

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- 31. Security.
- 32. Product Options.
- 33. Substitutions.
- 34. Substantial Completion.
- 35. Contract Closeout.

1.03 CONTRACT DESCRIPTION:

- A. Work of the Project includes: The work described in the Contract Documents, Base Bid, includes the furnishing of all labor, materials, equipment, and services necessary to complete the following repairs. The following provides a general synopsis of the work for the project. Refer to individual specification sections and project drawings for specific requirements.

1. CUMBERLAND PARKING DECK

a. BASE BID

- i. Repair Type 'C': Install epoxy anchors at missing spandrel panel connections.
- ii. Repair Type 'DD': Install new floor deck drains at selected elevated deck locations and connect to the existing storm drain piping system.
- iii. Repair Type 'P': Surface preparation and painting of existing steel connection components.
- iv. Repair Type 'PT-S': Replace damaged or torn sheathing at post-tensioning tendons using an industry approved industrial tape for waterproofing post-tensioning tendons.
- v. Repair Type 'RS': Route a new joint into the top concrete slab surface at the construction joints on the original deck, install bond-breaker tape and new flexible sealant.
- vi. Repair Type 'SP-SR': Concrete repairs at horizontal locations where the embedded steel is corroded and the associated concrete cover is delaminated and distressed. Where existing parking space lines are affected by the repair work, replace the affected portion with new zone marking paint to match existing parking space lines.

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- vii. Repair Type 'SP-SR': Concrete repairs at vertical or overhead locations where the embedded steel is corroded and the associated concrete cover is delaminated and distressed.

b. ADDITIONAL BID- UNIT PRICES

- i. Repair Type 'A': Perform surface preparation and apply a migrating corrosion inhibitor to horizontal concrete surfaces at "SP-SR" repair locations. Application shall extend 1 foot around the perimeter of the repair.
- ii. Repair Type 'F': Install supplemental support channels below new "DD" repair locations where the existing slab thickness is less than 5 inches.
- iii. Repair Type 'PT': Remove and replace an intermediate section of an existing, damaged tendon: Selectively demolish concrete to the left and to the right of the damaged tendon area, as indicated on the Drawings, remove section of existing post-tensioning tendon strand located between the two excavations, install new section of tendon within the existing sheathing, splice new tendon to ends of existing tendon, apply tension load to match design tension load, and install and cure rapid strength structural repair mortar.
- iv. Repair Type 'PT-A': If damaged tendon inside the 'work area' which extends through an intermediate anchor head at a construction joint, excavate concrete at intermediate anchor to access and allow installation of new tendon section. Install and cure rapid strength structural repair mortar.
- v. Repair Type 'PT-B': To be performed if there is an intermediate anchor head at a construction joint outside of the 'work area' that requires to be accessed to properly apply tension loads to the tendon. Excavate concrete at intermediate anchor to access and allow installation of new tendon section. Install and cure rapid strength structural repair mortar.
- vi. Repair Type 'PT-C': Provide and install extra length of post-tensioning tendon, beyond the length shown on the drawings, install new section of tendon thru existing sheathing.

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2. KING AND QUEEN STREET PARKING DECK

a. BASE BID

- i. Repair Type 'BP': Install temporary shoring and install new bearing pad below double-tee stem.
- ii. Repair Type 'D1': Install new floor deck drains at selected elevated deck locations and connect to the existing storm drain piping system.
- iii. Repair Type 'D2': Remove and dispose of existing deck drain, repair hole with installation of new repair mortar, install new deck drain at adjacent low point in elevated deck, and install new piping and connect to existing storm drain piping system.
- iv. Repair Type 'DT': Install temporary shoring and a new supplemental support bracket beneath double-tee member and end at girder. The damaged end of the double-tee stem will also be repaired by removal of distressed concrete, surface preparation and installation of new repair mortar directly above end of bearing location.
- v. Repair Type 'O': Concrete mortar overlay repair at ramp where ramp is offset.
- vi. Repair Type 'SP-SR': Concrete repairs at horizontal locations where the embedded steel is corroded and the associated concrete cover is delaminated and distressed. Where existing parking space lines are affected by the repair work, replace the affected portion with new zone marking paint to match existing parking space lines.
- vii. Repair Type 'SP-SR': Concrete repairs at vertical or overhead locations where the embedded steel is corroded and the associated concrete cover is delaminated and distressed.

b. ADDITIONAL BID- UNIT PRICES

- i. Repair Type 'A': Perform surface preparation and apply a migrating corrosion inhibitor to horizontal concrete surfaces at "SP-SR" repair locations. Application shall extend 1 foot around the perimeter of the repair.

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- ii. Repair Type 'SP-SR': Concrete repair at overhead pedestrian bridge where associated concrete cover has spalled and is distressed.

Perform Work of Contract under a fixed price contract with County in accordance with Conditions of Contract.

1.04 WORK BY OWNER:

- A. No work will be performed by Owner.

1.05 CONTRACTOR'S USE OF PREMISES:

- A. General: The Contractor shall limit their use of the premises to construction activities in areas indicated; allow for tenant occupancy and use of areas that are not within the construction activities.
- B. Closing Parking Spaces: In order that the Owner can occupy and continue to use the existing parking deck during the work with minimal disruptions and loss of existing parking spaces, the scheduling and sequencing of the repairs under this Contract will be required to proceed as follows:
 - 1. The Contractor shall maintain open at all times one entrance lane and one exit lane from each deck level.
 - 2. All noise-generating work (including non-demolition work that requires a generator) must be conducted between the hours of 6:00 a.m. and 10:00 p.m. any day of the week. All other work may be performed at anytime of the day. Contractor shall notify Charleston County two days in advance of closing any parking spaces.
 - 3. Contractor must close the level below and the level of post-tension tendon repair during the repair work. Contractor shall notify Charleston County one week in advance of post-tension tendon remediation work.
 - 4. Contractor may close all parking spaces on 2 full deck levels for post-tensioning repairs on the Cumberland Street Parking Deck when working on Saturdays and Sundays.
 - 5. Contractor shall install detour signs and barricades. It will be the Contractor's responsibility to police the entire area.
 - 6. Any deviations from these requirements must be approved in writing by the owner.

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1.06 CONTRACT DOCUMENTS:

In addition to the specifications, the following working drawings dated November 18, 2009, that form part of the contract are listed in the Table of Contents (pages TC-1 to TC-3).

1.07 SPECIFICATION CONVENTIONS:

- A. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words “shall be” are included by inference where a colon (:) is used within sentences or phrases.

1.08 ALLOWANCES:

- A. No allowances are included under this contract.

1.09 BUILDING PERMITS AND INSPECTION:

- A. The City of Charleston is the authority having jurisdiction. The Contractor shall be required to obtain building, plumbing, mechanical and electrical permits that are required by the City of Charleston.

1.10 SPECIAL INSPECTIONS AND QUALITY ASSURANCE TESTING:

- A. The County will employ, at their expense, an independent testing firm to conduct all special inspections required in Chapter 17 of the IBC, and quality assurance testing. Retesting of materials or work because of previously identified deficiencies will be at the Contractor’s expense.
- B. The Contractor is responsible for requesting all special inspections. The Contractor will coordinate and facilitate special inspections.
- C. Statement of Special Inspections: Included on Drawing sheets CS 1.10 and KQ 1.10.

1.11 SCHEDULE OF VALUES:

- A. Prior to the first Application of Payment, submit six (6) copies of the typed Schedule of Values on AIA Form G703 for review and approval. In the event that the schedule is not accepted, revise and resubmit as required. Contractor’s standard form will be considered.
- B. Format: Utilize the Table of Contents of the Project Manual. Identify each line item with the number and title of the specification section. Project overhead, bonds, insurance, mobilization, demobilization, profit, etc., shall not be identified

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in the Schedule of Values as a line item. The value of these items shall be equally distributed over all the elements of the Schedule. Show, a minimum, a labor line and a materials line for each specification section.

1.12 APPLICATION FOR PAYMENT:

- A. Submit three (3) typed copies of AIA G702 – Application and Certificate for Payment including continuation sheets when required; each with original signatures. Note that application line items for material stored off site will not be allowed, except in unusual circumstances and that have received County’s prior approval. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed. List each authorized Change Order as an extension on continuation sheet, listing Change Order number and dollar amount as for an original item of work. When County requires substantiating information, submit requested data justifying dollar amounts in question.

1.13 CHANGE ORDER PROCEDURES:

- A. The County may issue a Supplemental Instruction (SI) which may include a clarification of the Contract Documents or a detailed description of a proposed change. If a proposed change is included, the SI will request that the Contractor respond with a Proposed Change Order (PCO). Contractor will prepare and submit a PCO within three (3) days for Owner’s review and approval.
- B. The Contractor may propose a change or respond to a supplemental instruction, by submitting a PCO to the County, describing the proposed change and its full effect on the work, with a statement describing the reason for the change, and the effect on the Contract Sum Price and Contract Time. Contractor shall submit two (2) copies, each with original signatures.
- C. After negotiation, the County will generate the Change Order (CO) form using PCO as supporting data. The Contractor shall sign three (3) copies of the CO form and return to the County for processing and issuance of the approved CO.
- D. The County may issue a Construction Change Directive (CCD), instructing the Contractor to proceed with a change in the work, for subsequent inclusion in a CO.
- E. The County has its own forms, (SI, PCO, CO, CCD) which shall be used and will be made available to the Contractor. Contractor’s standard forms may be used once approved.

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1.14 UNIT PRICES:

- A. The Contractor shall provide unit rate for items included in the lump sum base bid. The unit prices shall apply throughout the life of the Contract. Unit prices shall be applied as appropriate to adjust the lump sum cost for the work up or down depending on the actual quantities encountered. The lump sum bid shall include the quantities listed in the Bid Form.

1.15 FEES:

- A. The Contractor is responsible for obtaining and shall bear the cost of all permit fees.

1.16 ADDITIONAL BID ITEMS:

- A. The Contractor shall provide unit rate and lump sum prices for each item included in the Additional Bid. The unit prices shall apply throughout the life of the Contract. Unit prices shall be applied as appropriate to adjust the lump sum cost for the work up or down depending on the actual quantities encountered.

1.17 COORDINATION:

- A. The Contractor's point of contact will be the Facilities Representative. Required coordination with the County staff and other Facilities Staff will be directed through the Facilities Representative.
- B. Coordinate scheduling, submittals, and Work of various sections of specifications to ensure efficient and orderly sequence of installation of interdependent construction elements.
- C. In order that the Owner can occupy and continue to use the existing building entrances during the Work with minimal disruptions and loss of use, the scheduling and sequencing of the repairs and rehabilitation under this Contract will be required to proceed as follows:
 - 1. Work hours shall be coordinated with the Owner. See Section 1.05.B for additional requirements.
 - 2. Any deviations from these requirements must be approved in writing by the Owner.
 - 3. The Contractor shall begin work on the project within 7 calendar days after issuance of the Notice to Proceed by Facilities and shall achieve substantial completion of the work 120 days after the Notice to Proceed, and final completion no later than 30 days after substantial completion.

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- D. **CONTRACTOR’S SUPERVISION:** The contractor shall assign and maintain a single person as “job superintendent” on this project. The same job superintendent shall start the project and see it to its final completion. Only a medical condition, employment termination, or Owner requirement will be acceptable cause for change in superintendent.

1.18 **FIELD ENGINEERING:**

- A. Verify field measurements are as indicated on shop drawings or as instructed by manufacturer.

1.19 **PRE-CONSTRUCTION MEETING:**

- A. The County will schedule and administer a Pre-Construction Conference on or preceding the date of issuance of the Notice to Proceed. The Owner’s Representative(s), Contractor, Contractor’s Superintendent and Sub-Contractors (only if requested by Owner) shall attend. The purpose of the Pre-Construction Conference is to review the projects administrative requirements, safety requirements, and discuss expectation and potential problems and general discussion concerning the project and players.

1.20 **PROGRESS MEETINGS:**

- A. Schedule and administer on-site meetings throughout progress of the Work at weekly intervals.
- B. Preside at meetings, record minutes, and distribute copies to those affected by decision made.
- C. Schedule and administer preparatory meeting prior to each trade starting work. Meeting will be attended by the Subcontractor beginning work, the Superintendent, Representatives from Facilities and other Subcontractors as requested.

1.21 **CUTTING AND PATCHING:**

- A. Employ skilled and experienced installers to perform cutting and patching new Work; restore Work with new Products.
- B. Request and obtain County’s approval in advance of cutting or altering structural or building enclosure elements.

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- C. Cut masonry and concrete materials using masonry saw or core drill. Restore Work with new Products in accordance with requirements of Contract Documents.
- D. Fit Work tight to adjacent elements. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- E. Refinish surfaces to match adjacent finishes.

1.22 SUBMITTAL PROCEDURES:

- A. Contractor shall provide and maintain a submittal log. Submit first submittal log for review and approval within ten (10) days of the Notice to Proceed. Thereafter, the updated submittal log shall be submitted monthly with each Application for Payment.
- B. Each submittal shall be accompanied by a transmittal form which identifies the Project, Contractor, Subcontractor or Supplier, Specification Section, and pertinent Contract Document references.
- C. Apply Contractor's stamp and signature, certifying that review, verification of Products required, field dimensions, quantities, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents. Submittals not bearing Contractor's stamp and signature will be returned unchecked.
- D. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of completed Work.
- E. Revise and resubmit submittals as required; identify changes made since previous submittal.
- F. Deliver to the County at their business address.
- G. The Contractor shall submit sufficient copies to meet the Owners requirements as well as his own. Note that the County will require three (3) copies of all submittals for their use.
- H. Product data, shop drawings, and samples are submitted to Owner for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- I. After review, distribute returned copies to appropriate people and retain one (1) copy for record documents purposes as specified.

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- J. All interior and exterior finishes shall be selected together. Individual finish submittals of either type will be held until all similar submittals have been received to allow for coordination of selections. To expedite approval, the Contractor should submit these items together and early.

1.23 CONSTRUCTION PROGRESS SCHEDULES:

- A. Submit six (6) copies of the initial progress schedule for approval within ten (10) days of the Notice to Proceed. Revise and update schedule monthly and submit with each application for payment. The County will not review any payment request until the schedule has been submitted and approved.
- B. Submit horizontal bar chart type schedule with separate line for each major section of Work or operation. It shall be a detailed schedule of work occurring on a daily basis. All key activities and milestones shall be included.

1.24 MANUFACTURER'S INSTRUCTIONS:

- A. When specified in individual specification sections, submit manufacturer printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.

1.25 MANUFACTURER'S CERTIFICATES:

- A. When specified in individual specification sections, submit certifications by manufacturer to Facilities, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

1.26 QUALITY CONTROL:

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturer's instructions.
- C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

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1.27 TOLERANCES:

- A. Monitor fabrication and installation tolerance control of installed Products over suppliers, manufacturers, Products, site conditions, and workmanship, to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply fully with manufacturer's tolerances.

1.28 REFERENCES:

- A. Whenever reference is made to codes, standard specifications, or other data published by regulating agencies or accepted organizations, it shall be understood that such reference is made to the latest edition (including addenda) published prior to the date of the Contract Documents, except as noted specifically otherwise by date in the Contract Documents.
- B. Among those frequently used in the Contract Documents are the following (with the respective abbreviations used):
 - 1. American Society for Testing and Materials (ASTM)
 - 2. American Concrete Institute (ACI)
 - 3. International Building Code (IBC)
 - 4. International Concrete Repair Institute (ICRI)
- C. When specified reference standard conflict with Contract Documents, request clarification from Facilities before proceeding.

1.29 MANUFACTURER'S FIELD SERVICES AND REPORTS:

- A. When specified in individual specification sections, require material or Product suppliers or manufacturers to furnish qualified staff personnel to observe site conditions and to initiate instructions when necessary.
- B. Report observations and site decisions or instructions that are supplemental or contrary to manufacturer's written instructions.

1.30 EXAMINATION:

- A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

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- B. Verify utility services are available, of correct characteristics, and in correct location.

1.31 PREPARATION:

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

1.32 TEMPORARY UTILITIES, FACILITIES AND CONTROLS:

- A. Contractor shall provide and pay for the temporary utilities required for execution of the contract through substantial completion, including the facilities listed below.
 - 1. Temporary power, lighting, heating, cooling, ventilation and water.
 - 2. Temporary/portable toilet facilities for construction personnel.
 - 3. Drinking water for construction personnel.
- B. Provide temporary construction barricades and construction fencing to prevent unauthorized entry to construction areas and to protect adjacent areas open to the public.
- C. Provide all shoring and bracing required for the safe execution of the work.
- D. Collect and maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.
- E. Remove temporary utilities, equipment, facilities, and materials prior to Substantial Completion review. Clean and repair damage caused by installation or use of temporary work.
- F. Provide dust control to protect adjacent vehicles and adjacent properties during construction.

1.33 PROTECTION OF INSTALLED WORK:

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Prohibit traffic or storage upon waterproofed or roofed surfaces.

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1.34 SECURITY:

- A. Provide security and facilities to protect Work and existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.35 PRODUCT OPTIONS:

- A. Products Specified by Reference Standards, Description, or Performance Criteria Only: Any Product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit request for substitution for manufacturers not named.

1.36 SUBSTITUTIONS:

- A. All requests for substitutions must be sufficiently supported with documentation to facilitate the County's decision. The County may reject the request if the product is not equal in his judgment; or if sufficient documentation is not provided. The burden of proof of the merit of the proposed product is upon the proposer. No substitution request for approval prior to the bid opening will be considered.
- B. Approval of a substitution does not relieve the Contractor from complying with the requirements of the contract documents.

1.37 SUBSTANTIAL COMPLETION:

- A. When the Contractor considers the construction work substantially complete he shall notify the County in writing and prepare an exception list for the County's review. When the County concurs that the work is substantially complete he will make an inspection and give the Contractor a Punch List. The Contractor shall have thirty (30) days to complete the Punch List. When the Contractor has completed the Punch List, the County will re-inspect the work. When the County concurs that all work is complete, the work will be deemed to be complete.

1.38 CONTRACT CLOSEOUT:

- A. Documentation and submittals required for contract closeout is a follows:
 - 1. Consent of Surety to Final Payment.
 - 2. One (1) set of Project Record Documents, marked to record actual As-Built Construction.
 - 3. Evidence of Payment and Release of Liens.
 - 4. Two (2) notarized copies of warranties, guarantees, certifications, and bonds including Contractor's one-year unconditional warranty.

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5. Operation and Maintenance Manuals.
 - B. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments and sum remaining due. Payment may be delayed until receipt of above closeout documents.
 - C. Final Cleaning: Execute final cleaning prior to final inspection. Clean interior and exterior surfaces exposed to view. Vacuum carpeted and soft surfaces. Clean debris from site, roofs, gutters, downspouts, and drainage systems. Replace filters of operating equipment. Remove waste and surplus materials, rubbish, and construction facilities from site.
 - D. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
 - E. Project Record Documents: Maintain on site one set of Contract Documents to be utilized for record documents. Record actual revisions to the Work. Record information concurrent with construction progress. Submit documents to Facilities.
 - F. Warranties:
 1. Contractor Warranty: The Contractor shall unconditionally warrant all labor and material for a period of two (2) years from the date of Substantial Completion. This warranty shall include labor and materials associated with all work included in the contract.
 2. Other Warranties: Provide other warranties as listed below. See specification section referenced for complete warranty information. Warranties shall commence on the date of substantial completion.
 - a. Contractor's 2-Year Labor Warranty for Workmanship
 - b. Repair Mortar Manufacturer's 5- year Warranty
 - c. Polyurethane Sealant Manufacturer's 5-year Warranty
 - d. Silicone Sealant Manufacturer's 10-year Warranty
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PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED.

END OF SECTION

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SECTION 02070

SELECTIVE DEMOLITION

PART 1 - GENERAL

- 1.01 RELATED DOCUMENTS: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section.
- 1.02 SUMMARY: This Section requires the selective removal and/or subsequent offsite disposal of the products of demolition, including but not limited to removal and disposal of mortar patch and concrete, as indicated on the drawings and in the specifications.
- 1.03 SUBMITTALS:
- A. General: Submit the following in accordance with Conditions of Contract and Division 1, Specification Sections.
1. Schedule indicating proposed sequence of operations for selective demolition work with Owner and Engineer for review prior to start of work. Include methods and procedures for dust and noise control protection and disposal.
2. Photographs of existing conditions of surfaces, equipment, and adjacent construction, if any, that might be misconstrued as damage related to removal operations. File with Engineer prior to start of work.
3. Update scheduling of selective demolition with Owner and Engineer each week.
- 1.04 JOB CONDITIONS: Existing structures, drives, windows, sidewalks, vehicles, landscaped areas, etc. that are adjacent to the areas where the remedial work is required shall be protected at all times from dust, debris, or damage. The demolition work shall be coordinated with the Owner and Engineer. Provide a minimum of one (1) week specific advance notice to Owner of demolition activities, which will impact Owner's usage of the facility.
- A. Condition of Structures: Owner assumes no responsibility for actual condition of items or structures to be demolished.
1. Conditions existing at time of inspection for bidding purposes will be maintained by Owner insofar as practicable.

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- B. Partial Demolition and Removal: Items to be removed, but of salvageable value to Contractor may be removed from structure as work progresses. Transport salvaged items from site as they are removed.
- C. Protections: Provide temporary barricades and other forms of protection to protect Owner's personnel, public, and tenants from injury due to selective demolition work.
1. Provide protective measures as required to provide free and safe passage of Owner's personnel and tenants to occupied portions of building. A schematic of pedestrian passage shall be submitted to the Engineer and Owner before the start of demolition. A schematic of detour routes around the work area as well as signage locations shall be submitted to the Engineer and Owner before the start of demolition.
 2. Protect sidewalks, streets, landscaped areas, and vehicles from damage resulting from the demolition. All materials that are demolished shall be contained within the stage, lift or scaffold or on the building. Remove debris from elevated areas on a daily basis.
 3. Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.
 4. Construct temporary debris and dustproof enclosures around work areas where required where extensive dirt or dust operations result from the demolition.
- D. Damages: Promptly repair and correct damages caused to adjacent facilities, vehicles, sidewalks, landscaped areas, etc. by demolition work.
- E. Utility Services: Maintain existing utilities to remain in service and protect them against damage during demolition operations.
- F. Environmental Controls: Use water sprinkling, temporary enclosures, and other methods to limit dust and dirt migration. Comply with governing regulations pertaining to environmental protection.
1. Do not use water when it may create hazardous or objectionable conditions for the work being done by other Contractors.

PART 2 – PRODUCTS

Not used.

PART 3 - EXECUTION

3.01 **PREPARATION:** General: Erect barricades for pedestrian and vehicular detour around demolition area. Erect and maintain dust-proof closures as required to prevent spread of dust or debris outside the work area and to contain all the debris on the staging, other access equipment or on the building. Prior to commencement of demolition work, inspect areas in which work will be performed. Photograph existing conditions which could be misconstrued as damage resulting from selective demolition work and file with the Engineer prior to starting work.

3.02 **DEMOLITION:**

A. **General:** Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations. Cease operations and notify the Engineer if safety of structure appears to be endangered. **Only conduct demolition on specific items shown on the drawings and approved by the engineer. If the demolition is excessive for a specific repair as determined by the Engineer, the contractor will not be paid for the excessive demolition or repair material quantity.**

1. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.
2. Erect and maintain dust-proof enclosures to prevent spread of dust and debris to other portions of the adjacent building, streets and sidewalks.
3. Provide barricades to prevent access to work areas by personnel.

B. If unanticipated electrical or structural elements that conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Engineer in written, accurate detail. Pending receipt of directive from Engineer, re-arrange selective demolition schedule as necessary to continue overall job progress without undue delay.

3.03 **DISPOSAL OF DEMOLISHED MATERIALS:**

A. Remove from building site on a daily basis debris, rubbish, and other materials resulting from demolition operations. Transport and legally dispose of off site.

1. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling, and protection against exposure or environmental pollution.

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3.04 CLEAN UP AND REPAIR:

- A. General: Upon completion of demolition work, remove tools, equipment, and demolished materials from site. Remove protections and leave interior areas broom clean.
 - 1. Repair demolition performed in excess of that required. Return elements of construction and surfaces to remain to condition existing prior to start operations. Repair adjacent construction or surfaces soiled or damaged by selective demolition work. Excessive demolition and repair will not be paid for by Owner.

END OF SECTION

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SECTION 03340

POST-TENSIONING

PART I - GENERAL

1.01 RELATED DOCUMENTS: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section.

1.02 SECTION INCLUDES:

- A. The work shall include furnishing all materials, labor, tools and equipment to perform the following repairs:

CUMBERLAND STREET PARKING DECK: BASE BID

1. Repair Type 'PT-S': Replace damaged or torn sheathing at post-tensioning tendons using an approved medium or high-density polyethylene or polypropylene industrial tape for waterproofing post-tensioning tendons.

CUMBERLAND STREET PARKING DECK: ADDITIONAL BID

1. Repair Type 'PT': Remove and replace an intermediate section of an existing, damaged tendon: Selectively demolish concrete to the left and to the right of the damaged tendon area, as indicated on the Drawings, remove section of existing post-tensioning tendon strand located between the two excavations, install new section of tendon within the existing sheathing, splice new tendon to ends of existing tendon, apply tension load to match design tension load, and install and cure rapid strength structural repair mortar.
2. Repair Type 'PT-A': If damaged tendon area crosses an intermediate anchor head at a construction joint, excavate concrete at intermediate anchor to access and allow installation of new tendon section. Repair sheathing to make waterproof and install and cure rapid strength structural repair mortar.
3. Repair Type 'PT-B': To be performed if there is an intermediate anchor head at a construction joint outside of the 'work area' that requires to be accessed to properly apply tension loads to the tendon. Excavate concrete

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at intermediate anchor to access and allow installation of new tendon section. Install and cure rapid strength structural repair mortar.

4. Repair Type 'PT-C': Provide and install extra length of post-tensioning tendon, beyond the length shown on the drawings, install new section of tendon thru existing sheathing.

1.03 RELATED SECTIONS:

- A. Selective Demolition (Section 02070)
- B. Concrete Repair (Section 03700)

1.04 QUALITY ASSURANCE:

- A. Examination: The post-tensioning contractor and installer shall examine the conditions under which the post-tensioning work is to be performed and notify the Contractor in writing of any unsatisfactory conditions. Do not proceed with the work until the unsatisfactory conditions have been corrected in an acceptable manner and approved by the Engineer.
- B. Contractor qualifications: Minimum five (5) years documented experience performing work specified in this section.
- C. Supervision: The post-tensioning subcontractor shall provide on-site supervision as required to instruct in the use of stressing equipment and placement of anchorage devices and tendons.
- D. Sheathing: Exposed portions of sheathing shall be inspected for possible damage prior to installation of concrete.

1.05 INDUSTRY STANDARDS:

- A. Some products and execution are specified in this Section by reference to published specifications or standards of the following. Reference is to the current edition of the standard referenced.
 1. American Concrete Institute
 2. The American Society for Testing and Materials
 3. Prestressed Concrete Institute
 4. Post-Tensioning Institute

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1.06 ENVIRONMENT: The parking structure shall be considered a corrosive environment due to the proximity to salt-laden bodies of water.

1.07 SUBMITTALS: Submit five (5) copies of the following information:

A. Product Data and Tests:

1. Strand post-tensioning procedure.
2. Certificates of mill tests Reports for each coil or pack of strand, containing as a minimum the following test information:
 - a. Typical stress-strain curves for post-tensioning strands.
 - b. Heat number and identification
 - c. Standard Chemical analysis for heat of steel
 - d. Ultimate strength
 - e. Yield strength at 1% extension under load
 - f. Elongation at failure
 - g. Modulus of Elasticity
 - h. Diameter and net area of strand
 - i. Type of material (stress relieved or low relaxation)
3. Manufacturer's printed literature describing anchorages and coupling devices.
4. Certificates of compliance with static and dynamic test requirements.
5. Installation instructions.

B. Tests of Tendons:

1. Fatigue Tests: A fatigue test shall be performed on a representative tendon and shall withstand, without failure, 500,000 cycles from 60 to 66 percent of its minimum specified ultimate strength, and also 50 cycles from 40 to 80 percent of its minimum specified ultimate strength. Each cycle involves the change from the lower stress level to the upper stress level and back to the lower. The specimen used for the second fatigue test (50 cycles) need not be the same used for the first fatigue test although this reuse is allowed since the specimen doesn't fail (500,000 cycles). A test tendon of smaller capacity than the full-size tendon may be tested. The test tendon shall duplicate the behavior of the full-size tendon and shall not have less than 10 percent of the capacity of the full-size tendon.

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C. Shop Drawings:

1. Submit shop drawings for fabrication and placement. Shop drawings shall clearly indicate accessories and supports for the post-tensioning tendons.
2. Values for tendon ultimate forces, maximum jacking forces, maximum anchoring forces, final effective forces, and elongation's shall be noted on shop drawings.
3. Initial jacking forces and corresponding elongations shall be indicated on the shop drawings to achieve a final effective force indicated in this specification. Shop drawing submittals shall include computations to determine the bases of the initial jacking forces.

1.08 DEFINITIONS

- A. Tendon - The complete assembly consisting of anchorage and prestressing steel with sheathing. The tendon imparts prestressing forces to the concrete.
- B. Anchorage - The means by which the prestressing force is permanently transmitted from the prestressing steel to the concrete.
- C. Prestressing Steel - That element of a post-tensioning tendon that is elongated and anchored to provide the necessary permanent prestressing force.
- D. Coating - Material used to protect against corrosion and/or lubricate the prestressing steel.
- E. Sheathing - Enclosure around the prestressing steel to avoid temporary or permanent bond between the prestressing steel and the surrounding concrete.
- F. Coupling - The means by which the prestressing force may be transmitted from one partial-length prestressing tendon to another.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Tendon Elements:

1. Wire used in post-tensioning tendons shall conform to ASTM A421, "Specifications for Uncoated Low-Relaxation Wire for Prestressed Concrete". Oil-tempered wires shall not be used.

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2. Strand used in post-tensioning tendons shall conform to ASTM A416, "Specifications for Uncoated Seven-Wire Low-Relaxation Strands for Prestressed Concrete". Strands shall have the following properties:

Nominal Diameter	=	½ inch
Area	=	0.153 square inch
Ultimate Strength	=	270,000 psi

3. Tensile stress in tendons shall not exceed the limits set forth in ACI 318-05.

$$\text{Final Effective Force (after all losses)} = 24.8 \text{ kips}$$

B. Anchorage:

1. Anchorage devices shall be the same type as those that exist in the structure. Anchorage devices shall be inspected after the existing distressed tendon has been removed, and those devices which have not been damaged or altered, in any way, from past service life, may be reinstalled if approved by the Engineer and new tendon manufacturer. All new anchorage devices used to replace existing anchorage devices shall meet the minimum requirements set forth in the ACI 318, "Building Code Requirements for Reinforced Concrete," latest edition and the "Specifications for Unbonded Single Strand Tendons," published by the Post Tensioning Institute, latest edition.
2. Anchorages shall develop at least 95% of the minimum specified ultimate strength of the prestressing steel without exceeding the anticipated set. The total elongation under ultimate load of the tendon-and -anchor assembly shall not be less than 2 percent when measured in a minimum gauge length of 10 ft. Anchorages shall be so arranged that the prestressing force of the tendon may be verified prior to removal of the stressing equipment.
3. The anchorage system, including the encasement of anchorages in concrete or grout, shall meet the requirements of the Post-Tensioning Institute (PTI) specifications entitled "Specification for Unbonded Single Strand Tendons".
4. Anchorage shall provide fire resistance at least equal to that required for the structure.

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5. Physical samples of actual anchorage components, test reports and other relevant data shall be submitted for the Engineer's review.
 6. Bearing stresses shall not exceed the values allowed by the PTI equations.
- C. Sleeve: A tapered, cylindrical connecting tube shall be used at the bearing side of the anchorage. The sleeve shall be friction-fit to the anchorage projection. Waterproof tape/silicone sealant shall be applied to the sleeve and sheathing joint, rendering a waterproof seal.
- D. Sheathing:
1. The sheathing shall be seamless extruded medium or high-density polyethylene or polypropylene with a minimum thickness of 0.040 inch (40 mils). Heat-sealed sheathing products shall only be acceptable if sheathing thickness is increased to 0.060 inch (60 mils).
 2. Sheathing shall conform to the requirements of the PTI "Specification for Unbonded Single Strand Tendons" for a corrosive environment.
 3. The sheathing shall have an inside diameter at least 0.010 inches greater than the maximum diameter of the strand.
- E. Corrosion-Preventive Coating:
1. Tendons shall utilize a corrosion-preventive coating conforming to the PTI "Specification for Unbonded Single Strand Tendons". The minimum weight of coating material on the prestressing strand shall not be less than 2.5 lbs. of coating material per 100 ft. of 0.5" diameter strand, with a minimum coating thickness of 5 mils over crests of a strand. Coating shall extend over the entire strand length. The amount of coating material used shall be sufficient to ensure that the annular space between the strand and the sheathing is filled.
 2. Coating shall meet the requirements of the PTI "Performance Specification for Corrosion Preventive Coating," including the 1000-hour exposure test. The sheathing shall be connected to all stressing, intermediate, and fixed anchorages in a watertight fashion providing complete encapsulation of the prestressing steel.

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F. Anchorage Cap

1. Stressing Ends: After stressing, the cap shall be filled with corrosion-inhibitor and applied to ensure a snug fit. The cap shall allow a 3" protrusion of strand beyond the wedges.
2. Fixed Ends: Shop-fabricated dead ends shall have caps placed in the shop or field prior to concrete placement. The cover should be installed after filling the void around the wedge grips with corrosion preventive coating material comparable to that used as a corrosion preventive coating over the length of the tendon.
3. Intermediate Stressing Ends: A sleeve identical to that described previously shall be placed at the backside of the anchorage at stressing. Fit shall be snug tight. The sleeve shall be taped to the sheathing.

G. Sheathing Repairs: The corrosion-preventive coating shall be restored. Split plastic sheathing shall be used to repair any tears or exposed strand. Sheathing repairs shall be adequately taped along their lengths with waterproof plastic tape/silicone sealant, spirally wrapped around the strand to provide at least two layers of tape. Repairs shall be watertight and approved by the Engineer.

H. Couplers: Unbonded tendons shall be coupled only at locations specifically indicated, or approved by the Engineer. Couplers shall not be used at points of sharp tendon curvature. Couplers shall develop at least 95 percent of the minimum specified ultimate strength of the prestressing steel without exceeding the anticipated set. The coupling of tendons shall not reduce the elongation at rupture below the requirements of the tendon itself. Couplers shall meet the fatigue-test requirements specified herein. Couplers and components shall be enclosed in housings long enough to permit the necessary movements. Coupler components shall be completely protected with an approved corrosion resistant coating material prior to final encasement in concrete. Fittings shall be provided to allow complete grouting of coupler components.

2.02 FABRICATION

A. Tendons:

1. Strand Tendons: Strand tendons shall consist of the required number of ½" parallel-lay uncoated stress-relieved seven-wire strands. Strand shall be cut to length allowing sufficient length for attachment of stressing equipment a minimum length of 12" at each stressing end is required. Tendons shall be furnished in continuous lengths, without splices, with

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ends enclosed in suitable slippage ready for immediate placement in the forms. Tendons shall be coiled and sufficiently tied to prevent premature uncoiling.

2. Strand tendons shall be cut to length at fabricating plant, tagged for identification and coiled for delivery and shipment to job site. Tags shall show the location of the tendon in the forms in accordance with the shop drawings.
- B. Couplers: Unbonded tendons shall be coupled only at locations specifically indicated and/or approved by the Engineer. Couplers shall not be used at points of sharp tendon curvature.
- C. Corrosion-Protection System: Anchorage and coupler components shall be completely protected by a corrosion-protection system, as specified herein.
- D. Polymer-Modified Mortars: Grout requirements for sealing of jacking pockets are provided in Section 03700 – Concrete Repair.

PART 3 - EXECUTION

- 3.01 Prior to de-tensioning or tensioning of any strands, Contractor shall notify and schedule special inspection personnel of required inspections and data. Secure work area by installing barriers which will keep pedestrians and traffic out of the work area. The level of the work area shall be secured a minimum 50 feet from the immediate work elements and the same area secured on the deck level directly below the work area. Contact Engineer when areas are secured before starting work on the work elements.
- 3.02 REPAIR TYPE 'PT' – REMOVE AND REPLACE SECTION OF POST-TENSIONED TENDONS:
- A. REMOVAL OF EXISTING TENDONS
1. Existing tendons that are determined to be failed and identified by the Drawings shall be removed from the deck.
 2. If damaged section of existing tendon is still under tension load, utilize temporary lock-off anchors or other approved devices as necessary to maintain elongation of tendon sections located beyond the work area.
 3. Submit proposed failed tendon removal procedure to Engineer for approval and receive approval prior to initiation of tendon removal.

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4. Inspect condition of exposed existing post-tension tendon sheathing, anchorage accessories and surrounding concrete. Report any deteriorated or damaged components to Engineer prior to proceeding with work.
5. Saw cut and remove sufficient amount of existing concrete to allow access to the damaged section and will allow for coupling of tendon strands. Do not further damage existing tendons by concrete excavation methods. Do not cut tendons with saw.
6. Remove failed tendons in such a manner so as not to damage existing sheathing and anchoring accessories to remain.
7. De-tension tendon to be replaced by slowly heating wire strand until strand is permanently relaxed (no set tension).
8. Properly protect adjacent tendons such that their tensioning is not reduced.

B. INSTALLATION OF NEW TENDONS

1. Installation of the new post-tensioning tendons shall be performed by experienced personnel that have been thoroughly instructed and trained by the post-tensioning contractor.
2. Install new tendon through existing sheathing embedded in concrete deck.
3. New post-tensioning tendons shall have a pre-applied coating of corrosion-inhibitive grease approved by the tendon manufacturer.
4. The final effective prestress force after losses in the replacement tendon assembly shall be as directed in this specification. The contractor shall submit calculations indicating the loss of prestress due to friction, wobble, creep and shrinkage of concrete, creep of steel (relaxation) and elastic shortening.
5. Safety precautions shall be taken to prevent workers from standing behind the stressing jacks during the stressing operations.
6. When welding or burning near post-tensioning tendons or anchorages, care should be taken to prevent tendon components from overheating and to prevent molten slag from coming into contact with tendons. Excess strand lengths shall be cut 3" beyond anchorage faces, allowing for 1" minimum grout cover. Care shall be exercised to prevent torch flame from coming into contact with wedge grippers.

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7. Repair sheathing per this specification.
8. Upon completion of the stressing operation and cutting excess strand lengths, pockets for stressing terminals shall be cleaned in an approved manner and filled with a repair mortar as specified herein (See Concrete Repair – Section 03700).

3.03 REPAIR TYPE ‘PT-A’: EXCAVATE INTERMEDIATE ANCHORAGE DEVICE

- A. Concrete excavation required where there is an existing, intermediate anchorage device located within the ‘work area’ (i.e. between the intended end excavations) that will prevent removal of the existing damaged tendon section, installation of the new tendon section, or proper application of tension loads to the entire tendon.
- B. CONCRETE REMOVAL
 1. Chip and remove sufficient amount of existing concrete to allow access to the intermediate anchorage accessories and removal of existing tendon section. Do not further damage existing tendons by concrete excavation methods. Do not cut tendons with saw.
 2. Inspect condition of exposed existing post-tension tendon, sheathing, anchorage accessories and surrounding concrete. Report any deteriorated or damaged components to Engineer prior to proceeding with work.
- C. CONCRETE REPAIR
 1. Repair sheathing per this specification.
 2. Upon completion of the stressing operation and cutting excess strand lengths, pockets for stressing terminals shall be cleaned in an approved manner and filled with repair mortar as specified herein (See Concrete Repair- Section 03700).

3.04 REPAIR TYPE ‘PT-B’- EXCAVATE INTERMEDIATE ANCHORAGE DEVICE

- A. Concrete excavation required where there is an existing, intermediate anchorage device located outside the ‘work area’ (i.e. beyond the intended end excavation) that will prevent removal of the existing damaged tendon section, installation of the new tendon section, or proper application of tension loads to the entire tendon.

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B. CONCRETE REMOVAL AND REPAIR

1. Chip and remove sufficient amount of existing concrete to allow access to the damaged section of post-tensioning tendon. Do not further damage existing tendons by concrete excavation methods. Do not cut tendons with saw.
3. Inspect condition of exposed existing post-tension tendon sheathing, anchorage accessories and surrounding concrete. Report any deteriorated or damaged components to Engineer prior to proceeding with work.
4. Repair sheathing per this specification.
5. Upon completion of the stressing operation and cutting excess strand lengths, pockets for stressing terminals shall be cleaned in an approved manner and filled with repair mortar as specified herein (See Concrete Repair- Section 03700).

3.05 STRESSING FOR REPAIR TYPE 'PT':

- A. Stressing of the post-tensioning tendons shall be performed under the supervision of experienced personnel who have been thoroughly instructed and trained in the use of the stressing equipment.
- B. Stressing shall be performed only in the presence of a qualified representative of an approved testing laboratory who is conducting the Special Inspections. The special inspecting technician/engineer shall be employed and paid for by the Owner.
- C. Records of elongation and anchoring force of each tendon shall be kept by the inspection agency and shall be submitted to the Engineer promptly upon the completion of the post-tensioning of each member.
- D. After any repair concrete installed in deck between tendon end plates has reached sufficient strength, the tendons shall be stressed by means of hydraulic jacks equipped with calibrated pressure gauges with an accuracy of 1% of the scale range to permit the stress in the prestressing steel to be computed at any time. Certified test gauge calibration data shall accompany each test gauge. The stressing operation shall be conducted in a safe manner and as recommended by the manufacturer of the prestressing materials.
- E. Stress transfer on strand tendons shall be such as to prevent undue scraping of the strand by the wedge grippers during seating.

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- F. Wedge grippers on strand tendons shall be properly aligned before and after stressing to insure proper stress retention.
- G. The tendon force measured by gauge pressure shall agree within 5% of the tendon force calculated from elongation measurement. The cause of a difference between the measured force and the force calculated from elongation in excess of 5% shall be ascertained and corrected.
- H. The prestressing steel shall be anchored at an initial or anchor force that will result in the ultimate retention of the working or effective force shown on the Drawings. Stresses in tendons shall not exceed limits set forth in ACI 318-05.
- I. After stressing is completed, and with prior approval from the Engineer, strands shall be cut or burned off 3" minimum beyond the wedges, allowing for 1" minimum grout cover. After cutting of strands is completed, exposed strand projections and wedge areas shall be coated with a corrosion-preventive material comparable to that used over the length of the tendon, and water-tight caps shall be applied over the coated areas. The surfaces of concrete inside recessed shall be roughened and shall then be filled flush with a concrete fill as specified, containing no chlorides or other chemicals known to be deleterious to prestressing steel. This work shall be performed as soon as practical within 15 days after removal of stressing tails.
- J. Pockets and closure strips required for anchorages shall be adequately reinforced so as not to decrease the strength of the structure.

3.06 REPAIR MORTAR/CONCRETE PLACEMENT:

- A. Surface cleaning, preparation, and concrete placement into jacking pockets shall conform to the requirements provided in "Section 03700 – Concrete Repair" of these Specifications.

END OF SECTION

SECTION 03700

CONCRETE REPAIR

PART 1 - GENERAL

1.01 RELATED DOCUMENTS: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section.

1.02 SECTION INCLUDES:

- A. Selective, partial depth demolition of existing distressed concrete at locations identified on the drawings and in the field by the Engineer.
- B. Prepackaged one component structural rapid strength concrete mortars and grouts for repairing sections of the existing or new concrete surfaces where the surface has deteriorated, delaminated or cracked and will be removed and will be replaced with rapid strength repair mortar.
- C. Polymer modified repair mortar for overhead repairs.
- D. Packaged one-component early strength gaining cementitious patching material for vertical and overhead concrete surfaces.

1.03 RELATED SECTIONS:

- A. Selective Demolition (Section 02070)
- B. Post Tensioning (Section 03340)

1.04 INDUSTRY STANDARDS:

- A. Reference: Some products and execution are specified in this section by reference to published specifications or standards of the following (with respective abbreviations used):
 - 1. American Concrete Institute (ACI)
 - 2. The American Society for Testing and Materials (ASTM)

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- B. Standard References: The current edition of the following standard references shall apply to the work of this section as indicated. Suffixes indicating issue date are omitted from reference numerals elsewhere in the text. Repair mortar work shall comply with the following standards and codes except as indicated otherwise on the drawings or herein:

1. ACI 305 "Hot Weather Concreting"
2. ACI 306 "Cold Weather Concreting"
3. ACI 308 "Recommended Practice for Curing Concrete"
4. ACI 309 "Recommended Practice for Consolidation of Concrete"
5. ACI 211.1 "Standard Practice for Selecting Proportions for Normal, Mass, and heavyweight Concrete."
6. ACI 212 "Guide for Use of Admixtures in Concrete"
7. ACI 546 "Concrete Repair Guide"
8. ICRI 03730 "Guide for Surface Preparation"
9. ASTM C 882 "Slant Shear Bond Strength"
10. ASTM C 78 "Flexural Strength"
11. ASTM C 1202 "Rapid Chloride Permeability"
12. ICRI Technical Guideline No. 03732 "Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays"

1.05 SUBMITTALS REQUIRED FROM THE CONTRACTOR:

- A. Comply with pertinent provisions of Section 01000.
- B. Product data: Submit four copies of the following information:
1. Materials List of items proposed to be provided under this section.
 2. Type of repair mortar materials to be used. The submittal shall include the following:

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- a. Manufacturer of materials.
 - b. Source, gradation, percent absorption, specific gravity (bulk and saturate surface dry) and source acceptance test results for each aggregate type used for extended mixes.
 - c. Working time.
 - d. Bond strength ASTM C-882.
 - e. Materials proportion per cubic yard (saturated surface dry weights and absolute volume), quantity of admixtures, design water-cement ratio, slump and air content.
 - f. Design 7 and 28 day compressive strength ASTM C-109.
 - g. Modulus of Elasticity in compression ASTM C-469.
 - h. Shrinkage ASTM C-157.
- 3. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
 - 4. Packaging slips from the product manufactures indicating that the products delivered to the site and used in the project are within the manufacturer's published shelf life.
- C. Submit to the Engineer records of all repair mortar placements showing exact location of placement, date of placement, quantity of placement, and class of repair mortar placed each month.

1.06 QUALITY ASSURANCE:

- A. Prepackaged restoration material manufacturing qualifications: The manufacturer of the specified product shall have in existence, for a minimum of 5 years, a program of training, certifying, and technically supporting a nationally organized Approved Contractor Program with annual re-certification of its participants.
- B. Contractor qualifications: Contractors shall be an Approved Contractor of the manufacturer of the specified product, who has completed a program of instruction in the use of the specified repair material, and provide a notarized certification from the manufacturer attesting to their Approved Contractor status.
- C. *A representative of the repair mortar product manufacturer other than the contractor must be present at the site during the initial application of the material or mockup.* Included with each progress pay request and upon completion of this work, the contractor shall obtain a letter of certification from the product manufacturer stating that all work has been done to the manufacturer's satisfaction. These letters of certification must be filed with the Engineer before approval of any progress pay request or final acceptance of project.

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- D. Use adequate number of skilled workers who shall have experience with the related trades and who are completely familiar with the specified products and methods needed for proper execution of the work in this section.
- E. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner without damaging the structure.
- F. Contractor shall maintain records of all repair items, including date of pour, location, quantity, air temperature, and identification of test samples.
- G. Carry out a systematic quality control program to assure that the mixture and final product are in reasonable conformance with the contract documents.

1.07 PRODUCT HANDLING:

- A. Deliver all materials in the original packages bearing the name of the manufacturer and brand name.
- B. Store all materials in accordance with manufacturer's specifications in areas designated for such by the Owner.
- C. Materials whose expiration date is past date of manufacturer's published shelf life shall not be used on the project.
- D. Prior to use, condition the products to appropriate temperature for use in accordance with the manufacturer's recommendations.
- E. Handle all products with appropriate precautions and care as stated on the Manufacturer's Material Safety Data Sheet.
- F. Protect all products from overheating or freezing.
- G. Comply with manufacturer's specifications minimum and maximum application ambient temperature data.
- H. Do not use products under conditions of precipitation.
- I. Protect all adjacent work from damage or splash, due to mixing and handling of the repair materials.

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1.08 METHOD OF MEASUREMENT:

- A. Determine by field measurements, the cubic feet of concrete removed and replaced, measured in their final position. Payment will be determined by multiplying the volume of repair material installed by the Unit Rate included in the Bid Form. Unit prices shall be applied as appropriate to adjust the lump sum cost for the work up or down depending on the actual quantities encountered.
- B. Determine by field measurements the linear feet of reinforcing steel removed and replaced, measured in their final position.

1.09 WARRANTY:

- A. Guarantee: The repair mortar product manufacturer and the approved Contractor of the product manufacturer shall provide the Owner with a guarantee on the applications and products covered in this specification for a minimum time period of five (5) years.

PART 2 - PRODUCTS

2.01 RAPID STRENGTH STRUCTURAL REPAIR MORTAR:

- A. Rapid Strength Structural Repair Mortar shall be a one-component prepackaged cementitious mortar that, when cured, meets or exceeds the following minimum properties:

Compressive Strength @ 1 Day	4,000 psi (ASTM C109)
Compressive Strength @ 28 Days	7,000 psi (ASTM C109)
Flexural Tensile Strength @ 28 Days	1,000 psi (ASTM C348)
Bond Strength @ 28 Days	2,500 psi (ASTM C882)*
Unrestrained Shrinkage (inch/inch)	< 0.09% (ASTM C596)
Modulus of Elasticity (E) in Compression @ 28 days	$4.6 \times 10^6 < E < 5.0 \times 10^6$
System will not produce a vapor barrier and will be thermally compatible with the concrete	

*Based on mortar scrubbed into surface.

- B. The dry one component materials shall contain all materials blended with only the addition of water required in the field.
- C. Acceptable materials meeting this specification:

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1. Emaco T415 Rapid Strength Repair Mortar by BASF.
2. SikaQuick 1000 by Sika Corporation.

2.02 POLYMER-MODIFIED REPAIR MORTAR:

- A. Polymer Modified Repair Mortar shall be a polymer-modified, portland cement, fast-setting, non-sag mortar that is developed specifically for the type of repairs shown on the drawings and, when cured, meets or exceeds the following minimum properties:

Property	Test Procedure	Result
Compressive Strength @ 28 Days	(ASTM C109)	6,000 psi min.
Flexural Strength @ 28 Days	(ASTM C78)	1,500 psi min.
Bond Strength @ 28 Days	(ASTM C882 modified)*	2,200 psi min.
Unrestrained Shrinkage (inch/inch) @ 20 Days	(ASTM C596)	<0.075%
Modulus of Elasticity (E) in Compression	ASTM C-469	$2.8 \times 10^6 < E < 3.5 \times 10^6$

*Based on mortar scrubbed into surface.

- B. Acceptable Manufacturers:

1. Sto Concrete Restoration Division, Atlanta, Georgia.
2. BASF Building Systems, Shakopee, MN
3. Sika Corporation, Lyndhurst, NJ.
4. Conproco Corporation, Hookset, NH.
5. Other equivalent products may be used if the material specifications are submitted to and approved by the ENGINEER prior to use.

2.03 EARLY STRENGTH GAINING REPAIR MORTAR:

- A. Early Strength Gaining Repair Mortar shall be a portland cement, early strength gaining cementitious patching mortar that is developed specifically for the type of repairs shown on the drawings and, when cured, meets or exceeds the following minimum properties:

Property	Test Procedure	Result
Compressive Strength @ 28 Days	(ASTM C109)	7,000 psi
Flexural Strength @ 28 Days	(ASTM C293)	850 psi min.
Bond Strength @ 28 Days	(ASTM C882 modified)*	1,800 psi min.

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B. Acceptable Manufacturers:

1. Sto Concrete Restoration Division, Atlanta, Georgia.
2. BASF Building Systems, Shakopee, MN
3. Sika Corporation, Lyndhurst, NJ.
4. Other equivalent products may be used if the material specifications are submitted to and approved by the ENGINEER prior to use.

2.04 BONDING AGENTS:

- A. The Bonding Agent is used to promote the bond of fresh plastic repair mortar to aggregate-fractured concrete surface and provide a protective coating on exposed reinforcing steel. The Bonding Agent shall be moisture insensitive, Portland cement bonding agent designed for exterior applications.
- B. Characteristics: Non-vapor barrier, spray or brush applied material. Minimum pot life of 60 minutes, minimum open time of 24 hours, minimum compressive strength of .
- C. Acceptable Manufacturers:
1. Sto Concrete Restoration Division, Atlanta, Georgia.
 2. BASF Building Systems, Shakopee, MN
 3. Sika Corporation, Lyndhurst, NJ.
 4. Conproco Corporation, Hookset, NH.
 5. Other equivalent products may be used if the material specifications are submitted to and approved by the ENGINEER prior to use.
- D. Alternately, a scrub coat of the polymer-modified repair mortar may be applied to the concrete substrate prior to the placement of the mortar per Manufacturer's Instructions.
- E. Contractor is responsible to confirm that bonding agent and repair mortar are compatible.

2.05 REINFORCEMENT:

- A. Deformed Reinforcing bars: All deformed reinforcing bars shall conform to ASTM A615 and shall have a minimum yield strength of 60,000 psi. The size and shape shall be as illustrated on the Contract Drawings.
- B. Bar or Threaded Stock

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- C. All bar or threaded stock shall conform to the ASTM A-36 specification.

2.06 ACCESSORIES:

- A. Structural Anchors: On the Contract Drawings where supplemental reinforcement is needed, a structural anchor system may be used for anchoring additional steel reinforcement to existing concrete structural components. The structural anchor system shall be submitted to the Engineer for approval by the Contractor. The required diameter and the minimum embedment shall be as listed on the Contract Drawings. Other equivalent products may be used if the material specifications and published allowable working loads are submitted to and approved by the Engineer prior to use.
- B. Compressible Form Board: Provide compressible materials such as expanded polystyrene board or wood fiber board at locations where a formed joint is necessary between existing concrete and new mortar.
- C. Curing Membranes:
 - 1. Burlap: Burlap shall be free of sizing or any substances that are injurious to cement or can cause discoloration. Burlap shall be rinsed in water prior to use. Burlap shall be sufficient thickness to retain water without frequent wetting.
 - 2. Polyethylene Sheeting: Provide 6 mil polyethylene sheeting.

2.07 AGGREGATES:

- A. Aggregates for normal weight concrete shall conform to ASTM C-33.
 - B. Coarse aggregate utilized for extension of polymer modified mortar shall be clean, uncoated aggregate containing no clay, mud, loam, or foreign matter, processed from natural granitic rock or stone. Aggregate size shall not be larger than #78 stone.
 - C. Fine aggregate shall be clean, sharp, natural, quarried sand, free from loam, clay, lumps, or deleterious substances.
-

PART 3 - EXECUTION

- 3.01 STRUCTURAL SHORING: Prior to beginning selective demolition, properly shore the members to be repaired and their connecting components as determined by the Engineer. Contractor shall be responsible for the stability of the structure, shoring configuration and job site safety during the repairs.
- 3.02 PREPARATION OF EQUIPMENT AND PLACE OF DEPOSIT:
- A. Before placing repair mortar, all equipment for mixing and transporting and placing repair mortar shall be cleaned, all debris removed from spaces to be occupied by the repair mortar. The substrate shall be thoroughly cleaned of all bond inhibiting substances and accessories shall be securely positioned within formwork.
 - B. Hardened concrete and foreign materials shall be removed from the conveying and mixing equipment.
 - C. Maintain equipment in proper operating conditions, with drums cleaned before charging of each batch.
- 3.03 SURFACE PREPARATION OF REPAIR AREAS:
- A. The surface of repair areas of reinforced concrete components must be mechanically prepared. Areas to be patched must be clean and sound. All loose and deteriorated concrete shall be removed by mechanical means approved by the Engineer. Chip concrete substrate to obtain a surface profile of plus or minus 1/16 inch with a new aggregate fractured surface. The perimeter of all patches and repaired areas shall be saw-cut as shown on the drawings.
 - B. If unoxidized reinforcing steel is exposed during the undercutting process, care shall be taken not to damage the bar's bond to surrounding concrete. If bond between bar and concrete is broken, undercutting of the bar shall be required.
 - C. Any reinforcement which is loose shall be secured in place by tying to other secured bars or by other approved methods.
 - D. Cracks observed in the substrate in the area of the repair or patch must be brought to the Engineer's attention and repaired as directed by the Engineer.
 - E. Extend all existing control and expansion joints through any patch or repair.

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3.04 FABRICATION AND PLACEMENT OF REINFORCEMENT:

- A. Shop fabricate reinforcement to shape and dimensions indicated on approved placement drawings. Bent bars shall be bent cold. Fabricate in accord with ACI SP-66 and ACI 318.
- B. Metal reinforcement, at the time repair mortar is placed, shall be free from rust scale, oil and other coatings reducing bond. Use no bars with kinks or bends not shown on placement drawings.
- C. Place metal reinforcement in accord with ACI SP-66, ACI 318 and placement drawings. Secure in position in forms. Minimum slab reinforcement support spacing shall be as recommended by CRSI Manual of Standard Practice (MSP-2-81) including 1983 supplement. Do not weld items to reinforcing steel unless proposal is specifically approved in writing by Engineer.
- D. Protective repair mortar cover over reinforcement shall be as indicated on drawings and in accordance with ACI 301.
- E. Splicing of reinforcement shall be reviewed and approved by the Engineer.
- F. Any reinforcement which is loose shall be secured in place by tying to other secured bars or by other approved methods.

3.05 PRE-PLACEMENT INSPECTION: If inspection is requested by Engineer or Owner, notify Engineer prior to placing repair mortar in ample time to permit inspection of reinforcement and surface preparation. Place no bonding agent or repair mortar in forms without Engineer's acceptance of reinforcement and surface preparation.

3.06 FORMING FOR CONCRETE REPAIRS:

- A. Allowable tolerances: Construct formwork within tolerance requirements of ACI SP-4 (previously known as ACI 347).
- B. Construct formwork to shapes and elevations indicated, in accordance with provisions of ACI 301, ACI 318 and ACI SP-4.
- C. Contractor shall assume responsibility for design and construction of formwork capable of supporting construction loads with adequate margin of safety and of maintaining plastic concrete to plan dimensions and surfaces shown, within specified tolerances. Care shall be taken in the design to account for uplift, unbalanced and vibratory loads and their effect upon vertical and lateral stability of formwork. Design shall be such that joints may be maintained tight and true.

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- D. Construct forms for removal without hammering or prying against concrete.
- E. Clean forms of dirt, debris, concrete residue and foreign matter before each use or re-use. Examine forms prior to each re-use and replace those which developed defects affecting the strength, tightness or visual appearance.
- F. Apply form release agent to forms in accord with manufacturer's product data except on surfaces where coating is to be placed. Rate of application shall be consistent to prevent discoloration of concrete. Remove excess material immediately. Insure no release agent is applied to or allowed to be transferred to reinforcing steel.
- G. Box out for accessories, anchors and openings. Secure items to be built into concrete in forms, including inserts for attachment of work of other trades, to prevent displacement during placing of concrete. Locate embedded items furnished by others in accordance with shop drawings or templates for built in items. Install items level, plumb, and protect from form release coatings.
- H. Remove formwork after concrete has developed sufficient strength to support itself and superimposed loads and to resist damage from form removal.

3.07 INSTALLATION OF CEMENTITIOUS BONDING AGENT:

- A. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.
- B. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas and landscaping from contact due to mixing and handling of materials.
- C. Surface Preparation: Comply with manufacturer's printed instructions and the following:
 - 1. Remove loose and deteriorated materials using shot- or sand-blasting to produce an ICRI concrete surface profile CSP 5 or greater. Concrete surface profile requirement shall be consistent with the requirements for the repair material being used.
 - 2. Clean surfaces of bond-inhibiting materials including mildew, dust, dirt, laitance and standing water.

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- D. Mixing: Comply with manufacturer's printed instructions and the following:
1. Precondition components to temperature of 70 plus or minus 5 degrees F (21 plus or minus 2.5 degrees C) prior to mixing.
 2. Mix using a mechanical mixer until components are evenly blended to uniform color, mixing only sufficient material that can be used within specified working time. Do not add water.
- E. Application: Comply with manufacturer's printed instructions and the following:
1. Apply when ambient and surface temperatures are 45 degrees F (7.5 degrees C) and rising.
 2. Do not apply in freezing conditions or during precipitation.
 3. Bonding Agent: Brush apply two separate 10-mil (0.3mm) coats, allowing 30 to 45 minutes between coats, to a total thickness of 20 mils (0.6 mm) minimum. Alternately, apply a scrub coat of the repair mortar per manufacturer's instructions.
 4. Place fresh mortar or concrete after materials have dried to the touch or within 24 hours.
 - a. If more than 24 hours elapse before mortar or concrete can be placed, re-apply a single 10 mil (0.3 mm) coat to all surfaces and allow to dry for one hour immediately before mortar or concrete placement.
- F. Cleaning: Remove excess material before material cures. If material has cured, remove using mechanical methods that will not damage substrate.

3.08 CONCRETE REPAIR MORTAR PLACEMENT:

- A. Place concrete repair mortar in compliance with manufactures installation guidelines and the practices and recommendations of ACI 304 or as herein specified.
- B. Concrete repair mortar shall be handled from the mixer to the place of final deposit as rapidly as practical by methods which will prevent separation or loss of ingredients and in a manner which will assure that the required quality mortar is obtained.

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- C. Do not use concrete repair mortar which has become non-plastic and unworkable or does not meet the required quality control limits, or which has become contaminated by foreign material. Remove rejected mortar from the project site and dispose of in an acceptable location.
- D. Consolidate mortar placed by mechanical vibrating equipment. The use and type of vibrators shall be in accordance with ACI 309.
- E. Deposit and consolidate (by means of spading and mechanical vibration) mortar in repair areas in a continuous operation, within the limits of construction joints until the placing of the entire section is complete.

3.09 COLD WEATHER PLACING:

- A. Protect all concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with the requirements of ACI 306 except as superseded herein.
- B. Do not place repair mortar when temperature is 40°F. and falling and when freezing weather is predicted within 24 hours.
- C. "Cold Weather Concreting", ACI 306, shall be followed for placing repair mortar in cold weather with the noted exceptions:
 - 1. No calcium chloride or "anti-freezes" shall be used.
 - 2. High early strength (Type III) cement shall not be used.
- D. Adequate equipment shall be provided for heating the repair mortar material and protecting the repair mortar during the freezing weather. No frozen material or material containing ice shall be used. The length of protection shall be that time specified for curing in Paragraph 3.10. Maintain a minimum temperature of 50°F surrounding the repair mortar during the entire curing period.
- E. Repair areas are to be covered with insulated blankets. Supplement with external heating as required. Provide tented, heated areas beneath supported slabs and surrounding repair mortar walls.

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3.10 HOT WEATHER PLACING:

- A. The repair mortar supplier shall make provision for cooling the coarse and fine aggregate during hot weather by pre-wetting the aggregates on the conveyor belt and/or maintaining stockpiles covered with crushed ice during the hot part of the day.
- B. Temperature of repair mortar before placing is not to exceed 90°F.

3.11 FINISHES:

- A. Bring repair surface to the correct elevations with a straight edge and strike off. Use a straightedge to smooth the surface, leaving it free of humps and hollows. The finished repair mortar elevation shall match elevation of existing concrete framing members.
- B. Do not sprinkle water on the plastic surface. Do not disturb the surface prior to beginning the finish operation.
- C. As soon as the repair mortar has set sufficiently to permit floating, consolidate the surface by floating.
- D. Finish of repair mortar shall match finish on surrounding existing concrete surfaces and perimeter.

3.12 CURING AND PROTECTION:

- A. Protect freshly placed repair mortar from premature drying and excessive cold or hot temperatures, and maintain without drying at a relatively constant temperature for the period of time necessary for hydration of the cement and proper hardening of the repair mortar.
- B. Curing for slabs shall be provided by applying wet burlap and 6 mil polyethylene film over the wet burlap as soon as the final troweling has been completed. Maintain the surface continuously wet for the minimum specified curing period.

3.13 TESTING AND QUALITY CONTROL: The Owner will select and pay a testing laboratory to perform tests on repair mortar as outlined and to submit results of tests to the Engineer. The Contractor shall coordinate testing, shall furnish access to the site, and shall furnish sample of repair mortar and casual labor as required to the testing agency. The Contractor shall directly notify laboratory in ample time before all repair mortar pours. Any unproductive laboratory time resulting from contractor's lack of coordination will be paid by Contractor.

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- 3.14 WORKMANSHIP: Repair mortar work which does not conform to the specified requirements, including strength, tolerances, and finishes, shall be corrected as directed by the Engineer, at the Contractor's expense, without extension of time therefore. The Contractor shall also be responsible for the cost of corrections to any other work affected by, or resulting from, correction to the repair mortar work.
- 3.15 CLEANING: Leave finished work and work area in a neat, clean condition without evidence of spill-overs onto adjacent areas. Comply with Section 01000.

END OF SECTION

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SECTION 03760

MIGRATING CORROSION INHIBITOR

PART 1 – GENERAL

1.01 RELATED DOCUMENTS: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section.

1.02 SECTION INCLUDES:

- A. Furnishing equipment, labor and materials necessary to apply a migrating corrosion inhibitor to the riser and tread surfaces of the existing concrete stand panels.
- B. This section further includes the cleaning and preparation procedures for the surfaces to receive the migrating corrosion inhibitor.

1.03 RELATED SECTIONS:

- A. Concrete Repair (Section 03700)

1.04 QUALITY ASSURANCE

A. References:

- 1. Some products and execution are specified in this Section by reference to published specifications or standards of the following (with respective abbreviations used).
 - a. The American Society for Testing and Materials (ASTM)
 - b. American Concrete Institute (ACI)
 - c. International Concrete Repair Institute (ICRI)

B. Applicator Qualifications:

- 1. Each applicator of materials listed in this section must meet the following criteria:
 - a. Applicator shall have completed a minimum of 5 projects of similar size and purpose in which the proposed applicator installed identical or very similar materials.

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- b. Applicator shall be certified by the manufacturer (where applicable) to install the proposed materials.
 - c. General Contractor must submit each proposed Applicator's name, address, and phone number along with applicable certifications and a list of five projects of similar size and purpose in which the proposed applicator installed identical or very similar materials. For each project listed, the dates of application, size of the project, reference information (Owner, Architect, or Engineer with adequate contact information) along with a brief description of the project and work performed.
- C. The Contractor shall submit laboratory tests/data which validates product compliance with the performance criteria specified herein.
- D. Cores: Contractor shall include in bid the costs to remove up to 10 concrete core samples, up to 2" in diameter. Cores shall be of depth and size required to evaluate the depth of penetration of the treatment. Depth may vary with location. Contractor shall remove cores at locations requested by the Engineer, submit the cores to the Engineer, and fill the core holes with repair mortars specified in these documents.

1.05 SUBMITTALS:

A. Product Data:

- 1. Submit manufacturer's printed technical data. Printed data shall be marked clearly for each specific item to be furnished.
- 2. Submit physical and performance data on coating system.
- 3. Submit Material Safety Data Sheet (MSDS) on all products of this Section.

B. Manufacturer's Data For Use in Construction Administration:

- 1. Submit manufacturer's printed cleaning methods and application procedures for all materials.
- 2. Submit manufacturer's recommendations for:
 - a. Substrate: Suitability, surface preparation.

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- b. Environment: Ranges of temperatures, humidity and other weather conditions for proper use, handling and installation of coating materials.
- 3. Submit manufacturer's instructions for storage, handling, and application.
- C. Submit (in triplicate) copies of information, certifications and lists of previous projects for chosen applicator of materials demonstrating compliance with the requirements of this specification.

1.06 DELIVERY, HANDLING, AND STORAGE:

- A. Materials shall be delivered to the project site in manufacturer's original, unopened containers with manufacturer's brand name clearly marked thereon.
- B. Store materials in area free from physical abuse and contamination.
- C. Handle and store in accordance with manufacturer's printed instructions. Comply with shelf-life requirements.

1.07 PROJECT CONDITIONS:

- A. Do not proceed with application if ambient temperature is below 45°F or if ice or frost is covering substrate.
 - 1. Temperature of substrate surface shall be above 40°F.
 - 2. Air temperature shall be above 40°F for at least 24 hours after application of work.
- B. Do not proceed with application if ambient temperature exceeds 90°F.
- C. Do not proceed with application in rainy conditions or if surfaces are damp or moist.
- D. Do not proceed with application if ambient conditions exceed the written requirements of the manufacturer.
- E. Protect plants, vegetation, and other materials from overspray during application and during mixing and handling of materials.

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1.08 PROTECTION:

- A. Protect surfaces below application area to prevent damage from droppings and spillage.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

- A. The following manufacturers:
 - 1. Sika Corporation
 - 2. Core Tec Corporation
 - 3. Approved equals
- B. Substitutions: The use of other than the specified product will be considered providing the contractor requests its use in writing to the Engineer. The substitution request shall be accompanied by (a) a certificate of compliance from an approved independent testing laboratory that the proposed substitute product meets or exceeds the specific performance criteria, tested in accordance with the specified test standards; and (b) documented proof that the proposed substitute product has a two-year minimum proven record of performance of coating of substrates, confirmed by actual field tests and five successful installations that the Engineer can investigate.

2.02 MATERIALS

- A. Migrating corrosion inhibiting impregnation coating:
 - 1. The material shall be organic in nature and environmentally safe.
 - 2. The material shall be water-based.
 - 3. The material shall not form a vapor barrier.

2.03 PERFORMANCE CRITERIA

- A. Properties of the migrating corrosion inhibiting impregnation coating:
 - 1. Viscosity (Brookfield Viscometer, Spindle #1; Speed 100): 15 cps.
 - 2. Color: pale yellow.
 - 3. Density: 9.4 lbs./gal.
 - 4. pH: 11 $\pm$ 1
 - 5. Flash Point: none (water-based).

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2.04 COMPATIBILITY

- A. **The migrating corrosion inhibitor material must be compatible with the other products forming part of the specified “coating system”, including the clear penetrating water repellant, potassium silicate coating, and anti-carbonation coating. Where possible Contractor shall use repair mortars, coating systems and surface treatments from the same manufacturer to help insure compatibility. If the “coating system” chosen by the Contractor contains component products from more than one manufacturer, or if requested by Engineer, Contractor shall obtain written documentation from the manufacturer of each component that certifies their product is compatible with the other system products and that the manufacturers warranty(s) will be provided as required herein.**

PART 3 – EXECUTION

3.01 EXAMINATION:

- A. Contractor shall examine all parts of the structure which are to receive the migrating corrosion inhibitor and conditions under which work is to progress. Notify Project Engineer of any conditions detrimental to proper and timely completion of work.
- B. Do not proceed with application of the migrating corrosion inhibitor until unsatisfactory conditions have been corrected in a manner acceptable to Contractor and Project Engineer.

3.02 PREPARATION:

- A. The migrating corrosion inhibitor shall be applied by workmen skilled in the use and application of materials specified herein.
- B. In cold and/or inclement weather, no work shall be started until area is adequately covered temporarily, so that a temperature range of not less than 40°F can be maintained during and up to completion of the drying process of all coating applications.
- C. Clean existing surfaces of dirt, laitance, efflorescence, corrosion, dirt, dust, grease, stains, coatings or other contamination by dry abrasive blasting or other means approved by the manufacturer. Preparation shall be in accordance with the surface preparation requirements for the polymer modified coating such that blast cleaning will not be required after application of migrating corrosion inhibitor.

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- D. Residual material from the cleaning (such as dust, grit or rubble) must be removed from the area prior to application of migrating corrosion inhibitor by pressure washing with a minimum water pressure at nozzle of 1,500 psi.
- E. All surfaces to be coated must be dry prior to application.
- F. Adhere to all limitations and cautions for the material in the manufacturer's printed literature.

3.03 MIXING AND APPLICATION:

- A. Placement Procedure: The migrating corrosion inhibiting impregnation coating should be applied liberally and allowed to soak into the substrate. This shall be accomplished by the use of rollers, brushes, a conventional airless spray system, or hand-pressure spray system.
- B. Apply two or more coats of migrating corrosion inhibitor evenly to the clean dry concrete surface. The density of the concrete will determine the quantity of coats required.
- C. The total application rate (for all coats combined) shall be one gallon per 100 square feet of treated area.
- D. Each coat shall be allowed to dry 1 hour (or as required by the manufacturer) prior to application of the next coat.
- E. Protect the concrete surface from rain or heavy dew during application of corrosion inhibitor.
- F. Adhere to all limitations and cautions for the material in the manufacturer's printed literature.
- G. Coated areas must be thoroughly washed prior to installation of subsequent coatings.

3.04 CLEANING:

- A. Material can be cleaned from tools with water.
- B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

END OF SECTION

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SECTION 05120

STRUCTURAL STEEL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section.

1.02 SECTION INCLUDES:

A. Work of this section consists of furnishing, fabricating, delivering, and erecting structural steel complete as required by drawings.

1. Material and labor furnished under this section shall include, but not be limited to the following:

a. Base Bid: Repair Type 'DT': Stainless steel supplemental support bracket at double-tee stem at King and Queen Street Parking Deck

b. Additional Bid: Repair Type 'F': Galvanized steel, frame assembly installed below new floor drains if the existing concrete deck thickness below the new drain flange is less than 3 inches at the Cumberland Street Deck.

c. All welds as required to complete project.

c. Cleaning, preparation, priming, and field touch-up painting is included.

d. Field measurements of dimensions, elevations and locations of existing structural and non-structural members affected by the work in this section.

1.03 QUALITY ASSURANCE:

A. Reference Standards:

1. Some products and execution are specified in this section by reference to published specifications or standards of the following (with respective abbreviations used):

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- a. American Institute of Steel Construction (AISC)
- b. The American Society for Testing and Materials (ASTM)
- c. American Welding Society (AWS)
- d. Steel Structures Painting Council (SSPC)
- e. American Galvanizers Association (AGA)

B. Manufacturer's Specifications:

- 1. Any material or operation specified by reference to published specification of a manufacturer shall comply with requirements of latest edition of standards listed herein. In case of conflict between reference specification and contract document, the contract documents shall govern.

C. Source Quality Control:

- 1. Materials and fabrication procedures shall be subject to inspection and tests in mill, shop, and at project. Test shall be conducted by a qualified inspection agency provided by Owner.
- 2. Such inspections and tests shall not relieve Contractor of responsibility for providing materials and fabrication procedures in compliance with specified requirements.
- 3. Promptly remove and replace materials or fabricated components that do not comply with requirements of contract documents.

D. Qualification for Welding Work:

- 1. Qualify welding processes and welding operators in accordance with AWS "Standard Qualification Procedure".
- 2. At Contractor's expense, provide certification to the Engineer that welders to be employed in the work have satisfactorily passed AWS qualification tests within the previous 12 months prior to the start of work.
- 3. If recertification of welders is required, retesting shall also be Contractor's responsibility.

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1.04 **SUBMITTALS:**

A. Shop Drawings:

1. Submit shop drawings of all fabricated materials to be furnished and delivered to the site in accordance with AISC Code of Standard Practice. Erection drawings to locate and identify members shall accompany shop drawings. Do not use copies of contract drawings to produce shop drawings.
2. Product Data and Manufacturer's Printed Installation Instructions: Submit (in triplicate) the following for review by Project Engineer:
 - i. Laboratory test reports or other data as required to show compliance with contract documents of the following:
 - ii. Structural steel (each type), including certified copies of mill reports covering the chemical and physical properties for record only.

PART 2 - PRODUCTS

2.01 **MATERIALS:**

- A. Rolled Steel Plates, Shapes, and Bars: ASTM A36, Fy=36 ksi.
- B. Stainless steel plates, shapes, plates and threaded bolts, nuts and washers: Shall conform to AISI Type 304
- C. Stainless Steel Bolts: Stainless Steel bolts shall conform to ASTM F593
- D. Stainless Steel Nuts: Stainless Steel shall conform to ASTM F594
- A. Electrodes for Welding: Comply with AWS Code.
 1. Stainless steel: 308L electrodes
 2. ASTM A233-E70 Series electrodes.
- D. Shop Coating System: All structural steel (non-stainless steel) shall be Hot Dip Galvanized in accordance with ASTM A153 or A123 as applicable.

2.02 **FABRICATION:**

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A. Shop Fabrication and Assembly:

1. Fabricate and assemble structural assemblies in shop to greatest extent possible. Fabricate items of structural steel in accordance with AISC Specifications, and as indicated on final shop drawings.
2. Properly mark and match-mark materials for field assembly. Fabricate for delivery in sequence which will expedite erection and which will minimize field handling of materials.
3. Members shall be free from twists, kinks, or open joints and shall be made that when assembled the parts shall come together without shimming.

B. Welded Construction:

1. Comply with AWS Code for procedures, appearance, and quality of welds; and for methods used in correcting welding work.
2. Assemble and weld built-up sections by methods which will produce true alignment of axis without warp.

C. All surfaces of structural steel to which welds shall be applied, shall be power tool cleaned for a minimum distance of two inches around the weld, removing all dust, oil, rust, or other substances which may inhibit weld fusion, leaving a clean, shiny, metal surface.

1. Welds exposed to view in the completed structure shall be ground smooth.
2. Provide seal welds at joints where necessary where galvanization products will not pass.

D. Prior to welding, consult ANSI/ASC Z-49.1, Safety in Welding, Cutting, and Allied Processes.

E. Holes in Structural Steel:

1. Cut, drill, or punch holes perpendicular to metal surfaces. Do not flame-cut holes or enlarge holes by burning in the field. Drill holes in bearing assemblies.

F. Fabricate items of structural steel in accordance with the AISC Specifications, and as indicated on the final approved shop drawings.

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- G. Fabricator shall provide holes or cuts as called for on the drawings and/or necessary for the connections or clearance cut as part of the fabrication of the structural steel. Under no circumstances shall holes or cuts be made in structural steel members in the field.

PART 3 - EXECUTION

3.01 **ERECTION:**

A. Field Assembly:

1. Do not enlarge unfair holes in members by burning or by use of drift pins, except in secondary bracing members. Ream holes that must be enlarged to admit bolts with approval of Engineer.
2. Fasteners shall be tightened in properly aligned holes. Tighten bolts to the minimum tension specified. Tightening shall be by the turn of the nut procedure. Provide hardened washers under all elements to be turned.

B. Gas Cutting:

1. Do not use gas cutting torches in the field for correcting fabrication errors in structural framing.
2. Finish gas-cut sections equal to a sheared appearance when permitted.

C. Temporary Shoring and Bracing:

1. Provide temporary shoring and bracing members as required, with connections of sufficient strength to support imposed loads. Remove temporary members and connections when permanent members are in place and final connections are made. Provide temporary guy lines to achieve proper alignment of the structures as erection proceeds.

D. Adhesive Anchors:

1. Furnish adhesive anchors required for securing structural steel to in-place work. See other sections of these specifications for the requirements for adhesive anchors.
2. Utilize templates and other devices as necessary for presetting adhesive anchors to accurate locations.

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3.02 FIELD QUALITY CONTROL:

- A. The Owner will engage an independent testing agency or engineer to inspect adhesive anchors and welded connections, and to perform tests and prepare test reports. Contractor shall coordinate testing.
- B. Testing Program:
 - 1. Testing agency shall conduct and interpret tests as subsequently required herein, shall state in each report whether test specimens comply with requirements, and shall specifically state any deviations. Visual inspection of typical single-pass fillet welds shall be performed by the engineer.
- C. Shop and Field Welding: Inspect and test during fabrication and erection of structural steel assemblies in accordance with AWS Structural Welding Code and as follows:
 - 1. Conduct inspections and tests as required. Record types and locations of all defects found in the work. Record work required and performed to correct deficiencies.
 - 2. Perform visual inspection of all welds.
 - 3. For ferrous materials, 10% of fillet welds shall be subjected to and satisfy the minimum requirements of magnetic particle testing and weld gauge measurement, unless otherwise specified. For all other materials, 100% of fillet welds shall be visually inspected.
 - 4. Perform additional tests to reconfirm any noncompliance of the original work and as may be necessary to show compliance of corrected work.
- D. Cooperation of Contractor with Testing Agency:
 - 1. Provide access for testing agency to places where structural steel work is being fabricated or produced so that required inspection and testing can be accomplished as required by Designer.

3.03 CORRECTION OF WORK:

- A. Correct deficiencies in structural steel work that inspections and laboratory test reports have indicated to not be in compliance with requirements and at no additional expense to Owner.

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- B. Additional testing as required for inspection of corrected work shall be at Contractor's expense.

END OF SECTION

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SECTION 05150

ADHESIVE ANCHORS

PART 1 - GENERAL

1.01 **RELATED DOCUMENTS:** Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section.

1.02 **SECTION INCLUDES:**

- A. Furnishing materials, equipment and labor necessary to perform the following, as indicated on the drawings and as specified herein:
 - 1. Repair Type 'SP-SR' Install supplemental adhesive anchor pins at vertical and overhead patch locations, as required by the drawings.
 - 2. Install epoxy grout anchors where bolt is missing from spandrel panel connection.

1.03 **RELATED SECTIONS:**

- A. Selective Demolition (Section 02070)

1.04 **QUALITY ASSURANCE:**

- A. **References:** Some products and execution are specified in this section by reference to published specifications or standards of the following (current edition, with respective abbreviations used):

American Society for Testing and Materials (ASTM)

American Institute of Steel Construction (AISC)

American Concrete Institute (ACI)

- B. **Standard Specifications and Codes:** The following latest edition of the specification and codes form a part of this specifications where reference is made to a specific paragraph or section of the specific standard or code:

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- ACI 503.1 "Standard Specification for Bonding Hardened Concrete, Steel, Wood, Brick, and Other Materials to Hardened Concrete with a Multi-Component Epoxy Adhesive"
- ACI 318 Building Code Requirements for Reinforced Concrete
- ACI 349 Appendix 'B' "Steel Embedments"
- ASTM E488 "Standard Test Methods for Strengths of Anchors in Concrete and Masonry"

C. Building Code: 2006 International Building Code

1.05 SUBMITTALS:

- A. Submit manufacturers printed data sheets for the epoxy gel adhesive material and stainless steel brackets to be utilized.
- B. Submit three copies of the manufacturer's written instructions for installation of the adhesive anchors specified.
- C. Submit type of equipment to be used for proportioning, mixing, and dispensing the epoxy gel adhesive.

1.06 PRODUCT HANDLING:

- A. Delivery and Storage: Deliver all materials of this section to the job site in original unopened containers with all labels intact. Store only under conditions recommended by the manufacturer. Do not retain on the job site any material that has exceeded the shelf life recommended by the manufacturer.
- B. Replacement: In the event of damage, replace as necessary to the approval of the Engineer at no additional cost to the Owner.

PART 2 - PRODUCTS

- 2.01 ACCEPTABLE MANUFACTURERS: Only products of the following manufacturer will be acceptable for use on this project when approved by the Engineer and the results of all tests on products proposed by the manufacturer meets all the requirements of these specifications:

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- A. ChemRex Inc. of Shakopee, MN
- B. Sika/Corporation of Lyndhurst, NJ
- C. Dur-O-Wall, Inc. of Michigan City, IN
- D. Epoxy Industries of Ravena, NY
- E. ITW Ramset/Redhead of Wood Dale, Illinois
- F. Simpson Anchor Systems, Pleasanton, California

2.02 ANCHORS:

- A. Anchor Rods: Shall be stainless steel manufactured from steel conforming to ASTM F593 (AISI 304). Anchor rods shall have minimum depth of embedment as indicated on details. Anchor rods shall have threads for their full length.
- B. Nuts shall be manufactured from stainless steel conforming to ASTM F594. All washers shall conform to ANSI B18.22.1 (1965) Type A plain.

2.03 SUPPLEMENTAL STEEL ANCHORS

- A. Adhesive Injection Gel: Shall be a two-component solvent-free, moisture-insensitive, creep resistant paste epoxy bonding agent for bonding rigid materials exposed to sustained loads and/or high ambient temperatures. Injection gel shall have the following properties.
 - 1. Properties of the Cured Adhesive: When cured for 7 days at $77 \pm 3^{\circ}\text{F}$, unless otherwise specified shall be:

Property	Test Method	Result
Tensile Strength, psi	ASTM D638	2,500 minimum
Tensile Elongation at Break, %	ASTM D638	2.0 max.
Compressive Yield Strength, psi	ASTM D695	12,000 minimum
Compressive Modulus, psi	ASTM D695	5.0×10^5 min.
Heat Deflection Temperature	ASTM D648	130°F minimum
Hardness	ASTM D2240	80 minimum
Sag Flow	ASTM D2730	1/8" - none

- 2. Labeling Information: The label shall include, in a clear and distinct manner, the following information:

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- a. Product name and lot number
 - b. Health hazard warnings, precautions or handling and recommended first aid procedures in cast of contact.-
 - c. Mix ratio by volume
 - d. Directions for use
3. Packaging: The adhesive material shall be packaged in new, sealed containers. Each container will be clearly labeled.
 4. Storage: The material shall be stored in its original sealed containers at a temperature not below 32°F or above 90°F for a period not to exceed 1 year. If these limits are exceeded, the material shall be retested prior to use to determine conformance to this specification. The expense of any retest shall be borne by the purchaser.

2.04 EPOXY GROUT ANCHORS

A. General Requirements for Epoxy binder:

1. Insensitive to the presence of water.
2. Approved by manufacturer for exterior exposed applications.
3. No detrimental effect from direct exposure to sunlight and ultraviolet radiation.
4. Materials shall have been used in similar conditions for a period of at least five (5) years.

B. Specific Requirements:

1. Two component epoxy resin, 100% solids by weight, moisture-tolerant, low-modulus epoxy resin binder.
2. Capable of application and cure when applied to set surfaces at temperatures 40°F and above.
3. Compressive strength of cured epoxy mortar by ASTM D695:
 - a. @ 1 day: 4,500 psi minimum.

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- b. @ 7 days: 6,500 psi minimum.
- 4. Modulus of elasticity: 1.07×10^5 psi minimum ASTM D695.
- 5. Ultimate tensile strength epoxy mortar: 2,400 psi minimum ASTM D638.
- 6. Tensile elongation at break (neat epoxy): 10% maximum.
- C. Aggregate for Extending Epoxy Mortar: Oven-dried sand as instructed by epoxy manufacturer.

2.05 OTHER EQUIPMENT

A. Equipment for Dispensing:

- 1. Hand held cartridge dispensers:
 - a. Hand held applicator gun and cartridge system shall be the manufacturer's standard equipment. Equipment shall dispense components in proper proportions required by manufacturer.
 - b. The two components shall be thoroughly mixed in the proper proportions to obtain a homogeneous mixture, in accordance with manufacturer's instructions and requirements.

PART 3 - EXECUTION

3.01 PROJECT EXAMINATION:

- A. Prior to the installation of any adhesive anchors, Contractor shall examine the site and all concrete surfaces and members to receive the anchors and bring to the attention of the Engineer any conditions that could adversely affect the execution of the work.
- B. Do not proceed with work until all unsatisfactory conditions have been corrected and the personnel have been properly trained on drilling and installing the anchors.

3.02 HOLES FOR ANCHORS:

- A. Locating Existing Reinforcing Steel: The location of the existing reinforcing steel shall be accurately located prior to drilling the holes for anchors, with a pachometer, drilling pilot holes or other type of magnetic detecting device in accordance to the Drawings. The cost of locating the holes with a pachometer shall be borne by the

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Contractor. The Contractor shall either obtain a pachometer for his own use or shall retain a testing laboratory to locate the existing reinforcing steel with a pachometer.

- B. Locating Holes: All holes shall be accurately located and as near as possible to the location shown on the contract drawings to miss the existing reinforcing steel.

3.03 EXECUTION OF THE WORK:

- A. Drilling of Holes: All holes shall be drilled using only the manufacturer recommended and approved equipment to the specified depth and diameter recommended by the manufacturer for the size of anchor specified. Use a depth gage to drill hole to the specified depth. Holes shall be clean with minimal side wall residue. All holes shall be thoroughly clean of all dust, debris, and other bond inhibiting contaminants using methods and procedures recommended by the manufacturer. Holes shall be cleaned using oil-free compressed air and nylon brushes. Holes shall be approved prior to installing the adhesive gel.
- B. All holes shall be inspected and approved by the Engineer or a representative of the testing laboratory prior to the installation of the anchor. Acids shall not be permitted for cleaning.
- C. After cleaning, epoxy adhesive and anchor bolts shall be placed immediately to prevent contamination of the concrete and metal.
- D. Holes that are drilled and abandoned shall be filled with a moisture insensitive epoxy mortar. Where exposed, tint the epoxy mortar to match the mortar color of the adjacent surfaces.
- E. Dispensing of epoxy adhesive shall begin at bottom or back of hole or void. Upon filling the hole with adhesive, the adhesive shall displace the fitting and pipe nozzle from the hole, without travel of adhesive past the fitting.
- F. Anchor bolt holes shall be filled to half to three-quarters the depth of the hole to ensure full depth contact of adhesive and anchor bolt.
- G. Placing of the anchor bolt should be done with one continuous stroke. Turn the bolt 360 degrees as it is placed to ensure that all surfaces will be in intimate contact with the epoxy adhesive. The anchor bolt shall not be moved back and forth, as this will entrap air, as does excessive turning of the anchor bolt.
- H. Once the anchor bolt is installed, wooden shims shall be placed below the bolt to keep it centered in the hole. In addition to shimming, wrap the lead end of the anchor bolt with wire to keep it centered in the back of the hole.

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3.04 FIELD QUALITY CONTROL:

A. Ratio Test:

1. Method: The mixing head of the injection equipment shall be pumped simultaneously into separate calibrated containers. The amounts discharged into the calibrated containers simultaneously during the same time period shall be compared to determine that the volume discharged conforms to the manufacturer's recommended ratio for the appropriate material on a weight basis.
2. Frequency of Ratio Test: The ratio test shall be run for each dispensing pump at the beginning of a shift and after every meal break of every shift.

B. Proof of Ratio Test:

1. At all times during the course of the work, the Contractor shall keep complete and accurate records available to the Engineer of the ratio test specified above.
2. In addition, the Engineer at any time without prior notification of the Contractor, may request the Contractor to conduct the tests specified above in the presence of the Engineer.

C. Field Epoxy Adhesive Test: An independent testing laboratory shall test the compressive yield strength and modulus of the epoxy per ASTM C881 "Standard Specification for Epoxy-Resin-Base Bonding System for Concrete."

D. An independent testing firm shall perform a field tensile strength test on three (3) mockups of the epoxy anchors to the manufacturer's specified allowable tensile strength.

3.05 CURING: Curing for all anchors shall be as recommended by the manufacturer for the environmental condition at the time the anchor is installed.

3.06 WORKMANSHIP: Remove and replace any anchor that does not meet all the requirements of these specifications at no additional cost to the Owner.

END OF SECTION

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SECTION 05850

ELASTOMERIC BEARING PADS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section.

1.02 RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to work of this Section.

1.03 DESCRIPTION OF WORK:

Repair Type 'BP': Work of this section consists of furnishing and installing elastomeric bearing pads below selected stem(s) of double-tee members identified in the field by the Owner's representative, complete as specified herein.

1.04 SUBMITTALS:

- A. Installation Instructions: Submit three copies of manufacturer's installation instructions and procedures for installing bearing pads for bonding the bearing pads to the surfaces.
- B. Manufacturer Data: Certification and test reports that the bearing pads meet all the requirements of the Specifications.
- C. Submit to Engineer for approval, Contractor's intended replacement procedure and specifications on the lift equipment, and sketch clearly showing shoring locations and shoring layout.

1.05 PRODUCT HANDLING:

Delivery and Storage: Deliver all materials of this section to the job site and store in a manner that will permit access for inspection and identification. Protect materials from mud and other contaminants.

PART 2 – MATERIALS

2.01 ELASTOMERIC BEARING PADS:

Shall be a 100% blend of ozone resistant rubber elastomeric and high strength random fiber cords cured together to form a durable material with uniform behavior in all directions suitable to support structural bearing loads.

2.02 MECHANIC PROPERTIES:

- | | | |
|-----|--|---|
| 1. | Hardness (Shore A) | 75 ($\pm$ 5) |
| 2. | Compression -
Minimum ultimate | 8000 psi |
| 3. | Initial minimum cracking strain* | 40% |
| 4. | Shear Modulus (G) -
At 70% for a uniform compressive stress of
1,000 psi and a shear strain of 50%
($d_h/t \times 100$) where both bearing surfaces
contact smooth concrete. | 265 psi |
| 5. | G constant in all directions parallel to
the bearing plane. | |
| 6. | Tensile Strength*
(ASTM D412, DieC) | 1,000 psi |
| 7. | Tear Strength*
(ASTM D624, DieB) | 400 lb/in min. |
| 8. | Heat Aging
(ASTM D573) -
Change in tensile strength
Change in elongation
Change in hardness | $\pm$ 25% max.
$\pm$ 25% max.
10 point max. |
| 9. | Ozone Resistance -
After 50 hours at 100°F in an ozone
concentration of 80 pphm-tear strength | 300 lb/in min. |
| 10. | Oil swell (increase in vol.)
(ASTM D471) | 120% max. |

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11. Size 6" x 8" x $\frac{3}{8}$ " (min)

*10% Variation will be allowed.

2.03 TOLERANCE:

The plan dimensions of the bearing pad shall be within a tolerance of 3% or $\pm 1/8$ inches, whichever is greater.

PART 3 – EXECUTION

3.01 PROJECT INSPECTION:

- A. Prior to the installation of the bearing pads the Contractor shall examine the site and all conditions where bearing pads are to be installed and shall correct any conditions which might adversely affect the installation or performance of the bearing pads.
- B. Do not proceed with the work until all unsatisfactory conditions have been corrected.

3.02 INSTALLATION:

- A. Bearing pads shall be installed in accordance to the design Drawings.

END OF SECTION

SECTION 07900

SEALANTS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS:

- A. Drawings and general provisions of Project Manual, including General Conditions and Division 1 of Specification Sections, apply to work of this Section.

1.02 SECTION INCLUDES:

CUMBERLAND STREET PARKING DECK

- A. Furnish and install polyurethane sealant at the routed construction joints in the original deck as shown on the Drawings and specified herein to provide a positive barrier against the passage of air and moisture.
- B. Furnish and install new polyurethane sealant at all joints around new deck drains and joint around surrounding repair mortar as indicated on the plans to provide a positive barrier against passage of air and passage of moisture.

KING AND QUEEN STREET PARKING DECK

- A. Furnish and install new polyurethane sealants for all joints around new and abandoned deck drains and joint around surrounding repair mortar as indicated on the plans to provide a positive barrier against passage of air and passage of moisture.

1.03 QUALITY ASSURANCE:

- A. References: Some products and execution are specified in this Section by reference to published specifications or standards of the following (latest edition, with respective abbreviations used):
 - 1. The American Society for Testing and Materials (ASTM)
 - 2. American National Standards Institute (ANSI)
 - 3. Sealants, Waterproofing, and Restoration Institute (SWRI)

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B. Codes and Standards: Current edition of the following standard references shall apply to the work of this Section except as indicated otherwise on the Drawings or as specified herein:

1. ASTM C920, "Standard Specification for Elastomeric Joint Sealants"
2. ASTM C962, "Standard Guide for Use of Elastomeric Joint Sealants"
3. ACI 504, "Guide to Joint Sealants in Concrete"
4. SWRI, "Sealants: The Professional's Guide"

1.04 SUBMITTALS:

A. Installation Instructions: Submit (in triplicate) copies of manufacturer's printed instructions for installation of sealants specified.

B. Manufacturer's Data:

1. A complete materials list showing all items proposed to be furnished and installed under this Section.
2. Sufficient data to demonstrate that all such materials meet or exceed the specified requirements. Manufacturer shall stipulate that sealant materials are suitable for use with building materials and job conditions as indicated by Drawings. Data shall show test results of the physical properties of the sealant material.
3. Specifications, installation instructions, and general recommendations from the materials manufacturers showing procedures under which it is proposed that the materials will be installed. Such conditions as joint width, expansion and contraction, adhesion, sealant depth, and other conditions affecting sealant installation shall be considered. Upon approval by the Engineer, the proposed installation procedures will become the basis for inspecting and accepting or rejecting actual installation procedures used on the work.
4. Submit data regarding the joint design, bringing to the Engineer's attention any conditions shown on the Drawings under which the specified material cannot be satisfactorily installed.
5. Submit manufacturer's printed instructions for surface preparation, installation, and curing for each type of application required and specified or shown on the Project Manual.

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- C. Samples: Submit samples of sealant to show color. Submit samples of full range of manufacturer's standard colors.
- D. Guarantee-Warranty:
 - 1. Submit (in triplicate) guarantee-warranty on products and execution of sealant work on exterior required by this Section. Guarantee-Warranty shall be submitted on applicator's company letterhead, and shall be signed by an officer of the company. Guarantee-warranty shall be countersigned by the General Contractor.
 - 2. Warranty shall state that work complies with requirements of the Project Manual, the air-tightness and water-tightness of the joints, moisture resistance, adhesion or cohesion failure of the joints, abrasion resistance, rupture of the sealant, and general durability.
 - 3. The material supplier's warranty shall state that the material will provide a watertight weather seal for a period of five (5) years for polyurethane sealant during the warranty period the replacement material will be provided free of charge in the event the material fails to satisfy the conditions of this warranty.

1.05 QUALIFICATIONS:

- A. Applicators:
 - 1. Submit letter from manufacturer of sealant materials stating that applicator is approved by the manufacturer for application of the materials specified for the project. Letter shall certify that the applicator has satisfactorily applied the types of materials specified on projects which have been completed for at least five (5) years. Letter shall be on manufacturer's letterhead and shall be signed by an officer of the company.

1.06 PRODUCT HANDLING:

- A. Delivery and Storage:
 - 1. Deliver all materials of this Section to the job site in the original unopened containers with all labels intact and legible at time of use.
 - 2. Store only under conditions recommended by the manufacturers. Do not retain on the job site any material which has exceeded the shelf life recommended by its manufacturer.

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B. Protection:

1. Use all means necessary to protect the materials of this Section before, during, and after installation and to protect the work and materials of all other trades.

C. Replacements:

1. In the event of damage, immediately make all repairs and replacements necessary to the approval of the Engineer at no additional cost to the Owner.

1.07 JOB CONDITIONS:

A. Environmental Conditions:

1. Do not apply material if it is raining or snowing or if either condition appears to be imminent. Apply and install only at temperatures recommended in writing by the manufacturer of the sealants.

B. Protection:

1. Precautions shall be taken to avoid damage to any surface near the work due to mixing and handling of the sealant.

PART 2 – PRODUCTS

2.01 POLYURETHANE-BASED SEALANT:

- B. Repair Type ‘RS’, Repair Type ‘DD’, Repair Type ‘D1’, and Repair Type ‘D2’: Sealant for routed construction joints and new deck drains at Cumberland Street Parking Deck and sealant for new and abandoned deck drains at King & Queen Street Deck.:

1. Sealant for joints in concrete shall be a two-part, chemical-cure, polyurethane-based elastomeric joint sealant that is developed specifically for sealing joints in concrete parking decks.
2. Sealant color shall be selected by Owner.
3. Polyurethane sealant shall be Sikaflex – 2c by Sika Corporation or an approved equal sealant.

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PHASE II REPAIRS
CHARLESTON COUNTY PARKING GARAGES
CHARLESTON, SOUTH CAROLINA

4. Physical Properties:

Typical Physical Properties	
Service Temperature	-40°F to 170°F
% Solids	100%
% Joint Movement	± 50%
Shore A Hardness	40 ± 5
Full Cure	3 days @ 77°F
Tack Free	6 to 8 hours
% Elongation	650%
Tensile Strength	175 psi
Certified NSF Standard 61, Section 6	

- C. Joint Filler for Sealant and Caulking Backup: Provide closed cell polyethylene foam, or as recommended by sealant material manufacturer for compatibility with material. Open cell products are not acceptable. Provide size and shape of rod to control joint depth, break bond at bottom of joint where required, form optimum shape of bead on back side and minimize possibility of extrusion when joint is compressed. Size and shape to control depth of sealant and to provide a minimum of 25% compression upon insertion.
- D. Other Materials: All other materials, not specifically described but required for complete and proper caulking and installation of sealants, shall be first quality of their respective kinds, new and as selected by the Contractor subject to the review of the Engineer.
- E. Bond-Breaker Tape: Shall be 11-mil low-density polyethylene tape with a rubber pressure-sensitive side.

PART 3 – EXECUTION

3.01 PROJECT EXAMINATION:

- A. Prior to application of any joint sealant, Contractor shall examine the site and all joints to be sealed.
- B. The installer must examine the joint surfaces, backing, and anchorage of units forming sealant rabbet, and the conditions under which the sealant work is to be performed, and notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work and performance of the sealants.
- C. New or reinstalled concrete work shall have been in place a minimum of 28 days.

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- D. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the Engineer.
- E. Coordinate work of this section with other trades.

3.02 PRE-INSTALLATION CONFERENCE:

- A. Prior to installation of the sealants, the Contractor shall schedule a conference at the project site. The conference shall be attended by representatives of the Contractor, the manufacturer's representative of the sealant, and a representative of the Engineer. The procedures for the installation and quality control of the materials and installation shall be reviewed at the conference.

3.03 JOINTS:

- A. Seal all joints in the parking deck slabs at locations direction by the Engineer where otherwise shown on the drawings to provide a watertight installation.
- B. Joint tolerances and design shall be as shown on the details. Where joint dimensions and tolerances recommended by the sealant manufacturer are more restrictive than those specified herein, or shown on the details, they shall govern.
- C. Joint widths are shown on the details.
- D. Where joint depth exceeds that specified herein, fill with material specified for specific compound to provide proper depth.

3.04 PREPARATORY WORK:

- A. All surfaces in contact with sealant shall be dry, sound, and free from dust or other contaminants.
- B. Use solvent to remove oil and grease, wiping the surfaces with clean rags. Use only materials recommended by sealant manufacturer.
- C. All joints bonding surfaces shall receive a dry abrasive blast. Dry abrasive blast shall remove all laitance and other unsound contaminants from the surfaces where the sealant will bond and leave the surface with a sandpaper texture. Where backup is required, compress and insert the approved backup material in the joint cavity to the depth required. Do not twist while installing. Use a gage tool to install the backup material to the depth specified.
- D. Greases, protective films and coatings, dust, oil, water, and surface dirt, are examples of contaminants which must be removed.

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CHARLESTON, SOUTH CAROLINA

- E. Cleaning of all surfaces shall be done on the same day in which the sealant is installed.

3.05 PRIMING:

- A. In addition to the specified surface preparation steps, all surfaces shall receive a primer prior to the application of the sealant. A primer shall be required where specified on the drawings. If in the opinion of the sealant manufacturer, surfaces are weak or contaminated, he shall recommend to the Engineer measures that will insure the bond and performance of the sealant.
- B. If recommended by the sealant manufacturer, apply primer to all surfaces to receive the sealant in accordance with the sealant manufacturer's printed recommendations.

3.06 INSTALLATION OF JOINT FILLER:

- A. Joints where a backup is required shall be packed with a joint filler rod to yield a joint of the required depth. A gage tool shall be used to install any backer rods.
- B. Use only the backup material recommended by the manufacturer of the sealant and approved by the Engineer for the particular installation. When compressing the backup of tube or rod stock, avoid lengthwise stretching of the material. Do not twist or braid hose or rod backup stock. Where backup material is required, set backup material to the required depth with a gage.

3.07 INSTALLATION OF SEALANT:

- A. Install all sealants in strict accordance with manufacturer's printed instructions and as specified herein. It is critical that the sealant completely fills the entire joint and firmly contacts or "wets" all substrate surfaces.
- B. Apply sealant compound with gun having proper size nozzle.
- C. Use sufficient pressure to fill all voids and joints solid to the depth specified, and to engage compound to sides of joint. A superficial skin or fillet bead will not be acceptable.
- D. **REMOVE EXCESS COMPOUND, AND LEAVE SURFACES NEAT, SMOOTH, AND CLEAN.** Joints shall be even and uniform in appearance and shall be watertight. Tool surface to produce good contact, to increase density, and to improve appearance. Use masking tape to ensure a neat appearance where required, mask only the protected area and remove before sealant begins to cure.
- E. Apply sealant compound in a continuous operation, horizontally in one direction and vertically from the bottom to the top without gaps or air pockets.

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CHARLESTON COUNTY PARKING GARAGES
CHARLESTON, SOUTH CAROLINA

- F. At completion, all sealed or caulked surfaces shall present a neat appearance and all surrounding surfaces shall be left in a clean condition.
- G. Joints shall be even and uniform in appearance. Joints shall be watertight. Tool surface to provide good contact, to increase density, and to improve appearance.
- H. Cure sealant materials in accordance with manufacturer's printed instructions to obtain high early bond strength, internal cohesive strength, and surface durability.
- I. Remove excess sealant and leave surfaces neat, smooth, and clean.

3.08 **FIELD ADHESIVE TEST:**

- A. Perform two (2) field adhesion tests during each day that sealants are installed to detect field problems such as inadequate cleaning, improper primer, poor applications, or other field problems that affect adhesion. A representative of the sealant Manufacturer shall perform tests on the site at locations selected by the Engineer after the sealant has fully cured (usually 14 to 21 days.) It is the responsibility of the Contractor to schedule the tests. The field adhesion tests should be performed using the following procedure:
 - 1. Using a knife, make a horizontal cut from one side of the joint to the other. Make two vertical cuts along both sides of the joint, approximately 3 inches in length from the horizontal cut.
 - 2. Grasp the upper two inches of the sealant and pull at a 90° angle.
 - 3. Pass/Fail criteria for each sealant is determined by the Manufacturer.
 - 4. Test results should be recorded and distributed to the Owner and Engineer.
- B. Repair of sealant in adhesion test area: Sealant shall be replaced in test area by applying more sealant in the same manner it was originally installed. Care should be taken to assure that the new sealant is in contact with the original and the original sealant surfaces are clean to achieve a good bond between the new and old sealant.

3.09 **CLEAN UP:** Upon completion of work, remove all boxes, cartridges, and other debris. Clean sealant spillage from all adjacent surfaces.

3.10 **WORKMANSHIP:** Remove and replace any sealant joint that does not meet the requirements of these specifications at no additional cost to the Owner.

END OF SECTION

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PHASE II REPAIRS
CHARLESTON COUNTY PARKING GARAGES
CHARLESTON, SOUTH CAROLINA

SECTION 09900

PAINTING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section.

1.02 SECTION INCLUDES:

CUMBERLAND STREET PARKING DECK

- A. Surface preparation and painting of existing steel connection components as shown on the Drawings.
- B. Surface preparation and application of parking space line paint, if required due to horizontal concrete repairs.
- C. "Paint" as used herein means coating-system materials, including surface preparation, and application of applicable primers, enamels, sealers and fillers, and other applied materials whether used as prime, intermediate, or finish coats.

KING AND QUEEN STREET PARKING DECK

- A. Surface preparation and application of parking space line paint, if required due to horizontal concrete repairs.

1.03 SUBMITTALS:

- A. If products other than those specified herein are proposed to be used, submit a schedule of proposed paints. Also submit manufacturer's literature describing each of the proposed paints so that they can be evaluated in comparison to the paints specified.

1.04 DELIVERY, STORAGE AND HANDLING:

- A. Materials shall be delivered to the site in the manufacturer's sealed packages with labels intact and seals unbroken.

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PHASE II REPAIRS
CHARLESTON COUNTY PARKING GARAGES
CHARLESTON, SOUTH CAROLINA

- 1.05 WORKER TRAINING AND PROTECTION: On September 1, 2009, lead testing was performed on the existing paint at the Cumberland Street Parking Deck. Testing results indicated that there were detectable levels of lead ≤ 0.7 mg/cm². Paint preparation, paint removal or demolition to the existing paint will require worker training, controls and personal protective equipment in accordance to Occupational Safety and Health Administration (OSHA) 29 CFR 1926.62 (Lead in Construction).

PART 2 – PRODUCTS

2.01 MANUFACTURERS:

- A. Products: Subject to compliance with requirements, provide one of the products in the paint schedules.
- B. Manufacturers Names: In order to describe types and quality of materials intended, alternate paint materials may be products of following manufacturers, provided that the proposed alternate paint system meets the type of system specified herein:
 - 1. Carboline Company
 - 2. Paint products of PPG
 - 3. Benjamin Moore
 - 4. DuPont
 - 5. The Glidden Company
 - 6. Sherwin Williams
- C. Other coating manufacturers may be used if approved in writing by the Engineer as follows: Submit to the Engineer a schedule of painting based on the format hereinafter used to specify paint systems for the various surfaces, stating the brand name, trade name and manufacturer's number of each of the materials proposed. Obtain the Engineer's written approval of this schedule as submitted to or as corrected by him.

2.02 PAINT MATERIALS, GENERAL:

- A. Material Compatibility: Provide primers, undercoats, and finish-coat materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. Material Quality: Provide manufacturer's best quality paint material of the various coating types specified. Paint material containers not displaying manufacturer's product identification will not be acceptable.
- C. Colors: Provide color selections made by the Owner.

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PHASE II REPAIRS
CHARLESTON COUNTY PARKING GARAGES
CHARLESTON, SOUTH CAROLINA

2.03 SCHEDULE OF PAINT SYSTEMS:

A. Steel connection components

1. System: Provide the following sealer, primer and finish systems over exposed steel framing components.
2. Substrate: Painted or non-painted ferrous metal
3. Sealer: Rustbond as manufactured by Carboline Company. A penetrating polymeric epoxy amine primer/sealer designed to penetrate rust and discontinuities in existing coating, provide a firm anchorage for new coatings, and recommended to encapsulate existing coatings, especially around edges. Apply a single coat 1 to 2 mils dry film thickness.
4. Primer: Carbomastic 90 as manufactured by Carboline Company. A cycloaliphatic amine epoxy mastic that provides corrosion resistance and film build capability. Apply to areas where surface preparation has resulted in uncoated metal surfaces. Apply not less than 4 mils dry film thickness.
5. Topcoat: Carbothane 133HB as manufactured by Carboline Company: An aliphatic acrylic-polyester polyurethane, satin finish coating with good weathering and corrosion resistance properties. Apply at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 3 mils. Apply a second coat, if required, to obtain uniform color appearance and coverage over existing coating.

B. Replace isolated sections of existing traffic markings on horizontal concrete deck surfaces that are removed due to the horizontal concrete repair work:

1. System: Chlorinated Rubber Zone Marking Paint – Sherwin Williams
2. Primer: not required
3. Finish: First coat: Chlorinated Rubber paint applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 7.5 mils (15.0 mils wet film)

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PHASE II REPAIRS
CHARLESTON COUNTY PARKING GARAGES
CHARLESTON, SOUTH CAROLINA

PART 3 – EXECUTION

3.01 GENERAL REQUIREMENTS:

- A. Painting procedures, including surface preparation and application of materials, shall be in strict accordance with the manufacturer's published instructions and recommendations.
- B. The commencing of work, or the absence of notification in writing to the contrary, shall be construed as acceptance of the surfaces to be finished as satisfactory to receive the finishes and to produce the results required.
- C. Surfaces to be finished shall be clean, dry, smooth and adequately protected from dampness.
- D. Provide ample protection for, and take particular care to protect adjoining surfaces, fixtures and materials. Repair damage caused by the work of this Section. If necessary, remove and protect hardware, accessories, device plates, lighting fixtures, factory-finished work and similar items. Upon completion of each space, carefully replace removed items. Use only skilled mechanics for removal, replacement, and protection.
- E. No work shall be done under conditions which are unsuitable for obtaining good results. Do not apply paint when temperature is below 50°F. Do not apply paint in rainy weather. Do not apply finishes on surfaces so hot as to prevent proper application and drying. Do not apply finishes in spaces where dust is being generated that would speck the finish.

3.02 PREPARATION OF SURFACES, SEALING, PRIMING, AND FINISHING:

- A. Painted metal surfaces: Mechanically abrade surface lightly to remove any existing corrosion, un-bonded or peeling paint and to provide rough surface. Utilize approved equipment and method.

3.03 FINISH APPLICATION:

- A. Paint materials shall be stirred or agitated thoroughly until the ingredients are completely mixed.
- B. Surface to be painted shall be adequately protected from dampness.
- C. Each coat of paint shall be well brushed or sprayed on, worked out evenly and allowed to dry.

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CHARLESTON COUNTY PARKING GARAGES
CHARLESTON, SOUTH CAROLINA

- D. Finished work shall be uniform, of approved color, and free from runs, sags, defective brushing, clogging or excessive flooding. Apply additional finish coats where required herein or where uniform color or appearance is not achieved in one coat. Make edges of paint adjoining other materials or colors sharp, straight, clean and without overlapping.
- E. At completion, touch up and restore finish where damaged; leave finish in good condition.
- F. Should any coat of paint be adjudged unsatisfactory by the Engineer, it shall be sandpapered or removed and additional coats applied as necessary until a satisfactory finish is achieved.

3.04 CLEANING:

- A. At the completion of this work, clean all new surfaces, including any adjacent surfaces not included in the work that were contaminated as a result of the work.
- B. Cloths and cotton waste that might constitute a fire hazard shall be placed in metal containers or destroyed at end of each workday.
- C. Painted surfaces shall be left in a clean condition. Remove paint spots, oil or stains from adjacent surfaces.
- D. Repair any painted surfaces which have been damaged.

3.05 CLEANING UP:

- A. At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
- B. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. **DO NOT SCRATCH OR DAMAGE ADJACENT SURFACES.**

3.06 PROTECTION:

- A. Protect work of other trades and adjacent surfaces, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting as approved by Engineer.
- B. Provide "Wet Paint" signs to protect newly painted surfaces. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.

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PHASE II REPAIRS
CHARLESTON COUNTY PARKING GARAGES
CHARLESTON, SOUTH CAROLINA

- C. At completion of construction activities of other trades, touch-up and restore damaged or defaced painted surfaces.

3.07 FIELD QUALITY CONTROL:

- A. The Owner reserves the right to invoke the following test procedures at any time and as often as the Owner deems necessary during the period when paint is being applied:
- B. The Owner will engage the services of an independent testing agency to sample the paint material being used. Samples of material delivered to the Project will be taken, identified, sealed and certified in the presence of the Contractor.
- C. The testing agency will perform appropriate tests for the following characteristics as required by the Owner.
 - 1. Dry film thickness
 - 2. Wet film thickness
- D. The Owner may direct the Contractor to stop painting if test results show material or application does not comply with specified requirements. The Contractor shall remove applied paint coating or non-complying paint materials from the site, pay for testing, and repaint surfaces previously coated with the rejected paint. If necessary, the Contractor may be required to remove rejected paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

END OF SECTION

SPECIAL FORMS

**SF-1
PHASE II REPAIRS
CHARLESTON COUNTY PARKING GARAGES
CHARLESTON, SOUTH CAROLINA**

FINAL INSPECTION FORM

TIME:_____

DATE:_____

NAME OF JOB:_____

NAME OF CONTRACTOR:_____

LOCATION OF JOB/ADDRESS:_____

CITY, STATE, ZIP:_____

I have inspected the job site and certify that all items of the work have been performed in compliance with the Contract Documents, all "Punch List" items in the Certificate of Substantial Completion have been completed, and the project is complete and ready for final payment.

CONTRACTOR

SEAL

**SF-2
PHASE II REPAIRS
CHARLESTON COUNTY PARKING GARAGES
CHARLESTON, SOUTH CAROLINA**

CONTRACTOR'S WARRANTY

PROJECT: _____

LOCATION: _____

CONTRACTOR: _____

DATE OF CONTRACT: _____

DATE OF SUBSTANTIAL COMPLETION: _____

The undersigned contractor hereby warrants the above-referenced project for the work performed from the date of Substantial Completion for the following time periods:

Contractor's Warranty for Workmanship	2 years
Repair Mortar	5 years
Sealant – Silicone	10 years
Sealant – Polysulfate	5 years

This warranty ensures that the materials, equipment and workmanship provided for the project are free of defects other than that due to ordinary usage.

It is agreed that, if after due inspection, the OWNER shall decide that the work, in his opinion, is defective, and that repairs are required, the undersigned CONTRACTOR will repair or replace the defective work in accordance with the Contract Documents at no additional cost to the OWNER.

In the event of failure to comply with the above-mentioned conditions within 20 days of written second notification, the CONTRACTOR hereby authorizes the OWNER to have said defects repaired by a third party and the undersigned CONTRACTOR will honor and pay for the costs of said repairs upon demand.

CONTRACTOR

BY: _____
TITLE _____
DATE: _____

CONTRACTOR'S SEAL

Subscribed and sworn before me this

_____ day of _____, 20____.

(Notary Public)



September 9, 2009

Charleston County, Department of Capital Projects
4045 Bridge View Drive, Suite B217
North Charleston, South Carolina 29405-7464

Attention: Mr. Paul H. Wood, P.E.

Reference: Lead-Based Paint Assessment
Cumberland Street Parking Garage
Charleston, South Carolina
S&ME Project No. 1135-09-377

Dear Mr. Wood:

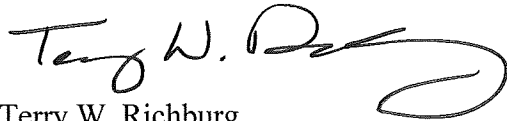
S&ME, Inc. (S&ME) is pleased to provide the enclosed report detailing our lead-based paint assessment of painted metal pre-cast connections and angles located at the above referenced site, performed in general accordance with S&ME Proposal 35-09-370 dated August 5, 2009. The report includes the executive summary, project background, assessment procedures, findings and results, and conclusions and recommendations for the proper treatment of lead-based paints.

This report is provided for the use of the Client. Use of this report by any other parties will be at such party's sole risk and S&ME, Inc. disclaims liability for any such use or reliance by third parties. The results presented in this report are indicative of conditions only during the time of the assessment and of the specific areas referenced. The information provided in this assessment report should not be used as a bidding document, and field conditions should be verified.

We appreciate the opportunity to provide Charleston County with our industrial hygiene/environmental services and we look forward to future opportunities to serve you. If you have any questions concerning this report, please call either of us at (843) 884-0005.

Sincerely,

S&ME, Inc.



Terry W. Richburg
Industrial Hygiene Services Manager



James L. Killingsworth, CHMM
Environmental Services Manager, V.P.

Attachments

**LEAD-BASED PAINT ASSESSMENT
CUMBERLAND STREET PARKING GARAGE
(PRE-CAST CONNECTIONS AND ANGLES)
CHARLESTON, SOUTH CAROLINA
S&ME PROJECT No. 1135-09-377**

Prepared for:
Charleston County, Department of Capital Projects
4045 Bridge View Drive, Suite B217
North Charleston, South Carolina 29405-7464



620 Wando Park Boulevard
Mount Pleasant, South Carolina 29464

September 9, 2009

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EXECUTIVE SUMMARY

A lead-based paint assessment, limited to representative painted metal pre-cast connections and angles, was conducted on September 1, 2009 at the Cumberland Street Parking Garage located in Charleston, South Carolina. The purpose of the assessment was to identify lead levels in the painted coatings associated with the pre-cast connections and angles due to maintenance activities scheduled in the near future, which will disturb the paint coatings. For the purpose of this assessment, paint readings equal to or greater than 0.7 milligrams per square centimeter ($\geq 0.7 \text{ mg/cm}^2$) are considered lead-based paint.

Based on the lead testing performed on September 1, 2009, no lead in concentrations $\geq 0.7 \text{ mg/cm}^2$ was identified, however detectable levels of lead were identified.

Destructive activities (ie. paint preparation, scraping, sanding, grinding, burning, component removal, demolition, etc.) disturbing the paint coatings exhibiting any detectable level of lead, require worker training, controls and personal protective equipment in accordance with the Occupational Safety and Health Administration (OSHA) 29 CFR 1926.62 (Lead in Construction). The South Carolina Department of Health and Environmental Control (SCDHEC) requires proper waste disposal in a Municipal Solid Waste (MSW) Subtitle D, lined landfill for demolition or renovation debris coated with lead concentrations 0.7 mg/cm^2 or greater.

If the planned maintenance activities destructively impact the subject components, we recommend that the activities be performed by qualified workers trained in accordance with the standards of OSHA 29 CFR 1926.62 (Lead in Construction). Work activities affecting lead-containing paint coated surfaces must be performed in accordance with OSHA regulation 29 CFR 1926.62. Additionally, a copy of this report should be provided to the contractor(s) to assist with compliance with applicable State and Federal regulations.

1.0 BACKGROUND

S&ME, Inc. (S&ME) was contracted by Charleston County, Department of Capital Projects to perform a lead-based paint assessment of representative painted metal pre-cast connections and angles located at the Cumberland Street Parking Garage located in Charleston, South Carolina. Mr. Paul Wood (Charleston County, Department of Capital Projects) requested the subject assessment.

The subject parking garage is constructed of concrete and is comprised of six parking decks. It is our understanding that the metal pre-cast connections located around the perimeter, and the metal angles located in the former elevator shaft are scheduled for maintenance activities, which may disturb the existing paint coatings on the components.

The lead-based paint assessment was conducted to identify lead-based paint and lead-containing paint finishes, which may be disturbed during the planned activities. The identification of lead in paint will aid in the prevention of occupational exposure in accordance with OSHA and/or environmental releases of airborne lead dust and provide information to facilitate proper disposal of waste in accordance with the SCDHEC and EPA waste disposal requirements.

2.0 ASSESSMENT PROCEDURES

Representative components were analyzed by a Niton XL-309 X-Ray Fluorescence (XRF) spectrum analyzer (serial #U1626NR0637). The suspect painted finishes were selected based on the color of the topcoat and the underlying paint layers and/or the substrate on which it was applied.

SCDHEC defines a lead-based paint as any coating containing lead at concentrations of 0.7 mg/cm^2 or greater by XRF analysis. Lead-based paint as defined by SCDHEC requires special waste disposal in a MSW (Subtitle D), lined landfill.

For the purpose of this assessment report, lead-based paint is defined as those paint finishes above SCDHEC regulated disposal levels (0.7 mg/cm^2). OSHA does not recognize a threshold level of lead for definition purposes, only the presence or absence of lead. The current OSHA regulations recognize an airborne action level of thirty micrograms per cubic meter ($30 \text{ } \mu\text{g/m}^3$) during an eight-hour day and a permissible exposure level of $50 \text{ } \mu\text{g/m}^3$.

3.0 FINDINGS AND RESULTS

The painted metal pre-cast connections and angles were all considered suspect lead-based paints. Based on the XRF analyzer testing we performed of the subject components on September 1, 2009, none of the coatings exhibited lead in concentrations $\geq 0.7 \text{ mg/cm}^2$,

however detectable levels of lead applicable to the standards of OSHA 29 CFR 1926.62 were identified.

The summary of the paint readings analyzed by the XRF spectrum lead analyzer is provided in Appendix I, and a reference diagram of the layout of the structure is provided in Appendix II. The XRF summary provides the sample numbers, sample location, component, substrate, paint color, condition, and all results measured on the day of the assessment.

4.0 CONCLUSIONS AND RECOMMENDATIONS

No lead based paint finishes ($\geq 0.7 \text{ mg/cm}^2$) were identified at the Cumberland Street Parking Garage located in Charleston, South Carolina, based on the testing of the representative metal components. However, detectable levels of lead, which are applicable to the standards of OSHA were identified. The identified lead-containing paints were in intact condition at the time of the assessment.

If the planned maintenance activities impact the identified lead-containing paints, we recommend the destructive activities (ie. paint preparation, scraping, sanding, grinding, burning, component removal, demolition, etc.) be performed by trained workers using proper controls and personal protective equipment in accordance with the standards of OSHA 29 CFR 1926.62 (Lead in Construction). A copy of this report should be provided to the contractor(s) to assist with compliance with applicable State and Federal regulations.

APPENDIX I

SUMMARY OF LEAD-BASED PAINT (XRF) READINGS

SUMMARY OF XRF SPECTRUM LEAD ANALYZER READINGS
CUMBERLAND STREET PARKING GARAGE
CHARLESTON, SOUTH CAROLINA

S&ME PROJECT NO. 1135-09-377
Date of Testing: September 1, 2009

XLNo	Site	Floor	Room	Structure	Substrate	Condition	Color	Result	Lead (mg/cm ²)
1	Shutter Cal	1						...	NA
2	Calibrate						Red	POS	1.17
3	Calibrate						Red	POS	1.16
4	Calibrate						Red	POS	1.14
5	Parking Garage	1	West Wall	Pre-cast connection	Metal	Intact	Tan	NEG	0.01
6	Parking Garage	1	West Wall	Pre-cast connection	Metal	Intact	Tan	NEG	0.03
7	Parking Garage	1	West Wall	Pre-cast connection	Metal	Intact	Tan	NEG	0.05
8	Parking Garage	1	West Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0.01
9	Parking Garage	1	West Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0
10	Parking Garage	1	West Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0
11	Parking Garage	2	West Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0.01
12	Parking Garage	2	Northwest Wall	Pre-cast connection	Metal	Intact	Tan	NEG	0.01
13	Parking Garage	2	Northeast Wall	Pre-cast connection	Metal	Intact	Tan	NEG	0
14	Parking Garage	2	East Wall	Pre-cast connection	Metal	Intact	Tan	NEG	0.01
15	Parking Garage	2	Southeast Wall	Pre-cast connection	Metal	Intact	Tan	NEG	0
16	Parking Garage	2	Southwest Wall	Pre-cast connection	Metal	Intact	Tan	NEG	0
17	Parking Garage	3	West Wall	Pre-cast connection	Metal	Intact	Tan	NEG	0.01
18	Parking Garage	3	Northwest Wall	Pre-cast connection	Metal	Intact	Tan	NEG	0.01
19	Parking Garage	3	Northeast Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0
20	Parking Garage	3	East Wall	Pre-cast connection	Metal	Intact	Grey	INCOM	0.01
21	Parking Garage	3	East Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0
22	Parking Garage	3	Southeast Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0
23	Parking Garage	3	Southwest Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0
24	Parking Garage	4	West Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0.01
25	Parking Garage	4	Northwest Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0.02
26	Parking Garage	4	Northeast Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0.02
27	Parking Garage	4	East Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0
28	Parking Garage	4	Southeast Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0.01
29	Parking Garage	4	Southwest Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0.05
30	Parking Garage	5	West Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0.01
31	Parking Garage	5	Northwest Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0.01
32	Parking Garage	5	Northeast Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0.01
33	Parking Garage	5	East Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0.03
34	Parking Garage	5	Southeast Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0.01
35	Parking Garage	5	Southwest Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0

SUMMARY OF XRF SPECTRUM LEAD ANALYZER READINGS
CUMBERLAND STREET PARKING GARAGE
CHARLESTON, SOUTH CAROLINA

S&ME PROJECT NO. 1135-09-377
Date of Testing: September 1, 2009

XLNo	Site	Floor	Room	Structure	Substrate	Condition	Color	Result	Lead (mg/cm ²)
36	Parking Garage	6	West Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0.01
37	Parking Garage	6	Northwest Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0
38	Parking Garage	6	Northeast Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0
39	Parking Garage	6	Southeast Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0.04
40	Parking Garage	6	Southwest Wall	Pre-cast connection	Metal	Intact	Grey	NEG	0.02
41	Parking Garage	5	East Angle	Angle	Metal	Intact	Grey	NEG	0
42	Parking Garage	5	West Angle	Angle	Metal	Intact	Grey	NEG	0.01
43	Parking Garage	4	North Angle	Angle	Metal	Intact	Grey	NEG	0.01
44	Parking Garage	4	South Angle	Angle	Metal	Intact	Grey	NEG	0.01
45	Parking Garage	3	East Angle	Angle	Metal	Intact	Grey	NEG	0
46	Parking Garage	3	West Angle	Angle	Metal	Intact	Grey	NEG	0.01
47	Parking Garage	2	North Angle	Angle	Metal	Intact	Grey	NEG	0.01
48	Parking Garage	2	South Angle	Angle	Metal	Intact	Grey	NEG	0.04
49	Parking Garage	1	North Angle	Angle	Metal	Intact	Grey	NEG	0.01
50	Parking Garage	1	West Angle	Angle	Metal	Intact	Grey	NEG	0
51			Calibrate				Red	POS	1
52			Calibrate				Red	POS	1.12
53			Calibrate				Red	POS	1

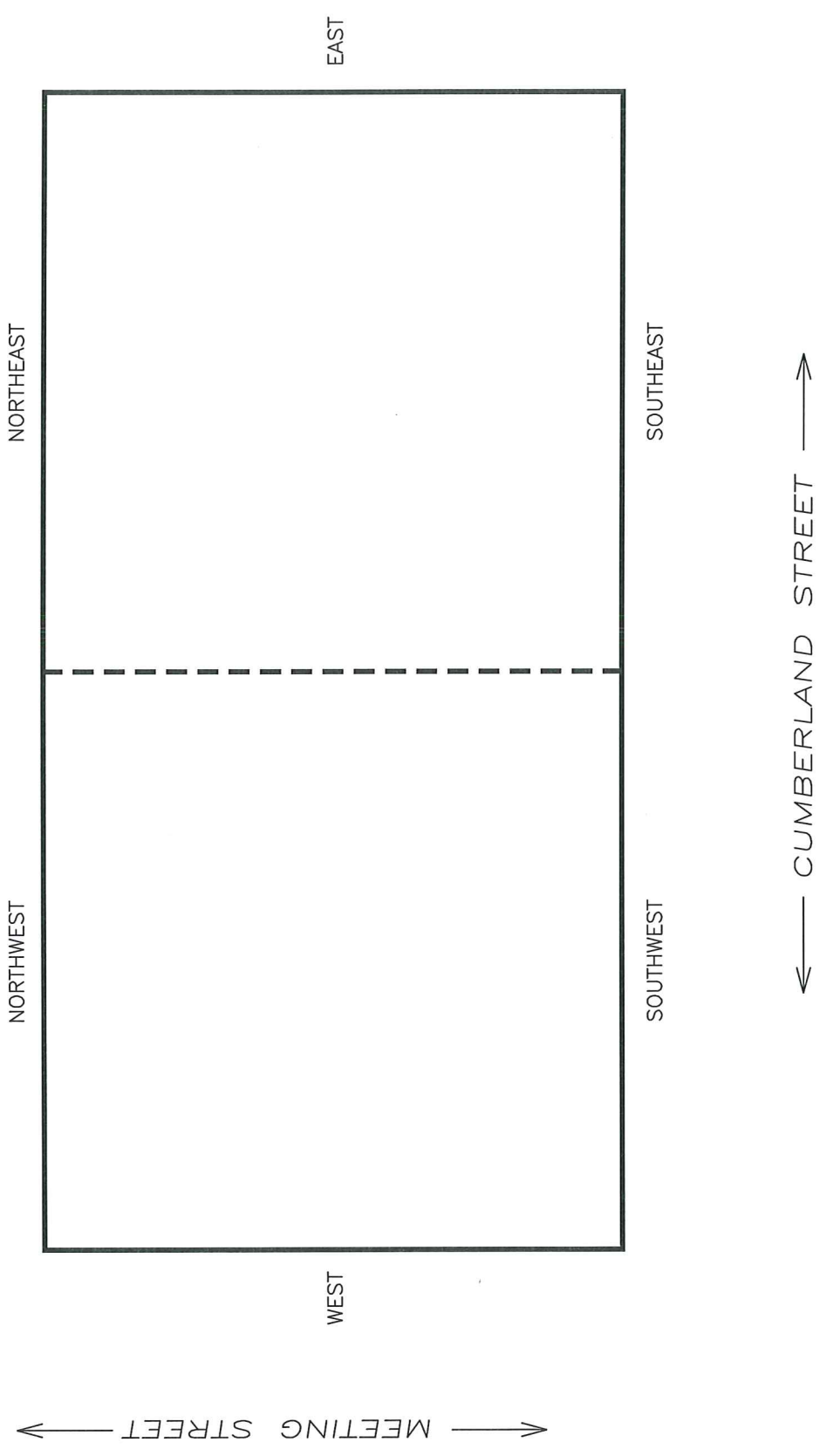
mg/cm² = milligram per square centimeter

SCDHEC requires special disposal for paint containing lead >0.7 mg/cm²

OSHA does not recognize a concentration of lead for definition purposes, only the presence or absence.

APPENDIX II

REFERENCE DIAGRAM OF SUBJECT STRUCTURE



SCALE:	NTS
APPROVED BY:	TR
DRAWN BY:	LAJ
DATE:	6-09-09
PROJECT NO:	1135-09-377



LEAD BASED PAINT ASSESSMENT
CUMBERLAND STREET PARKING GARAGE
 CHARLESTON, SOUTH CAROLINA