

Contract Documents and Specifications

For

USCA Pacer Downs Swimming Pool Resurfacing

For

University of South Carolina

Project FP00000217

December 3, 2018

Minor Construction

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Project Number: FP00000217

Project Name: USCA Pacer Downs Swimming Pool Resurfacing

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SE-311**INVITATION FOR MINOR CONSTRUCTION QUOTES****PROJECT NAME:** USCA Pacer Downs Swimming Pool Resurfacing**PROJECT NUMBER:** FP00000217**PROJECT LOCATION:** 807 Leadership Drive: Aiken, SC 29801**BID SECURITY REQUIRED?** Yes No **PERFORMANCE BOND REQUIRED?** Yes No **PAYMENT BOND REQUIRED?** Yes No **CONSTRUCTION COST RANGE:** \$ <15,000.00**DESCRIPTION OF PROJECT:** Preparation of swimming pool structure: Provide a white swimming pool plaster(marcite) finish to the pool structure. Substantial Completion shall be completed in 30 days. Small and Minority Business participation is strongly encouraged.**BIDDING DOCUMENTS/PLANS MAY BE OBTAINED FROM:** purchasing.sc.edu "Facilities Procurements"**PLAN DEPOSIT AMOUNT:** \$ \$0.00 **IS DEPOSIT REFUNDABLE** Yes No N/A

Bidders must obtain Bidding Documents/Plans from the above listed source(s) to be listed as an official plan holder. Only those Bidding Documents/Plans obtained from the above listed source(s) are official. Bidders rely on copies of Bidding Documents/Plans obtained from any other source at their own risk.

IN ADDITION TO THE ABOVE OFFICIAL SOURCE(S), BIDDING DOCUMENTS/PLANS ARE ALSO AVAILABLE AT:N/A*All questions & correspondence concerning this Invitation shall be addressed to the A/E.***A/E NAME:** University of South Carolina Aiken**A/E CONTACT:** Brian Enter, P.E.**A/E ADDRESS:** Street/PO Box:471 University ParkwayCity: AikenState: SCZIP: 29801-**EMAIL:** BrianEn@usca.edu**TELEPHONE:** 803.641.3254**FAX:** _____**AGENCY:** University of South Carolina**AGENCY PROJECT COORDINATOR:** Aimee B. Rish**ADDRESS:** Street/PO Box:1300 Pickens StreetCity: ColumbiaState: SCZIP: 29208-**EMAIL:** arish@fmc.sc.edu**TELEPHONE:** 803.777.2261**FAX:** _____**PRE-QUOTE CONFERENCE:** Yes No **MANDATORY ATTENDANCE:** Yes No **PRE-QUOTE DATE:** 12/19/2018**TIME:** 10:00AM**PLACE:** USCA Pacer Downs Community Building; 807Leadership Drive; Aiken, SC 29801**QUOTE CLOSING DATE:** 1/8/2019**TIME:** 2:00PM**PLACE:** 1300 Pickens St Conf Rm 100C; Cola SC 29208**QUOTE DELIVERY ADDRESSES:****HAND-DELIVERY:**Attn: Aimee Rish "Bid Enclosed FP00000217"1300 Pickens StreetColumbia, SC 29208**MAIL SERVICE:**Attn: Aimee Rish "Bid Enclosed FP00000217"1300 Pickens StreetColumbia, SC 29208**APPROVED BY:** _____*(Agency Project Coordinator)***DATE:** _____

**SE-331
QUOTE FORM**

Quotes shall be submitted only on SE-331.

QUOTE SUBMITTED BY: _____
(Offeror's Name)

QUOTE SUBMITTED TO: University of South Carolina
(Owner's Name)

FOR: PROJECT NAME: USCA Pacer Downs Swimming Pool Resurfacing
PROJECT NUMBER: FP00000217

OFFER

1. In response to the Invitation for Minor Construction Quotes, and in compliance with the Instructions to Bidders for the above-named Project, the undersigned **OFFEROR** proposes and agrees, if this Quote is accepted, to enter into a Contract with the Owner in the form included in the Solicitation Documents, and to perform all Work as specified or indicated in the Solicitation Documents, for the prices and within the time frames indicated in the Solicitation and in accordance with the other terms and conditions stated.
2. Pursuant to Section 11-35-3030(1) of the SC Code of Laws, as amended, **OFFEROR** has submitted Bid Security as follows in the amount and form required by the Solicitation Documents:

- Bid Bond with Power of Attorney** **Electronic Bid Bond** **Cashier's Check**

(Bidder check one)

3. **OFFEROR** acknowledges the receipt of the following Addenda to the Solicitation documents and has incorporated the effects of said Addenda into its Quote *(Bidder, check only boxes that apply):*

- ADDENDA:** #1 #2 #3 #4 #5

4. **OFFEROR** agrees that this Quote, including all bid alternates, if any, may not be revoked or withdrawn after the opening of quotes, and shall remain open for acceptance for a period of **60** Days following the Quote Date, or for such longer period of time that **OFFEROR** may agree to in writing upon request of the Owner.
5. **OFFEROR** agrees that from the compensation to be paid, the Owner shall retain as Liquidated Damages the amount of \$ **150.00** for each calendar day the actual construction time required to achieve Substantial Completion exceeds the specified or adjusted Contract Time for Substantial Completion, as provided in the Contract Documents.
6. **OFFEROR** herewith submits its offer to provide all labor, materials, equipment, tools of trades and labor, accessories, appliances, warranties and guarantees, and to pay all royalties, fee, permits, licenses and applicable taxes necessary to complete the following items of construction work:

6.1 BASE QUOTE \$ _____
(enter BASE QUOTE in figures only)

6.1.1 ALTERNATE NO. 1 \$ _____ to be **ADDED / DEDUCTED** from **BASE QUOTE**.
(circle one)

6.1.2 ALTERNATE NO. 2 \$ _____ to be **ADDED / DEDUCTED** from **BASE QUOTE**.
(circle one)

SC Contractor's License Number: _____

Classification(s) & Limits: _____

Address: _____

Telephone: _____

E-mail: _____

This Quote is hereby submitted on behalf of the Offeror named above.

BY: _____
(Signature of Offeror's Representative)

(Print or Type Name of Offeror's Representative)

TITLE: _____

Instructions to Bidders

1. Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement or Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders, the bid form, and other sample bidding and contract forms. The Drawings, Specifications and all Addenda issued prior to execution of the Purchase Order.
2. Addenda are written or graphic instruments issued by the Architect prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.
3. A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.
4. The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids.
5. An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.
6. A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.
7. The Bidder by making a Bid represents that the Bidder has read and understands the Bidding Documents, to the extent that such documentation relates to the Work for which the Bid is submitted, and for other portions of the Project, if any, being bid concurrently or presently under construction.
8. The Bid is made in compliance with the Bidding Documents.
9. The Bidder has visited the site, become familiar with local conditions under which the Work is to be performed and has correlated the Bidder's personal observations with the requirements of the proposed Contract Documents.
10. The Bid is based upon the materials, equipment and systems required by the Bidding Documents without exception.
11. Bidders shall use complete sets of Bidding Documents in preparing Bids; neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
12. Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which shall reach the Architect at least seven days prior to the date for receipt of Bids.
13. Interpretations, corrections and changes of the Bidding Documents will be made by Addendum. Interpretations, corrections and changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon them.

14. The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution.
15. No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of other contracts that incorporation of the proposed substitution would require, shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.
16. If the Architect approves a proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.
17. No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.
18. Addenda will be issued no later than five days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.
19. Each Bidder shall ascertain prior to submitting a Bid that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.
20. Bids shall be submitted on the forms included with the Bidding Documents.
21. All blanks on the bid form shall be legibly executed in a non-erasable medium.
22. Sums shall be expressed in both words and figures. In case of discrepancy, the amount written in words shall govern.
23. Interlineations, alterations and erasures must be initialed by the signer of the Bid.
24. All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change."
25. All copies of the Bid, the bid security, if any, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.
26. Bids shall be deposited at the designated location prior to the time and date for receipt of Bids. Bids received after the time and date for receipt of Bids will be returned unopened.
27. The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

28. The Owner shall have the right to reject any or all Bids. A Bid not accompanied by a required bid security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.

29. It is the intent of the Owner to award a Contract to the lowest qualified Bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's own best interests.

30. The Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the low Bidder on the basis of the sum of the Base Bid and Alternates accepted.

USC SUPPLEMENTAL GENERAL CONDITIONS FOR CONSTRUCTION PROJECTS

WORK AREAS

1. The Contractor shall maintain the job site in a safe manner at all times. This includes (but is not limited to) the provision and/or maintenance of lighting, fencing, barricades around obstructions, and safety and directional signage.
2. Contractor's employees shall take all reasonable means not to interrupt the flow of student traffic in building corridors, lobbies, stairs and exterior walks. All necessary and reasonable safety precautions shall be taken to prevent injury to building occupants while transporting materials and equipment through the work area. Providing safe, accessible, plywood-shielded pedestrian ways around construction may be required if a suitable alternative route is not available.
3. At the beginning of the project, the USC Project Manager will establish the Contractor's lay-down area. This area will also be used for the Contractor's work vehicles. The lay-down area will be clearly identified to the contractor by the Project Manager, with a sketch or drawing provided to USC Parking Services. In turn, Parking Services will mark off this area with a sign containing the project name, Project Manager's name, Contractor name and contact number, and end date. Where this area is subject to foot traffic, protective barriers will be provided as specified by the Project Manager. The area will be maintained in a neat and orderly fashion.
4. Work vehicles parked in the lay down area (or designated parking areas) will be clearly marked and display a USC-furnished placard for identification. No personal vehicles will be allowed in this area, or in any areas surrounding the construction site. Personal vehicles must be parked in the perimeter parking lots or garages. Temporary parking permits can be obtained at the Contractor's expense at the USC Parking Office located in the Pendleton Street parking garage. Refer to the CAMPUS VEHICLE EXPECTATIONS (below) for additional information.
5. Contractor is responsible for removal of all debris from the site, and is required to provide the necessary dumpsters which will be emptied on a regular basis. Construction waste must not be placed in University dumpsters. The construction site must be thoroughly cleaned with all trash picked up and properly disposed of on a daily basis and the site must be left in a safe and sanitary condition each day. The University will inspect job sites regularly and will fine any contractor found to be in violation of this requirement an amount of up to \$1,000 per violation.
6. The Contractor shall be responsible for erosion and sediment control measures where ground disturbances are made.

PROJECT FENCING

7. All construction projects with exterior impacts shall have construction fencing at the perimeter. Fencing shall be 6' chain link with black or green privacy fabric (80-90% blockage). For fence panels with footed stands, sandbag weights shall be placed on the inside of the fence. Ripped sandbags shall be replaced immediately.
8. For projects with long fencing runs and/or high profile locations, decorative USC banners shall be used on top of privacy fabric; banners should be used at a ratio of one banner for every five fence panels. USC Project Manager will make arrangements for banner delivery for Contractor to hang.
9. The use of plastic safety fencing is discouraged and shall only be used on a temporary basis (less than four weeks) where absolutely necessary. Safety fencing shall be a neon yellow-green, high-

visibility fencing equal to 'Kryptonight' by Tenax. Safety fencing shall be erected and maintained in a neat and orderly fashion throughout the project.

10. Vehicles and all other equipment shall be contained within a fenced area if they are on site for more than 3 consecutive calendar days.

BEHAVIOR

11. Fraternalization between Contractor's employees and USC students, faculty or staff is strictly prohibited.
12. USC will not tolerate rude, abusive or degrading behavior on the job site. Heckling and cat-calling directed toward students, faculty or staff or any other person on USC property is strictly prohibited. Any contractor whose employees violate this requirement will be assessed a fine of up to \$500 per violation.
13. Contractor's employees must adhere to the University's policy of maintaining a drug-free and tobacco-free campus.

HAZARDOUS MATERIALS & SAFETY COMPLIANCE

14. A USC Permit to Work must be signed prior to any work being performed by the general contractor or sub-contractor(s).
15. The contractor will comply with all regulations set forth by OSHA and SCDHEC. Contractor must also adhere to USC's internal policies and procedures (available by request). Upon request, the contractor will submit all Safety Programs and Certificates of Insurance to the University for review.
16. Contractor must notify the University immediately upon the discovery of suspect material which may contain asbestos or other such hazardous materials. These materials must not be disturbed until approved by the USC Project Manager.
17. In the event of an OSHA inspection, the Contractor shall immediately call the Facilities Call Center, 803-777-4217, and report that an OSHA inspector is on site. An employee from USC's Safety Unit will arrive to assist in the inspection.

LANDSCAPE & TREE PROTECTION

18. In conjunction with the construction documents, the USC Arborist shall direct methods to minimize damage to campus trees. Tree protection fencing is required to protect existing trees and other landscape features to be affected by a construction project. The location of this fence will be evaluated for each situation with the USC Arborist, Landscape Architect and Project Manager. Tree protection fencing may be required along access routes as well as within the project area itself. Fence locations may have to be reset throughout the course of the project.
19. The tree protection fence shall be 6' high chain link fence with 80-90% privacy screening unless otherwise approved by USC Arborist and/or Landscape Architect. If the tree protection fence is completely within a screened jobsite fence perimeter, privacy fabric is not required. In-ground fence posts are preferred in most situations for greater protection. If utility or pavement conflicts are present, fence panels in footed stands are acceptable. See attached detail for typical tree protection fencing.
20. No entry, vehicle parking, or materials storage will be allowed inside the tree protection zone. A 4"

layer of mulch shall be placed over the tree protection area to maintain moisture in the root zone.

21. Where it is necessary to cross walks, tree root zones (i.e., under canopy) or lawns the following protective measures shall be taken:
 - a. For single loads up to 9,000 lbs., a 3/4" minimum plywood base shall be placed over 4" of mulch.
 - b. For single loads over 9,000 lbs., two layers of 3/4" plywood shall be placed over 4" of mulch.
 - c. Plywood sheets shall be replaced as they deteriorate or delaminate with exposure.
 - d. For projects requiring heavier loads, a construction entry road consisting of 10' X 16' oak logging mats on 12" coarse, chipped, hardwood base. Mulch and logging mats shall be supplemented throughout the project to keep matting structurally functional.
22. Damage to any trees during construction shall be assessed by the USC Arborist, who will stipulate what action will be taken for remediation of damage. The cost of any and all remediation will be assumed by the contractor at no additional cost to the project. Compensation for damages may be assessed up to \$500 per caliper inch of tree (up to 8") and \$500 per inch of diameter at breast height (for trees over 8").
23. Damage to trunks and limbs, as well as disturbance of the root zone under the dripline of tree, including compaction of soil, cutting or filling, or storage of materials, shall qualify as damage and subject to remediation.
24. Any damage to existing pavements or landscaping (including lawn areas and irrigation) will be remediated before final payment is made.

TEMPORARY FACILITIES

25. Contractor will be responsible for providing its own temporary toilet facilities, unless prior arrangements are made with the USC Project Manager.
26. Use of USC communications facilities (telephones, computers, etc.) by the Contractor is prohibited, unless prior arrangements are made with the USC Project Manager.

CAMPUS KEYS

27. Contractor must sign a Contractor Key Receipt/Return form before any keys are issued. Keys must be returned immediately upon the completion of the work. The Contractor will bear the cost of any re-keying necessary due to the loss of or failure to return keys.

WELDING

28. A welding (hot work) permit must be issued by the University Fire Marshall before any welding can begin inside a building. The USC Project Manager will coordinate.

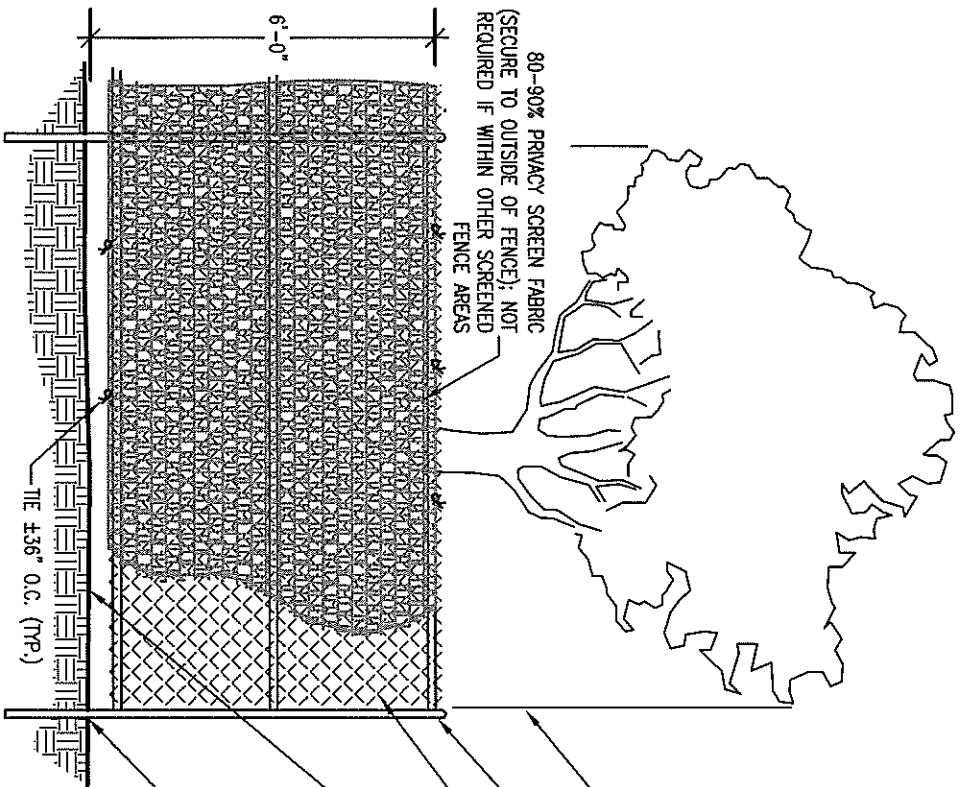
PROJECT EVALUATION & CLOSE-OUT

29. For all projects over \$100,000, including IDCs, a Contractor Performance Evaluation (SE 397) will be reviewed with the GC at the beginning of the project and a copy given to the GC. At the end of the project the form will be completed by the USC Project Manager and a Construction Performance rating will be established.
30. Contractor must provide all O&M manuals, as-built drawings, and training of USC personnel on new equipment, controls, etc. prior to Substantial Completion. Final payment will not be made until

this is completed.

CAMPUS VEHICLE EXPECTATIONS

31. Personal vehicles must be parked in the perimeter parking lots or garages. Temporary parking permits can be obtained at the Contractor's expense at the USC Parking Office located in the Pendleton Street parking garage.
32. All motorized vehicle traffic on USC walkways and landscape areas must be approved by the USC Project Manager and Parking Division, have a USC parking placard, and be parked within the approved laydown area. Violators may be subject to ticketing, towing and fines.
33. All motorized vehicles that leak or drip liquids are prohibited from traveling or parking on walks or landscaped areas.
34. Drivers of equipment or motor vehicles that damage university hardscape or landscape will be held responsible for damages and restoration expense.
35. All vehicles parked on landscape, hardscape, or in the process of service delivery, must display adequate safety devices, i.e. flashing lights, cones, signage, etc.
36. All drivers of equipment and vehicles shall be respectful of University landscape, equipment, structures, fixtures and signage.
37. All incidents of property damage shall be reported to Parking Services or the Work Management Center.



TREE PROTECTION FENCING (IN-GROUND) WITH SCREENING

NOTES:

1. PROVIDE PROTECTION FENCING FOR ALL TREES WITHIN AREA OF DISTURBANCE AND CONSTRUCTION ACCESS.
2. PROTECTION FENCING SHALL BE IN PLACE PRIOR TO BEGINNING CONSTRUCTION.
3. PROTECTION FENCING TO BE PLACED AT THE OUTSIDE OF THE CANOPY DRIPLINE, OR AT A DISTANCE OF ONE FOOT PER ONE INCH OF TREE DIAMETER, MEASURED AT BREAST HEIGHT, WHICHEVER IS LARGER, UNLESS OTHERWISE INDICATED ON LANDSCAPE PLAN OR APPROVED BY UNIVERSITY ARBORIST.
4. IN-GROUND POSTS ARE STANDARD. IF EXISTING ROOTS, UTILITIES OR PAVEMENT PRECLUDE USE OF IN-GROUND POSTS, FOOTED STANDS ARE ACCEPTABLE. SAND BAGS SHALL BE PLACED ON THE INSIDE OF FENCE.
5. DAMAGE TO ANY TREES DURING CONSTRUCTION SHALL BE ASSESSED BY UNIVERSITY ARBORIST AND THE UNIVERSITY ARBORIST SHALL STIPULATE WHAT ACTION WILL BE TAKEN FOR REMEDIATION OF DAMAGE. THE COST OF ANY AND ALL REMEDIATION WILL BE ASSUMED BY CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT.
6. DISTURBANCE OF ROOT ZONE UNDER DRIPLINE OF TREE, INCLUDING COMPACTION OF SOIL, CUTTING OR FILLING OR STORAGE OF MATERIALS SHALL QUALIFY AS DAMAGE AND SUBJECT TO REMEDIATION.

Project Name: USCA Pacer Downs Swimming Pool Resurfacing
Project Number: FP00000217

University of South Carolina

CONTRACTOR'S ONE YEAR GUARANTEE

STATE OF _____

COUNTY OF _____

WE _____
as Contractor on the above-named project, do hereby guarantee that all work executed under the requirements of the Contract Documents shall be free from defects due to faulty materials and /or workmanship for a period of one (1) year from date of acceptance of the work by the Owner and/or Architect/Engineer; and hereby agree to remedy defects due to faulty materials and/or workmanship, and pay for any damage resulting wherefrom, at no cost to the Owner, provided; however, that the following are excluded from this guarantee;

Defects or failures resulting from abuse by Owner.

Damage caused by fire, tornado, hail, hurricane, acts of God, wars, riots, or civil commotion.

[Name of Contracting Firm]

*By _____

Title _____

*Must be executed by an office of the Contracting Firm.

SWORN TO before me this
_____ day of _____, 2____ (seal)

_____ State

My commission expires _____

**SECTION 100000
SWIMMING POOL
PLASTER**

PART 1 – GENERAL

1.1 SUMMARY

A. All preparation of swimming pool structure and labor and materials required to provide a white swimming pool plaster (marcite) finish to the pool structure. The pool structure measures 20' X 40'. The depth is 8' on the deep end and 3' feet on the shallow end with two removable ladders. There is a decorative tile band around the pool at the break line that is to remain. Repair or replace loose, broken or missing tiles. Re-stencil (repaint) waterline depth markers on the perimeter pool coping as required to meet current South Carolina Department of Health and Environmental Control (SCDHEC) code.

B. Provide water quality analysis and all chemicals required to bring water chemistry into balance upon filling of pool.

C. All work to comply with SCDHEC rules and regulations and as herein specified.

1.2 SUBMITTALS

A. Certificates: Submit certificates attesting that the materials furnished meet the requirements specified herein.

B. Test Report: Submit results of domestic water analysis and calculation of amounts of chemicals required to balance pool water chemistry upon refilling of pool.

C. SCDHEC Change Order: Submit SCDHEC approved change order (Form DHEC 3627-02/2002) to the University of South Carolina (herein referred to as Owner) prior to start of work.

D. Licenses and Insurance: Provide documentation of current and proper professional licensing and insurance to Owner. Minimum insurance coverage limits shall be as required by law or as shown in Paragraph 6.25 of the *Manual for Planning and Execution of State Permanent Improvements - Part II*, whichever is greater, or such other amount as the Owner may request.

1.3 PRODUCT DELIVERY AND STORAGE

A. Delivery: Deliver materials to the project site in the manufacturer's original unopened packages or containers bearing manufacturers' name and brand labels.

B. Storage: Store materials under cover in a manner to prevent damage and contamination and store only the specified materials at the project site. Keep cementitious materials dry until ready to be used and stored off the ground, under cover and away from damp surfaces.

C. Protection: Use all means necessary to protect the swimming pool plaster before, during, and after installation.

D. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Owner's representative.

1.4 JOB CONDITIONS

A. Apply plaster in swimming pool only when ambient temperature is above 40 degrees Fahrenheit (°F) and below 90 °F, and protect applied plaster from rapid drying by the sun or wind until curing is completed or pool is filled with water. Confirm and comply with all applicable manufacturers installation requirements.

1.5 QUALITY ASSURANCE

A. All work of this section shall be performed or supervised by the swimming pool "Contractor."

B. Qualifications of Workers:

1. The Contractor for this portion of the work shall have been successfully engaged in the respective trade for at least five (5) years immediately prior to commencement of this work, and shall demonstrate to the approval of the Owner's representative that his record of workmanship is satisfactory.

2. For actual construction operations, use only thoroughly trained and experienced workers completely familiar with the materials and methods specified. Plaster installers shall have two (2) years minimum experience in similar pool projects (which the Owner may require written proof thereof) and proper tools to install plaster.

3. Provide at least one (1) person who will be present at all times during execution of this portion of the work and who shall be thoroughly familiar with the type(s) of materials being installed, the referenced standards, and the requirements of this work, and who shall direct all work performed.

C. Standards: Swimming pool plaster shall be designed to comply with the published standards of the SCDHEC as they apply to the material and services furnished herein.

D. Start-up:

1. Retain a qualified pool chemistry consultant [Certified Pool Operator (CPO)], familiar with operation and maintenance of aquatic facilities, to supervise and properly balance swimming pool chemistry.

2. Demonstrate to the Owner's representative and appropriate officials (including SCDHEC) that all systems are fully operational and that calcium hardness; total alkalinity, chlorine residual and pH levels are within specified limits.

3. Standards: Contractor shall furnish labor and chemicals as required to condition the water properly to the following specifications:

- a. Calcium Hardness: 150 to 300 ppm
- b. Total Alkalinity: 100 ppm
- c. Chlorine Residual: 1.00-1.50 ppm
- d. pH Factor: 7.2 to 7.4

PART 2 - PRODUCTS

2.1 GENERAL MATERIALS AND REQUIREMENTS

A. Portland Cement: Swimming pool plaster cement shall be Type I white Portland cement conforming to ASTM C150 (Federal White Cement or equivalent).

B. Aggregates for Conventional Pool Plaster Finish Coat: White marble aggregates uniformly graded. Coarse particles shall not exceed 1/16" in size (White Georgia Marble or equivalent).

C. Water: Clean, fresh, from domestic potable source and free from injurious amounts of acid, alkali, and organics.

D. Bonding Agent: Provide a scratch coat bonding system, synthetic bond coating resin. As manufactured by Southern Grouts and Mortars (Bond Kote), or approved equal.

E. Proportions and Mixing:

1. Proportioning: All materials shall be mixed per manufacturer's recommendations for specific application. Materials are specified on a volume basis and shall be measured in approved containers which will ensure that the specified proportions will be controlled and accurately maintained during the progress of the work. Measuring materials with shovels ("shovel count") is not permitted.

2. Conventional White Marcite Pool Plaster Finish Coat: Mix per manufacturer's recommendations for specific application. Mix finish in proportion of one part by volume of white Portland cement to not more than two parts by volume of aggregates (specified white marble dust).

3. Mixing: Perform mixing in approved mechanical mixers of the type in which quantity of water can be controlled accurately and uniformly. While mixer is in continuous operation, charge approximately 90% of estimated quantity of water, half of sand, all cement, and the other one half of the sand into mixer in that sequence and mix thoroughly with remainder of water until mixture is uniform in color and consistency. Avoid excess mixing to prevent hasty solution of cement resulting in accelerated set. Discard plaster that has begun to set before it is used; retempering is not allowed. Do not use any caked or lump materials. Completely empty mixer and mixing boxes after each batch is mixed and keep free of old plaster.

2.2 COLOR

- A. Swimming pool plaster (marcite) shall be **white** in color.

PART 3 - EXECUTION

3.1 INSTALLATION OF POOL PLASTER

A. Completion of other work-**DO NOT** commence plastering (installation of marcite) of swimming pool until the following conditions have been met:

1. The SCDHEC has approved the pool for plaster (Contractor will be responsible for submission and approval of SCDHEC change order request form (Form DHEC 3627-02/2002) prior to start of swimming pool interior renovation). A copy of the SCDHEC approved change order must be provided to the Owner prior to start of work.
2. All trash and debris have been removed from areas adjacent to the pool.
3. All dust raising construction and/or activities in areas adjacent to the pool are complete or mitigated.
4. The circulation pump is operational.
5. The mechanical system has been flushed sufficiently to remove all dirt and debris from the piping system and the filtration and disinfection systems are ready for operation.
6. A domestic water quality analysis has been submitted to the Owner (at least 1 week prior to filling the pool) and adequate quantities of the chemicals, plus 25% overage for follow-up treatment, are on site and ready for use to balance the pool water chemistry.
7. Obtain written approval from the Owner. The Contractor accepts all liability from damage done to the pool plaster if the pool is plastered before the completion of the above listed items or without the written approval from the Owner.

POOL PLASTER AUTHORIZATION FORM:

The pool at the University of South Carolina – Aiken is hereby approved for the installation of the pool plaster.

Pursuant to the requirements of specification section 100000, paragraph 3.01.

Owner

Date

3.2 SURFACE CONDITIONS

A. Inspection:

1. Verify that swimming pool plaster can be installed in accordance with the original specifications.
2. During interior preparation inspect/investigate areas of pool with current/visible surface staining (steel/rust stains). Make recommendations and take necessary steps during surface preparation to prevent staining from reforming in new plaster surface). Coordinate inspection and resolution with Owner.

B. Discrepancies:

1. In the event of discrepancy, immediately notify the Owner.
2. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.
3. Failure to notify the Owner and give written notice of discrepancies shall constitute acceptance by the Contractor of existing conditions as fit and proper to receive the work.

3.3 PREPARATION OF SURFACES AND BOND COAT

A. Preparation of Plaster Surfaces:

1. Drain all water from pool.
2. The Pacer horse logo on the bottom of the pool is to remain. Take appropriate measures to protect the logo from damage during restoration. Replace damaged or broken tile with matching tile and grout. Consult with the Owner for approval of the replacement tile and grout.
3. Repair or replace broken, loose, and missing decorative tiles around the pool at the break line with matching tile and grout. Consult with the Owner for approval of the replacement tile and grout.
4. Remove the hydrostatic relief valve from the main drains, drill additional relief holes as needed in the floor of the pool. (Note: Additional drain holes, if required, are to be properly filled with hydraulic cement before re-plastering).
5. All loose marble is to be removed. Remove all loose concrete to firm substrate make sufficiently rough to provide a strong mechanical bond. Surfaces shall be roughened by sand blasting, water jetting, shot blasting, scarifying, grinding, chipping or combination thereof. The entire surface of the pool is to be chipped 4" to 6" on center in all directions down to the shell to insure proper bonding to the existing plaster surface (pay special attention to areas of the pool with visible surface staining).

6. Saw cut and chip at the coping line or tile line of the pool to insure proper keying of the new surface.

7. Saw cut and chip around, return lines, fixtures, and any other fittings.

8. Clean base surfaces of projections, dust, loose particles, grease, bond breakers, and foreign matter. Surface shall be structurally sound and free of any foreign substances and debris that could reduce or impair adhesion (paying special attention to areas of the pool with visible surface staining).

9. Wash entire concrete pool shell with acidic solution (muriatic acid solution) for additional etching and cleaning. Do not apply plaster directly to the surfaces of masonry or concrete that is coated with any acidic solution compound or similar agent until compound or agent is completely removed by water blasting.

10. Replace damaged wall return fittings and suction grates. Upgrade wall return fittings and suction grates required by SCHDEC. New suction grates required by SCHDEC will be Virginia Graeme Baker Pool and Safety Act (VGBA) compliant.

B. Bond Coat:

1. Provide a scratch coat bonding system, synthetic bond coating resin. As manufactured by Southern Grouts and Mortars (Bond Kote), or approved equal.

2. Scrub bond coat onto the prepared concrete surface immediately prior to plastering. Use stiff bristle brush and/or high nap rollers to ensure total coverage and penetration of the bond coat slurry.

3.4 APPLICATION OF PLASTER

A. General:

1. Thoroughly wash entire surface with 2,000 psi high-pressure water immediately prior to plastering. Do not apply plaster over dirt, rust, scale, grease, moisture, scuffed surfaces or conditions otherwise detrimental to the formation of a durable plaster finish. Wet cementitious base surfaces with a fine fog water spray to produce a uniformly moist condition and check screeds, pool equipment, and accessories for correct alignment before plastering is started. Do not apply plaster to base surfaces containing frost.

2. Install temporary coverings as required to protect adjoining surfaces from staining or damage by plastering operations. Protect ceramic tile, decking, perimeter overflow gutters, deck equipment, gratings, fittings and other items by suitable covering or masking. Mask or remove all hardware, hardware accessories, machined surfaces, plates, lighting fixtures and similar items in place not to receive pool plaster. Following completion of plaster for each space or area remove masking. Re-install all removed items utilizing workers skilled in the trades involved after resurfacing is complete.

3. Consult with manufacturer on application to specific surfaces being treated. Follow manufacturer's recommendation for curing or cleaning of cast-in-place concrete or shotcrete surfaces prior to application of plaster. Apply finish plaster to the properly prepared substrate at the minimum thickness required by the manufacturer, but no less than 3/8 inch thickness at any location. Apply finish plaster by hand or machine. If plastering machine is used, control fluidity of plaster to have a slump not exceeding 2-1/2 inches. Do not add additional water to the mix subsequent to determining water content to meet this slump.

4. Into the parging coat of the concrete surfaces; trowel a finish coat of the specified marcite plaster to a thickness between 1/4" and 3/8" maximum. Apply plaster with sufficient pressure to provide a good bond on bases. Work plaster to screeds at intervals of from 5 feet to 8 feet on straight surfaces. Apply smooth trowel finish without waves, cracks, trowel marks, ridges, pits, crazing, discoloration, projections, or other imperfections. Float the plaster to a uniform plane and trowel to a smooth, dense, impervious surface using extreme care to avoid stains. Form plaster carefully around curves and angles, well up to screeds. Take special care to prevent sagging and consequent drooping of applications. Produce surfaces free of visible junction marks in finish coat where one day's work adjoins another.

5. Take special care in finishing around pool fittings, making sure to mask off or plug openings so as not to fill such openings with excess plaster. Be certain to completely enclose pool fittings with plaster to insure a leak-proof seal around pipes, fittings, lights, anchors, etc.

B. Environmental Conditions: No plastering shall be done under unsuitable conditions of weather or temperature. No plastering shall be done when prevailing temperature is 40 °F or less.

C. Curing:

1. After the plaster has sufficiently dried and before drying has proceeded to a damaging point, cure the plaster by gradually filling the pool with water, preventing all damage to finished plaster surfaces.

2. Flow the water continuously until the pool is filled.

3. When the weather is hot and/or water pressure is low, keep the pool walls damp while the pool is filling. Curing plaster with fine fog water spray applied to finish coat as frequently as required to prevent dry-out of plaster. Keep plaster damp until pool is filled.

D. Patching, Pointing, and Cleaning Up: Upon completion, cut out and patch loose, cracked, damaged, or defective plaster; patches matching existing plaster in texture, color, and finish, flush with adjoining plaster. Perform pointing and patching of surfaces and plasterwork abutting or adjoining any other finish work in a neat and workmanlike manner. If 10 percent or more of the pools plaster finish is found to be defective, the plaster shall be removed and replaced completely from all surfaces. Remove plaster droppings or spattering from all surfaces. Leave plaster surfaces in clean, unblemished condition ready for pool filling. Remove protective coverings from adjoining surfaces. Remove rubbish and debris from the site.

3.5 PRE-FILL SPECIFICATION

A. Contractor shall employ a qualified water testing agency to analyze the domestic water with which the pool will be filled within 1 week of the plaster date, and shall employ a swimming pool experienced water chemistry consultant (CPO) to determine types and quantities of chemicals required to ensure calcium-balanced water immediately upon the completion of water filling. Refer to section 100000, Section 3.01.

B. Replace hydrostatic relief valve.

3.6 FILLING SPECIFICATION

A. Contractor will coordinate with Owner to ensure that the pool is continuously monitored while filling to prevent overflow.

3.7 EQUIPMENT ACTIVATION

A. The contractor will coordinate activation of the filtration mechanical equipment with the Owner upon filling of pool after plaster. Chemicals and other related support items will be supplied by Contractor at start-up.

3.8 CLEAN-UP

A. Upon completion of swimming pool plaster, contractor will remove all materials, equipment and debris occasioned by this work and leave the job site in a clean and presentable condition. Perform all such clean-up to the approval of the Owner's Representative.

PART 4 – INSPECTIONS

4.1 SCDHEC FINAL INSPECTION

A. Contractor will coordinate with the SCDHEC regional office for a final inspection of the swimming pool interior renovation upon completion and obtain written SCDHEC approval/acceptance for the project. A copy of the SCDHEC approval letter must be provided by the Contractor to the Owner upon completion.

PART 5 - WARRANTY

A. The Contractor will provide a minimum two (2) year warranty from the date of application. The Contractor's warranty at a minimum will cover repair of the plaster surface if the following conditions occur: delamination, cracks, spalling, or discoloration of the plaster finish attributed to improper installation. A copy of the warranty must be provided in writing to the Owner upon completion.

END OF SECTION