

RIVERBANKS ZOO & GARDEN

Procurement Services
400 Rivermont Drive, Columbia, SC 29210
Phone: 803-602-0831 Fax: 803-771-8722

INVITATION FOR BIDS- TRAIN ROAD REPLACEMENT

BID NUMBER: **B2025-01-02**

DATE: **01/07/2025**

OPENING DATE AND TIME: **January 28, 2025 11:00 AM EST**

OPENING LOCATION: Riverbanks Zoo & Garden
Procurement Services
400 Rivermont Drive
Columbia, SC 29210

MAILING ADDRESS: Riverbanks Zoo & Garden
Attn: Noelle Kelley
400 Rivermont Drive
Columbia, SC 29210

PROCUREMENT FOR: **Train Road Replacement**

Subject to the conditions, provisions and the enclosed specifications, sealed bids will be received at this office until the stated date and time and then publicly opened. Any bid received after the scheduled deadline will be immediately disqualified. The District assumes no responsibility for delivery of bids which are mailed. Oral, telephonic, electronic or telegraphic bids are invalid and will not receive consideration.

IT IS REQUIRED THAT THE BID NUMBER BE SHOWN ON THE OUTSIDE OF ENVELOPE.

**DIRECT ALL INQUIRES TO: Noelle Kelley, Procurement Manager, 803-602-0831,
nkelley@riverbanks.org**

KEY EVENTS / DATES

- | | |
|---------------------------------|--------------------------------|
| 1. Advertisement / Posting Date | January 7, 2025 |
| 2. Mandatory Site Visit | January 14, 2025, 10:00 AM EST |
| 3. Deadline for Questions | January 17, 2025, 3:00 PM EST |
| 4. Bid Due | January 28, 2025, 11:00 AM EST |
| 5. Project Completion Date | March 1, 2025 |

NOTICE TO BIDDERS: There will be a Mandatory Site Visit on January 14, 2025, at 10:00 AM EST at Riverbanks Zoo and Garden, 500 Wildlife Parkway, 29210 at Reception. After going over the railroad tracks turn right and enter though the gate labeled "Reception". Due to the importance of all bidders having a clear understanding of the scope and requirements for this project, attendance at this meeting will be required. Any changes that may be agreed upon as a result of this conference will be noted in an amendment to the bid invitation and posted on the Riverbanks Zoo and Garden procurement page. Each bidder shall fully acquaint himself with conditions relating to the scope and restrictions attending the execution of the work under the conditions of this bid. The failure or omission of a bidder to acquaint himself with existing conditions shall in no way relieve him of any obligation with respect to this bid or to the contract. All amendments to and interpretations of this solicitation shall be in writing and issued by the Procurement Manager. Richland-Lexington Riverbanks Park District DBA Riverbanks Zoo & Garden (hereinafter known as "the District") shall not be legally bound by any amendment or interpretation that is not in writing.

Deadline for questions is January 17, 2025, 3:00 PM (EST.) All questions must be submitted in writing.

"NO BID" RESPONSE FORM

To submit a "No Bid" response for this project, this form must be completed for your company to remain on our bidders list for commodities/services referenced.

Note: Please show the solicitation number on the outside of the envelope.

Please check statement(s) applicable to your "No Bid" response --

- Specifications are restrictive, i.e. geared toward one brand or manufacturer only (explain below).**
- Specifications are ambiguous (explain below).**
- We are unable to meet specifications.**
- Insufficient time to respond to the solicitation.**
- Our schedule would not permit us to perform.**
- We are unable to meet bond requirements.**
- We are unable to meet insurance requirements.**
- We do not offer this product or service.**
- Remove us from your vendor list for this commodity/service.**
- Other (specify below).**

Comments:

Company Name (as registered with the IRS)

Authorized Signature

Correspondence Address

Printed Name

City, State, Zip

Title

E-mail Address (Please Print)

Date

Telephone

/ _____
Fax

INSTRUCTIONS TO BIDDERS

1. Only one copy of bid invitation is required, unless otherwise stated.
2. Bids, amendments thereto or withdrawal request must be received by the time advertised for bid openings to be timely filed. It is the vendor's sole responsibility to ensure that these documents are received by the Procurement Office at or before the time indicated in the bid document.
3. When specifications or descriptive papers are submitted with the bid invitation, enter bidder's name thereon.
4. Submit your signed bid on the forms provided. Show bid number on envelope as instructed. The District assumes no responsibility for unmarked or improperly marked envelopes. Unsigned bids will be rejected.
5. Bidders must clearly mark as "Confidential" each part of their bid which they consider to be proprietary information that could be exempt from disclosure under Section 30-4-4C Code of Laws of South Carolina, 1976, (1986 Cum Supp) Freedom of Information Act. The District reserves the right to determine whether this information should be exempt from disclosure and no legal action may be brought against the District or its agents for its determination in this regard.
6. By submission of a bid, you are guaranteeing that all goods and services meet the requirements of the solicitation during the contract period.
7. This solicitation does not commit the District to award a contract, to pay any cost incurred in the preparation of the bid, or to procure or contract for goods or services listed herein.
8. **CORRECTION OF ERRORS ON THE BID FORM:** All prices and notations shall be printed in ink or typewritten. Errors should be crossed out, corrections entered and initialed by the person signing the bid. Erasures or use of typewriter correction fluid may be cause for rejection. No bid shall be altered or amended after specified time for opening.
9. **BIDDERS SCHEDULE:** Enter the manufacturer, brand, and model/catalog number, as applicable, and your bid price in the space provided on the bidder's schedule. Additional pages may be attached, when applicable, for alternates, etc.
10. **NOTIFICATION:** Intent to Award and/or Statement of Award will be posted on the Riverbanks Zoo & Garden website at <http://www.riverbanks.org/procurement>
11. **RIGHT TO PROTEST:** (does not apply to procurements \$1-\$50,000) Any prospective bidder, offeror, or contractor, who is aggrieved in connection with the solicitation of a contract shall protest in writing to the Procurement Manager within fifteen (15) calendar days of the date of issuance of the Invitation to Bid, Requests for Proposals or other solicitation documents, whichever is applicable, or any amendments thereto, if the amendment is at issue. Any actual bidder, offeror, or contractor, who is aggrieved in connection with the intended award or award of a contract, shall protest in writing to the Procurement Manager within seven (7) calendar days of the notification of Intent to Award or Statement of Award.
12. **PROTEST PROCEDURE:** A protest shall be in writing, submitted to the Procurement Manager, and shall set forth the specific grounds of the protest with enough particularity to give notice of the issues to be decided.
13. **QUESTIONS REGARDING SPECIFICATIONS AND/OR THE BIDDING PROCESS:**
 - To ensure fair consideration for all bidders the District prohibits any type of communications to or with any department, employee, or District official during the solicitation process, except as provided on page one of the solicitation. This includes any communications initiated by a bidder to any District Official or employee evaluating or

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considering the bidder, prior to the time an award decision has been made public. **Failure to comply shall be grounds for disqualification of the offending bidder from consideration for award of the bid and/or any future solicitations.**

- Any communications between the bidder and the District shall be initiated by the Procurement Office or the appropriate District representative in order to obtain necessary information or clarification needed to develop a proper and accurate evaluation of the bid. **Failure to comply shall be grounds for disqualification of the offending bidder from consideration for award of the bid and/or any future solicitations.**
- It will be the sole responsibility of the bidder to contact the Procurement Office prior to submitting a bid to ascertain if any amendments have been issued in order to obtain all such documentation, and to return the executed documentation with their bid. All amendments will be posted on the Riverbanks Zoo & Garden website at: <http://www.riverbanks.org/procurement>

GENERAL PROVISIONS

1. The District reserves the right to reject any and all bids, to cancel a solicitation, and to waive any technicality if deemed to be in the best interest of the District.
2. Unit prices will govern over extended prices unless otherwise stated in this bid invitation.
3. PROHIBITION OF GRATUITIES: Amended section 8-13-700 and 705 of the 1976 Code of Laws of South Carolina states: "Whoever gives or offers to any public official or public employee any compensation including a promise of future employment to influence his action, vote, opinion or judgment as a public official or public employee or such public official solicits or accepts such compensation to influence his action, vote, opinion or judgment shall be subject to the punishment as provided by Section 16-9- 210 and Section 16-9-220."
4. BIDDERS QUALIFICATIONS: Consideration will be given only to the contractors who can produce conclusive evidence that they can meet the following requirements:
 - 4.1 Adequate capital and credit rating sufficient to complete all operations under this contract in a satisfactory manner.
 - 4.2 An efficient office force with satisfactory record in expediting delivery of materials to field force, and capable of fulfilling proper liaison service with mechanical trade.
 - 4.3 An adequate and efficient field force with extensive knowledge of all types of work involved under this contract.
 - 4.4 A record of amicable relations with labor.
 - 4.5 An adequate supply of applicable equipment in good operating condition to fulfill the contract.
5. LICENSES, PERMITS, INSURANCE, & TAXES: All costs for required licenses, permits, insurances and taxes shall be borne by the Contractor.
6. INSURANCE:
 - 6.1 The amount and types of insurance required should be reasonably commensurate with the hazards and magnitude of the undertaking, but in no event of lesser amount nor more restrictive than the limits of liability and schedule of hazards below described. Without limiting its liability under the contract agreement, the Contractor shall procure and maintain, at its expense during the life of this contract, insurance of the types in the minimum amounts stated below:

SCHEDULE

LIMIT

WORKERS COMPENSATION

Statutory

As required by the State of South Carolina.

COMPREHENSIVE GENERAL LIABILITY

Premises Operations

\$1,000,000 Single Limit

Contractual Liability

Independent Contractors

Personal Injury

Products - Completed Operations

AUTOMOBILE LIABILITY

All Owned, Non-Owned, and Hired

\$ 100,000 Combined

- 6.2 The Contractor's comprehensive general liability policy shall also include blanket contractual liability coverage or shall be endorsed to cover the liability assumed by the Contractor. Said insurance shall be written by a company or companies approved to do business in the State of South Carolina and acceptable to the District. Before commencing any work hereunder, certificates evidencing the maintenance of said insurance shall be furnished to the District. The District, its officials, employees and volunteers are to be covered as insured's as respects: liability arising out of activities performed by or on behalf of the contractor, including the insured's general supervision of the contract; products and completed operations of the contractor; 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 the District, its officials, employees or volunteers. To accomplish this objective, the District shall be named as an additional insured under the Contractor's insurance as outlined above.
- 6.3 The contractor shall take out and maintain, during the life of this contract, the statutory Workmen's Compensation and Employer's Liability Insurance for all of his employees to be engaged in work on the project under this contract, and in case any such work is sublet, the contractor shall require the subcontractor similarly to provide Workmen's Compensation and Employer's Liability Insurance for all of the latter's employees to be engaged in such work.
- 6.4 Contractors insurance coverage shall be primary insurance as respects the District, it's officials, employees and volunteers. Any insurance or self-insurance maintained the District 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 an other basis.
- 6.5 Each insurance required by the District 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 by certified mail, return receipt requested, has been given to Riverbanks Zoo & Garden Procurement Office.
- 6.6 Contractor shall include all subcontractors as insured under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage's for subcontractors shall be subject to all the requirements stated herein.
- 6.7 All certificates and endorsements must be received and approved by the District within ten (10) days after notification of award.

- 6.8 The District, its officers and employees shall be named as an “additional insured” in the Automobile and General Liability policies, and it shall be stated on the Insurance Certificate with the provision that this coverage “is primary to all other coverage the District may possess”.
7. **BIDDERS RESPONSIBILITY:** Each bidder shall fully acquaint himself with conditions relating to the scope and restrictions attending the execution of the work under the conditions of this bid. It is expected that this will sometimes require on-site observation. The failure or omission of a bidder to acquaint himself with existing conditions shall in no way relieve him of any obligation with respect to this bid or to the contract.
8. **AWARD CRITERIA:** The contract shall be awarded to the lowest responsible and responsive bidder(s) whose bid meets the requirements and criteria set forth in the Invitation for Bid. The award can be made to one or a multiple of contractors; whichever is in the best interest of the District, or unless otherwise stated on bidders’ schedule.

If two or more bidders are tied in price while otherwise meeting all of the required conditions, awards are determined in the following order of priority:
 - 8.1 If there is a South Carolina firm tied with an out-of-state firm, the award must be made automatically to the South Carolina firm.
 - 8.2 Tie bids involving South Carolina produced or manufactured products, when known, and items produced or manufactured out of the State must be resolved in favor of the South Carolina commodity.
 - 8.3 Tie bids involving a business certified by the South Carolina Office of Small and Minority Business Assistance as a Minority Business Enterprise must be resolved in favor of the Minority Business Enterprise.
 - 8.4 Tie bids involving South Carolina firms must be resolved in favor of the South Carolina firm located closest to the District.
 - 8.5 In all other situations in which bids are tied, the award must be made to the tied bidder offering the quickest delivery time, or if the tied bidders have offered the same delivery time, the tie must be resolved by the flip of a coin witnessed by the Procurement Manager. All responding vendors must be invited to attend.
9. **WAIVER:** The District reserves the right to waive any Instruction to Bidders, General or Special Provisions, General or Special Conditions, or specifications deviation if deemed to be in the best interest of the District.
10. **COMPETITION:** This solicitation is intended to promote competition. If any language, specifications, terms and conditions, or any combination thereof restricts or limits the requirements in this solicitation to a single source, it shall be the responsibility of the interested contractor to notify the Procurement Services Office in writing within five (5) days prior to the opening date. The solicitation may or may not be changed but a review of such notification will be made prior to the award.
11. **REJECTION:** The District reserves the right to reject any bid that contains prices for individual items or services that are inconsistent or unrealistic when compared to other prices in the same or other bids or ambiguous bids which are uncertain as to terms, delivery, quantity, or compliance with specifications may be rejected or otherwise disregarded if such action is in the best interest of the District.

GENERAL CONDITIONS

1. **DEFAULT:** In case of default by the contractor, the District reserves the right to purchase any or all items in default in the open market, charging the contractor with any excessive costs. Should such charge be assessed, no subsequent bids will be considered, or purchase orders issued to the defaulting contractor until the assessed charge has been satisfied.
2. **NON-APPROPRIATION:** Any contract entered into by the District resulting from this bid invitation shall be subject to cancellation without damages or further obligation when funds are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal period or appropriated year.
3. **INDEMNIFICATION:** The contractor agrees to indemnify and save harmless the District and all District officers, agents and employees from claims, suits, actions, damages and costs of every name and description, arising out of or resulting from the use of any materials furnished by the Contractor, provided that such liability is not attributable to negligence on the part of the District or failure of the District to use the materials in the manner outlined by the Contractor in descriptive literature or specifications submitted with the Contractor's bid.
4. **CONTRACT ADMINISTRATION:** Questions or problems arising after award of this contract shall be directed to the Procurement Manager. Copies of all correspondence concerning this contract shall be sent to, 400 Rivermont Drive, Columbia, SC 29210. All change orders must be authorized in writing by the Procurement Manager. The District shall not be bound to any change in the original contract unless approved in writing by the Procurement Manager.
5. **PUBLICITY RELEASES:** Contractor agrees not to refer to award of this contract in commercial advertising in such a manner as to state or imply that the products or services provided are endorsed or preferred by the User. The contractor shall not have the right to include the Districts name in its published list of customers without prior approval. With regard to news releases, only the name of the project and duration of contract may be used and then only with prior approval of the District. The contractor also agrees not to publish, or cite in any form, any comments or quotes from the Riverbanks Zoo & Garden Staff unless it is a direct quote from the Public Relations Officer.
6. **QUALITY OF PRODUCT:** Unless otherwise indicated in this bid it is understood and agreed that any items offered or shipped on this bid shall be new and in first class condition unless otherwise indicated herein.
7. **S.C. LAW CLAUSE:** Upon award of a contract under this bid, the person, partnership, association or corporation to whom the award is made must comply with the laws of South Carolina which require such person or entity to be authorized and/or licensed to do business with this State. Notwithstanding the fact that applicable statutes may exempt or exclude the successful bidder from requirements that it be authorized and/or licensed to do business in this State, by submission of this signed bid, the bidder agrees to subject himself to the jurisdiction and process of the courts of the State of South Carolina as to all matters and disputes arising or to arise under the contract and the performance thereof, including any questions as to the liability for taxes, licenses, or fees levied by the State.
8. **ASSIGNMENT:** No contract or its provisions may be assigned, sublet, or transferred without the written consent/Acknowledgement of the Procurement Manager.
9. **AFFIRMATIVE ACTION:** The successful bidder will take affirmative action in complying with all Federal and State requirements concerning fair employment and treatment of all employees, without regard or discrimination by reason of race, color, religion, sex, national origin or physical handicap.

10. **BIDDING CONDITION OF PRICE:** All bid prices submitted shall remain effective for a minimum period of 90 days, or until evaluation of bids is complete and award is made unless mutual consent of parties is established to extend due to unforeseen circumstances. Thereafter, the contract prices shall remain effective for the term of the contract.
11. **8% S.C. SALES TAX:** The District shall add 8% sales tax to all orders; however lump sum bids shall include sales tax in bid price unless otherwise noted. **By submission of a signed proposal, you are certifying, under penalties of perjury that you comply with the SC Code of Laws 1976, as amended, relating to payment of any applicable taxes. This will certify to the District your compliance.**

Forms to register for all taxes administered by the South Carolina Department of Revenue may be obtained by calling the License and Registration Section at (803) 898-5872 or by writing to the South Carolina Department of Revenue, Registration Unit, Columbia, South Carolina 29214-0140.
12. **PAYMENT TERMS:** Payment will be made within thirty (30) days after acceptance of completed order/project. Early payment discount, if available, will be calculated from date of acceptance. Application for payment shall reflect services completed through the last day of the month. **There will be no exceptions to these payment terms unless approval is obtained in writing from the Procurement Manager prior to bid opening date.**
13. **BID REQUIREMENTS:** Bid requirements on the equipment/goods/services specified are not intended to be restrictive to potential bidders but indicate the required features for satisfactory performance. The District will determine if minor deviations from these features are acceptable.
14. **DEVIATIONS FROM SPECIFICATIONS:** Any deviation from specifications indicated herein must be clearly pointed out; otherwise, it will be considered that items offered are in strict compliance with these specifications, and successful bidder will be held responsible, therefore. Deviations must be explained in detail on separate attached sheet(s). The listing of deviations, if any, is required but will not be construed as waiving any requirements of the specifications. Deviations found in the evaluation of the bid and not listed may be cause for rejection. Bidders offering substitute or equal items must provide information sufficient enough to determine acceptability of item offered.
15. **CONTRACT:** This bid, contract and submitted documents, when properly accepted by the District along with a written purchase order, shall constitute a contract equally binding between the successful offeror, and the District. No different or additional terms will become a part of this contract with the exception of a Change Order.
16. **CHANGE ORDERS:** No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All change orders to the contract will be made in writing by the Procurement Manager.
17. **AMENDMENTS:** All amendments to and interpretations of this solicitation shall be in writing and issued by the Procurement Manager. The District shall not be legally bound by any Amendment or interpretation that is not in writing.
18. **BID EVALUATION:** Bids received will be evaluated by the Procurement Manager. However, based on bid total, final decision for bid award may rest with the Richland-Lexington Riverbanks Park Commission. Factors to be considered during the evaluation process include, but are not limited to:
 - 18.1 - Cost
 - 18.2 - Reputation and dependability of the contractor
 - 18.3 - Past performance

19. **ARBITRATION:** Under no circumstances and with no exception will the District act as arbitrator between the Contractor.
20. **SHIPPING:** All deliveries shall be shipped F.O.B. point Destination-freight prepaid; the seller pays and bears all freight charges; collect shipments will not be accepted. It is agreed by the parties hereto that delivery by the contractor to the common carrier does not constitute delivery to the District. Any claim for loss or damage shall be between the contractor and the carrier.
21. **"OR APPROVED EQUAL":** Certain processes, types of equipment or kinds of material are described in the specifications and/or on the drawings by means of trade/brand names and catalog numbers. In each instance where this occurs, it is understood and inferred that such description is followed by the words "or approved equal". Such method of description is intended merely as a means of establishing a standard of comparability. However, the Owner reserves the right to select the items, which, in the judgment of the Owner, are best suited to the needs of the Owner, based on price, quality, service, availability, standardization and other relative factors. Bidders should indicate brand name, model, model number, size, type, weight, color, etc., of the item bid, if not exactly the same as the item specified. Vendor's stock number or catalog number is not sufficient to meet this requirement. If any bidder desires to furnish an item different from the specifications, vendor should submit along with the bid, the information, data, pictures, designs, cuts, etc., of the material they plan to furnish to enable the Owner to compare the material specified; and such material shall be given due consideration. The Owner reserves the right to insist upon and receive items as specified if the submitted items do not meet the Owner's standards for acceptance.
22. **ALTERNATE BIDS:** Bidders wishing to submit an alternate for consideration that does not meet the District's specifications (or approved deviations), must submit their proposal as an alternate bid. **This must be properly marked on both the sealed envelope and the Bidder's Schedule and submitted separately from any other bid. Failure to comply shall be grounds for being deemed non-responsive.**
23. **DRUG-FREE WORKPLACE:** By submittal of this bid, you are certifying that you will comply with Title 44, Code of Laws of South Carolina, 1976, Section 44-107-30.
24. **ILLEGAL IMMIGRATION & PUBLIC CONTRACTS:** In accordance with the South Carolina Illegal Immigration Reform Act, [2008, Act No. 280](#). Section 3 of this Act added to [Chapter 14 to Title 8](#) of the South Carolina Code of Laws prohibits covered persons from entering into covered contracts unless the contractor agrees either (a) to verify all new employees through the federal work authorization program [and requires the same from subcontractors and sub-subcontractors] or (b) to employ only qualifying workers. Effectively, the Act also requires contractors to agree to provide any documentation required to establish either (a) that the Act does or does not apply to the contractor, subcontractor, or sub-subcontractor; or (b) that the contractor, and any subcontractor or sub-subcontractor, are in compliance with Section 3 of the Act."
25. **NO CONTACT POLICY:** After the date and time established for receipt of proposals by the District, any contact initiated by any offeror with any District representative, other than the Purchasing Department representative listed herein, concerning this solicitation is prohibited. Any such unauthorized contact may cause the disqualification of the offeror from this procurement transaction.
26. **TERMINATION:** Subject to the provisions below, the contract may be terminated for any reason by the District providing a 30-day advance notice in writing is given to the contractor.
 - 26.1 **Termination for Cause:** Termination by the District for cause, default or negligence on the part of the contractor shall be excluded from the foregoing provisions, termination costs, if any, shall not apply. The thirty (30) days advance written notice requirement is waived and the default provision in this bid shall apply; see General Conditions.

- 26.2 Termination for Convenience: The District, by written notice, may terminate this contract in whole or in part, when it is in the best interest of the District.
- 26.3 Termination requirement does not apply if contract is to terminate at the end of an established contract term.
- 26.4 Termination for Non appropriations: If the District fails to appropriate or authorize the expenditure of sufficient funds to provide the continuation of this contract, or if a lawful order issued in or for any fiscal year during the term of the contract reduces the funds appropriated or authorized in such amount as to preclude making the payments set out therein, the contract shall terminate on the date said funds are no longer available without any termination charges or other liability incurring to the District. Any termination for non-appropriations shall not prohibit the District from obtaining services from another source or in another manner, which is in the best interest of the District.

SCOPE OF WORK

INTENT:

At Riverbanks Zoo and Gardens, we continue to make improvements to the facility for enhancing the guest experience and animal welfare. This scope of work includes replacement of the train road located by the farmyard. The contractor shall demolish, dispose of, and pour a new concrete pathway for the train to run on. The contractor shall use concrete that meets the specifications from Attachment A.

SPECIAL PROVISIONS:

Contractor shall use and furnish at his own expense all labor, equipment, and materials necessary for the satisfactory performance of the work set forth herein. After installation, all work areas shall be left in a clean condition. A clean condition is defined as the absence of residue and materials in or around the working area.

HOURS OF OPERATION:

Riverbanks Zoo and Garden is open Monday through Sunday from 9:00 am to 5:00 pm and closed on Thanksgiving and Christmas Days.

COMPLAINTS:

Contractor shall, in person or by his agent, investigate any complaints which may concern or involve the performance of this Agreement. Contractor shall report to the District on the day following receipt of the complaint as to the action or procedure taken to cure the situation.

DISPOSAL OF MATERIALS:

Contractor shall dispose of all materials used. The Contractor will ensure proper handling and disposal of materials removed from the work areas to prevent discharges of pollutants to surface waters or groundwater.

REQUIREMENTS:

- Bidders shall refrain from direct or indirect communications promoting their qualifications for this Project to the District or any member of the Lexington-Richland Riverbanks Park Commission, other than through the formal submittal process established by this Invitation for Bid (IFB). Failure to comply with submittal requirements may cause the submittal to be removed from further consideration.
- The selected contractor must hold the required license(s) for this project (if required)
- Contractor must be bondable, a certified contractor and have personnel on site who hold the necessary OSHA required certifications to safely perform the work.
- Must have an Experience Modifier Rate (EMR) of less than one (1).

- The contractor should submit as a part of the bid package the safety program to be used on this site to ensure workplace safety.
- Contractor's site superintendent shall coordinate all activities with Zoo Project Manager.
- All deliveries must be coordinated with the Project Manager
- Riverbanks Zoo and Garden is a smoke-free facility.

CONSIDERATIONS:

- The area around the Train Road is open to Riverbanks employees and guests, so deliveries, work practices, application processes and behavior of staff will be closely monitored by the Project Manager to ensure the quality of the staff environment.

OBLIGATION:

- Riverbanks Zoo and Garden makes no guarantees as to the correctness of the information and materials identified in this specification. It shall be the contractor's responsibility to ascertain the full extent of this job.

REGULATIONS AND STANDARDS:

- The work shall comply with all laws, ordinances and regulations of all legally constituted authorities having jurisdiction over any part of this work, County and State level. These requirements supplement the specifications and shall take precedence in case of conflict.
- All work shall be performed and completed in a thoroughly workmanlike and professional manner in accordance with best modern practices, regardless of any omissions from the attached specifications and/or drawings. All material and equipment shall be new and shall comply with the applicable standard in every case where such a standard has been established for the particular type of material in question.
- Safety Department to review fall protection plans specific to this project as requested. The Zoo Project Manager to final approve all aspects of the project including changes and payments.
- The Bidder shall supply for review, all SCOSHA written programs as applicable to include, but not limited to, the following OSHA standards; Walking-Working Surfaces (Fall Protection), Control of Hazardous Energy (Lockout/Tagout), Personal Protective Equipment and Permit-required Confined Spaces.

SITE CLEAN UP:

- The contractor shall keep the job site clean and free from an accumulation of debris or materials during the project. At the completion of the work, the entire facility and premises shall be left clean.
- The contractor shall remove from the premises all accumulations of trash and other materials, which are not to be used in the project, daily.

CONTRACTOR'S CARE:

- Contractor shall exercise due care in protecting all trees, property, and surrounding property. Contractor will be responsible for any damage and will be required to restore any damage. If the Contractor fails or refuses to repair any damage promptly, the Project Manager may have the necessary work performed and charge the cost thereof to the contractor.

FINAL INSPECTION:

- At the completion of the contract work, a representative of Riverbanks Zoo and Garden shall accompany the contractor on an inspection of the work. All defects found in the work will be corrected before final payment is authorized.

BIDS MUST INCLUDE

- Solicitation name and number clearly marked on the outside of the envelope
- One hard copy and one digital (i.e. thumb drive)
- A schedule showing phases and duration
- A written introduction summarizing your company's background, resources and relevant experience.
- Three examples of past or current projects of similar size and scope, and the timelines under which they were completed
- Three references from past projects
- MBE/DBE/WBE Cultivation Plan- The owner is committed to cultivating MBE/DBE/WBE involvement in all aspects of owner's operations. Explain how your firm will cultivate MBE/DBE/WBE participation in the bid
- A single point of contact – name, title, phone and email address must be included.

HOURS OF OPERATION:

Riverbanks Zoo and Garden is open Monday through Sunday from 9:00 am to 5:00 pm and closed on Thanksgiving and Christmas Days.

DISPOSAL OF WASTE:

- The Contractor will ensure proper handling and disposal of materials removed from the containers to prevent discharges of pollutants to surface waters or groundwater.

**NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES)
REQUIREMENT:**

- Contractor shall comply with current and future requirements of the City of Columbia, City of West Columbia and State of South Carolina's NPDES permits (if any) as it may be amended from time to time.

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Procurement Services
 400 Rivermont Drive, Columbia, SC 29210
 Phone: 803-602-0831 Fax: 803-771-8722

BIDDERS SCHEDULE

BID NUMBER: B2025-01-02

DATE: 01/07/2025

OPENING DATE AND TIME: January 28, 2025 11:00 AM (EST)

OPENING LOCATION: Riverbanks Zoo & Garden
 Procurement Services
 400 Rivermont Drive
 Columbia, SC 29210

PROCUREMENT: Under a firm fixed price contract provide all materials, equipment, and labor for the Train Road Replacement project in accordance with the specifications, conditions, and provisions as applicable to this solicitation. All prices are to include all applicable transportation, recycling, disposal, and applicable mark-up costs. **Submit one (1) hard copy and one (1) digital copy.**

Delivery Requirements: All deliveries shall be shipped F.O.B. point Destination-freight prepaid; the seller pays and bears all freight charges; collect shipments will not be accepted. It is agreed by the parties hereto that delivery by the contractor to the common carrier does not constitute delivery to the District. Any claim for loss or damage shall be between the contractor and the carrier.

ITEM NUMBER	QTY U/I	DESCRIPTION MFG/MDL/STK #	TOTAL PRICE
#1:	EA	Labor	
#2:	EA	Materials	
#3:	EA	Total Cost	

COMPANY: _____

AUTHORIZED SIGNATURE: _____

The attached Certificate of Familiarity must be returned with bid.

SOLICITATION NUMBER: B2025-01-02

DATE: January 28, 2025

CERTIFICATE OF FAMILIARITY

The undersigned, having fully familiarized himself with the information contained within this entire solicitation and applicable amendments, submits the attached bid and other applicable information to the District, which I verify to be true and correct to the best of my knowledge. I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a bid for the same materials, supplies or equipment, and is in all respects, fair and without collusion or fraud. I agree to abide by all conditions of this bid and certify that I am authorized to sign this bid. I further certify that this bid is good for a period of ninety (90) days, unless otherwise stated.

Company Name as registered
with the IRS

Authorized Signature

Correspondence Address

Printed Name

City, State, Zip

Title

Date

Telephone Number/Fax Number

Remittance Address

E-mail Address (PLEASE PRINT)

City, State, Zip

Telephone Number

Toll-Free Number if available

Federal Tax ID Number

SC Sales and Use Tax Number

INTENTIONALLY LEFT BLANK

Richland-Lexington Riverbanks Park District

**B2025-01-02
Train Road Replacement**

LIST OF REFERENCES

Please list four (4) references that your company has recently or currently provided similar products and/or services for.

Company Name

Company Name

Representative

Representative

Address

Address

City, State, Zip Code

City, State, Zip Code

Telephone # / Fax #

Telephone # / Fax #

E-Mail Address

E-Mail Address

Company Name

Company Name

Representative

Representative

Address

Address

City, State, Zip Code

City, State, Zip Code

Telephone # / Fax #

Telephone # / Fax #

E-Mail Address

E-Mail Address

COMPANY: _____

AUTHORIZED SIGNATURE: _____



Mix Code:

BL309

STRENGTH (psi)			3000
AIR (%)			3.00 To 6.00
SLUMP (in.)			3.00 To 5.00
Cement	LBS	TYPE 1L	420
Fly Ash	LBS	Fly Ash	135
Sand	LBS	Natural	1186
Stone	LBS	#57	1320
Stone	LBS	#769	500
Admix	OZ	AEA	AS REQ
Admix	OZ	7700	11.0
Water	GAL	WATER	33.0
WC+P			0.50
LOCATION			Exposed

* Additional HRWR can be added when ordered to provide 8" max slump
 * Fibers Dosed when ordered at 1.5 lbs/cuyd

We guarantee that the above design(s) will meet the specified ultimate strength requirement when placing, sampling, testing and curing are performed and test results are evaluated in accordance with applicable ASTM C-94 and/or ACI standards and specifications and when such is executed by personnel certified by ACI. Yield will be evaluated in accordance w/ ACI & ASTM standards.
 ASTM C-94 and the ACI require that the ready-mix producer be provided with copies of test reports in which compressive strength is a basis for acceptance. We hereby request copies of these reports in order that we can properly monitor the performance of concrete on this project.

Sincerely,

Bill Fee
 Technical Services Manager - Coastal
 Division

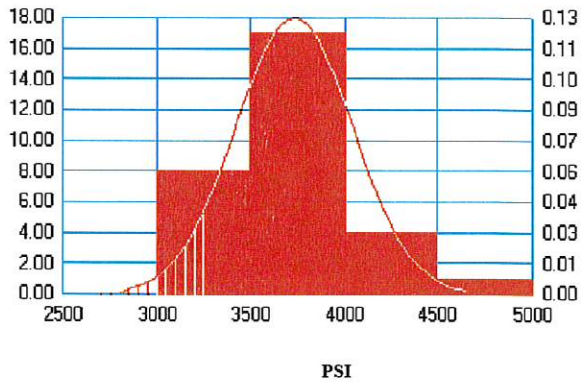
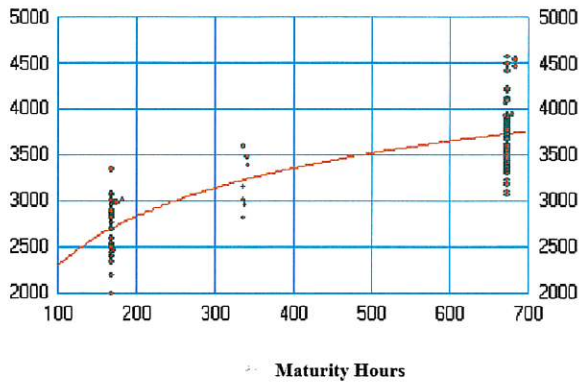


Date: 12/18/2024

Mix Name: **BL309**

Units : US

PSI Strength and Strength Fit vs Maturity PSI # of Occ. Histogram for 28 Day Strength %/PSI



95% of tests lie above cross-hatched area

STRENGTH SUMMARY, Compression 4" x 8"
Strengths

No. Of Tests	Avg Slump	Avg Air	Avg 7 Day	Avg 28 Day	Std Dev	ACI318 Req'd	ACI 318 F'c+1.34s
30	5.82	4.84	2700	3730	310	3410	3413

DETAILED STRENGTH, Compression 4" x 8"

Date	Slump	Air	7 Day	28 Day	Acc Age Run Avg 3
6/19/2023	4.00	4.20	3350	4490	
6/30/2023	6.00	6.00	2510	3350	
6/30/2023	5.00	5.60	2450	3720	3860
6/30/2023	6.50	4.10	2600	3570	3550
7/11/2023	6.25	5.60	2850	3160	3480
7/11/2023	6.00	5.70	2960	3830	3520
7/18/2023	6.50	5.50	2840	3800	3600
7/18/2023	6.00	6.00	3000	3830	3820
7/18/2023	7.00	6.20	2770	3730	3790
7/18/2023	7.00	5.40	3080	4090	3880
7/18/2023	6.00	4.80	2880	3800	3870
7/21/2023	6.50	4.00	2710	3470	3780
7/21/2023	7.50	6.40	2770	3790	3690
7/28/2023	8.00	6.00	2540	3470	3580
7/28/2023	7.50	5.50	2400	3360	3540
8/3/2023	6.75	4.20	2510	3450	3430
9/15/2023	6.50	5.20	3090	3650	3490
9/20/2023	6.00	5.10	2350	3370	3490
11/30/2023	5.50	5.40	2200	3630	3550
1/21/2024	5.00	1.00	2820	3730	3570
1/23/2024	6.00	5.50	2900	3930	3760

Date	DETAILED STRENGTH, Compression				4" x 8"
	Slump	Air	Strengths		Acc Age
			7 Day	28 Day	Run Avg 3
3/18/2024	4.50	3.00	2470	3500	3720
4/4/2024	5.00	3.60	3010	3600	3670
4/15/2024	4.25	3.00	2390	4000	3700
5/7/2024	4.00	5.50	2990	3940	3850
6/4/2024	7.00	2.90	2550	3860	3930
6/14/2024	5.00	6.00	2010	4060	3950
6/28/2024	4.25	4.60	2490	3860	3930
10/4/2024	5.00	4.00	2700	3420	3780
10/25/2024	4.00	5.10		4510	3930



Brand: OneCem®
Material: Blended Cement
Type: IL (8) MS

Material Certification Report

Test Period: 04-Oct-2024 to 04-Oct-2024
Date Issued: 18-Nov-2024

Certification
 This cement meets the specifications of ASTM C595 and AASHTO M 240 for Type IL cement.

General Information

Supplier: Holcim (US) Inc.	Source Location: Holly Hill Plant Silo: 22
Address: 8700 West Bryn Mawr Ave Chicago, IL 60631	2173 Gardner Blvd Holly Hill, SC 29059
Contact:	Contact: Yasser Thabet / (803) 496-2931

The following is based on average test data during the test period. The data is typical of product shipped from this source; individual shipments may vary.

Test Data on ASTM Standard Requirements

Chemical			Physical		
Item	Limit ¹	Result	Item	Limit ¹	Result
Sulfate as SO ₃ (%) ² (C114)	3.0 max	3.4	+45 um (No. 325) Sieve (%) (C430)	-	1.0
Loss on Ignition (%) (C114)	10.0 max	5.0	Blaine Fineness (m ² /kg) (C204)	-	473
			Density (g/cm ³) (Specific Gravity) (C188)	-	-
CaCO ₃ in Limestone (%) (C114)	40 min	94	Initial Vicat (minutes) (C191)	45-420	85
Total CaCO ₃ + MgCO ₃ in LS (%) ⁴ (C114)	70 min	97	Air Content (%) (C185)	12 max	8
			Compressive Strength MPa (psi) (C109)		
			3 day	13.0 (1890) min	27.5 (3990)
			7 day	20.0 (2900) min	33.9 (4920)
			28 day (previous month's data)	25.0 (3630) min	44.6 (6470)
			Mortar Bar Expansion (%) (C1038)	0.020 max	-0.003
			Sulfate Exp. @180 days (%) (C1012) ³	0.10 max	0.03

Test Data on ASTM Optional Requirements

Chemical			Physical		
Item	Limit ¹	Result	Item	Limit ¹	Result
Notes (*1-9)					

¹ Dashes in the Limit/Result columns mean Not Applicable.
² It is permissible to exceed the specification limit provided that ASTM C1038 Mortar Bar Expansion does not exceed 0.020% at 14 days.
³ Current Production run not available; most recent results provided. The ASTM C1012 limit for moderate sulfate expansion is 0.10% maximum at 180 days; the limit for high sulfate expansion is either 0.05% maximum at 180 days or 0.10% maximum at one year.
⁴ LS is the abbreviation for limestone.
 This data may have been reported on previous Material Certification Reports. It is typical of the cement being currently shipped.
 Limestone : 7.12%

Yasser Thabet,
 Quality Manager



Date: November 27, 2024
 TEC Services I.D.: TEC 06-0509
 Lab No.: 24-1835-BU

REPORT OF FLY ASH TESTS					
Client ID: <u>BU093024</u>		Date Sampled: <u>September 30, 2024</u>			
Manufacturer: <u>Buck Station</u>		Date Received: <u>October 16, 2024</u>			
Material Type: <u>Harvested Coal Ash from a Commingled Source</u>					
Chemical Analysis	Results (wt%)	Specification (Class F)			
		ASTM C618-23e1	AASHTO M295-21		
Silicon Dioxide (SiO ₂)	57.0	---	---		
Aluminum Oxide (Al ₂ O ₃)	27.2	---	---		
Iron Oxide (Fe ₂ O ₃)	7.59	---	---		
Sum of Silicon Dioxide, Iron Oxide & Aluminum Oxide (SiO ₂ +Al ₂ O ₃ +Fe ₂ O ₃)	91.8	50.0 % min.	50.0 % min.		
Calcium Oxide (CaO)	1.1	18.0 % max.	18.0 % max.		
Magnesium Oxide (MgO)	1.2	---	---		
Sodium Oxide (Na ₂ O)	0.39	---	---		
Potassium Oxide (K ₂ O)	2.78	---	---		
"Sodium Oxide Equivalent (Na ₂ O+0.658K ₂ O)"	1.67	---	---		
Sulfur Trioxide (SO ₃)	0.07	5.0 % max.	5.0 % max.		
Loss on Ignition	0.8	6.0 % max.	5.0 % max.		
Moisture Content	0.1	3.0 % max.	3.0 % max.		
Available Alkalies					
Sodium Oxide (Na ₂ O) as Available Alkalies	0.09	---	---		
Potassium Oxide (K ₂ O) as Available Alkalies	0.74	---	---		
Available Alkalies as "Sodium Oxide Equivalent (Na ₂ O+0.658K ₂ O)"	0.58	---	1.5 % max.*		
Physical Analysis					
Fineness (Amount Retained on #100 Sieve)	5.4%	10 % max.	---		
Fineness (Amount Retained on #325 Sieve)	23.7%	34 % max.	34 % max.		
Strength Activity Index (Using Lehigh Leeds Alabama Portland Cement)					
At 7 Days:		80%	75 % min. [†] (of control)	75 % min. [†] (of control)	
Control Average, psi: 4360	Test Average, psi: 3490				
At 28 Days:		88%	75 % min. [†] (of control)	75 % min. [†] (of control)	
Control Average, psi: 5350	Test Average, psi: 4720				
Water Requirements (Test H ₂ O/Control H ₂ O)		97%	105% max. [†] (of control)	105% max. [†] (of control)	
Control, mls: 242	Test, mls: 235				
Autoclave Expansion:		0.03%	---	± 0.8 % max.	
Uniformity Requirements					
Specific Gravity:	2.31	Average: 2.30	0.3%	5 % max. from average	5 % max. from average
% Retained #325 Sieve:	23.7	Average: 27.3	-3.6%	5 % max. from average	5 % max. from average

[†] Meeting the 7 day or 28 day strength activity index will indicate specification compliance
 * Optional

The results of our testing indicate that this sample complies with both ASTM C618-23e1 and AASHTO M295-21 specifications for Class F pozzolans.

Respectfully Submitted,
SGS TEC Services

 Dean Roosa
 Project Manager

 Shawn McCormick
 Laboratory Principal



SGS TEC SERVICES
 235 Buford Drive | Lawrenceville GA 30046
 770-995-8000 | www.tecservices.com





Product Quality Summary Report

Period	09/08/2024 - 09/15/2024	
Plant	51207 North Columbia Quarry	51207 North Columbia Quarry
Product	0570 #57	0789 #789
Specification	SCDOT 57	SCDOT 789
1 1/2" (37.5mm)	100	
1" (25mm)	99	
3/4" (19mm)	82	100
1/2" (12.5mm)	37	97
3/8" (9.5mm)	23	82
#4 (4.75mm)	8	29
#8 (2.36mm)	5	
#16 (1.18mm)		3
#100 (.15mm)		1
Pan	0.0	0.0

Summit Materials

Plant 060 020017-Lanier Plant	Name/Title Michael Areheart / Quality Manager
Product C33-C33 Concrete Sand	Report Date 10/02/2024
Period: 09/02/2024 - 10/02/2024	

Procedure	Sieve/Test	Result	Unit	ASTM C33 Sand
	3/8" (9.5mm)	100.0	%	100-100
	#4 (4.75mm)	99.9	%	95-100
	#8 (2.36mm)	96.9	%	80-100
	#16 (1.18mm)	80.4	%	50-85
	#30 (.6mm)	45.1	%	25-60
	#50 (.3mm)	17.0	%	5-30
	#100 (.15mm)	5.7	%	0-10
	#200 (75µm)	0.58	%	
	FM	2.55		2.3-3.1

StonemontQC

Summit Materials



We create chemistry

3	03 30 00	Cast-in-Place Concrete
	03 40 00	Precast Concrete
	03 70 00	Mass Concrete

MasterAir® AE 90

Air-Entraining Admixture

Formerly MB-AE 90*

Description

MasterAir AE 90 air-entraining admixture is for use in concrete mixtures. It meets the requirements of ASTM C 260, AASHTO M 154 and CRD-C 13.

Applications

Recommended for use in:

- Concrete exposed to cyclic freezing and thawing
- Production of high-quality normal or lightweight concrete (heavyweight concrete normally does not contain entrained air)

Features

- Ready-to-use in the proper concentration for rapid, accurate dispensing

Benefits

- Improved resistance to damage from cyclic freezing and thawing
- Improved resistance to scaling from deicing salts
- Improved plasticity and workability
- Reduced permeability – increased watertightness
- Reduced segregation and bleeding

Performance Characteristics

Concrete durability research has established that the best protection for concrete from the adverse effects of freezing and thawing cycles and deicing salts results from: proper air content in the hardened concrete, a suitable air-void system in terms of bubble size and spacing, and adequate concrete strength, assuming the use of sound aggregates and proper mixing, transporting, placing, consolidation, finishing and curing techniques. MasterAir AE 90 admixture can be used to obtain adequate freeze-thaw durability in a properly proportioned concrete mixture, if standard industry practices are followed.

Air Content Determination: The total air content of normal weight concrete should be measured in strict accordance with ASTM C 231, "Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method" or ASTM C 173/C 173M, "Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method." The air content of lightweight concrete should only be determined using the Volumetric Method. The air content should be verified by calculating the gravimetric air content in accordance with ASTM C 138/C 138M, "Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete." If the total air content, as measured by the Pressure Method or Volumetric Method and as verified by the Gravimetric Method, deviates by more than 1.5%, the cause should be determined and corrected through equipment calibration or by whatever process is deemed necessary.



MasterAir AE 90

Technical Data Sheet

Guidelines for Use

Dosage: There is no standard dosage for MasterAir AE 90 admixture. The exact quantity of air-entraining admixture needed for a given air content of concrete varies because of differences in concrete-making materials and ambient conditions. Typical factors that might influence the amount of air entrained include: temperature, cementitious materials, sand gradation, sand-aggregate ratio, mixture proportions, slump, means of conveying and placement, consolidation and finishing technique. The amount of MasterAir AE 90 admixture used will depend upon the amount of entrained air required under actual job conditions. In a trial mixture, use 0.25 to 4 fl oz/cwt (16-260 mL/100 kg) of cementitious material. Measure the air content of the trial mixture, and, if needed, either increase or decrease the quantity of MasterAir AE 90 admixture to obtain the desired air content.

In mixtures containing water-reducing or set-control admixtures, the amount of MasterAir AE 90 admixture needed may be somewhat less than the amount required in plain concrete.

Due to possible changes in the factors that can affect the dosage of MasterAir AE 90 admixture, frequent air content checks should be made during the course of the work. Adjustments to the dosage should be based on the amount of entrained air required in the mixture at the point of placement.

If an unusually high or low dosage of MasterAir AE 90 admixture is required to obtain the desired air content, consult your local sales representative. In such cases, it may be necessary to determine that, in addition to a proper air content in the fresh concrete, a suitable air-void system is achieved in the hardened concrete.

Dispensing and Mixing: Add MasterAir AE 90 admixture to the concrete mixture using a dispenser designed for air-entraining admixtures, or add manually using a suitable measuring device that ensures accuracy within plus or minus 3% of the required amount.

For optimum, consistent performance, the air-entraining admixture should be dispensed on damp, fine aggregate. If the concrete mixture contains fine lightweight aggregate, field evaluations should be conducted to determine the best method to dispense the air-entraining admixture.

Precaution

In a 2005 publication from the Portland Cement Association (PCA R&D Serial No. 2789), it was reported that problematic air-void clustering that can potentially lead to above normal decreases in strength was found to coincide with late additions of water to air-entrained concretes. Late additions of water include the conventional practice of holding back water during batching for addition at the jobsite. Therefore, caution should be exercised with delayed additions of water to air-entrained concrete. Furthermore, an air content check should be performed after post-batching addition of any other materials to an air-entrained concrete mixture.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: MasterAir AE 90 admixture will neither initiate nor promote corrosion of reinforcing and prestressing steel embedded in concrete, or of galvanized floor and roof systems. No calcium chloride or other chloride-based ingredients are used in the manufacture of this admixture.

Compatibility: MasterAir AE 90 admixture may be used in combination with any BASF admixture, unless stated otherwise on the data sheet for the other product. When used in conjunction with other admixtures, each admixture must be dispensed separately into the concrete mixture.

Storage and Handling

Storage Temperature: MasterAir AE 90 admixture should be stored and dispensed at 31 °F (-0.5 °C) or higher. Although freezing does not harm this product, precautions should be taken to protect it from freezing. If MasterAir AE 90 admixture freezes, thaw at 35 °F (2 °C) or above and completely reconstitute by mild mechanical agitation. Do not use pressurized air for agitation.

Shelf Life: MasterAir AE 90 admixture has a minimum shelf life of 18 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your local sales representative regarding suitability for use and dosage recommendations if the shelf life of MasterAir AE 90 admixture has been exceeded.

Safety: Chemical goggles and gloves are recommended when transferring or handling this material.



We create chemistry

3	03 30 00	Cast-in-Place Concrete
	03 40 00	Precast Concrete

MasterGlenium® 7700

High-Range Water-Reducing Admixture

Formerly Glenium 7700*

Description

MasterGlenium 7700 high-range water-reducing admixture is particularly effective in improving the day to day consistency of concrete mixtures. MasterGlenium 7700 meets ASTM C 494 compliance requirements for Type A, water-reducing, and Type F, high-range water-reducing, admixtures.

Applications

Recommended for use in:

- Concrete requiring high-early compressive strength development
- Applications requiring workability retention without retardation
- Concrete where high flowability, increased stability and durability are needed
- Producing self-consolidating concrete (SCC) mixtures
- Concrete with varying water reduction requirements (5-40%)

Features

MasterGlenium 7700 ready-to-use high-range water-reducing admixture is based on the next generation of polycarboxylate technology found in all of the MasterGlenium 7000 series products. This technology combines state-of-the-art molecular design with a precise understanding of regional cements to provide specific and exceptional value to all phases of the concrete construction process.

- Superior slump retention
- Excellent early strength development
- High ultimate strengths
- Optimum setting time
- Consistent air entrainment
- Dosage flexibility

Benefits

- Consistency in placement operations
- Optimized mixture costs
- Reduction in patching costs
- Ability to attain difficult combinations of high-early and late-age compressive strengths
- Increased productivity
- Improved operational efficiencies
- Less QC support
- Fewer rejected loads
- Faster form turnover
- Workability retention without retardation

MASTER®
» BUILDERS
 SOLUTIONS

MasterGlenium 7700

Technical Data Sheet

Performance Characteristics

Slump Retention: Concrete produced with MasterGlenium 7700 admixture maintains slump significantly longer than concrete mixtures containing naphthalene, melamine, and first generation polycarboxylate high-range water-reducing admixtures. This slump retention is achieved without affecting rate of hardening or early age compressive strength development.

Mixture Data: Figure 1 represents average slump retention performance across multiple field trials throughout North America. Figure 2 represents average compressive strength results from these same field trials. Materials were all different as were starting consistencies. The reference admixture in this graph represents the first generation of high-early strength polycarboxylate admixture technology.

Guidelines for Use

Dosage: MasterGlenium 7700 has a recommended dosage range of 2-15 fl oz/cwt (130-975 mL/100 kg) of cementitious materials. For most applications, dosages in the range of 2-12 fl oz/cwt (130-780 mL/100 kg) will provide excellent performance. For very high performance and self-consolidating concrete mixtures, up to 15 fl oz/cwt (975 mL/100 kg) of cementitious materials can be utilized. Because of variations in concrete materials, job site conditions and/or applications, dosages outside of the recommended range may be required. In such cases, contact your local sales representative.

Mixing: MasterGlenium 7700 admixture can be added with the initial batch water or as a delayed addition. However, optimum water reduction is generally obtained with a delayed addition.

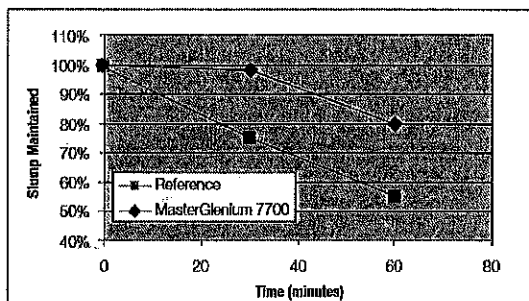


Figure 1. Average Slump Retention Performance

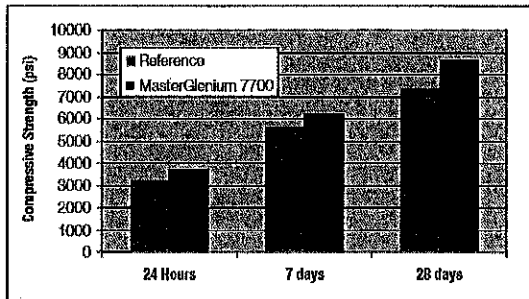


Figure 2. Average Compressive Strength

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: MasterGlenium 7700 admixture will neither initiate nor promote corrosion of reinforcing steel embedded in concrete, prestressing steel or of galvanized steel floor and roof systems. Neither calcium chloride nor other chloride-based ingredients are used in the manufacture of MasterGlenium 7700 admixture.

Compatibility: MasterGlenium 7700 admixture is compatible with most admixtures used in the production of quality concrete, including normal, mid-range and high-range water-reducing admixtures, accelerators, retarders, extended set control admixtures, air-entrainers, corrosion inhibitors, and shrinkage reducers.

Do not use MasterGlenium 7700 admixture with admixtures containing beta-naphthalene sulfonate. Erratic behaviors in slump, workability retention and pumpability may be experienced.

MasterGlenium 7700

Technical Data Sheet

Storage and Handling

Storage Temperature: MasterGlenium 7700 admixture must be stored at temperatures above 40 °F (5 °C). If MasterGlenium 7700 admixture freezes, thaw and reconstitute by mechanical agitation. **Do not use pressurized air for agitation.**

Shelf Life: MasterGlenium 7700 admixture has a minimum shelf life of 6 months. Depending on storage conditions, the shelf life may be greater than stated. To ensure the longest shelf life potential, recirculation is recommended. Please contact your local sales representative regarding suitability for use and dosage recommendations if the shelf life of MasterGlenium 7700 admixture has been exceeded.

Packaging

MasterGlenium 7700 admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Safety Data Sheets: MasterGlenium 7700 admixture

Additional Information

For additional information on MasterGlenium 7700 admixture or its use in developing concrete mixtures with special performance characteristics, contact your local sales representative.

The Admixture Systems business of BASF's Construction Chemicals division is the leading provider of solutions that improve placement, pumping, finishing, appearance and performance characteristics of specialty concrete used in the ready-mixed, precast, manufactured concrete products, underground construction and paving markets. For over 100 years we have offered reliable products and innovative technologies, and through the Master Builders Solutions brand, we are connected globally with experts from many fields to provide sustainable solutions for the construction industry.

Limited Warranty Notice

BASF warrants this product to be free from manufacturing defects and to meet the technical properties on the current Technical Data Guide, if used as directed within shelf life. Satisfactory results depend not only on quality products but also upon many factors beyond our control. **BASF MAKES NO OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS PRODUCTS.** The sole and exclusive remedy of Purchaser for any claim concerning this product, including but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is shipment to purchaser of product equal to the amount of product that fails to meet this warranty or refund of the original purchase price of product that fails to meet this warranty, at the sole option of BASF. Any claims concerning this product must be received in writing within one (1) year from the date of shipment and any claims not presented within that period are waived by Purchaser. **BASF WILL NOT BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR PUNITIVE DAMAGES OF ANY KIND.**

Purchaser must determine the suitability of the products for the intended use and assumes all risks and liabilities in connection therewith. This information and all further technical advice are based on BASF's present knowledge and experience. However, BASF assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights, nor shall any legal relationship be created by or arise from the provision of such information and advice. BASF reserves the right to make any changes according to technological progress or further developments. The Purchaser of the Product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with a full application of the product(s). Performance of the product described herein should be verified by testing and carried out by qualified experts.

* Glenium 7700 became MasterGlenium 7700 under the Master Builders Solutions brand, effective January 1, 2014.

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BASF Corporation
Admixture Systems
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Attachment A



TECHNICAL DATA SHEET

FIBERFORCE 350

••• Fibrillated Microfiber

DESCRIPTION

FiberForce 350 is an ultra-fine denier fibrillated microfiber manufactured from 100% virgin polymer resins and is designed for crack-width control due to shrinkage and temperature restraint. FiberForce 350 has finishing attributes similar to polypropylene monofilament microfibers with limited surface fibers.

PROPERTIES

Material	100% Virgin Polymer
Absorption	None
Specific Gravity	0.91
Alkali, Salt, and Acid Resistance	High
Melting Point	320°F (160°C)
Electrical Conductivity	Low
Standard Length	0.75 in (19 mm)
Other Available Lengths	0.25 in (6 mm), 0.5 in (13 mm) and Multi-Length

FEATURES & BENEFITS

- Multi-purpose fiber design:
 - Used as alternate to polypropylene monofilaments for plastic shrinkage crack control at 0.5 lb/yd³
 - Replaces light-gauge welded wire reinforcement - (6x6-W1.4xW1.4) or reinforcement ratio: $\rho \leq 0.06\%$ depending on application at 1.0 lb/yd³
- Eliminates need to stock two different microfibers (commercial/fibrillated and residential/monofilament)
- Reduces errors associated with adding wrong fiber to ready-mix trucks
- Finishing attributes similar to polypropylene monofilament microfibers with limited to no surface fibers
- Extends service life of concrete with reduced maintenance
- Increases concrete durability - including impact/abrasion resistance and toughness
- Reduces permeability, thus increasing freeze-thaw durability

APPLICATIONS

- Slabs-on-ground
- Decks/patios
- Overlays/ultra-thin white-topping
- Shotcrete
- Slipformed curbs/gutters
- Driveways/sidewalks
- Topping slabs
- Precast
- Irrigation ditches/channels

MIXING INSTRUCTIONS

FiberForce 350 is packaged in preweighed water-soluble bags. It can be preloaded in empty ready-mix drums or added anytime during or after concrete is batched. Mix for 5 minutes at full charging speed (75-100 revolutions) to ensure complete dispersion of fibers.

PACKING & STORAGE

FiberForce 350 is packaged in 1.0 lb and 1.5 lb bags then palletized for shipment. Pallets and boxes are labeled with fiber technology and bag weight. Store material in a dry environment. Avoid storing in direct sunlight.

GENERAL SPECIFICATIONS

The standard dosage rate for FiberForce 350 is 1.0 lb/yd³. Local building codes may allow for lower dosage rates to mitigate plastic shrinkage only. FiberForce 350 dosed at 0.5 lb/yd³ provides >60% reduction in cracking per ASTM C1579. FiberForce 350 should be added per project specifications or engineer's instructions.

PRODUCT APPROVALS AND COMPLIANCE WITH INDUSTRY STANDARDS

- ASTM C1116: Section 4.1.3 and Note 2
- ASTM D7508
- ASTM C1579: Section 3.1.1
- ASTM C1579: Section 3.1.2
- ICC ESR-1699 at 1.0 lb/yd³
- ICC ES AC308
- ICC ES AC308



TECHNICAL SUPPORT

In-house professional engineers are available for product specification guidance and design support. FullForce technical sales managers are available to assist with field support and guidance related to the use of any FullForce technologies.

LIMITED EXPRESS WARRANTY, DISCLAIMER OF IMPLIED WARRANTIES AND LIMITATION OF LIABILITY: As used herein, the term "FiberForce" is a product sold by ABC Polymer Industries, LLC and its subsidiaries ("ABC"). The terms of ABC's invoices including this warranty and limitation of liability, without limitation, shall be governed by and construed in accordance with the laws of the State of Alabama where it was manufactured and from where it was shipped. FiberForce fibers are intended to reduce plastic shrinkage cracking but should not be used as structural reinforcement. ABC's warranty is solely to the purchaser (and no other party) and (1) is limited to a period of 180 days from the date of its invoice and (2) is that the product sold is of good quality and conforms to the seller's most recent published standards and specifications. ABC expressly disclaims any and all other warranties including, without limitation, merchantability and fitness for particular purpose. The seller's sole liability for any claim shall be limited to the cost of replacement of defective or non-conforming product, and not for any of purchaser's other alleged costs. In no event shall the seller be liable for any special, incidental, consequential, liquidated, punitive, or exemplary damages, or for claims of lost profits or lost jobs. Purchaser itself shall determine the suitability of the product(s) for its own particular application. ABC engineering and sales personnel are available to assist in providing information to allow purchaser to select the appropriate fiber for a given application, and will provide an overview of anticipated performance based upon experience and testing data. ABC personnel will provide information as requested but the design and implementation of purchaser's product is solely the responsibility of purchaser. ABC will provide on-site support as requested and when deemed necessary but will not participate in the supervision of any project, or be responsible for its installation or outcome. FullForce's responsibility is to support our customers and to provide our customers with the best materials and assistance in marketing these products. © 2023 FullForce by ABC Polymer Industries, LLC