BID SPECIFICATIONS FOR

GAC Media Replacement at

Shelby County South Water Treatment Plant

NOVEMBER 2026

Part 1 General

1.1 SCOPE OF WORK

A. It is the intent of this solicitation to establish a service/supply contract for Granular Activated Carbon (GAC) as follows:
   a. Furnish all labor, materials, equipment, and supervision for the removal and transport of spent granular activated carbon (GAC) from the contactors to a custom reactivation facility with the option of replacing the spent media with either the virgin F400M GAC or custom reactivated RX400 GAC to the parameters specified herein.
   b. Furnish optional pH stabilization at the manufacturer's facility before delivery to the customer's site. Stabilizing the pH at the WTP is not deemed equivalent.
   c. Supply sufficient makeup virgin F400M GAC as required to ensure that the reactivated GAC meets the minimum specified parameters.
   d. Store a minimum of one swing load delivery (2,775 cu. ft.) of GAC originating from the subject WTP.

   NOTE: Whenever a brand name is mentioned in the bid request, the naming of the item is intended to establish the type, function, performance, and quality required.

1.2 SITE INSPECTION

Each BIDDER is strongly encouraged to visit the site and inform him/herself of all existing conditions. BIDDERS must call and schedule any site visit with Shelby County Water Services' personnel. Contact Phillip Crunk, P.E. at (205) 670-6540.

Site Location:
SHELBY COUNTY SOUTH WATER TREATMENT PLANT
7935 HIGHWAY 61
WILSONVILLE, AL 35186

1.3 BIDDER QUALIFICATIONS

A. Bids will only be accepted from domestic (United States) manufacturers or their appointed distributor of bituminous coal-based reagglomerated carbon who own and operate facilities used for virgin and reactivated carbon production.

B. BIDDERS shall have a minimum of 15 years of experience manufacturing virgin and reactivated GAC and shall submit proof via a Manufacturer's Certificate and/or an Affidavit of Compliance.

C. The BIDDER shall certify that it is the owner and operator of a minimum of two (2) NSF certified reactivation facilities exclusively dedicated to the receiving and production of potable reactivated GAC and shall submit proof via the reactivation

facility's NSF Certificate and/or an Affidavit of Compliance. This requirement demonstrates the manufacturer's commitment to sustainable GAC use.

D. BIDDER will be required to provide evidence of a Certificate of Insurance, which provides Workman's Compensation for contractor's employees for the duration of the contract, and a minimum of $2,000,000 (Two Million Dollars) in General Liability insurance naming Shelby County as an additional insured. The general liability insurance includes but is not limited to claims that may arise from the supplier's products, shipment, installation, removal, and reactivation/disposal of the spent carbon. The above-noted insurance must be with an A or A+ company. Evidence of all insurance coverage must be submitted with the bid. Evidence of Workman's Compensation and general liability insurance shall be received within 20 calendar days after the bid is awarded.

E. Field Service personnel supervising the exchange must be directly employed by the BIDDER.

F. BIDDER'S virgin and reactivation manufacturing processes shall be NSF 61 certified.

G. Valid Section 84 Business License must be obtained and submitted within 20 calendar days after the bid is awarded.

H. Failure to comply with any of the above conditions may be considered non–responsive and the bid may be rejected.

PART 2 PRODUCTS

2.1 REACTIVATED GAC

A. Materials
   1. Materials shall comply with the requirements of the Safe Drinking Water Act, other federal requirements, and the Alabama Department of Environmental Management.
   2. The reactivated GAC shall comply with NSF 61.
   3. The reactivated GAC shall comply with AWWA B605 – Latest Edition
   4. Effective procedures will be in place and utilized to ensure segregation of any spent and reactivated carbon intended to be returned as a custom reactivated product.

B. Reactivated GAC, including virgin make-up GAC blended as required, shall meet the following specifications:

Calgon RX 400 or Equal

Product Specification: RX 400	**Value**	**Test Method**
Iodine Number (mg/g), min.[1]	a) **800** (if spent was >550) b) **+250** (if spent was <550), with a minimum final blended value of at least **500**	TM-4, ASTM D4607
Moisture, weight %, max.[2]	8	TM-1, ASTM D2867
Uniformity Coefficient, max.	2.1	TM-47, ASTM D2862
Abrasion No., min.	70	TM-9, AWWA B604
Screen Size (US Sieve), weight %		
* Larger than No. 12, max.	5	TM-8, ASTM D2862
* Smaller than No. 40, max.	4	TM-8, ASTM D2862
Apparent Density, g/cc, min	0.20	TM-7, ASTM D2854

1. Iodine Number is based on the final blend of custom reactivated GAC and make-up virgin GAC.
2. As the moisture content of reactivated GAC may increase during bulk shipment because of ambient conditions that may be beyond the control of the supplier, a moisture content exceeding 8% is permitted.

2.2 VIRGIN GAC

A. The BIDDER shall supply a virgin GAC, which shall either be used to make up losses of spent GAC via the reactivation process, as well as replace GAC lost during customer operation or through handling, or as an alternate supply to the custom reactivated GAC. The virgin GAC shall meet the following specifications:
   1. Virgin GAC shall be manufactured by Calgon Carbon Corporation or Approved Equal.

2. The GAC product designated by the BIDDER as the material to be supplied for this bid shall have twenty (20) years of history of use in municipal drinking water facilities in North America.
3. Be manufactured in a facility certified to the Management System Standard: ISO 9001:2000 or later quality standards and at the specific plant or site holding such certification. A copy of the valid certificate must be submitted with bid, with the understanding by all parties that ANSI/NSF assures the GAC against toxicological hazards only. ISO 9001:2000 or later certification assures the GAC of consistent conformance to stated product quality and standards listed in the specifications.
4. The GAC shall comply with AWWA B604, latest edition.
5. The GAC shall comply with NSF 61 Drinking Water System Components – Health Effects standard.
6. The GAC shall comply with the requirements for activated carbon as defined by the Food Chemical Codex (FCC), Latest Edition published by U.S. Pharmacopeia.
7. The GAC must be a 100% reagglomerated bituminous coal-based product, sized to a granular form prior to baking and activation. The following materials shall not be accepted if submitted in lieu of the required product, nor may any amount of these materials be blended into a mix with the required reagglomerated, bituminous coal-based product:
    a. No Broken pellets, regardless of base material
    b. No Direct activated GAC, regardless of base material
    c. No Lignite-based GAC
    d. No Peat-based GAC
    e. No Wood-based GAC
    f. No Coconut-based GAC
    g. No Sub-bituminous based GAC
    h. No Anthracite based GAC
8. The GAC shall be capable of removing turbidity, color, tastes, odors and other organic contamination from water previously pretreated by conventional water treatment processes.
9. Data showing successful application of the GAC in municipal water plants including turbidity and organic contamination shall be submitted with bid.
10. BIDDER shall indicate the source of coal, carbon manufacturing location, a description of the reagglomeration/thermal process and capacity of the manufacturing facility. The OWNER reserves the right to inspect the GAC manufacturing and thermal processing facility.
11. Quantity of virgin GAC required as make-up in order to compensate for reactivated material lost in transport and reactivation, as well as that needed to bring the final reactivated product up to acceptable quality, shall be determined by the OWNER and the BIDDER, and based upon the BIDDER'S experience reactivating similar carbons, and, if necessary, by sample testing.
12. A Certificate of Analysis shall be submitted to the OWNER certifying the virgin GAC added as make-up or used as an alternative to the custom reactivation is in full compliance with these specifications.

B. Virgin GAC shall meet the following specifications:

Calgon Filtrasorb 400M or Equal

Product Specification: **FILTRASORB 400M**	**Value**	**Test Method**
Iodine Number (mg/g), min.	1000	TM-4, ASTM D4607
Moisture, weight %, max.	2	TM-1, ASTM D2867

Effective size, mm	0.55-0.75	TM-47, ASTM D2862
Uniformity Coefficient, max.	1.9	TM-47, ASTM D2862
Abrasion No., min.	75	TM-9, AWWA B604
Trace Capacity Number (mg/cc), min.	10	TM-79, TM-85 (converted to TCN)
Screen Size (US Sieve), weight %		
* Larger than No. 12, max.	5	TM-8, ASTM D2862
* Smaller than No. 40, max.	4	TM-8, ASTM D2862
Ash, weight %, max.	10	TM-5, ASTM D2866
Apparent Density, g/cc, min.	0.57	TM-7, ASTM D2854
FCC – Water Extractables, weight %, max	<1	TM-43, FCC

1. The Certificate of Analysis shall certify that the GAC sample shipped to the site is virgin and in full compliance with the specifications stated herein. Failure to comply may be considered non-responsive, and the bid will be rejected.

C. Material and Manufacturer
   1. Filtrasorb 400M as manufactured by Calgon Carbon Corporation
      Or Equal as approved by Shelby County Water Services.
      a. Certificate of Analysis for virgin material is required with bid.

2.3 FILTER DATA

Filter/ Vessel Design	Dual Media Gravity Filters
Number of Filters	6
Filter Dimensions (LxWxD)	25’ x 18’-6” x 90” (18” sand, 72” GAC)
Number of Cells/Filter	1
Cell Dimension (LxWxD)	25’ x 18’-6” x 90” (18” sand, 72” GAC)
Backwash and Drain Volume (cu. Ft.)	3,547.4
Drain to Waste (dia.)	16” Filter to Waste, 24” Waste from Launder Trough
Total Existing GAC Volume (cu. Ft.)	2,775 cu. ft. per filter

PART 3 EXECUTION

3.1 TESTING REQUIREMENTS

A. BIDDER shall submit as part of the bid all testing requirements necessary for the reactivation process. A schedule shall also be included showing testing time requirements.

B. BIDDER shall provide all necessary bottles for sample collection.

C. BIDDER shall include as part of the bid any testing requirements for receiving and reactivating the spent GAC. All testing prices shall be included in base bid cost for reactivation.

3.2 CARBON EXCHANGE PROCEDURES

A. BIDDER shall submit a detailed description for carbon exchange procedures.

B. Prior to beginning the exchange process, the CONTRACTOR shall measure the depth of the GAC in each filter. This information will be used to determine the GAC's operational loss.

C. The GAC exchange shall be under the direct supervision of the GAC manufacturer's employee, having a minimum of 5 years of experience in performing carbon exchanges. Supervision by a third party or agent is not allowed.

D. GAC shall be transported, delivered and placed in a careful manner to exclude all dust, dirt or deleterious material and to prevent physical damage to the particles.

E. Prior to the return of the reactivated GAC, the BIDDER shall submit a certificate of analysis of the material demonstrating it meets the Performance Criteria set in Part 2 of this specification.

F. All drainage shall be coordinated with plant personnel. Any additional hoses or attachments required will be the BIDDER's responsibility.

G. The actual exchange process will be coordinated with Shelby County Water Services. BIDDER shall limit the time in which a filter is out of service. Duration in performing the on-site exchange process that exceeds 72-hours shall be grounds for disqualifying a BIDDER.

H. A swing load of carbon will be required to ensure that GAC will be available on a schedule necessary by Shelby County Water Services. The BIDDER will be responsible for storing the swing load at the BIDDER's facility until coordination is made with Shelby County Water Services for delivery.

I. If Shelby County Water Services selects an Additive Alternative for GAC to be pH stabilized at the manufacturer's facility before delivery to the customer's site then the pH-stabilized GAC shall be delivered utilizing food-grade pneumatic trailers.

J. Removal, disposal, and installation of virgin carbon shall be in accordance with AWWA B604-Latest Edition.

END OF SECTION