SALEM COUNTY IMPROVEMENT AUTHORITY

RESOLUTION 2020-39

February 13, 2020

RESOLUTION OF THE SALEM COUNTY IMPROVEMENT AUTHORITY AUTHORIZING A CONTRACT WITH CORNERSTONE ENVIRONMENTAL GROUP, LLC FOR PROFESSIONAL ENGINEERING SERVICES FOR DESIGN AND CONSTRUCTION ADMINISTRATIVE SERVICES IN CONNECTION WITH THE EXPOSED GEOMEMBRANE COVER

WHEREAS, in accordance with Resolution 2018-88, dated December 13, 2018, the Salem County Improvement Authority ("SCIA") gave authority to Cornerstone Environmental Group, LLC ("Cornerstone") to prepare an Addendum to the Closure Plan in support of an Exposed Geomembrane Cover ("EGC") for the portions of the landfill where operations have essentially ceased; and

WHEREAS, Cornerstone is in a position to begin its professional engineering services for the design and construction administrative services in connection with the construction of the EGC; and

WHEREAS, the professional engineering services to be provided by Cornerstone are highly specialized and unique to the project in question; and

WHEREAS, N.J.S.A. 40A:11-5 of the Local Public Contracts Law provides that an agreement for professional services of this character may be made without public advertising for bids and bidding (without competitive bidding); and

WHEREAS, N.J.S.A. 40A:11-5 of the Local Public Contracts Law requires that a brief notice of such agreement must be publicly advertised in a newspaper authorized by law to publish its legal advertisements and that the resolution authorizing such agreement must be on file and available for inspection;

NOW, THEREFORE, BE IT RESOLVED by the governing body of SCIA as follows:

1. The Chairman and Secretary are authorized to enter into a contract between SCIA and Cornerstone, for professional engineering services for design and construction administrative services in connection with the construction of the EGC, in accordance with the contract attached hereto as Exhibit A; and

2. The Executive Director shall cause to be printed once in the Elmer Times a brief notice stating the nature, duration, service and amount of the contract, and that the resolution and contract are on file and available for inspection in the SCIA office.

ATTEST:

Barry Davis, Secretary

Cordy Taylor, Chairman
CERTIFICATION

I hereby certify the above to be a true copy of a resolution adopted by the Salem County Improvement Authority Board at their regular meeting held February 13, 2020.

Barry Davis, Secretary
February 3, 2020

Julie Acton
Executive Director
Salem County Improvement Authority
56 McKillip Road
Alloway, New Jersey 08001

Re: Proposal for Professional Engineering and Consulting Services
Exposed Geomembrane Cover

Dear Julie:

Cornerstone Environmental Group, LLC (Cornerstone), a Tetra Tech company, is submitting this proposal for professional engineering and consulting services for design and construction administration services in relation to an Exposed Geomembrane Cover (EGC) to the Salem County Improvement Authority (SCIA, Authority). The EGC will be designed for portions of the Salem County Landfill where landfilling operations have essentially ceased. The areas were identified in the permit renewal application submitted on behalf of the Authority by the Alamo Group. Construction of the EGC will result in a significant decrease in leachate generation, enhanced landfill gas (LFG) recovery, decreased cover maintenance, and postponement of drainage and vegetative cover installation.

In December 2018 Cornerstone submitted to the New Jersey Department of Environmental Protection (NJDEP, Department) an addendum to the Authority's Solid Waste Facility permit renewal application (Application). The Department requested the Authority provide clarifications regarding the technical feasibility of the long-term reliance on an EGC as part of the development of the Salem County Landfill. Subsequently, Cornerstone participated in meetings with the Department, responded to additional requests for clarifications, and continued to consult with the Authority in its endeavors with the Department to shepherd the application through the review process. Based on communications with the Department, it is apparent that issuance of the permit, inclusive of the EGC approval, is imminent. In an effort to advance construction of the EGC, the Authority requested Cornerstone to submit the present proposal.

1.0 BACKGROUND

Increases in precipitation totals over the last three years have resulted in a significant increase in leachate management cost for the Authority. Recognizing that rainfall is the primary source for leachate generation and that impermeable landfill caps are effective measures for controlling infiltration, the Authority discussed with Cornerstone options for effectively and efficiently reducing infiltration. Considered options included rain tarps, final covers, and exposed geomembrane covers (EGC). Whereas rain tarps provide temporary relief, final landfill covers are designed to encapsulate the wastebodies for at least 30 years as required by state and federal statutes. Construction of a RCRA compliant Subtitle D landfill cover includes a drainage layer and vegetative cover, which...
are provided for protection of the geomembrane, to promote run-off, erosion protective measures, and for aesthetic purposes. Exposed geomembrane covers are constructed from virtually impermeable geomembranes, generally the same employed in final covers. By deferring installation of the drainage layer and vegetative cover, EGCs have lower maintenance requirements and lower maintenance cost, while effectively eliminating infiltration. In many situations, EGCs can ultimately be incorporated into final covers. As a result, they are cost effective, potentially eliminating the additional cost of a temporary cover.

Upon evaluation of the options, SCIA directed the Authority Engineer to incorporate a phased EGC deployment into the facility’s Solid Waste Facility Permit renewal application. Cornerstone supported the application, by preparing a technical report, attending a meeting with the Department, and responding to Department inquiries throughout the review process. Based on recent communication with the Department, issuance of the Solid Waste Facility Permit renewal inclusive of the proposed EGC application is imminent, and therefore the Authority requested Cornerstone to submit a proposal for engineering design, preparation of bid documents, bid support, and construction administration services for the initial phase of EGC.

1.1 TASK 1: ENGINEERING DESIGN

Cornerstone will prepare engineering calculations, reports, and plans for the design of an Exposed Geomembrane Cover (EGC). The EGC will encompass portions of the landfill that has been filled-to-grade. These locations are primarily along the southeastern, northeastern, and southwestern side of the Salem County Landfill, and totaling approximately 28 acres:

<table>
<thead>
<tr>
<th>Landfill Cell</th>
<th>Extent</th>
<th>Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell 3</td>
<td>Partial</td>
<td>3.9</td>
</tr>
<tr>
<td>Cell 1</td>
<td>Entire</td>
<td>5.4</td>
</tr>
<tr>
<td>Cell 2</td>
<td>Entire</td>
<td>5.5</td>
</tr>
<tr>
<td>Cell 5</td>
<td>Partial</td>
<td>2.8</td>
</tr>
<tr>
<td>Cell 6</td>
<td>Partial</td>
<td>2.8</td>
</tr>
<tr>
<td>Cell 7</td>
<td>Entire</td>
<td>7.6</td>
</tr>
<tr>
<td>EGC Coverage (acres)</td>
<td></td>
<td>28.0</td>
</tr>
</tbody>
</table>

Cornerstone will review the Solid Waste Facility Permit upon issuance to identify requirements or restrictions that may impact the design basis of the EGC. The review is to facilitate a permit-compliant design and to incorporate permit requirements that may affect the design. Cornerstone will advise the Authority of permit requirements that may affect the engineering design and may require clarifications, minor permit modifications, or compliance with permit conditions. If required, Cornerstone will proceed with the engineering design while concurrently preparing supporting technical documentation and correspondence in compliance specific permit requirements or as minor permit modification. Due to the unknown nature of the permit, Cornerstone has not budgeted for preparation of technical documentation to comply with specific permit conditions or the preparation of a permit modification. We will review and discuss the permit upon issuance and provide the Authority with a contract amendment request for approval as necessary.

Cornerstone will provide the Authority with a document request for engineering design, record drawings, and details of the baseliner design, anchor trench, stormwater swales, landfill gas collection, and leachate collection system clean-outs to facilitate the engineering design. Cornerstone has not planned for an invasive site investigation to expose and document as-built conditions as part of the engineering design.
Cornerstone has prepared the 2019 topographic survey of the Salem County Landfill (photogrammetry acquired on March 14, 2019), which will serve as the underlying topography for the development of the engineering design absent a more recent survey. Cornerstone has budgeted for a ground-based survey to obtain additional location and elevation data for certain ground features, including but not limited to stormwater swales, culverts, landfill gas system features, leachate collection, and access ramps. Cornerstone will combine the two surveys for the preparation of a three-dimensional model for use in the engineering design.

Cornerstone will develop the engineering design for the Exposed Geomembrane addressing wind-uplift, stormwater hydrology and hydraulics, and existing landfill infrastructure based on documented site conditions and standard design guidelines. The engineering design, underlying assumptions, and supporting calculations will be documented in an Engineering Report. Construction-level drawings will be prepared in AutoCAD and are expected to include:

- Title sheet (1)
- Site Plan (1)
- Existing Conditions and Demolition Plan (1)
- Grading Plan (1)
- Proposed Conditions and Stormwater Plan (2)
- Roadway and Landfill Gas Plan (1)
- Roadway and Stormwater Sections (2)
- Typical Details (2)
- Soil Erosion and Sediment Control Measures (2)

The Engineering Report will be accompanied by Technical Specifications prepared in MasterSpec format consisting, at a minimum, of the following sections:

- Division 1 – General Conditions
  - Summary of Work
  - Measurement and Payment
  - Applications for Payment
  - Coordination and Meetings
  - Field Engineering
  - Layout of Work and Surveys
  - Reference Standards
  - Health and Safety
  - Supervision of Contractor
  - Submittals
  - Quality Control
  - Testing and Laboratory Services
  - Inspection Services
  - Construction Facilities and Temporary Controls
  - Environmental Protection
  - Materials and Equipment
  - Project Record Documents
  - Project Photographs

- Division 2 – Sitework
  - Demolition of Existing Structures
  - Site Clearing and Grubbing
  - Excavation, Backfill, and Fill
  - Waste Material Disposal
  - Stone Rip-rap
  - Roadway
Throughout the design phase, Cornerstone will coordinate with the Authority through regularly scheduled, bi-weekly conference calls to review progress, identify and resolve obstacles, and address current issues in a timely and efficient manner. Cornerstone will schedule three (3) onsite meetings as part of the engineering design: (1) project kick-off, (2) 30% design review, and (3) 90% design review:

(1) Upon scheduling of the project kick-off meeting, Cornerstone will provide the Authority with a list of required documents. The meeting will include a scope and schedule review, site walk, and scheduling of the supplementary survey.

(2) By the 30% design review, Cornerstone will advise the Authority of permit compliance requirements or modifications to conditions of the Solid Waste Facility Permit. If any, discuss the basis of the engineering design, and provide a project schedule update. For the review, Cornerstone will provide the Authority with a preliminary Engineer's Estimate commensurate with the level of design.

(3) Cornerstone will present and review the final draft of the engineering design with the Authority as part of the 90% design review. Cornerstone and the Authority will review the procurement schedule and finalize correspondence to the Department regarding permit modifications – if any. Cornerstone will provide the Authority with one (1) review set for the final review and an Engineer’s Estimate.

Within two (2) weeks of receiving comments on the 90% review set, Cornerstone will provide the Authority with final construction documents for the EGC to be incorporated into the bid and contract documents (see below). The Authority will be provided with two (2) sets of the finalized engineering documents in hardcopy and one compact disk/memory stick containing the final version in PDF, WORD, and AutoCAD formats.

1.2 BID SUPPORT

Cornerstone anticipates that the Authority will procure the services of a qualified general contractor for the construction of the EGC through a public bid. To facilitate procurement of the construction services, Cornerstone will prepare Contract Documents in the EJCDC format, consisting of Bidding Requirements, Contract Forms, Conditions of Contract, and Supplementary Conditions. Cornerstone assumes that the Authority will provide a current 'front end' section, including bonding requirements. For public bidding purposes, Cornerstone will provide electronic versions of the bid documents in PDF and AutoCAD formats for the Authority to upload to its website.

With the 90% design review, Cornerstone will provide the Authority with a final draft of the bid and contract documents, schedule of values, and the Engineer’s Estimate. Required revisions will be completed within two (2) weeks and the final bid documents will be provided to the Authority together with the engineering documents described under task 1.1, above. Cornerstone, jointly with the Authority, will develop the procurement schedule.

Upon advertisement of the bid, Cornerstone will attend and conduct one (1) pre-bid meeting including site walk, prepare one (1) addendum, and attend one (1) bid opening and tabulation. Upon bid opening, Cornerstone will review the proposals for responsiveness, evaluate contractor experience, and prepare a letter of Recommendation-to-Award. The letter will be provided to the Authority and its counsel in advance of the regularly scheduled Board meeting. Authority counsel is assumed to prepare the resolution. Cornerstone will attend the meeting at the direction of the Authority. We have assumed that Authority Counsel will review and prepare contract documents for execution. Upon notification that contract documents were executed to the satisfaction of counsel, Cornerstone will coordinate the date for the Notice-to-Proceed with the Authority and the selected bidder.
1.3 CONSTRUCTION ADMINISTRATION SERVICES

Cornerstone will provide construction administration and quality assurance services for the construction of the EGC. Throughout construction, Cornerstone will assign one, full-time qualified construction observer to the project and one Construction Project Manager to support the Engineering Team. The observer will be present at the project site on a daily basis and work closely with the Cornerstone engineering team to establish if construction of the EGC and associated improvements is performed in accordance to the plans and standard practice. The observer will serve as immediate point of contact, observe construction activities, maintain Submittals, Engineering Directives, Requests-for-Information (RFI), and Applications-for-Payment logs. Cornerstone’s construction observer will attend the construction kick-off meeting, regularly scheduled construction meetings, and non-routine meetings together with the Cornerstone Project Manager. Cornerstone has budgeted $10,000.00 for supplementary quality control/quality assurance testing when contractor provided test results are inconclusive.

Cornerstone anticipates that construction of the EGC will occur during a sixteen (16) week, contiguous period that will commence during 4 to 6 weeks post award. A 6-day construction work week is assumed. Cornerstone has budgeted for up to ten (10) onsite meetings, including the pre-construction meeting, bimonthly construction progress meetings, and the final site walk for acceptance of the project as part of the substantial completion. Cornerstone will prepare and circulate meeting minutes to project stakeholders; review submittals for approval of construction materials; review and respond to RFIs; and, issue Engineer’s Directives as necessary to provide for a satisfactory completion. Documents will be maintained electronically and a copy on compact disk or memory stick of the construction file will be provided to the Authority upon completion. Cornerstone will process up to five (5) monthly applications for payment, validating contractor claims, and endorsing application for payment.

1.4 CERTIFICATION REPORT

Upon substantial completion and acceptance of the Record Drawings to be provided by the contractor, Cornerstone will prepare the Certification Report, documenting construction of the EGC in compliance with the approved plans and the Solid Waste Facility Permit conditions. The report will include a description of the project; construction schedule; test and laboratory results; notable events and/or observations; and, the certification statement of the Engineer-of-Record. Cornerstone will provide the Authority with a final draft for review within six (8) weeks of Substantial Completion. Within two (2) weeks of comments, Cornerstone will issue two (2) hardcopies of the final Certification Report and an electronic version in Word, PDF, and AutoCAD formats on compact disc and/or memory stick. Cornerstone will provide one (1) copy of the report to the Department.

1.5 ON-CALL SERVICES

On occasion, engineering and construction projects encounter unforeseen conditions due to undocumented subsurface conditions, inclement weather, site conditions not known to the Owner and/or Engineer, or the need for supplementary engineering and consulting services. Cornerstone has budgeted an allowance for on-call services to be utilized upon written authorization by the Authority. Cornerstone will only charge for on-call services with the expressed approval.

2.0 BUDGET, SCHEDULE, AND ASSUMPTIONS

Cornerstone will provide the above described professional engineering and consulting services in relation to the design, bidding, and construction of the proposed EGC for the Not-to-Exceed amount of $299,890.00 based on our understanding of the project described in this proposal and subject to the assumptions listed below. Cornerstone proposes to perform the requested scope of work on a time and materials basis in accordance with our established Schedule of Charges. Cornerstone will not exceed the budget presented without prior approval.
from SCIA. Cornerstone will provide the services in accordance with our Standard Terms and Conditions enclosed to this proposal. Cornerstone will invoice the Authority monthly on a time-and-material basis for services provided during the preceding period. The estimated cost and proposed scope of work are based on information available to Cornerstone at this time. If conditions change, unforeseen circumstances are encountered, or work efforts are redirected, the cost estimate may require modification.

A breakdown of our budget by tasks is provided below:

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Labor</th>
<th>Subcontractors</th>
<th>Expenses</th>
<th>Item Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Engineering Design</td>
<td>$47,420.00</td>
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<td>$6,100.00</td>
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<td>2.</td>
<td>Bid Support</td>
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<td>3.</td>
<td>Construction Administration Services</td>
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<td>$41,780.00</td>
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<td>4.</td>
<td>Certification Report</td>
<td>$16,360.00</td>
<td></td>
<td>$750.00</td>
<td>$17,110.00</td>
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<tr>
<td>5.</td>
<td>On-call Services</td>
<td>$10,000.00</td>
<td></td>
<td></td>
<td>$10,000.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$222,820.00</td>
<td>$27,250.00</td>
<td>$49,820.00</td>
<td>$299,890.00</td>
</tr>
</tbody>
</table>

Cornerstone will provide the services subject of this proposal upon authorization of the Authority. We anticipate providing final engineering and bid documents within five (5) months of authorization, including Authority reviews. Cornerstone will schedule the project kick-off meeting within two (2) weeks of authorization and will provide an updated project schedule, including project milestones at the meeting.

2.1 ASSUMPTIONS AND LIMITATIONS

This proposal was developed based on the following assumptions:

- The permit approving the EGC is substantially consistent with the documentation and discussions the Authority and Cornerstone have had with the Department;
- The Authority will provide the required construction and record information regarding construction of the landfill cells;
- The construction phase budget is based on a sixteen (16) week, six-days-a-week construction period. The Authority will be charged for construction services on a time-and-material basis; and,
- Cornerstone may revisit the construction cost estimate if more than one (1) year elapses between acceptance of our proposal and start of construction.

Should you have any questions regarding this proposal, or require additional information, please feel free to contact Arie Kremen by phone, 845.608.0213, or via email: arie.kremen@tetratech.com. We are looking forward to being working with the Salem County Improvement Authority on this project.

Sincerely,

CORNERSTONE ENVIRONMENTAL GROUP, LLC – A TETRA TECH COMPANY

Arie P. Kremen, PhD
Senior Client Manager

Mark A. Swyke, PE
Engineer-of-Record

TETRA TECH
Metuchen, NJ