

**REQUEST FOR PROPOSALS
FOR THE DEVELOPMENT OF A SOLAR FARM ON THE FORMER ARKWRIGHT
DUMP SITE**

Introduction

Various parties have contacted the City of Spartanburg, SC (City) with interest in developing a solar farm on the former Arkwright Dump Site (Site) which is owned by the City. To ensure that interested parties have a fair and equal opportunity, the City is advertising this Request for Proposals (RFP). Responses to this RFP must be submitted to the City by Tuesday, June 26, 2018, by 3:00 PM.

Site

The Site is an abandoned 30-acre landfill, operated in the 1950s and 1960s by the City of Spartanburg. The Site is located at the northern end of Hilltop Drive in the Arkwright Community near the southern edge of the City of Spartanburg. It is bounded by Fairforest Creek to the east, the former Wheeler property to the South, the IMC Fertilizer (Mosaic) Property to the north, and the Solvay chemical facility to the west.

The landfill primarily accepted municipal waste; however, it also accepted some auto, medical and other waste. Heavy metals, pesticides and organic chemicals were identified in the groundwater, surface water, soil and sediment. The landfill was initially closed with a soil cover in 1972. Afterwards, the landfill experienced some erosion. Waste was identified up to and in many cases beyond the property lines of the dump site, including up to the edge of Fairforest Creek, where the waste slope was steeper than 1.5H: 1V.

Landfill Closure Construction

Final closure of the Arkwright Dump Site was performed in accordance with the Record of Decision (ROD) for the site, with construction beginning in January, 2012 and concluding in October, 2012. The project construction tasks included the following:

- Installation of temporary erosion and sediment control;
- Borrow site development and access control improvements;
- Site clearing and grubbing;
- Relocation of waste on the west side for construction of a temporary sedimentation pond;
- Construction of west and south sedimentation ponds, culverts and ditches;
- Construction of perimeter access road;
- Relocation of Fairforest Creek to the east;

- Relocation of tributary of Fairforest Creek to the north;
- Relocation of sanitary sewer line on south parcel further south and under the relocated section of Fairforest Creek;
- Abandonment of soil vapor wells;
- Protection /abandonment and relocation of groundwater monitoring wells;
- Relocation of waste in the “burn pile” area;
- Subgrade preparation, grading, and placement of fill soil for the final cover; Installation of passive gas management system;
- Placement of structural fill to develop stable side slopes;
- Placement of compacted clay soil/infiltration barrier layer over the top of the landfill;
- Placement of the geomembrane and geocomposite;
- Placement of protective cover soil capable of sustaining vegetation;
- Install storm water diversion terraces and drainage features;
- Construction of a new access road; and
- Site restoration and vegetation.

The profile for the final cover system, from bottom to top, consists of: a compacted cohesive soil/infiltration barrier layer on the top of the landfill with a minimum thickness of 12 inches and structural fill on the side slopes, a textured 40 mil LLDPE geomembrane, a layer of double sided geocomposite drainage layer, and 24-inches of protective cover soil layer vegetated with native grasses. This final system is based on the presumptive remedy described in the Record of Decision. The infiltration layer on top of the slopes has a permeability of no greater than 1×10^{-5} , while structural fill on the side slopes has no permeability requirements.

Waste from the burn pile was relocated to the top of the dump site as prescribed in the ROD. Some waste relocation was required to construct the west sedimentation ponds and to facilitate site grading. Side slopes adjacent to the pond were constructed at 4H: 1V slope.

Other areas were filled with compacted structural fill to flatten side slopes to a maximum of 3H: 1V prior to placing the final cover. Perimeter road and storm water channels were constructed. The road surface was constructed with 6-inches of compacted crushed stone over a layer of nonwoven geotextile.

The side slopes of the landfill and other disturbed areas not covered with gravel were seeded with native vegetation. Erosion control matting was installed over the side slopes of the seeded protective/vegetative layer to help minimize erosion across the surface of the cap while the vegetation established itself.

The landfill closure construction was done in accordance with the plans and specifications and the inspection and testing protocols required were followed and documented. Construction CQA-QC was provided during construction in accordance with the CQA-QC Plan.

A summary of the construction methods and standards is provided below:

Compaction testing of structural fills (95% Standard Proctor)

Compaction and permeability testing of the 12 inch thick infiltration barrier soil layer.

Testing associated with the installation of the LLDPE membrane and geocomposite drainage layer

No compaction requirement was specified for the 24-inch thick protective soil layer. This layer was placed in 8-inch sections and spread and graded to final elevation using a dozer and one or two passes with a vibratory compactor. This layer was not designed for or constructed to support any future loading. Its purpose is to protect the LLDPE membrane and support a vegetative cover to prevent soil erosion.

Compaction tests were done on the structural fill and the 12-inch infiltration barrier. No attempt was made to compact the previously placed waste which ceased in the early 1970's. Some waste was moved from the edges of the "dump" to get in located under the liner. This was compacted as effectively as possible for waste material. There was a limited amount of this. Structural fill was placed in some areas and compacted to shape the contours so as to promote surface runoff. There was a limited amount of this.

Limitations on Solar Farm Construction

The closure plans can be viewed and/or downloaded by [following this link](#).

The placement of the solar panels and supporting foundations and frames and appurtenance's should be done in accordance with the following guidance:

a. Be no closer than 10 feet from the edge of the locations where the LLDPE membrane and geocomposite drainage layer come to the surface (daylight) around the perimeter of the landfill cap as shown on drawing 16 detail 3/16 (attached). This location is referred to as the transition

from upper slope to side slope and the location is shown in plan view on drawing 6 (attached) of the construction plans. This daylighting of the drainage layer permits drainage of water from the top of the liner and prevents the 2-foot protective cover from becoming saturated.

b. No construction should be done on any slope great than or equal to 4H: 1V. These slopes are subject to erosion, requiring a lot of attention and maintenance and are difficult to mow.

c. Your attention is called to drawing 7 (attached) which shows the drainage trenches for the geocomposite layer. This is a network of “French drain type” pipes that collect and discharge water that is trapped on top of the LLDPE membrane and discharge this water to prevent saturation of the protective layer soil.

Care should be taken to cross these lines only where absolutely necessary. Soil-bearing structures should not be placed over them, as that would prohibit access in the event they had to be excavated for any reason. No construction should be done or structures placed within 25 feet of the pipe discharge points.

d. Your attention is further directed to drawings 15 and 20 which show the passive landfill gas collection system. No structures should be closer than 20 feet of the riser pipes in order to allow access for maintenance. You should lay out your system so as not to cover the underlying pipes so that they can be accessed for maintenance.

e. The LLDPE membrane must be protected from puncture, as it keeps rainwater from contacting waste material underneath, which could then potentially pollute the groundwater. That creates problems no one wants. The membrane is protected by only 2 feet of soil and could easily be damaged by careless activity above.

f. Your foundation must not penetrate this 2-foot protective layer. No electric or cables or conduit should be trenched in to this 2-foot protective layer.

g. We would need to review and approve your geotechnical report, design calculations, and construction plans detailing how you would comply with the above requirements. We would also need to review and approve your plan to access the site, assessing how the system would be constructed while preventing damage to the 2-foot protective layer from construction machinery and activity.

h. Spacing of the rows and array breaks should permit the use of mechanized mowing and other maintenance equipment.

Site Covenants and Restrictions

The City of Spartanburg has entered into a “Declaration of Covenants and Restrictions” with the South Carolina Department of Health and Environmental Control for the Arkwright Landfill site that places certain limitations on how the property may be used in the future. The City has

remediated the property to Industrial-use/commercial-use standards as required by the Record of Decision. The property may be used for certain purposes without further remediation in accordance with the Record of Decision and the city has agreed to impose certain restrictions on the manner in which the property may be used in the future. The Declaration of Covenants and Restrictions is attached. Proposers should read this document and be familiar with the restriction on use of the site imposed by the agreement.

j. Awarded firm will secure, at their own expense, all required rights, permits, licenses, and approvals from governing agencies.

Obligation of Responder to Familiarize Themselves with Site Conditions and Limitations

It is the responsibility of any responder to this RFP to familiarize themselves with all site conditions and limitations. The City will seek input from SCDHEC regarding any proposals received

City's Interest in Potential Solar Farm Development

While interested and open-minded to the potential of a solar farm, the City will not jeopardize the function of the closed landfill. The City is primarily interested in proposals that do not jeopardize the landfill closure while providing benefit to the Arkwright community. This community benefit may be provided by credits or offsets in the electrical expenses of Arkwright residents or funding for supportive programs.

Proposal Requirements (Items 1 - 11)

1. Project Description – Narrative
2. Conceptual Layout of Panels and Other Equipment
3. Description of Structural Mounting of Solar Panels and Protection of Landfill Liner
4. Operation and maintenance plan
5. Site Security during Construction and Operational Phase.
6. Detailed Budget showing all sources of funding necessary to develop the Project. The sources of funding budget should match costs, including any budgeted contingencies. The sources of funding budget should identify any sources of funding that are contingent on bank or investor approval and/or issuance or approval and/or allocation of tax credits. If tax credits are included in funding plan, identify the specific tax credits. Written funding commitments from third party funding/loan commitment letters if available.

7. A Description (Status) of proposer's Interconnect Agreement with Duke Energy.
8. A Description of any real and personal property tax abatements and/or fee-in-lieu of tax agreements which are requested for the project.
9. Detailed schedule showing events from pre-construction/development activities to completion. For scheduling purposes, assume that the City has made its decision and can enter into a lease option agreement with the selected proposer by August 1, 2018.
10. Description of community impact that quantifies proposed credits/payments/offsets against electrical costs to Arkwright community residents. Include the number of households that are proposed for inclusion and the term (years) of that the community benefit will be delivered. If alternate community impact is proposed, include a detailed description and term.
11. Any proposed lease payment to the city. Include annual lease payment amount, term, and any escalator/inflationary increases.
12. Proposed terms of predevelopment option. Proposals must provide the terms for any lease options required by proposer.

Questions

Technical questions regarding engineering requirements should be directed to Mr. Mike Garrett at mgarrett0972@charter.net

Questions regarding budget, financing, or tax credits should be directed to Mr. Ed Memmott at ememmott@cityofspartanburg.org

Question regarding RFP process should be directed to Carl Wright at cwright@cityofspartanburg.org

All questions must be submitted no later than 5PM, Thursday, June 21, 2018. After this deadline, no response to questions will be provided.

Selection Process and Proposal Evaluations

A selection committee composed of Mike Garrett and other individuals selected by the City Manager will evaluate proposals and make a recommendation to City Council.