REQUEST FOR PROPOSAL

RFP-CEA-1904

SPRINGHILL GEOTHERMAL BUSINESS PARK
AND DISTRICT ENERGY SYSTEM CONCEPT DESIGN

CUMBERLAND ENERGY AUTHORITY
1395 BLAIR LAKE RD.
UPPER NAPPIAN, NS
B4H 3Y4

Issued Date: May 29, 2109
Closing Date: 14:00 June 21, 2019
Introduction

The Cumberland Energy Authority (CEA) is a wholly owned corporation of the Municipality of the County of Cumberland (the Municipality). Governed by its board, the CEA is tasked with developing renewable energy throughout the municipality. One key component of the CEA’s mission is development of a green business park using geothermal heat energy in Springhill, Nova Scotia.

The CEA is seeking a qualified firm to complete a concept design of a Geothermal Business Park (the Park) in Springhill, Nova Scotia. The scope of work for this project shall include preparation of park concepts, developing road and infrastructure right-of-way alignments, sizing of linear infrastructure, and lot layout.

In addition to traditional business park design, this project incorporates the minewater geothermal resource available in Springhill. It is the intention of the CEA to develop a District Energy System (DES) to supply geothermal heat to businesses locating in the Park. Any potential design must include the incorporation of this resource.

The vision for this park is to create an innovative and sustainable development with green and renewable energy resources as the focal point.

This Request for Proposal (RFP) and any supporting documents supplied with it define both the form and content required of your proposal. We urge you to structure your response in accordance with the terms of this RFP. It will be by these criteria that we will determine whether a Proposal is complete, appropriate and competitive. Proposals that do not conform to these terms and conditions may be given lesser weight than others, or may be rejected.

This document is not intended to limit the content of your Proposal, but rather, to provide a common framework for the Municipality to assess each Proposal in a professional manner in a demonstrably fair process. You may provide unsolicited information if you consider it to be relevant.

Proposal packages may be subject to disclosure under the Province’s “freedom of information” legislation. By submitting a Proposal, the Proponent agrees to the appropriate disclosure of the information supplied, subject to the provisions of the governing law. The Municipality cannot guarantee the confidentiality of the complete content of any Proposal after the procurement has been awarded to the successful Proponent.
SECTION 1 – TERMS AND CONDITIONS

SUBMISSION OF PROPOSALS

The following is to be used in the preparation and submission of a proposal to provide the necessary concept design and development, engineering, promotional rendering, and feasibility studies for the Springhill Geothermal Business Park and District Energy System Concept Design project.

1. Completed vendor proposals and other correspondence should be submitted to:

   CUMBERLAND ENERGY AUTHORITY
   1395 BLAIR LAKE ROAD
   UPPER NAPPAN, NS
   B4H 3Y4

   ATTENTION: MR. RAY HICKEY, P.Eng.
   EXECUTIVE DIRECTOR

   Any proposals submitted by fax, email or telephone will not be accepted under any circumstances.

2. Proposals must be submitted in a sealed envelope clearly marked “SPRINGHILL GEOTHERMAL BUSINESS PARK AND DISTRICT ENERGY SYSTEM CONCEPT DESIGN”.

3. Please provide three (3) physical copies and one (1) digital copy of your proposal.

4. Proposals are due and will not be accepted any later than 14:00 local time on Friday June 21, 2019.

5. Late proposals will not be accepted and will be returned unopened.

6. Proposals must be submitted on firm letterhead duly signed by an authorized person.

7. Proposals will be opened publically, on Friday June 21, 2019 at the Upper Napan Service Centre, 1395 Blair Lake Road, Upper Napan, NS, immediately following closing at 14:00 local time. The opening of proposals at that time is to publicly record receipt of them. Details of the submissions will not be publicly disclosed at that time.

8. The terms and conditions of the “Springhill Geothermal Business Park and District Energy System Concept Design” proposal submitted by you are to remain firm and irrevocable from the proposed closing date of Friday June 21, 2019 to August 21, 2019 and, if you receive our letter of acceptance, become part of the contract with the CEA, expiring at the completion of the Springhill Geothermal Business Park and District Energy System Concept Design project.
9. **Timing for Selection**

It is anticipated that the successful Proposal will be selected and the submitter notified after the **Tuesday July 9, 2019** meeting of the CEA board. On the same day, notice shall be sent to all other submitters notifying them that their Proposals have not been selected.

**PROPOSAL REGULATIONS**

1. Submission of a Proposal indicates acceptance by the submitter of all of the conditions contained in this RFP unless otherwise clearly and specifically noted in the Proposal submitted.

2. **CEA’s Right to Reject**

   The CEA reserves the right, without prejudice,
   - to accept any Proposal;
   - to reject any or all Proposals;
   - to not be obligated to accept the lowest Proposal;
   - to accept any Proposal that it considers to be in its best interests;
   - to waive formality, informality or technicality in any Proposal, and
   - to reject any proposal that it feels incapable of providing the necessary resources to perform the work in a satisfactory manner.

   Proponents may be required to demonstrate financial stability, authorization to provide the services being acquired, and/or regulatory agency approval or registration as needed or otherwise clarify the Proponent’s capability to satisfy the invitation requirements.

   Acceptance is subject to the approval of the CEA Board.

3. No adjustments will be allowed to any submitted Proposals. Proposals, may however, be withdrawn by written request prior to the proposal submission closing date and time.

4. Late proposals will be rejected.

5. The submitter must be prepared to include in the contract for services any oral or written representations, undertakings or guarantees that are made prior to the final agreement, including the entire response to this RFP, or parts thereof.

6. Proposals not completed in permanent, unalterable form of print will be rejected.

7. The CEA shall pay no fee to any firm for the preparation and delivery of its Proposal in response to the Municipality’s RFP. The CEA will not be responsible for any costs, expenses, losses, damages or liability incurred by the Proponent as a result of, or arising out of data/information collection, the submission of any proposal, or due to the CEA not accepting or rejecting any proposal.
8. In case of any disputes over the completeness, accuracy and/or interpretation of this RFP, the versions of such documents held by the CEA will be considered correct. Information, offers, commitments or instruction obtained by any source other than the CEA will not be binding on the Municipality.

9. Inquiries regarding this Request for Proposals can be directed to:

   Kellie Seaman  
   Procurement Officer  
   Phone: (902)664-9243  
   kseaman@cumberlandcounty.ns.ca

Inquiries and responses given may be recorded and may be distributed to all other Proponents as an Addendum. No responses shall be binding on the CEA unless made in writing. All enquiries regarding the interpretation of these Terms and Conditions, general procurement policy or procedures must be made to the Procurement Officer.

10. It is the responsibility of all proponents to check the Municipality of Cumberland web site (www.cumberlandcounty.ns.ca) and the Nova Scotia provincial procurement website on a regular basis for any addendums or information releases for this RFP.

11. No addendums or other relevant information related to the RFP will be issued within 72 hours of the RFP closing date and time of 14:00 Local Time Friday June 21, 2019.

12. It is mandatory that all submitted proposals comply with Section 3 - PROPOSAL REQUIREMENTS.
SECTION 2 – SCOPE OF WORK

BACK GROUND

Staff

The Municipality of the County of Cumberland (“The Municipality”) provides staff support for the CEA. This includes the fully dedicated staff of the CEA’s Executive Director, Marketing Officer, and Executive Assistant, as well as, other staff resources as needed. This includes the Municipal Capital Projects Engineer, Municipal Planner, Community Economic Development Officer, and others.

A steering committee has been created to manage this project. The membership of this committee consists of CEA board members, CEA staff, and subject matter experts from the Municipality. The Committee will review proposal submissions and make a recommendation to the CEA Board.

Mine Water Geothermal

The mine water geothermal resource contained within the Springhill Geothermal Resource Area, as designated in the NS Mineral Resources Act (Section 8A), is a physical legacy of the extensive underground coal mine workings that resulted from continuous coal mining operations in Springhill between the early 1800’s and 1958, when a massive rock burst closed the No. 2 Mine and ended large scale commercial underground mining.

Over time, these abandoned underground workings, of which there are six overlying seams, and which extended from surface to a depth of over 1,300 m, and cover an area of more than 16 km², filled with water. Natural heating as a result of containment in these underground cavities has resulted in warm water from which thermal energy can be extracted after the water is pumped from the workings. Once this energy has been extracted from the warm water through heat exchangers, heat pumps, or other processes, the water is returned to the mine workings through dedicated boreholes.

Currently, there are six independent facilities that are using mine water geothermal energy for their heating, cooling and/or process purposes, including the Springhill Community Center, which utilizes the energy source for all its ice making, heating and air conditioning purposes. With an estimated volume of more than 11 million m³ of water contained within the abandoned workings, there is great potential for future energy extraction from the mine water.

Mineral Rights Lease

To assist in the coordination and control of this resource to better ensure its long term sustainability and efficient utilization, the former Town of Springhill was granted Special Mineral Lease (Geothermal) 13-01; Springhill Area by Nova Scotia Natural Resources in December 2013. After the dissolution of the Town of Springhill the mineral rights lease was transferred to the Municipality of the County of Cumberland. The use and development of this resource is managed by the CEA.
Previous Studies

The CEA has completed studies investigating the potential and sustainability of the mine water geothermal resource. The following studies are available for review by proponents at https://cumberland-energy-authority.ca/resources/studies.html?own=0:

- Researching the Potential of Former Springhill Mine (Verschuren Centre, 2015)
- Efficiency One – Springhill Geothermal Energy Use Study (Efficiency One, 2017)

Water level and temperature data for multiple supply wells will be made available to the successful proponent.

The “Outdoor Recreation and Multisport Complex Master Plan” (A49, 2018) will be made available to the successful proponent, this document details planned development around the Dr. Carson and Marion Murray Community Centre and surrounding properties.

Geothermal Business Park Development

The CEA is in possession of approximately 100 acres of land above the former Springhill coal mines. This land is in the same general area of existing industrial operations. The area presents an ideal opportunity for new business development.

PROJECT AREA

Figure 1 shows the proposed location of the Park. Figure 2 shows the property that has vested to Municipal ownership in the community of Springhill.
Figure 1 Proposed Business Park Property
Figure 2 Electoral Districts 11 & 12 Vested Properties
PROPOSAL SCOPE AND DELIVERABLES

The proponent is expected to include within their proposals a work plan, cost, and schedule to complete the following scope of work and deliverables:

1. Draft Concept
   a. Review existing information and discuss business park concepts and vision with the project team. The proponent will present these draft concepts to the project steering committee;
   b. The concept design options shall include proposed lot size and layout, preliminary road network layout, park access, comment on potential construction phasing, and expansion potential;
   c. Proponents will ensure lot sizing is consistent with the Municipality’s Municipal Planning Strategy and Land Use By-Law;
   d. Based on the recommendations of the “Springhill Geothermal Energy Use Study” (Efficiency One, 2017) lots shall be sized and laid out in a manner suitable for the industries identified; and
   e. The proponent will present the draft park concepts to the project steering committee.

2. Concept Development
   a. Design right-of-way alignment for road and buried infrastructure. Consideration will be given to park access locations;
   b. Calculate preliminary sizing of water, sanitary sewer, and storm sewer infrastructure based on proposed land use;
   c. Prepare preliminary cost estimates for road and linear infrastructure construction.
   d. The proponent shall integrate modern ‘whole community’ elements for the approved concept, these shall include but not be limited to:
      i. Active transportation;
      ii. Connectivity with existing trails and community features;
      iii. Green space;
      iv. Electric car charging; and
      v. Other design features contributing to “green” aesthetic.
   e. Make recommendations on a District Energy System utilizing the mine water geothermal resource. Recommendations shall include:
i. A design brief detailing required infrastructure and technology options. The design brief will make recommendations on types of technology and infrastructure to be used in the park design concept;

ii. Case studies of other district energy systems of similar scale including how the utilities are structured and administered, what technologies are used, the financial impact on end users, and environmental impacts; and

iii. Preliminary cost estimates will be provided for recommended district energy system infrastructure.

f. Prepare promotional rendering of concept design suitable for use to market the Park to potential businesses.
   i. Images will illustrate the identified industries located within the concept;
   ii. Highlight “green” aesthetic and amenities; and
   iii. Include graphics demonstrating potential energy savings.

g. Conduct a feasibility study on establishing a self-contained electric “micro grid” to provide electricity to the park businesses. Energy sources such as solar panels, wind turbines, other renewable sources, or some combination thereof. The feasibility study shall include:
   i. Technology available that would suit approved concept design;
   ii. Required scale of “micro grid” to supply all or a portion of the electrical needs proposed concept design;
   iii. Case studies of established “micro grids” of a similar scale;
   iv. Regulatory requirements;
   v. Potential for market to support this infrastructure; and
   vi. Preliminary cost estimates for design and construction of proposed technologies.

h. Present concept design and other findings to the project steering committee and CEA board.

3. Concept Refinement

The following tasks have been identified as potential next steps in refining the concept design and should be considered as deleteable tasks. The award of these tasks will be based on the findings and results of the concept design, and available budget.

a. Topographic survey of the development area.
   i. Cross-sections at 10 m intervals along proposed right-of-way alignment from approved concept; and
   ii. Lot survey 25 m grid within proposed lots (to be confirmed based on final lot sizing).

   i. Ensure stormwater discharge from proposed development is maintained at pre-development rate; and
   ii. Recommendations for implementation of the plan will match the proposed phasing of the concept design.
c. Prepare a feasibility study for the construction of a separate district energy system servicing existing businesses and institutions located on Main St. Springhill, Nova Scotia from Junction Rd. to Lisgar St. The study shall include:
   i. Summary of available technologies for district energy system of this scale;
   ii. Provide an estimated savings from switching from traditional heating/cooling to district energy system; and
   iii. Consultation with businesses in service area to determine their energy use and requirements and level of interest.

PROJECT SCHEDULE

The proponent shall provide a schedule as part of their proposal. This schedule will include the following milestones:

- Project Kick-Off meeting in Springhill, Nova Scotia – July 16, 2019
- Promotional Renderings Completed – September 3, 2019
- Concept Development Phase Complete – January 15, 2020
- Concept Refinement Phase Complete – TBD

UNITS

Units used in the engineering design and all other documentation relating to the project are to be metric. All drawings must use NAD83 CSRS98 UTM Zone 20 N coordinate system.
SECTION 3 – PROPOSAL REQUIREMENTS

Please provide the information requested below in the proposal submission. Please be brief and concise in your response. Proposals shall not exceed 12 pages in length (excluding appendices).

1. The Consulting Team and References
   - Provide a general description of your firm.
   - Indicate the consulting team to be assigned to the work including the names of any sub-contractors or partners that would be utilized.
   - Detail the extent of the team’s relevant experience.
   - Please list your major municipal clients and references that would relate to this project.

2. Methodology and Approach
   - Outline the methodology and approach to this study and the general steps in the review process.
   - Explain how you would plan to produce each of the key deliverables in the study.

3. Project Work Plan and Schedule
   - Provide a detailed plan for conducting the study, with a schedule that will meet the reporting date identified above.
   - Identify any key progress meetings or conference calls required during the study process.
   - Identify activities by consultant and time spent on each major component of the work plan.

4. Project Fees

The proposal should provide a breakdown of consulting fees and estimated expenses that will conform to the Work Plan. The Consultant shall provide lump sum pricing for all work.

In addition, please provide any specific invoicing conditions or requirements that impact the overall costing for the study.

5. Evaluation Criteria

Each response to this Request for Proposal will be evaluated by the CEA to determine the degree to which it responds to the requirements as set out. Because this is a Request for Proposal, other factors in addition to price will be considered when submissions are evaluated. Factors to be considered are as follows:
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<th>Criteria</th>
<th>Weighting</th>
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<tr>
<td>Qualifications, References of the Consulting team</td>
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<td>Methodology and Approach</td>
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<td>Work Plan and Schedule</td>
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<td>Cost</td>
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6. Termination

In the event that the Respondent fails to comply with any of the terms and conditions set forth in this document, the Respondent will be notified in writing and will be given fifteen days to comply with the violated sections. At the expiration of the stated period of time, if the Respondent has not complied with same, to the satisfaction of the CEA, the Contract will be terminated. Any termination of the contract by the CEA as aforesaid shall be without prejudice to any other rights or remedies the CEA may have.

7. General

Provide any other information and/or comments which you feel are appropriate for the CEA to consider in making its decision.

.................................End of Request for Proposal .................................