REQUEST FOR QUALIFICATIONS (RFQ)
NETWORKED GEOTHERMAL FEASIBILITY STUDY
RFQ #24-20

The Town of Arlington, through the Department of Planning and Community Development (DPCD), seeks statements of qualifications from qualified individuals or firms to conduct a feasibility analysis of a single closed loop networked geothermal system (also known as a networked ground source heat pump system) in the East Arlington neighborhood near the Thompson Elementary School and the Menotomy Manor housing development. The Town has received a grant from the HEET Kickstart Mass program, funded by the Massachusetts Clean Energy Center (CEC) and will award $50,000 to the selected vendor for:

- Robust community engagement in the community on networked geothermal systems;
- Evaluation of potential site(s) and buildings in the geothermal system; and
- Preliminary design and cost estimates for installation and operation.

Costs for the above activities will be carried by the chosen vendor. The $50,000 award is inclusive of all project costs assumed within the term of the contract.

For further information contact Talia Fox, Sustainability Manager, at tfox@town.arlington.ma.us.

Statements of qualifications will be received by the Sustainability Manager on or before 10:00 AM, April 15, 2024, at tfox@town.arlington.ma.us. Responses delivered after the appointed time and date will not be considered. Questions or requests for interpretation of this Request for Qualifications shall be emailed to tfox@town.arlington.ma.us and to be given consideration must be received at least 7 days prior to the Statement of Qualifications deadline. Any and all such interpretations and any supplemental instructions will be in the form of written addenda posted electronically to the Town's website at www.arlingtonma.gov/purchasing.

The Town reserves the right to cancel any request for qualification, and to reject in whole or in part any and all statements of qualification, when it is deemed in the best interests of the Town to do so.

REQUEST FOR QUALIFICATIONS
TOWN OF ARLINGTON

NETWORKED GEOTHERMAL FEASIBILITY STUDY

Responses Due:	April 15, at 10:00 AM Late Responses Will Be Rejected
Deliver Complete Responses to/ for Further Information Please Contact:	Talia Fox Sustainability Manager tfox@town.arlington.ma.us

I. OVERVIEW OF OPPORTUNITY

The Town of Arlington has received a grant from HEET as part of the Kickstart Mass program funded by the Massachusetts Clean Energy Center (MassCEC). The purpose of the Kickstart Mass program is to develop a pipeline of shovel-ready geothermal network sites whose readiness attracts funding for the next stage of implementation. The Town will work with a vendor to conduct a feasibility analysis of a single closed loop networked geothermal system in the East Arlington neighborhood near the Thompson Elementary School and Menotomy Manor housing development.

The study will assess the potential of networked geothermal at the selected anchor site(s), which include a playing field adjacent to the Thompson School and possibly lawn space at Menotomy Manor. The feasibility study will take 6-9 months to complete, with a final report due at the end of 2024. The study will consider the unique opportunities and challenges to the design and implementation of the chosen networked geothermal system.

The Town of Arlington will engage in this work through the Department of Planning and Community Development, which is responsible for climate mitigation and adaptation planning. Other stakeholders to be involved in the project include the Arlington Housing Authority, Arlington Public Schools, and the Arlington Recreation Department, as well as residents via the Town campaign Electrify Arlington, community groups, and other channels.

The grantor will maintain an active role in this process. HEET, through the Kickstart Mass program, will help foster community engagement and education around the benefits of networked geothermal and how these systems work in homes and businesses. HEET will monitor progress on the feasibility study and help support successful outcomes by connecting the project with system designers, installers, and other industry professionals.

This project is funded through the HEET Kickstart Mass program for up to $50,000.

II. Scope of Services

The Town of Arlington seeks proposals from qualified individuals or firms to provide expert guidance and technical assistance in the assessment of the feasibility of the prospective networked geothermal installation; and to facilitate robust community engagement around the assessment. The scope of work should generally include:

- Site evaluation and characterization, including geological review;
- Public engagement to educate and elicit feedback around networked geothermal opportunities and challenges;
- Survey and assessment of buildings potentially suited for the networked geothermal approach, including discrete building and thermal energy modeling;
- High-level regulatory review, including constraints and any unique regulatory elements;
- Technical analysis, including preliminary loop layout and design; and
- Estimation for installation and operational costs.

III. Milestones and Estimated Timelines

Expected milestones and deliverables are listed in the table below. While the Town is open to adjustments, at a minimum, the vendor must address in its response the scope and final report requirements (including the December 13, 2024, final report deadline) provided by the grantor in the attachment entitled “Kickstart Grant Description.” The vendor should also provide in its response an updated timeline addressing key milestones and deliverables along with a proposed project approach (see Section V, Submittal Requirements).

Date	Milestone	Description
5/1/24	Project kickoff	Work is expected to begin in early May, promptly following the Town’s selection of a vendor. The project kick-off meeting should include, at minimum, review of the final project scope and timelines, roles, and expectations for communication.
6/1/24	Deliver characterization of proposed site	The vendor will assess the physical parameters (e.g., surficial and bedrock geology/hydrology, competing utility uses, potential site contamination); identify state and local codes and regulations that influence the design, construction, and overall cost-effectiveness; and develop project evaluation criteria.

6/1/24	Develop and launch engagement plan	The engagement plan will include elements that can be accomplished within the vendor's budget and timeline, including, for example, public education events, door-to-door canvassing, neighborhood meeting(s), presentation(s) to the Menotomy Manor tenants' association and Thompson Elementary School students and families, on-site signage, and notice via Town channels.
9/1/24	Technical feasibility analysis deliverable	The vendor will assess capacity, constraints, and potential for expansion of the geothermal system. The specifics of the technical feasibility will be scoped in partnership with the community, with the goal of incorporating as much capacity as is desired and potential for growing the network to adjacent neighborhoods. This stage includes drilling of the test borehole(s). The technical feasibility will include preliminary loop layout and design (including potential for renewable energy, load diversity, etc., evaluation of piping network alternatives and building-side integration). It will also include "conversion sequences" for the three most common building types in the project area. These conversion sequences will describe the existing gas-supplied equipment, how it meets occupants' needs, and identify the equipment (including electrical service) that would replace it when service lines convert from gas to geothermal.
11/1/24	Cost estimate	The vendor will provide an estimate for installation and operational costs for the project. The estimate will include key costs for full design and installation, as well as commissioning and operational costs. An important dimension of this analysis will be anticipating the ownership and governance structure for the utility. These differences will shape who pays for the system and its maintenance.
11/15/24	Draft of final report due to the Town	The vendor will share a draft of the final report that allows for sufficient time for review and revision prior to final submission to the grantor. The final report must include, at minimum, the information detailed in the attached document "Kickstart Grant Description."
12/13/24	Final report due to grantor	The Town will receive and report on the final deliverables to the grantor.

IV. Budget

The Town of Arlington was awarded funding in the amount of $50,000. Funds will be disbursed to the Town in two increments of $25,000, one upon execution of the grant contract, and one following submission of the final report in December 2024. Payment to the vendor cannot be made before funds have been disbursed to the Town. Payment will be remitted by the Town to the vendor in accordance with a schedule to be agreed upon.

Below is an estimated budget for the completion of the feasibility study. The table provides a sample, high-level breakdown of this grant funding across the primary vendor, outreach and engagement, as well as the estimated cost of drilling the test borehole(s). The Town welcomes adjustment to the budget breakdown below, to the extent that the full scope is still accomplished. The vendor should submit a budget breakdown along with a proposed project approach (see Section V, Submittal Requirements) that reflects a detailed scope, including a proposed number of key internal/community meetings and time required for key deliverables.

Expense	Amount
Consultant fee	$33,000
Outreach and engagement (including potential community partner stipends up to $4,000)	$7,000
Drilling and testing	$10,000
Total Expenses	$50,000

V. Submittal Requirements

Statements of qualifications must be submitted to the Sustainability Manager in electronic mail by the submittal deadline at tfox@town.arlington.ma.us. They should be submitted in one single, searchable PDF document, clearly labeled, as an electronic mail attachment or secure link in the body text of the electronic mail. Please include “RFQ #24-20 Networked Geothermal Feasibility Study – Statement of Qualifications” in the subject line of all correspondence.

Price Proposal

The Price Proposal should state the cost to provide the services in the proposed project approach, not to exceed $50,000 and should include a cost breakdown.

Statement of Qualifications

Interested qualified firms must submit a response addressing the objectives, scope and schedule described in this RFQ. Proposals shall include the following and shall be organized using each of the elements listed below as section headings:

A. Vendor and/or sub-Vendor Description: Provide a brief description of the firm/organization including size and area of specialization, location of headquarters, and location of office proposed to handle this project.
B. Project Team: Provide names, contact information, resumes, and office locations of key staff who will be assigned to the project. Each team member's education and qualifications shall be listed. The project manager shall be clearly identified. If different consultants will be teaming together, indicate who will be the day-to-day contact person/team.
C. Qualifications: Provide a description of how the vendor team meets the required experience and skill sets described in this RFP.
D. Additional Experience: Provide a description of the following:
    a. Experience with facilitation of participatory planning processes. Describe the vendor team's experience facilitating engagement processes that center community members in the development or design of a project. Provide details on one or more projects or initiatives where members of the vendor team were responsible for playing a facilitation role.
    b. Experience working in multi-racial, multicultural, or socially vulnerable groups. Describe the vendor team's experience with working on projects that involved integrating marginalized racial, cultural, or socially vulnerable groups in decision-making processes. Provide details on one or more projects or initiatives where members of the vendor team implemented meaningful inclusionary practices, fostered social connections, and managed power dynamics that centered social equity or building resilience.
    c. Experience managing projects. Describe the vendor team's experience with managing projects, including coordinating a project team and tracking a budget and deliverables. Provide details on one or more projects or initiatives where members of the vendor team were responsible for project management.
    d. Local expertise. Describe the vendor team's familiarity with the municipality or the region, including experience living and/or working in the municipality or region, and experience collaborating with local partners.
E. Scope of Services: Summarize the vendor team's understanding of the project and describe the vendor team's approach and plan for accomplishing the work listed herein. The vendor shall not delete any requested scope tasks.
F. Project Schedule, Budget, and Commitment: The vendor shall submit acknowledgment and commitment for the responsibilities, timeline of milestones

(including key internal/community meetings and deliverables), and budget for the proposed work described above. Any proposed changes to the breakdown of the budget above should be provided with an explanation.

G. References: The vendor team should provide three references. For each reference, list the contact name, their title and/or affiliation, a brief description of the project or initiative they'd be able to speak to, and their contact information (phone number and email address).
H. Required Forms: All required forms must be submitted with the proposal.
    a. Certificate of Non-Collusion
    b. Certificate of Tax Compliance
    c. Price Proposal Form

VI. Selection Criteria

All applicants must meet the following minimum requirements:

1. Experience successfully developing networked geothermal feasibility studies.
2. Desirable approach to the project, including a demonstrated understanding of all project components and public outreach needs.
3. Sufficient staffing plan and methodology, including professional qualifications of all project personnel.
4. Strength and credibility of client references. The Consultant shall demonstrate prior client satisfaction with working relationship, project and budget management capabilities, and technical expertise in developing similar projects.
5. Signing of the Certificate of Non-Collusion, Tax Compliance Certification, and Price Proposal Form to be submitted with the response to this RFQ.

When considering proposals, the Town will favor those respondents who have extensive experience providing similar services, submit a desirable approach, and describe adequate capacity (including staffing levels and scheduling). Each proposal will be evaluated based on how well it addresses these criteria. Responses to each section will be determined to be highly advantageous, advantageous, or not advantageous, based upon the following comparative evaluation criteria.

Category	Highly Advantageous	Advantageous	Not Advantageous
Organizational Experience	Applicant has at least five (5) years' experience consulting with municipalities on projects of similar size and scope to this project with successful completion of five (5) similar projects in the last five (5) years	Applicant has at least four (4) years' experience consulting with municipalities on projects of similar size and scope to this project with successful completion of three (3) similar projects in the last five (5) years	Applicant has at least three (3) years' experience consulting with municipalities on projects of similar size and scope to this project with successful completion of two (2) similar projects in the last five (5) years
Desirability of Approach	Applicant's response contains a clear, creative, and comprehensive plan that addresses the entire scope of work as presented in this RFQ	Applicant's response contains a clear plan that addresses most of the scope of work as presented in this RFQ	Applicant's response does not contain a clear plan to address the scope of work as presented in this RFQ
Organizational Capacity - Staffing	The project team has at least five (5) years' experience as consultants on relevant projects with successful completion of five (5) relevant projects in the last five (5) years	The project team has at least four (4) years' experience as consultants on relevant projects with successful completion of three (3) relevant projects in the last five (5) years	The project team has at least three (3) years' experience as consultants on relevant projects with successful completion of two (2) relevant projects in the last five (5) years
Organizational Capacity - Quality of References	All three (3) of the applicant's references indicate that services were satisfactory or better.	One (1) of the applicant's references indicates that the services were not satisfactory or better.	Two (2) or more of the applicant's references indicates that the project that services were not satisfactory or better.

VII. Awarding of Contract

The Town may schedule interviews with the three highest scoring applicants. The Town will rank the finalists based on consideration of the minimum criteria/qualifications, the comparative evaluation criteria, and the interview (if applicable).

The Town will begin discussion of final scope of services and fee negotiations with the top ranked applicant. If unsuccessful in the negotiations, the Town may attempt to negotiate with the next highest scoring applicant (and repeat that process) until successful. If

negotiations with one or more of the finalists prove unsuccessful, the Town may reject all responses and may choose to re-advertise if deemed in the Town's best interest.

A Selection Committee will be convened to review proposals. Committee members will include staff from the Department of Planning and Community Development and may also include members of the community with expertise in networked geothermal systems or other clean energy systems.

The Town reserves the right to cancel any request for qualifications, and to reject in whole or in part any and all proposals, when it is deemed in the best interests of the Town to do so. The Town also reserves the right to seek additional information and revised proposals prior to selection of a vendor through written notice to all of the respondents.

CERTIFICATE OF NON-COLLUSION FORM

TOWN OF ARLINGTON

NETWORKED GEOTHERMAL FEASIBILITY STUDY

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification the word “person” shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

_____

Signature of Individual Submitting Bid or Proposal

_____

Name of Individual Submitting Bid or Proposal

_____

Name of Business

_____

Date

BY STATE LAW THIS NON-COLLUSION FORM MUST BE SIGNED AND SUBMITTED WITH THE BID OR PROPOSAL.

CERTIFICATE OF TAX
COMPLIANCE FORM

TOWN OF ARLINGTON

NETWORKED GEOTHERMAL FEASIBILITY STUDY

Pursuant to MGL Chapter 62C, Section 49A, I certify under the penalties of perjury that I have complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

_____
Social Security Number or Federal Identification Number

_____
Signature and Title of Individual or Responsible Corporate Officer

PRICE PROPOSAL FORM

RFQ#24-20

Consultant Services

TOWN OF ARLINGTON
Arlington, MA 02476

NETWORKED GEOTHERMAL FEASIBILITY STUDY

CONTRACTOR: Town Manager
Town of Arlington

730 Massachusetts Avenue
Arlington, MA 02476

PROPOSER:

_____

_____

_____

PROJECT: NETWORKED GEOTHERMAL FEASIBILITY

Proposed Price (in words): _____

Proposed Price (in numbers): $_____

Please attach estimated budget and breakdown by planning element of professional service fees, assigned project staff and hourly billing rates of staff.

_____ _____

Print Name Title

_____ _____

Signed Date

Kickstart Mass Program 2023-2024

Program Overview & Goals

With $450,000 from the Massachusetts Clean Energy Center, HEET established the Kickstart Mass program to fund feasibility studies for Massachusetts communities that have displayed interest in implementing geothermal networks. The program's objective is to develop a pipeline of shovel-ready geothermal network sites whose readiness attracts funding for the next stage of implementation.

Capital investment for deployment can come from a variety of sources, which could include:

- Investor-owned gas utilities transitioning to clean energy
- Federal programs that incentivize renewable energy deployment
- Energy service companies (ESCOs)

The Big Picture

Kickstart Mass is part of HEET's larger goal of accelerating national progress on the transition beyond gas to clean energy at the speed and scale that this moment in history demands. HEET's work is being done in parallel with state legislative and regulatory efforts and gas utility initiatives to decarbonize building heating and cooling. Working together towards a shared vision of net zero carbon emissions by 2050—as established by the Massachusetts Clean Energy and Climate Plan for 2050—offers our greatest chance of success.

As HEET works with state and local governments, utility companies, and customers to identify potential locations for geothermal networks in Massachusetts, the Kickstart Mass communities will be at the forefront of this statewide progress and will also serve as a national model for other states looking to support the proliferation of geothermal networks.

The Kickstart Mass projects, along with the Eversource and National Grid pilots underway in the Commonwealth, will provide essential information on the costs of installing and operating geothermal networks as well as system performance metrics. This information will amplify best practices and foster industry development and growth.

Program Background & History

The Commonwealth's policies provide a framework for advancing electrification as part of its overall strategy to combat climate change and achieve a sustainable energy future. The

Next-Generation Roadmap Act, signed into law in 2021, was developed as part of the Clean Energy and Climate Plan for 2050.

On-site greenhouse gas emissions from buildings can be eliminated by electrifying heating, domestic hot water, clothes dryers, and cooking. Off-site emissions can be reduced as electricity is increasingly produced from renewable sources. An approach that focuses on efficiency and reducing energy consumption will minimize the cost of investments necessary to transition at the scale and speed needed to reach the targets set by the Commonwealth.

In 2019, HEET commissioned a study to assess the feasibility of replacing aging gas infrastructure in Massachusetts with networked ground-source heat pumps—also known as geothermal networks or thermal energy networks— shared by buildings along a single street segment. The study found that geothermal networks:

- Increase the resilience of the electric grid by reducing peak electric demand, limiting strain on the grid and the potential for outages
- Reduce the need for utilities to add generation capacity as buildings are electrified. The costs utilities will avoid from reduced capital investments translate to savings that will protect consumers from rising electric bills
- Are technically capable of meeting a significant portion of the heating and cooling needs of buildings in low- to medium-density residential and mixed-use commercial districts as well as a smaller portion of high-density mixed-use settings in Massachusetts
- Can provide a viable alternative to natural gas, propane, fuel oil, or baseboard resistance-electric heating and help mitigate the environmental, health, and safety issues associated with the distribution and combustion of fossil fuels
- Use similar materials, installation methods, and permits used to install and repair gas pipes, meaning the gas utility workforce can transition with minimal retraining
- Enable a larger-scale, more rapid transition to clean thermal energy than the current building-by-building approach
- Provide equal access to customers of all income levels

Geothermal Network System Requirements

Kickstart Mass projects must adhere to the design parameters specified in this definition of geothermal networks and system components. Additional information and resources can be found in the Gas to Geo Wiki.

Best Practices for Communities Pursuing Geothermal Networks

At HEET, we like to take the old adage “knowledge is power” and think of it instead as “knowledge is empowering.” When people understand change, feel involved in it, and have opportunities to share their concerns and questions, an initiative is more likely to be adopted,

succeed and be replicated, which is the ultimate goal with geothermal networks—we want the initial installation to connect to additional networks and expand over time.

The best practices below are general guidelines for building a ladder of understanding and engagement. The more a community can build on this, the better—bringing more stakeholders into the process and listening to diverse voices and perspectives.

Members of the community

- Conduct community outreach to ensure a significant percentage of community members have at least heard of the geothermal network project and have a basic understanding that it provides renewable heating and cooling.
- Conduct outreach through multiple channels, taking into account language and cultural factors.
- Consider using HEET's Want Geo map—a great way to capture public interest in geothermal networks.

Community organizations

- Ensure sustainability advocacy groups, town sustainability committees, and other community-based organizations have a more detailed understanding of the benefits of geothermal networks and their important role in advancing building decarbonization (e.g., emissions reductions, increased safety, and better indoor air quality, resilience, lower utility costs, and being part of a larger strategy to transition our cities and towns off the gas system in line with state mandates).
- Enlist community members as leaders in community engagement and building grassroots support for the project.

Decision-makers

- Identify whether a geothermal network project could be synergistic with other sustainability efforts or planned infrastructure projects.
- Make stakeholders and decision-makers aware of the impacts and timeline of construction.

Potential customers of the geothermal network

- Once identified, contact customers in person and educate them thoroughly about the project, including any needed weatherization work and/or building retrofits.
- Collect signed letters of interest from interested parties before enrolling them in the project.
- Encourage participants to share their knowledge and experience with neighbors and others to further advance networked geothermal in the community.

Kickstart Mass Funding Levels

Tier 1 - Grants of up to $10,000
Tier 2 - Grants of up to $50,000

Community Forum & Networking

To facilitate the sharing of information and leveraging of knowledge among grant recipients, HEET will be hosting three webinars. These meetings will also serve as checkpoints for reporting progress, identifying obstacles, and sharing solutions and resources. Each community will be asked to share a 5-10 minute presentation on their progress at each meeting. (Additional meetings may be scheduled based on project needs and requests from grant recipients.)
Please note: Tier 2 funding recipients are required to attend all three meetings.

- Kickoff, March 27, 2024
    - MDEP preliminary assessment of each site and Q&A
- Progress Check, June ##, 2024
- Progress Check, September ##, 2024

<u>Base requirements for all grant recipients (Tiers 1 & 2):</u>

1. Conduct robust community engagement to both educate and elicit feedback about the opportunities and concerns around networked geothermal for residents, and commercial and community nonprofits such as houses of worship.
2. Discuss the location of at least one site that provides an opportunity to deploy a geothermal network. Motivations could include, but are not limited to:
    a. Social impact / the story
    b. Developing a resilience hub
    c. There are willing participants
    d. Unique thermal resources- sources or sinks
3. Discuss why the cluster of buildings is well suited for a networked geothermal approach. Reasons could include, but are not limited to:
    a. Differing occupancies, and do not all experience their individual heating and cooling loads/peaks simultaneously. This permits load-sharing to improve energy efficiency, and the combined geothermal well field can be economically sized.
    b. Buildings rejecting a significant amount of thermal energy providing heat rejection from ice rinks, freezers/groceries, and waste cooling from data centers)
    c. Close proximity, so a heating/cooling loop can be economically installed
    d. Ownership and maintenance of the systems
    e. Barriers to installation (such as required permissions and variances) will be minimal.
4. Conduct a geological review

a. Description of geological formations to determine if drilling vertical wells is appropriate and/or cost-effective. Starting with the new DEP geological Maps for MA.

<u>Additional reporting requirement for Tier 2 grant recipients:</u>
A final report due on December 13, 2024 that includes the following information at minimum:

1. Analysis of identified site(s):
    a. Need for the community, which could include any of the following topics:
        i. Gas or electric grid constraints
        ii. Distal “end” of energy distribution systems
        iii. High energy prices
        iv. Gas leaks or pipeline replacement
    b. Deepen geological review
        i. Assessment of thermal prosumers for heat recovery and regulatory feasibility
        ii. Assessment of surface water heat exchange and regulatory feasibility
2. Survey and assessment of buildings
    a. Assessment of building heating/cooling needs:
        i. Building names, use type, and ownership
        ii. Number of buildings per parcel
        iii. Building use and daily operating hours
        iv. Area: square footage and floors
        v. Building age
        vi. Energy consumption and fuel type(s)
            1. Community choice electric rate (Y/N)
    b. Survey of Building heating/cooling and related systems including:
        i. HVAC System Age
        ii. Heating system(s)
        iii. Cooling system(s)
        iv. Domestic Hot Water System
    c. Barriers to electrifying local building stock
    d. Discussion of parallel studies or renovation projects being conducted for the participating buildings, if any.
3. Discrete building and thermal energy modeling
4. High-level regulatory review:
    a. Discussion of the regulatory process for conducting the study, if any.
    b. Discussion of any unique regulatory elements for implementation.