

**U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
NEPA DETERMINATION**



RECIPIENT: City of Ann Arbor

STATE: MI

PROJECT TITLE : Community Geothermal Heating and Cooling Design and Deployment

Funding Opportunity Announcement Number DE-FOA-0002632	Procurement Instrument Number DE-EE0010665	NEPA Control Number GFO-0010665-001	CID Number
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Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:

Description:

A9 Information gathering, analysis, and dissemination

Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring. (See also B3.1 of appendix B to this subpart.)

B3.1 Site characterization and environmental monitoring

Site characterization and environmental monitoring (including, but not limited to, siting, construction, modification, operation, and dismantlement and removal or otherwise proper closure (such as of a well) of characterization and monitoring devices, and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis). Such activities would be designed in conformance with applicable requirements and use best management practices to limit the potential effects of any resultant ground disturbance. Covered activities include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. (This class of actions excludes activities in aquatic environments. See B3.16 of this appendix for such activities.) Specific activities include, but are not limited to: (a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, radar, and temperature gradient), geochemical, and engineering surveys and mapping, and the establishment of survey marks. Seismic techniques would not include large-scale reflection or refraction testing; (b) Installation and operation of field instruments (such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools); (c) Drilling of wells for sampling or monitoring of groundwater or the vadose (unsaturated) zone, well logging, and installation of water-level recording devices in wells; (d) Aquifer and underground reservoir response testing; (e) Installation and operation of ambient air monitoring equipment; (f) Sampling and characterization of water, soil, rock, or contaminants (such as drilling using truck- or mobile-scale equipment, and modification, use, and plugging of boreholes); (g) Sampling and characterization of water effluents, air emissions, or solid waste streams; (h) Installation and operation of meteorological towers and associated activities (such as assessment of potential wind energy resources); (i) Sampling of flora or fauna; and (j) Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the City of Ann Arbor, Michigan, to design a looped geothermal system paired with efficiency improvements, rooftop solar, and battery storage to heat and cool households, an elementary school, a community center, a mental health facility, and a public works site in the low-income Bryant neighborhood.

The proposed project was selected under the first phase of DOE's Community Geothermal Heating and Cooling Design and Deployment Funding Opportunity Announcement (DE-FOA-0002632), during which awardees are to design their systems, finalize project sites and use, assess the geothermal resource, analyze environmental and permitting needs, conduct feasibility analysis and local engagement, and identify workforce and training needs. DOE intends to conduct a competitive down-selection process upon the completion of an initial 12-month Budget Period (BP1). If the proposed project is selected to advance to the second phase, additional NEPA review will be required.

BP1 of the proposed project would primarily involve office-based planning, analysis, and concept design of the community geothermal system. Investigative field work would be limited to the installation of up to two geothermal test bores at locations within the Bryant neighborhood. This area consists of an urban residential neighborhood, public school, city owned park and community center, and additional public use buildings. The exact location(s) for the proposed test bore(s) within the project area has yet to be identified. Based on initial project plans, drilling activities

would likely be located in the park and potentially on the school grounds. Siting would be finalized during initial project tasks. The proposed project would require a Washtenaw County Environmental Health Inspection and Permit, and test bore drilling and decommissioning activities would be designed in conformance with applicable requirements.

The proposed installation(s) would consist of a vertical borehole and closed-loop polyethylene pipe with grouting. The borehole would have an estimated depth of 250 to 700 feet (ft.) pending ground conditions identified during the testing process. Drilling would produce 2-6 yards of excavated non-hazardous cuttings that would be removed from the site(s) upon completion of this task. Test flows of water through the loop would be performed to assess thermal conductivity. No direct water exchange with aquifer or other groundwater sources is anticipated. Project activities would be conducted in accordance with industry standards for the protection of underground water sources. Temporary disturbance of the area around the test bore (approximately 20 ft. x 20 ft) would be restored to previous condition following project work. All ground disturbing activities would occur on land that has undergone extensive previous development.

Installation of the test bores would be a cumulative four-to-seven-day activity. Short-term visual and noise impacts on the surrounding community generated from the use of diesel-powered equipment on-site would be managed through initial outreach and direct engagement with the public throughout the course of the project. The project area does not contain or abut historic districts or properties listed in the National Register of Historic Places. DOE also conducted a review of potential issues related to other resources of concern and found no effects that would be expected to result from the proposed project activities.

NEPA PROVISION

DOE has made a conditional NEPA determination.

The NEPA Determination applies to the following Topic Areas, Budget Periods, and/or tasks:

Budget Period 1

The NEPA Determination does not apply to the following Topic Area, Budget Periods, and/or tasks:

Budget Period 2

Notes:

Geothermal Technologies Office (GTO)
Review completed by Whitney Donoghue on 06/20/2023.

FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposed action (or the part of the proposal defined in the Rationale above) fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D. To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

A portion of the proposed action is categorically excluded from further NEPA review. The NEPA Provision identifies Topic Areas, Budget Periods, tasks, and/or subtasks that are subject to additional NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____



Electronically Signed By: Casey Strickland

NEPA Compliance Officer

Date: 6/20/2023

FIELD OFFICE MANAGER DETERMINATION

- Field Office Manager review not required
- Field Office Manager review required

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____

Field Office Manager

Date: _____