PMC-EF2a
(2.04.02)

U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION

RECIPIENT: Oakland University **STATE:** MI

PROJECT TITLE: Oakland University HHB Ground Source HP (Phase 2)

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000116	DE-EE0002970	GFO-10-193	0

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:
Description:

A9 Information gathering (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.

B5.1 Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.

Rational for determination:

Oakland University is proposing to use ARRA funds provided by DOE to construct a 400 ton geothermal heat pump, heating and cooling system for the new Oakland University Human Health Sciences Building (HHB). Phase 1 of the project pertained to project design and was categorically excluded as A9 and B3.1.

Phase 2 of this project will consist of installation of the geothermal heat pump system as part of building construction. Building construction will be undertaken by the construction manager and multiple subcontractors under the supervision of the architectural/engineering firm and Oakland University Facilities Management Department.

The well field designed for the project will contain 240 boreholes, each 300 ft deep. The system will be comprised of boreholes completely encased in thermal bentonite grout and the system will circulate potable water as an exchange fluid. The geothermal supply and return lines will connect to a centrally located header vault located underground in the parking lot. Therefore drilling will occur on previously disturbed land. All installation will be performed on the parking lot except for installation of the geothermal supply and return lines and connecting piping for the new building. Installation of the geothermal supply and return lines will be installed in green space between the parking lot and the proposed building.

From the GIS study conducted on the proposed project location using NEPAssist, there is a very small area of freshwater emergent wetland bordering the construction site. During our initial review of the wetland, it appeared to be completed isolated and looks to act as a retention pond to improve drainage from the existing parking lot. The wetland in question is completely surrounded by large amounts of impermeable surface and highly developed area. After following up with the applicant to see how they were addressing the issue, it was noted that the project is occurring as two separate projects. The two projects are the installation of the well-field and the construction of the new LEEDS facility (not federally funded). The project officer for the new construction has obtained the appropriate permits allowing Oakland University to re-develop the wetland in order to obtain their LEED credits for storm water and erosion control. Therefore the wetland will be redeveloped with non-federal funds and is not a direct effect of DOE's funding action for the proposed geothermal system. Silt fences will be installed along the perimeter of existing wetland and along the limits of trench excavation for the supply and return lines as a method for soil erosion and sedimentation control. Mitigation and erosion control methods will be implemented during construction for protective measures. These Best Management

Practices include, but are not limited to, covering storm water drains and silt fences. Oakland University is attempting a U.S. Green Building Commission (USGBC) Leadership in Energy and Environmental Design (LEED) Platinum designation and will design the surrounding area to that standard with regard to storm water retention and natural landscaping. Construction debris will be put in an on-site dumpster and adherence to the USGBC LEED process will emphasize minimization of construction debris and waste. The recipient verifies that all applicable state environmental permitting, reviews, and approvals will be obtained for this project. The recipient also acknowledged that they are subject to all State of Michigan permitting, construction code, inspection and oversight, including the Michigan Department of Environmental Quality Department.

Phase 3 will consist of operations monitoring, collecting data on system performance, and reporting including to the National Geothermal Data System. All pertinent data for the ground loop, ventilation system, air quality and temperatures, building parameters, electrical consumption, and solar thermal system will be logged and analyzed. The data will be reported and disseminated via web sites, presentations, and reporting. Performance analysis of building systems will be presented as well as a review of lessons learned.

After a thorough review of Phase I, Subtask 1.2, Phase II and III of the proposed project, it has been concluded that the proposed project will not have a significant impact to human health and/or environment. Therefore, all activities in the proposed project are categorically excluded under CX A9 "information gathering" and B5.1 "actions to conserve energy" from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

None Given.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 4/14/10

NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

☐ Field Office Manager review required

NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

☐ Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.

☐ Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

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

Field Office Manager's Signature: _____ Date: _____

Field Office Manager