

PMC-EF2a

(2.06.02)

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



RECIPIENT: University at Albany

STATE: NY

PROJECT TITLE : ARRA Geothermal Heat Pump System for New Student Housing at University at Albany

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000116	DE-EE0003009	GFO-0003009-002	GO3009

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:

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:

The University at Albany is proposing to install a 342 ton Closed loop Vertical GSHP system located on their main campus (42°40'41.19" N, 73°49'14.63" W) to service a new building to be used for student housing. Thermally-enhanced bentonite grout would be used to fill the annulus between the u-bend assembly and the borehole wall, the grout would be pumped from the bottom of the bore to the top with a tremie tube, thereby greatly reducing the risk posed from system leakage. The system would use high-density polyethylene for all piping. Each u-bend assembly for the vertical boreholes would be tested at 100 psi under quality control conditions. The proposed system would use an antifreeze solution consisting of 20% Ethanol with corrosion inhibitors and environmental stabilizer additives. This project would comply with NPDES construction requirements, and follow all IGSHPA and NGWA guidelines and recommendations for closed-looped systems.

No wetlands would be impacted as part of the ground source heat pump installation, however the Wetlands Delineation Report prepared by O'Brien & Gere dated 11/30/09 noted that the proposed student housing project will result in potential encroachment of up to (8) wetlands totaling 0.332 acres. A joint application was submitted to the NYSDEC and U.S. Army Corps of Engineers to evaluate the application and rule on the nature of mitigation to be required. Based on the evaluation, the University has included expansion of wetlands around Indian Pond as part of the student housing project in compensation for 0.332 acres of wetlands disrupted at the project site. Based on a review of the FEMA Flood Insurance Rate Map for the area, the proposed project area is not located within a floodplain.

Several mitigation measures would be employed to limit erosion including:

- Minimizing the amount of bare soil exposed at any one time
- Stockpiling material away from steep slopes and flowing water to minimize erosion
- Managing excessive spoils off-site in accordance with applicable regulations (reuse alternatives to be considered by contractor)
- Installing rip-rap or erosion control matting at the bottom of drainage and heavily disturbed areas
- Installing silt fencing and hay bales on slopes and around stockpiled material
- Using trench plugs and dewatering equipment (ie pumps and hoes) to direct sediment traps or other approved devices to allow for sedimentation prior to discharge to adjacent streams.
- Containing or controlling water from drilling operations on site or removing it for appropriate disposal off site.

After construction activities are completed, the following restoration measures would be implemented:

- Subsoil would be properly regraded and scarified before topsoil is added
- Temporary erosion control devices would be removed from the site upon final site stabilization
- Porous material would be used for the new parking lot that would be built on the well field.

The area disturbed would not be restored to its previous wooded condition. Instead, the area would be used as a surface parking lot.

The proposed construction of the student housing is not a federal funded action, the University of Albany would move forward with the financing and construction of the proposed student housing and parking lot regardless of the GSHP project. Therefore DOE limited the NEPA review to the potential impacts associated with the proposed GSHP system as a separate project and not a connected action.

DOE has determined that the proposed GSHP system would not have a significant impact to the human health and/or environment and no extraordinary circumstances exist. This project is hereby Categorical Excluded under B5.1 "Actions to Conserve Energy".

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Insert the following language in the award:

You are required to:

If any archaeological resources are discovered during ground disturbing activities we require that work is stopped immediately and that you consult with both the Department of Energy and your State Historic Preservation Office prior to restarting any ground disturbing activities.

Note to Specialist :

EF2a prepared by John Jediny

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:


NEPA Compliance Officer

Date:

3/8/11

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:

Field Office Manager

Date:
