

PMC-EF2a

(2.04.02)

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



RECIPIENT: IL Department of Commerce & Economic Opportunity

STATE: IL

PROJECT TITLE : Sterling Community Unit School District 5; SPS CMS and Washington geothermal

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000052	EE0000119	GFO-10-457	EE119

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 Illinois Dept. of Commerce and Economic Opportunity will provide \$363,000 of Recovery Act funds to the Sterling Community Unit School District 5 to cover the costs associated with the ongoing installation of a ground source heat pump (GSHP) system at the Challand Middle School and the proposed installation of a GSHP system at the Washington Elementary School.

DOE performed a Challand Middle School site visit on June 15, 2010 to inspect the project and to determine whether any significant environmental impacts occurred during project construction. The installation of the GSHP at the Challand Middle School is underway. Drilling of the well field is almost complete and was observed on the DOE site visit. Installation of the interior components of the GSHP system is underway. Project plans are to restore the well field to a grass play area upon completion of the system installation.

The new GSHP system at Challand Middle School is a vertical, closed loop system and will have a heating and cooling capacity of 246-tons. The system uses 120 boreholes drilled to a depth of 300 feet. The drilling is being performed by a drilling company licensed to work in the state of Illinois. The well field contractor is required to follow the IGSHAP Association guidelines. All boreholes will be grouted with a thermally enhanced Cetco grout that is designed to withstand cracking from the changes in temperature between the ground and the heat exchange pipe. This ensures that the area around the borehole is sealed to keep any surface runoff from contaminating ground water. The system uses high density polyethylene pipe that is heat fused at the joints which greatly minimizes the risk of leaks in the system. The system will use a non-toxic refrigerant that is a mixture of propylene glycol and potable water. The well field is being drilled on what was a large open grass field that was used as a play area between the Challand Middle School and the Jefferson Elementary School. (Note: Jefferson Elementary School had a GSHP system installed several years ago under separate funding.)

No specific permits were required other than standard local building permits. No waste is being generated as all cuttings from drilling are being re-used on site. The site location for the geothermal well field was formerly a grass lawn to the east of the existing school building. The area surrounding the site location is all residential, with the Jefferson Elementary School sharing the same property, immediately east of the Challand Middle School. There were no impacts to threatened and endangered species. There are no wetlands, floodplains or coastal zones in proximity to the proposed site location.

DOE performed a Washington Elementary School site visit on June 15, 2010 to inspect the project site and to assess the potential for environmental impact. Installation of the GSHP system at Washington Elementary has not started. The proposed GSHP system is a vertical, closed loop system with a heating and cooling capacity of 73-tons. The system will require 60 boreholes drilled to a depth of 300 feet. The drilling is to be performed by an Illinois-licensed

drilling company who is required to follow the IGSHP Association guidelines. All boreholes will be grouted with a thermally enhanced Cetco grout that is designed to withstand cracking from the changes in temperature between the ground and the heat exchange pipe. The system will use a high density polyethylene pipe that is heat fused at the joints to minimize the risk of leaks in the system and will use a non-toxic refrigerant that is a mixture of propylene glycol and potable water. The well field is to be drilled on what is now an open grass field that is used as a play area. No specific permits are required other than standard local building permits. No wastes are anticipated as all cuttings from drilling will be re-used on site. The area surrounding the site location is all residential. No impact to threatened and endangered species is expected. There are no wetlands, floodplains or coastal zones in proximity to the proposed site location.

After a thorough review of the submitted information and a site visit to both schools, it has been determined that the projects will not have a significant impact to human health and/or environment. Based on the information obtained, the work outlined is consistent with activities identified in Categorical Exclusion B5.1.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

According to the project officer, funding for this project is \$363,000. Absent a significant change in the scope of this effort, a change in funding will not affect my determination.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____
NEPA Compliance Officer

Date: 6/25/10

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: _____