

North Central College's New "Green" Building Ground-Source Heat Pump System

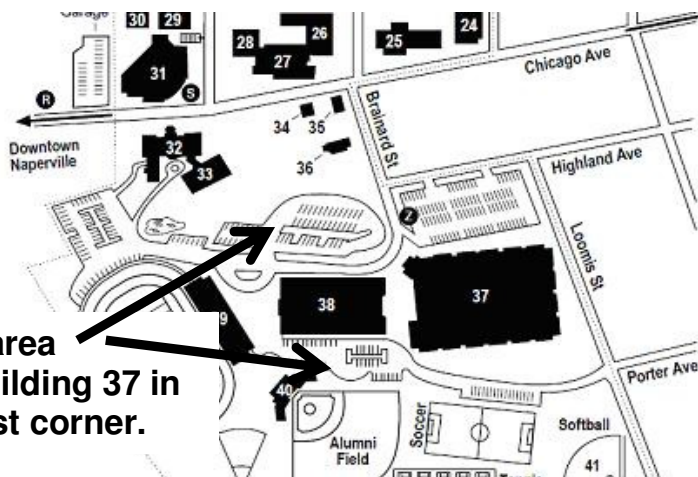
**North Central College
440 S. Brainard St., Naperville, IL
Wednesday, October 21, 2009**

The large new Residence Hall/Recreation Center building at North Central College in Naperville is heated and cooled by a unique Ground-Source-Heat Pump (GSHP) system. The designer of this innovative system, mechanical engineer Mark Nussbaum, will give an overview of the various energy saving features, along with some statistics on the equipment sizing, building loads, loop size and design, ventilation system and energy recovery systems. He will begin by leading a tour of pertinent areas of this four story dormitory building that encompasses a full NCAA Division III indoor Track and Field facility. This "green" building's GSHP system has a base design load of 340 tons, and uses both water-to-water GSHP units and Water-to-Air GSHP units. The installed ground loop is comprised of sixty, 650 feet deep loops into relatively steady 50 to 60 degree Fahrenheit ground water, connected in a parallel format. The water-to-water units provide chilled water for dorm room cooling fan coils, hot water for dorm room radiant floor heating, and hot water to support domestic water heat exchangers. Free cooling heat exchangers are incorporated if loop temperatures are low enough when there is a call for cooling. Additionally, ventilation is provided using heat pump style, energy recovery ventilators that exchange waste energy from the exhaust into the fresh air stream then further condition that air with a water-to-air heat pump. Variable speed pumping and some demand control ventilation strategies are incorporated where appropriate.

PRESENTER:

Mr. Mark Nussbaum received his Bachelor of Science in Mechanical Engineering from San Jose State University. He has a wide engineering background starting in nuclear energy with the US Navy and continuing with GE in San Francisco. He has over 20 years of experience as Design Engineer in other companies, city government, and projects, primarily focused on Heating Ventilation and Cooling facilities, especially Geo-Exchange engineering, in California, Missouri and Illinois. He is the Principal and lead Design Engineer at the Architectural Consulting Engineers Company in Oak Park, IL, and a member of the National Society of Professional Engineers. His company has focused in recent years on integrating many aspects of "green", sustainable, energy efficient designs, extensively in historic and older structures, like the Frank Lloyd Wright designed Unity Temple and Robie House.

LOCATION AND DIRECTIONS:



**Park in this area
and enter Building 37 in
the Northwest corner.**

North Central College is near the main intersection of Washington St. and Chicago Ave. in downtown Naperville. The Residence Hall/Recreation Center is off Chicago Ave. south on Brainard St. at 440 S. Brainard. It is building # 37 on the campus map and the main entrance is at the Northwest corner of the building. An elevator in the Entry area will take you to the third floor Hall/Meeting Room. Parking is available on campus.

SCHEDULE: 5:30PM - Registration
5:45PM - Buffet Sandwich Dinners
6:30PM - Tour of the building
7:00PM - Presentation.

MEAL/COST: Buffet Sandwich Dinner.
\$10.00 Members and Guests
\$5.00 Students
Pay for meals at the door, by check or cash

RESERVATIONS:

Send e-mail to mmurray@packereng.com with the subject 'ASME Meeting' and include your name, phone number, ASME membership number, company name, address. Also include the names, contact information for any guests. If you do not have e-mail access, call (630) 577-1974, and leave a message stating this is a reservation for the ASME Meeting on October 21 and include the above information.

DEADLINE:

5 PM on Wednesday Oct. 14. Please cancel if your plans change.