

THE HOT AIR DIFFUSER

Chapter Newsletter

MAY 2014 Volume 20 Issue 6



IDAHO ASHRAE CHAPTER OFFICERS

Officers

President—Dennis Fox
dfox@datasitecolo.com

President-Elect—Brad Acker
backer@uidaho.edu

Secretary—Casey Huffaker
chuffaker@siglers.com

Treasurer —Rick Goeres
rickg@musgrovepa.com

Past-President—Randy Reed
randy@norbryhn.com

Board of Governors

David Kirkham
david@bstcx.com

Carl Marcum
carl@ymcinc.com

Daniel Russell
danr@engineeringinc.com

Spencer Shepard
spencers@ctagroup.com

Dale Stredder
dale@eciboise.com

Chair Positions

Technology Transfer —Russell Pratt
russell.pratt@cshqa.com

Membership—Katie Leichter
kleichter@uidaho.edu

Student Activities—Shane Bird
sbird@techairprod.com

Newsletter—Chris Dyke
chrisd@atsinw.com

Historian—Steve Hardy
steven.hardy@cshqa.com

Resource Promotion—Mike Jones
mikejones@seedidaho.com

Publicity—Brent Robertson
brent@robertsonslc.com

Webmaster—Randy Reed
randy@norbryhn.com

CHAPTER MEETING RECAP

MAY:

The month of May will be a “Back to Basics” presentation on refrigeration in the HVAC world. The presenter will be Dustin Lilya from DC Engineering. The meeting will be held at the CSHQA office.

When:

Wednesday, May 14th, 2014
11:45am to 1:00pm MST

Where:

CSHQA
200 W Broad St Boise, ID 83702



Please Register online at:

www.idahoashrae.com

APRIL:

The month of April showcased the annual **Idaho ASHRAE Technical Conference**. The conference was held on April 18th at the Oxford Suites off of Overland Road. This year's conference featured an ASHRAE Distinguished Lecturer, Ronald Jarnagin, along with local design professionals. There was no monthly meeting; instead the technical conference took place.



MARCH:

Our March meeting was held on March 12th at the Idaho Power building, which featured John Gunnerson who is the Geothermal Program Coordinator for the city of Boise. John presented on the Boise municipal geothermal system.

ASHRAE, founded in 1894, is an international organization of some 50,000 persons. ASHRAE fulfills its mission of advancing heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world through research, standards writing, publishing and continuing education.

INSIDE THIS ISSUE:

PAST PROGRAMS	1
HISTORY LESSON	2
BIOGRAPHY	3
NATIONAL CHAPTER NEWS	4-7
ADVERTISEMENTS	8-11

HISTORY LESSON

May

Five Years Ago

The chapter president was Jeff Fulcher. The meeting was held on May 8, 2009, at the Idaho Power Building. The meeting consisted of electing new officers for the coming year and general end of year business.

Ten Years Ago

The chapter president was Matthew May. The meeting was held on May 14, 2004, at Boise City Hall. Kent Johnson, Boise Public Works, gave a slide presentation of the Geothermal Heating District, then conducted a tour of the supply wells and an injection well that serve the geothermal heating system.

Fifteen Years Ago

The chapter president was Brent Robertson. The meeting was held on May 14, 1999, at YMC in Meridian. The program was a tour of YMC's facility and duct fabrication lines.

Twenty Years Ago

The chapter president was Roger Albers. The meeting was held on May 13, 1994, at Edwards Restaurant. John Church, Idaho Power, shared insights and knowledge about present economic trends and how they affect us locally.

Twenty Five Years Ago

The chapter president was Pat House. There was no regular meeting due to the CRC in Rapid City, South Dakota.



ASHRAE Biography

Ronald H. Howell

Ron was born and raised in Chicago, Illinois. He attended college at the University of Illinois in Champaign, Illinois, from 1953 to 1967, starting out in Ceramic Engineering. After determining that he was not fond of chemistry classes, he changed to Mechanical Engineering. He graduated with BS, MS, and PhD degrees.

Ron then taught at the University of Missouri in Rolla for 25 years. It was there that he became interested in HVAC&R. He taught four HVAC&R courses there, two undergraduate, one masters level, and one PhD level. He then moved to Tampa, Florida, where he was the Chairman of Mechanical Engineering and Professor at the University of South Florida. In 1999, Ron moved to Boise. From 2001 to 2011, he taught one course each fall semester at Boise State University. Every other year he taught an HVAC class and a thermodynamics class. In the fall of 2001, Ron taught a televised class for the University of Idaho. He did not enjoy teaching this class due to lack of student contact, and did not continue after one semester. Ron also taught an HVAC Sizing and Design short course for approximately 40 years through the University of Missouri, Rolla and ASME, and a one day course on Understanding Chiller Performance for 15 years.

Ron became a member of ASHRAE in 1969 and joined the St. Louis Chapter. He served on the Education Committee for the St. Louis Chapter and drove 100 miles each direction to attend the local chapter meetings. As an ASHRAE member, Ron wrote the textbook, "Principles of Heating, Ventilating, and Air Conditioning", first published in 1973. It is presently in its 7th edition. Ron was elected a Fellow of ASHRAE in 1986.

Ron has served on several national ASHRAE Technical Committees including Heat Transfer and Fluid Flow, Computer Applications, HVAC Energy Calculations, and Thermodynamics and Fluid flow. He is also a former Chairman of the Accreditation Activities Committee. He also served on the ABET Board of Directors for nine years, and has been a member of the Engineering Accreditation Commission of ABET. Ron enjoyed travelling to the different colleges for ABET. He served on the NCEES Mechanical Committee for 15 years, and resigned in April 2014.

Ron is now 90% retired. He still keeps busy with the Building and Grounds Committee for his church in Nampa with replacing air conditioning units, the roof, and lighting. He is writing a follow up article for the ASHRAE Journal about energy savings in the Clark County Schools in southern Nevada. He enjoys going to different local ASHRAE chapter meetings to meet people and make contacts and says there are significant differences in the different local chapters. St. Louis, Tampa, and Boise all different mixes of industrial, contractor, engineer, and manufacturer's representative members.

Ron's hobbies include stamp collecting, postcard collecting, and gardening. His stamp collection includes a US album that is 90% complete from 1847. His postcard collection numbers somewhere between 15 and 16 thousand, and is still growing. He and Nancy have a timeshare in Scottsdale, Arizona, where they spend several weeks every year. They travel back to the Midwest almost every year to visit friends.

Ron is one of the most interesting people I have ever met. My guess is that he enjoys his work and meeting people so much that he will never be 100% retired.

NEWS FROM THE HOME OFFICE

SUPPLY WATER TEMPERATURE CLASSIFICATION NEW ADDITION TO UPDATED GUIDANCE ON COOLING DATA CENTERS

ATLANTA— Data center rack heat loads are steadily climbing, creating a need for liquid cooling solutions to reduce the volume of airflow needed, as well as lower processor temperatures for better computer performance. “Liquid Cooling Guidelines for Datacom Equipment Centers,” second edition, recently published by ASHRAE, provides best practice guidance for implementing liquid cooling systems in data centers.

“There is an increasing interest in liquid cooled IT equipment at the rack, equipment and component levels,” Don Beaty, publication chair of Technical Committee 9.9., Mission Critical Facilities, Data Centers, Technology Spaces and Electronic Equipment, said. “There is also increased interest in reuse of the heat rejected from IT equipment. One of the more important changes to the second edition is the addition of supply water temperature classification.”

Beaty claims that the addition of liquid classes can have a similar effect on the industry as the creation of supply air temperature classes did—which was the critical enabler to the use of economizers in data centers.

“There are five water temperature classes with the highest temperature class being >45 C (113 F), which opens up possibilities for using the rejected heat for building heating systems,” he said.

The guide bridges the liquid cooling systems by providing guidelines on interface requirements between the chilled-water system and the technology cooling system and on the requirements of liquid-cooled systems that attach to a datacom electronics rack to aid in data center thermal management.

Also included are updated references and further information on approach temperatures and liquid immersion cooling, plus guidance on water quality problems and wetted material requirements.

Additionally, the guide covers definitions for liquid and air cooling as they apply to IT equipment, along with an overview of chilled-water and condenser water systems and other datacom equipment cooling options.

This book is the fourth in the ASHRAE Datacom Series, authored by ASHRAE TC 9.9.

The cost of “Liquid Cooling Guidelines for Datacom Equipment Centers,” second edition, is \$59 (\$50 ASHRAE members). To order, contact ASHRAE Customer Contact Center at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 678-539-2129, or visit www.ashrae.org/bookstore.



ASHRAE Conference in Manila Addresses High Performance Building in Developing Economies

ATLANTA—A new track added to the Technical Program at ASHRAE’s 2014 Annual Conference speaks to the challenges engineers face when designing ground source heat pumps as compared to more traditional systems.

The Conference takes place June 28-July 2, Seattle, Wash. For more information or to register, visit www.ashrae.org/seattle.

The Technical Program kicks off June 29, with interactive programs and a networking coffee break, and concludes July 2. The program addresses broad topics in the application of technology to practice, specific applications in ground source heat pumps, operations and maintenance and indoor environmental quality, as well as new reports on research taking place worldwide.

New to the Technical Program is a track on Ground Source Heat Pumps (GSHP) State of the Art: Design, Performance and Research, which addresses all aspects of design that lead to optimally performing systems in addition to avoiding common pitfalls that lead to poorly performing systems.

The track was organized by ASHRAE, the National Ground Water Association (NGWA), the International Ground Source Heat Pump Association (IGSHPA) and the Geothermal Exchange Organization (GEO).

“There are a number of challenges that engineers face that are different from conventional HVAC systems, such as ground coupling, working with drillers, the importance of annual heating and cooling loads to ground heat exchanger design,” Jeff Spitler, an ASHRAE member who helped create the track, said. “This track addresses the entire design and installation process from site evaluation to commissioning and system operation. In addition, GSHP systems are inherently energy efficient, but poor choices in the design can compromise this inherent efficiency. ‘What not to do’ is also addressed in the track.”



Spitler said organizers have drawn in researchers from around the world to discuss new advances in the field so attendees have the opportunity to hear about both the latest research and state-of-the-art design practice.

“We want to help practicing engineers understand where the industry began, where it stands currently (what tools and design guides are available), and where it is headed (through the programs showcasing current research),” Lisa Meline, recent chair of ASHRAE’s technical committee 6.8, Geothermal Heat Pump and Energy Recovery Applications, said. “We also hope to impart guidance to the practicing engineers on the ground heat exchanger portion of a ground-source design. Many engineers shy away from this type of design because they don’t understand it. We want to change that and reinforce the need to provide single-point-of responsibility for all different types of HVAC system designs, including this one.”

Sessions in the track are:

Sunday, June 29

- Step 1: Assessing a Project Site for Geothermal Heat Pump Applications
- Ground Source Heat Pump System Performance Case Studies in Different Climates Around the World
- GEO 2.0: From the Ground Up, an Overview of the

Updated ASHRAE GSHP ‘Blue Book’

- Ground Source Heat Pump System Case Studies

Monday, June 30

- Geothermal Heat Pump Track Keynote Presentation
- Documentation and Contract Administration in Tended and Design/Build Ground-Coupled Heat Pump Projects

- Ground Source Heat Pumps: Historical Perspective and Track Overview

Tuesday, July 1

- Monitoring of Ground Source Heat Pump Systems
- What the Well?
- New Developments in Simulation and Modeling of Ground Heat Exchangers

Wednesday, July 2

- Ground Source Systems Commissioning and Close-out: Unique Issues, Avoiding Fatal Flaws and Ensuring Client Satisfaction
- Central Plant GSHP Systems
- Optimization of Ground Coupled Heat Exchangers and Heat Pumps

The Conference takes place at the Sheraton Seattle and the Washington State Convention Center. To register or more information, visit www.ashrae.org/seattle.

Keeping Cool & Saving Money—Home Energy Savings Tips for Hot Weather

Cooling Systems

- Select energy-efficient equipment when buying heating and cooling equipment.
 - o Your heating, ventilating and air conditioning (HVAC) contractor should be able to give you energy fact sheets for different types, models and designs to help compare energy usage.
- Look for high seasonal energy efficiency ratio (SEER), high annual fuel utilization efficiency (AFUE) ratings and heating seasonal performance factors (HSPF).
 - o The national minimums are 13 SEER for air conditioners and 78 percent AFUE for furnaces
 - o Central air conditioners with SEERs of 16 and above are available.

Thermostats

- Set thermostats at 76°F (24°C) or above when the house is occupied during the day and a few degrees higher at night.
 - Programmable thermostats can change temperatures automatically and easily. They are expensive, reliable and easy to install.
 - Installing ceiling fans allows occupants to set the thermostat higher thus reducing the time the air conditioner is on.
 - Natural ventilation in arid or temperate climates is an effective energy saver.
 - Windows should be opened and closed to take advantage of the upward movement of warm air and cross ventilation of the room, especially at night.
- Air Ducts**
- Have air ducts checked for leaks. Look for sections that should be joined but have separated and also for holes.
 - o If you use duct tape to repair and seal your ducts, use tape with the Underwriter's Lab logo so it doesn't degrade, crack or lose its bond with age.
 - Make sure vents are not obstructed by furniture, appliances or other objects so that air can flow freely.
 - o This maximizes efficiency of the system and helps distribute cool air throughout the room.
 - Clean or change furnace filters once a month or two, and have the system maintained according to manufacturer's instructions.
 - o Dirty filters, coils and fans reduce air flow throughout the system, which decreases performance and can damage your system.

Insulation

- Adding insulation to your attic is the easiest and least expensive way to cool your home.
- Insulation can be blown into wall cavities, especially in older homes with little wall insulation.
- If siding is to be replaced, take the opportunity to add a layer of exterior

insulation.

- Remember that insulating ducts in the basement will make the basement colder in the winter and warmer in the summer.
 - o If both the ducts and the basement walls are uninsulated, consider insulating both.

Shading

- Shading from overhangs, awnings, exterior shades, shade screens and bushes and trees can reduce unwanted heat gain to the house, especially on east and west windows.
- Use window draperies or shades to your advantage.
 - o In hot climates close the drapes or shades on the east, south and west windows during the day to prevent the sun's energy from heating the room unnecessarily.
 - o The shade or drapery material should be reflective on the side facing the window.

Ventilation

- Use kitchen, bath and other ventilating fans wisely. In just one hour, these fans can pull out a houseful of cooled air.
- During the summer, fans often bring in excessive moisture. You may want to install a timer switch instead of a manual switch to limit the unnecessary operation of an exhaust fan.

This Machine Makes Drinking Water From Thin Air

Tel Aviv, Israel (CNN) -- Water. A vital nutrient, yet one that is inaccessible to many worldwide.

The World Health Organization reports that 780 million people don't have access to clean water, and 3.4 million die each year due to water-borne diseases. But an Israeli company thinks it can play a part in alleviating the crisis by producing drinking water from thin air.

Water-Gen has developed an Atmospheric Water-Generation Units using its "GENius" heat exchanger to chill air and condense water vapor.

"The clean air enters our GENius heat exchanger system where it is dehumidified, the water is removed from the air and collected in a collection tank inside the unit,"

says co-CEO Arye Kohavi.

"From there the water is passed through an extensive water filtration system which cleans it from possible chemical and microbiological contaminations," he explains. "The clean purified water is stored in an internal water tank which is kept continuously preserved to keep it at high quality over time."

Energy efficient

Capturing atmospheric humidity isn't a ground-breaking invention in itself -- other companies already sell atmospheric water generators for commercial and domestic use -- but Water-Gen says it has made its water generator more energy efficient than others by using the cooled air created by the unit to chill incoming air.

"Several companies tried to extract water from the air," says Kohavi. "It looks simple, because air conditioning is extracting water from air. But the issue is to do it very efficiently, to produce as much water as you can per kilowatt of power consumed."

He adds: "When you're very, very efficient, it brings us to the point that it is a real solution. Water from air became actually a solution for drinking water."

The system produces 250-800 liters (65-210 gallons) of potable water a day depending on temperature and humidity conditions and Kohavi says it uses two cents' worth of electricity to produce a liter of water.



Civilian uses

Developed primarily for the Israel Defense Forces (IDF), Water-Gen says it has already sold units to militaries in seven countries, but Kohavi is keen to stress that the general population can also benefit from the technology.

He explains: "We believe that the products can be sold

to developing countries in different civilian applications. For example in India, [drinking] water for homes is not available and will also be rare in the future. The Atmospheric Water-Generation Unit can be built as a residential unit and serve as a perfect water supply solution for homes in India."

Kohavi says Water-Gen's units can produce a liter of water for 1.5 Rupees, as opposed to 15 Rupees for a liter of bottled water.

Dirty water

Another product Water-Gen has developed is a portable water purification system. It's a battery-operated water filtration unit called Spring. Spring is able to filter 180 liters (48 gallons) of water, and fits into a backpack -- enabling water filtration on the go.

"You can go to any lake, any place, any river, anything in the field, usually contaminated with industrial waste, or anything like that and actually filter it into the best drinking water that exists," says Kohavi.

Major Alisa Zevin, head of the Facilities and Specialized Equipment Section for the IDF, says the unit is revolutionary for them.

"This unit gives logistic independence for the forces and make us ensure that we provide the soldiers high quality water," she says.

In 2013, the IDF took Spring to the Philippines after Typhoon Haiyan devastated the island country and left 4.2 million people affected by water scarcity. The system filtered what was undrinkable water into potable water, and that is what Water-Gen hopes to accomplish elsewhere where the technology is needed.

"It's something as a Westerner you cannot understand because you have a perfect water in the pipe, but people are dying from lack of water," says Kohavi.

Although Water-Gen's developments aren't a solution for the water crisis, Kohavi believes that the technology can do for countries that lack clean water, such as Haiti, what it has done for the Philippines. It can be the technology used to not only to filter water, but to save lives.

"They could actually bring solution, perfect solution, to the people over there," says Kohavi. "For the kids ... They can use the technology to filter water in the field. People are going days just to carry water. And all our solutions can be an alternative for that."



Join us at **ASHRAE's 2014 Annual Conference**
June 28—July 2 | Seattle, Washington | www.ashrae.org/seattle

Special first
time attendee
registration fee
available!

Join ASHRAE in Seattle! Take advantage of the opportunity to discuss and examine the latest topics in the building industry, such as high performing buildings and integrated design, through the technical program; participate in technical tours; attend ASHRAE Learning Institute courses; and earn professional credits.

Research Summit – held in conjunction with the 2014 Annual Conference. The summit addresses the latest research results, innovative research techniques and forecasts future research directions.

Technical Program – presentations and papers focus on current research worldwide; core HVAC&R applications and systems; and Integrated Project Design, Energy Modeling and Building Efficiency Performance.

Networking – share ideas and learn from fellow members from your hometown and around the world.

ASHRAE Learning Institute – choose from two full-day professional development seminars and seven half-day short courses to stay current on new HVAC technologies.





**The Chapter is now accepting advertisements
in the monthly newsletter.**

	Per Issue	Annual (9 issues)
Business Card	\$10.00	\$50.00
Quarter Page	\$25.00	\$200.00
Half Page	\$40.00	\$325.00
Full Page	\$60.00	\$450.00

GOLF TOURNAMENT

- 4 PERSON SCRAMBLE TO
BENEFIT THE IDAHO CHAPTER



WHERE: EAGLE HILLS GOLF COURSE

WHEN: 1:00 PM SHOTGUN, FRIDAY, JUNE 20 , 2014

FOOD: BARBECUED HAMBURGERS, CHIPS, AND SALAD WILL BE SERVED FOR DINNER FOLLOWING THE TOURNAMENT.

PRICES: EARLY BIRD COSTS: \$95 PER PERSON, \$380 PER TEAM
AFTER May 31st COSTS: \$105 PER PERSON, \$420 PER TEAM
- SINGLE PLAYERS WELCOME!
-\$15.00 FOR ADDITIONAL DINNER GUESTS

SPONSORS: \$150 FOR TEE, \$150 FOR GREEN, \$250 FOR TEE AND GREEN. SPONSORSHIPS WILL INCLUDE 2'X3' SIGN WITH COMPANY LOGO AND CREDIT FOR SUPPORTING ASHRAE RESEARCH.

NEW! FOR AN EXTRA \$50, COMPANIES CAN SET UP DISPLAYS/TENTS/ETC. AT TEE BOXES WITH PROCEEDS TO BENEFIT OUR LOCAL CHAPTER. FIRST COME FIRST CHOICE ON TEES.

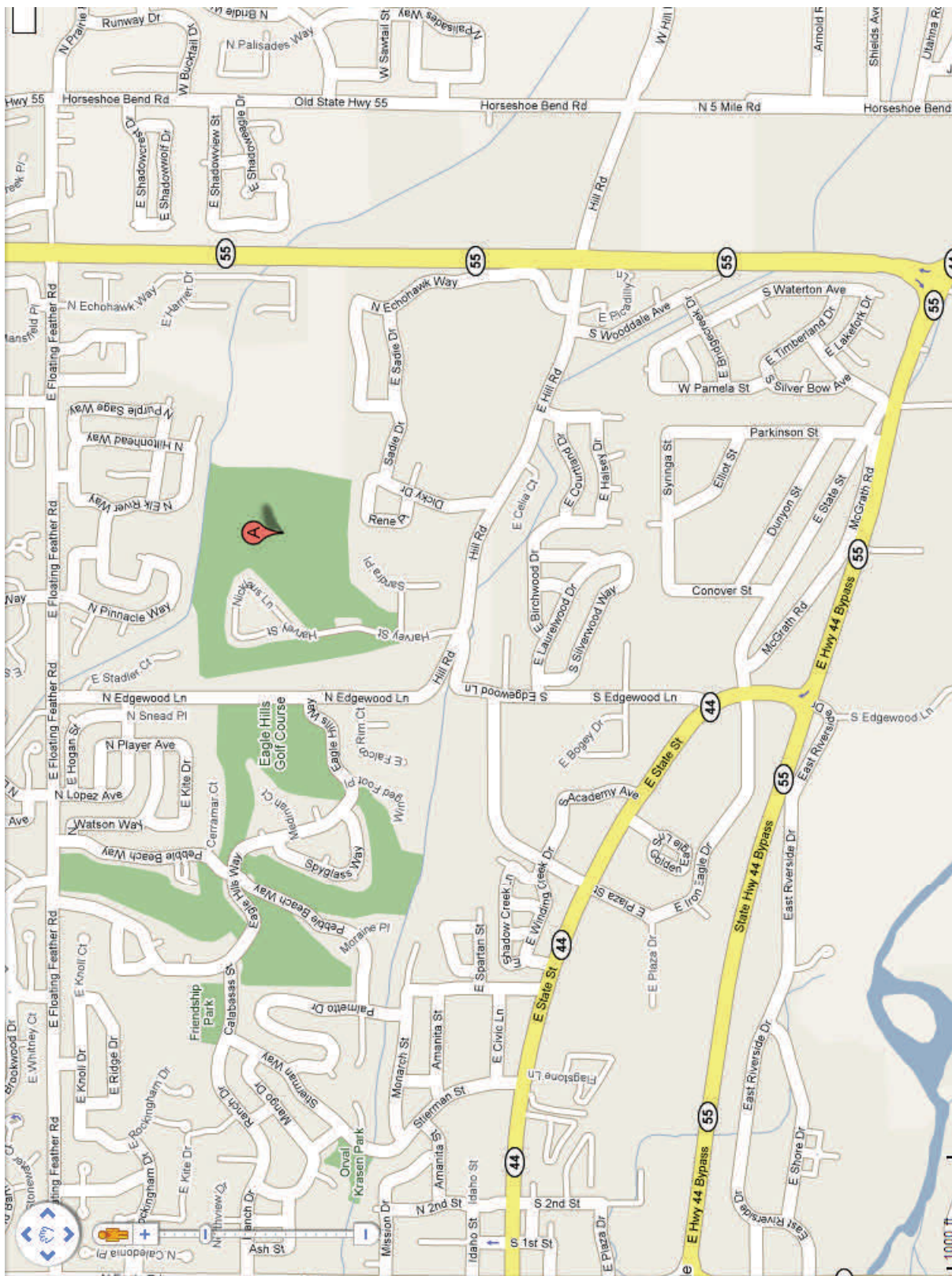
INCLUDES: 18 HOLES OF GOLF, CART, GOLF BALLS ON THE RANGE, FOOD, DRINKS, DOOR PRIZES, AND A \$10,000 HOLE IN ONE PRIZE
WHAT'S THE DENNIS FOX SAY??? HE, HE, HE, HE, HE,
HE, HELP YOUR LOCAL ASHRAE CHAPTER BY PUTTING A GOLF TEAM TOGETHER. BRING SOME EXTRA MO, MO, MO, MO, MONEY TO BUY MULLIGANS.



**DEADLINE FOR
REGISTRATION AND SPONSORS
IS JUNE 07, 2013**

TO REGISTER, PLEASE GO ONLINE TO www.idahoashrae.com AND PROCEED TO THE EVENTS CALENDAR WHERE YOU CAN FIND ALL BILLING INFORMATION. HANDICAPS FOR ALL PLAYERS WILL BE NEEDED TO COMPLETE THE FORM WITH A MAXIMUM OF 30. IF YOU NEED FURTHER ASSISTANCE OR ARE A SINGLE PLAYER WANTING TO BE PLACED ON A TEAM

PLEASE COORDINATE WITH SPENCER SHEPARD
EMAIL: spencers@ctagroup.com, PH#: 208 336-4900



EAGLE HILLS GOLF COURSE, near Eagle, ID

Categories: [Golf Courses](#), [Grounds](#)



Eagle Hills Golf Course - [more info »](#)



605 N Edgewood Ln, Eagle, ID -
(208) 939-0402

[1 review](#) - [Write a review](#)

[See all 156 results for EAGLE HILLS GOLF COURSE.](#)