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PLAINS TALK

WPE WEST PLAINS ENGINEERING, INC.

ACEC MEMBER
PEER REVIEWED COMPANY

U.S. GREEN BUILDING COUNCIL MEMBER

Did You Know?

• *Find the answers to the following trivia questions in the article at right!*

1. What year was West Plains Engineering established?

2. Who are the original founders?

3. Where are the four West Plains Engineering offices located?

Plains Talk is a quarterly publication of West Plains Engineering, Inc. in which we highlight a few of our most interesting projects. Your comments are welcome at any of our locations listed on the back cover of this newsletter.

West Plains Engineering Celebrates 25 Years!

• This year, West Plains Engineering, Inc. is celebrating its 25th Anniversary. West Plains Engineering was started in 1984 in a small office in downtown Rapid City, South Dakota by Bob Thompson, P.E. and David Berg, P.E. Since that beginning, the company has steadily grown, increasing staff from the original founders to our current staff of 47. West Plains Engineering, Inc. is an employee owned business with over a third of the employees owning stock. We currently have four office locations: Sioux Falls, South Dakota; Casper, Wyoming; Cedar Rapids, Iowa, as well as Rapid City.

"Our growth and success over the years has been greatly due to outstanding employees, several have been with us for over 15 years, as well as good clients, some we have worked with since we began," says President David Berg.

"We would like to take this opportunity to thank all our employees for their continued efforts and to thank all our clients for their continued support, together making WPE a continued success," added Co-Founder Bob Thompson.

Photo Guide:

A. Dave and Bob, 1984

B. Principal Owners Dave Berg, Steve Hayden, & Bob Thompson at the Ribbon Cutting for Jackson Blvd Office in 1992.

C. 20th Anniversary Open House, September 2004

D. Dave & Bonnie Berg and Bob Thompson, 2009

Casper WPE: St. Mary's Catholic School, Cheyenne Wyoming

• The first Catholic School in Wyoming opened its doors in Cheyenne in 1884. A half a block down the street and a century later, the new St. Mary's Catholic School opened its doors to approximately 210 students on January 5th, 2009.

St. Mary's Catholic School is a new 60,000 square foot facility built for a capacity of 350 students Pre-kindergarten through Eighth grade. The school has a pod arrangement where classrooms are clustered around collaborative learning spaces to encourage teachers and student groups to work together more freely and effectively. The building also provides flexibility so the classrooms can be used for regular education as well as religious education classes.

St. Mary's School also includes a 40-seat chapel, a large library, a full sized elementary gym, and a full service commercial kitchen. The gymnasium is large enough to seat 600 people and has a performance stage with the latest audio/visual equipment.

The new school was designed by Architect Randy Byers of The Design Studio, Inc (TDSi) to be modern and environmentally friendly. Architectural daylighting is used throughout the building to reduce heating loads and capture natural light. The lighting system not only uses occupancy sensors, but also utilizes daylight sensors/ photocells to control light levels in relation to natural light to save energy. Low flow urinals were used in the restrooms, and the kitchen utilizes tankless water heaters. Technology tools for the building include SMART Boards in each classroom and wireless internet access throughout the facility.

TDSi incorporated old with the new and used terra cotta trim from the old St. Mary's School as accent lines on the outside of the new building. The 40-seat chapel is named after and contains a statue of St. John the Baptist; in recognition of the first Catholic Church and school in the state which once stood just half a block from this site. St. Mary's Catholic school is a beautiful facility that boasts the latest technology, yet captures the history of Catholic education in Cheyenne.

About the Author:
Scott Isennock *is a Mechanical Engineer in the Casper, WY office and has been with WPE for two years.*

WPE COMPANY NEWS ☆ WPE COMPANY NEWS ☆ WPE COMPANY NEWS

NEW EMPLOYEE—Rapid City
John Huntley joined the Rapid City office in February as a Mechanical Designer. John graduated from the South Dakota School of Mines in 1996. After graduating he worked at Hormel Foods and was promoted to Plant Engineer. In 2005 he joined Sara Lee at the Hastings, Nebraska facility as Chief Engineer. He brings over 13 years of field experience to WPE. John is married to Dawn and they have two daughters, Savannah and Sierra. He enjoys running and outdoor activities.

NEW EMPLOYEE—Cedar Rapids
Todd Baack joins the Cedar Rapids office as an Electrical Engineer. As a graduate from South Dakota State University and previous employed with the State of South Dakota; Todd brings 13 years of project design and management experience. Todd, his wife Michelle and two children Shanna (age 14) and Mollie (age 12) reside in North Liberty, Iowa. Todd is an avid outdoorsman who likes to golf, hunt and fish. He also enjoys spending time with his family.

WELCOME BACK—Cedar Rapids

Steve Jennerjohn has rejoined West Plains Engineering in the Cedar Rapids office. Steve has been involved in rural economic development the past two years but now is returning to engineering. Steve's a registered mechanical engineer with 25 years of experience in institutional and commercial building design. Both he and his wife Marsha are now empty-nesters but enjoy having their "children," Tara and David visit home when they take breaks from college.

INTERNSHIP—Cedar Rapids

The Cedar Rapids office is currently hosting a Mechanical Intern, Jennifer Bridge. Jennifer is a Senior at Xavier High School. Next year Jennifer will be attending John Brown University in Siloam Springs Arkansas and will be studying Mechanical Engineering. In her spare time she likes to golf, hang out with friend's and run.

Cedar Rapids WPE: The Gardens at Jefferson, Jefferson Iowa

• Nestled in a residential neighborhood with sidewalks, mature trees, and friendly neighbors, The Gardens at Jefferson is beautiful living. Residents take a break from their busy schedules of activities to enjoy the scenery from the front patio, relax in the comfort of their private apartment, and visit with friends and family members.

A 3-D rendering of the Gardens Retirement Community, Jefferson, IA

This 28,000 square foot assisted living facility is located on a large lot on the west edge of Jefferson, Iowa. It contains 38 living units consisting of one bedroom and two bedrooms. Some units are offered with full cooking kitchens, but most have only kitchenette facilities since three home cooked meals are offered every day in the common dining area.

Residents enjoy many amenities including a restaurant style common dining room with a fire place, a country kitchen with private dining, a common living/gathering area, beauty salon, a chapel, and fitness room. By far, the most popular area of the facility is the large outdoor courtyard in the center of the facility. Beautiful gardens and landscaping make this a wonderful outdoor area which remains private since it is completely surrounded by the building.

Also provided are 24 hour staffing, laundry, housekeeping, transportation, and nursing services with a full-time registered nurse.

Aspect Architecture and Design of Cedar Rapids served as the project architect and JVC Builders of Des Moines was the general contractor. West Plains Engineering provided mechanical and electrical design services. The construction of the facility was completed in 2008.

A sister facility in Cherokee, Iowa was constructed in 2008, with more similar facilities planned in the future for small to medium sized communities in rural Iowa and Illinois. The Gardens Retirement Community…"*where life is blooming!*"

About the Author:
Jeff Reinhart *is the Office Manager and Electrical Engineer in the Cedar Rapids Office. Jeff has been with WPE for five years.*

Sioux Falls WPE: West Plains Engineering Expands

• As West Plains Engineering continues providing quality service, we are expanding to meet the needs of our clients. The Sioux Falls office recently completed a 2,400 square ft. addition to include a training room, office space, and space for additional employees. Even within our own expansion, we provided responsible engineering in order to allow WPE to go green without spending a fortune. LED "can" lights were used for office lighting for the new addition and individual workstations have T5 H0 light fixtures. The lighting is controlled by the occupant, so only occupied workstations have lighting. Occupancy sensors and photo cells are utilized to control lights when required.

Mark Grebner, Mike O'Connor & Isaac Anderson utilize the Sioux Falls training room while working on an upcoming project.

Primary heating for the addition utilizes a heat pump system to provide both heating and air conditioning. When outdoor air temperatures are below 15° and the heat pump cannot provide all of the heat for the facility, a 95% efficient gas furnace provides back up heat. The training room gets primary heating and cooling off the central heat pump system, but during extreme demand additional heating and air conditioning is provided using a ductless split heat pump. The heat pump technology uses less energy than a conventional gas or electric furnace and will pay for itself in short order with reduced energy costs.

The green technologies we've chosen for this expansion are cost effective in both first cost and operating cost. Those who helped us with our expansion were Architecture Inc., Beck & Hofer Construction, Inc., Perkinson Heating and Air Conditioning, Arnie's Plumbing & Handyman, and JTI Electric, Inc.

In conjunction with the addition to the Sioux Falls Office, renovations were made to the Rapid City Office. These renovations provide finished office space for our Utility Division and room for growth. The addition to the Sioux Falls office and renovation to the Rapid City Office will allow West Plains Engineering to continue to provide excellent service to our clients.

About the Author:
Mark Grebner, P.E. *is the Office Manager, Principal and Mechanical Engineer in the Sioux Office. Mark has been with WPE for over 14 years.*

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Rapid City WPE: Paleontology Ground Breaking

• South Dakota Governor Michael Rounds joined college president Robert Wharton, Ph.D., members of the South Dakota Legislature, South Dakota Board of Regents, college staff and students in Ground breaking ceremonies held on the campus of the South Dakota School of Mines and Technology March 7, 2009 for the construction of the new Paleontology Building.

Mike Sigman, Michael Heinrich and Dave Berg represented West Plains Engineering, Inc. at the shovel turning ceremonies.

For over a hundred years, the Museum of Geology at the South Dakota School of Mines & Technology (SDSM&T) has been recognized for its' vast collection of fossil and mineralogy specimens. The Paleontology Program at SDSM&T is responsible for receiving, preparing, conserving and maintaining specimens that comprise the Museum of Geology collections. Prior to this project the Paleontology Program was located in the Old Gym building on the SDSM&T Campus. The space was exceedingly overcrowded and was not designed for museum activities and needs. The building lacked proper temperature, humidity, UV light, security, pest control, etc. The principle goal of the new 28,000 sq. ft. Paleontology Building project was to provide a suitable repository for these specimens, so they could be properly maintained and the collection could be made accessible for study.

A principal goal of the project was to open the Paleontology functions to the public. To this end, the heart of the building is a two-story lobby that will be used for tours. From the lobby, groups will be able to look through interior windows into rooms where various stages of specimen preparation processes will be underway.

West Plains Engineering, Inc. together with the lead Architect, Anderson Mason Dale, designed this building, the mechanical and the electrical systems to meet LEED Silver standards.

The HVAC systems were designed to be more energy efficient than ASHRAE 90.2 while providing an environment for the clean archive areas, offices, etc. The systems provide humidification control for the building to ensure humidity is held within a constant range. Dust collectors were installed in the two labs to capture and contain the dust produced during the fossil and casting preparation processes. All systems are monitored and controlled by the building and campus automation systems and include displays of the various system energy use.

Electrical systems designed included medium voltage power distribution, low voltage power distribution, lighting, communications, data distribution and preparation for security systems. The lighting system, as designed, was more energy efficient than ASHRAE 90.1 and LEED criteria require. This will assist in achieving a more energy efficient building and additional points for LEED certification. The building's lighting systems are controlled by a central lighting control system to assist in energy savings. Daylight harvesting was incorporated into the main lobby area where a clearstory window system will provide natural lighting necessary for this type of system to work. The design provides for a future security system that will utilize a card reader system which will allow and record access into valuable archive and storage areas.

This project was WPE's initial attempt at working on a complete design using the REVIT Software. The REVIT modeling allowed engineers to identify conflicts with structure and ceiling that may not have otherwise been detected. This resulted in a more comprehensive and constructible design.

About the Author:
Michael Sigman *is an Electrical Engineer in the Rapid City office and has been with WPE for over 10 years.*