McNEIL ENGINEERING
Economic and Sustainable Designs, Professionals You Know and Trust

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Laser Scanning of "The Psycho Hotel"

Alfred Hitchcock

Every now and then we get a chance to interact with history. Recently McNeil Engineering's Surveying Department received a request to assist with a notable historic preservation project – The so-called "Psycho Hotel".

The historic Barrister Place building in downtown Phoenix has a storied past, opening in 1915 as the Jefferson Hotel, the tallest building in Arizona at that time. Later it was used in the beginning of Alfred Hitchcock's memorable 1960 horror movie "Psycho."

The Psycho Hotel Today

McNeil Engineering partner in Phoenix, Hubbard Engineering, was retained by the City of Phoenix Economic Development Agency to prepare historical documentation prior to renovation work and future expansion. A central part of the required documentation was delineation of the building's structural shell.

McNeil Engineering Survey Department used 3D laser scanning technology to define the exterior of the structure. The use of this precise 3D technology facilitated the creation of a highly accurate documentation of the existing facade and conditions of the building.

McNeil Engineering was able to provide more accurate and precise data in a much shorter period of time than traditional survey methods, thus affording the client much more precise, faster and more economical product.

Best regards, Ted Didas

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Built for Speed

Rob Porier, a Senior Design Engineer in McNeil Engineering's Civil Dept., says that it's "genetic". Especially when he talks about his passion for fast cars. You see, Rob's dad started him on analyzing and building drag racers when Rob was still a young kid. Later on Rob used his Civil Engineering education to produce more precise and effective designs for these highly specialized vehicles.

More recently Rob satisfied a long-term desire to own a very fast "street machine" - he purchased a 2014 Ford Mustang. Not satisfied with an assembly line version, he proceded to modify his Mustang in ways that upped its engine's horsepower. He also made other changes to accommodate this increase in power.

They say, "the proof of the pudding is in the eating", and Rob's track results have verified his modification decisions. At the Miller Motor Sports Park in Toole County Rob has driven his dream car to the following performance rear-wheel drive class finishes:

- 1st Place
- 3rd Place

Congratulations, Rob

McNeil Employees with Anniversary Dates this Quarter

Employee	Start Date	Number of Years
Michael D. Hoffman	February 13, 1995	20
Matthew Roblez	March 18, 2002	13
Cody R. Palmer	February 5, 2007	8
Scott A. Schoonover	January 1, 2011	4
John David Sumner	March 5, 2012	3
Michael J. Ekenstam	January 13, 2014	1
Troy A. Taylor	January 24, 2014	1
Jacob A. Hendrickson	February 6, 2014	1
Shad L. Seitz	February 18, 2014	1

Real Data Capture Becoming Part of BIM

The use of "scan-to-BIM" technology is becoming more prevalent and offers engineers and designers many benefits, say experts. There are links between building information modeling scanning technology (that captures real data) and

- wide-area geographic information systems
- asset management projects and
- smart cities.

Autodesk and Bentley are both implementing scanning technology into their computational and schematic software.

McNEIL ENGINEERING's HDS and Surveying Department has been advancing the concept of High Definition Scanning (HDS) with an eye toward the expansion of the technology into more applications where time, quality and cost advantages are waiting to be had.

Engineering Design and Construction of the Future - Now

Revolutionary! is the best description of the engineering effort demonstrated by McNeil Engineering and our design team for a new power generating facility in Kauai: The Kauai Green Energy Project. The project is a biomass to energy facility that should keep Kauai self-sufficient electricity-wise for the next 30 years.

Main Structural Tower

The facility is a $90-million dollar biomass electric utility plant. It is constructed of structural steel with concrete foundations. The boilers for the facility were manufactured in Poland, the structural steel in Germany, and the engineering design was performed and supervised by McNeil Engineering's Structural Engineering Department
McNeil's role in the project was that of the structural engineer of record.

Our senior structural engineers, Matthew Roblez, S.E. SECB and Cody Palmer, P.E., were the two principle structural engineers on the project. It required coordination with fabricators and engineers in Poland and Germany and construction that took place in Hawaii. We at McNeil have a commitment to using advanced technology not only in our designs, but also in project management. Using this technology from our office in Sandy, Utah, we were able to maintain communication with all principles of the project.

Matthew Roblez, S.E., SECB

We accomplished this by breaking down the traditional work flow boundaries that frequently limit other firms to their geographic locations.

Our McNeil Engineering team furnished the deliverables (construction documents, calculations, RFI's) electronically to the fabricators, constructors and engineers using the internet. Virtually all communication was done with Skype or other web-based communication tools. Tablets and lap tops were used to store and access construction documents, and construction progress was documented with BluBeam pdf-editing software. Cell phone photographs captured and documented any construction issues.

While on site, Mr. Roblez used the Skype application on his cell phone to transmit information to other members of the team. Our design team was able to not only perform their "regular" duties as structural engineers, but also to coordinate a project that involved principles from three countries, over a distance of 7400 miles - using our revolutionary knowledge of the most current engineering and communication technologies.

go Green

The Lonesome Tower

Many of us have driven on 13th East near Creek road, and undoubtedly wondered about the purpose and future of "The Lonesome Tower". This is certainly a fitting description, as one definition of lonesome is "being the only one; single and isolated from others".

The tower is actually an enclosed stairwell, constructed to be part of a multi-family development – just before the "crash" of 2007-2008. Then as real estate sales plummeted the developer pulled the plug and left the tower naked in view of thousands of travelers on 13th East.

With today's robust housing market, and housing futures projected to continue to be strong, the "Lonesome Tower" has been rescued. The Rockworth Companies gave this project new life as part of The Ridge Apartments, currently under construction.

McNeil Engineering's HDS & Survey Department provided the scanning and survey information, our Civil Department engineered the site plans and our Consulting Department prepared the landscaping plans for this renovated major development. When built out, the project will feature about 260 units with underground parking.

According to Ted Didas, McNeil's Civil Dept. Manager, the views of the Wasatch Mountains from this location, as you can see, are spectacular- a fact long known by "The Lonesome Tower".

Seattle's Huge Tunnel-Boring Machine Is Still Stuck, And there's another problem, too

A year ago this month, North America's largest tunnel-boring machine got stuck just 10 percent of the way through a 1.7-mile-long dig under downtown Seattle. Throughout 2014, engineers have been plugging away on an ambitious plan to free the mechanical marvel and get the project going again.

But today, Bertha remains stuck under the city. And according to an update from The New York Times, crews monitoring the project to free the machine have noticed something alarming: one inch worth of settling in the downtown district under which Bertha now sits.

"A whole block just went down an inch," said Todd Trepanier, the administrator of the project for the State Department of Transportation, at Monday's City Council hearing. "We don't like an inch."

The information and communication sectors now account for approximately 15 percent of global electricity consumption. By 2030 the global electricity use by consumer electronics will equal the current total residential electricity consumption of the U.S. and Japan combined and will cost $200 billion in electricity annually! Memcomputers, a totally new design that avoids the constant transferring data between a CPU and memory, should save a significant amount of energy. Also, they are a million times faster. Scientific American, February 2015

McNeil Engineering helps Weber State Fully Endorse Water Conservation

Ogden City has asked all residents and businesses to reduce their water consumption by 20 percent, and Weber State University wants its community to know it is also taking measures to help conserve the precious resource. McNeil Engineering was retained by WSU Campus Planning & Construction (CPC) in 2013 to lead the planning and design efforts for a proposed landscape remodel featuring draught-tolerant vegetation and drip irrigation.

This project is located at the north entrance into the Student Services Center (SSC). This main entrance out of the SSC gives prospective students their first look at the campus, and it sets the tone for the quality image and conservation ethic that the Weber State University strives to portray.
The success of the initial remodel at the SSC has led to an on-going working relationship with WSU CPC and its staff, and to the completion of several more drought-tolerant landscape and water conservation projects throughout the campus.

Those projects included remodel of the outdated and overgrown landscape at the Shepherd Union Building and the site and irrigation improvements south of the Science Lab that featured a complete renovation to the main campus pump house and filtration system. McNeil also provided construction review throughout the projects. Currently McNeil Engineering is preparing designs for two additional separate landscape and irrigation remodel projects: one is at the Wattis Business Building and the other is at the Lindquist Plaza.

We forget that the water cycle and the life cycle are one. - Jacques Cousteau

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