



Columbus Engineer

Official Publication of the Franklin County Chapter of the Ohio and National Societies of Professional Engineers

PRESIDENT'S MESSAGE

By Richard Smelker FCC President



I hope you all had a Happy Holiday season. We are kicking off the New Year with some new events. The *Imagine Engineering* second grade coloring contest is in full swing. We have more schools signed up than ever this year and need

volunteers to visit the schools and talk to second graders about what engineers do (we don't just drive trains!). This is really an easy way to "pay it forward" to the next generation of engineers. If you are

interested in participating, please contact Devon Seal, the Imagine Engineering Chairman at devon_seal@gspnet.com. February brings Engineer's Week and our annual *Engineer for a Day* (EFAD). We are still looking for volunteer host companies for EFAD, so if you are interested in hosting some future engineers, contact Charles Ohrstedt, the EFAD chairman at mohrstedt@sbcglobal.com for more information.

Engineers Week is also in February. Founded by the National Society of Professional Engineers in 1951, National Engineers Week (February 16-22, 2014) is dedicated to ensuring a

(Continued on page two)

FCC-OSPE January Luncheon Program

Date: Thursday January 16, 2014
Place: La Scala Restaurant , 4199 W. Dublin Granville Rd., Dublin, OH
Time: Registration: 11:30 am
 Lunch: 11:50 am
 Speaker: 12:00 pm
 Closing Remarks: 1:00 pm
Cost: Members: \$20.00
 Non-Members: \$30.00.

Registration: Visit fccospe.com. Pay at door or online at (www.fccospe.org). No access to computer contact Jim Arnold, 614-299-2133, to help with registration.

Title: "Union County Soils Laboratory – Research of on-site sanitary wastewater treatment and reclamation using engineered drainage".

Abstract: The slow draining characteristics of the most prevalent soils throughout Ohio, limit the ability of a conventional leach field to be used for on-site disposal of residential sewage. Leach fields installed in these soils have historically failed and subsequently become a public health concern due to the discharge of partially treated wastewater to surface or groundwater resources. To overcome these concerns, current regulations require residents living in areas without sanitary sewer service to install a more expensive alternative system for their wastewater disposal.

This study will pilot test the effectiveness of an engineered bioreactor using in-place soils in a conventional leach field design along with subsurface drainage piping to allow for effective treatment of the wastewater to occur through the microbial activity of the soil, while increasing the hydraulic capacity of the leach field. The result will be a low cost on-site wastewater dispersal system that protects the public health and environment.

SPEAKER: Brian Tornes is a project manager at Burgess & Niple, Inc. with over 20 years of engineering and management experience. As a process engineer responsible for evaluation and design of water, wastewater, and storm water management systems utilizing both active and passive treatment methods, he has designed not only traditional chemical and biological treatment processes but also constructed wetlands, bioswales, and phytoremediation systems. Mr. Tornes holds a Bachelor of Science Degree in Civil Engineering from The Ohio State University.



Brian Tornes

A certificate for 1 hour of Professional Development for attending the program will be presented at the luncheon.

(President's Message continued from page one)

diverse and well-educated future engineering workforce by increasing understanding of and interest in engineering and technology careers. The luncheon is the critical time that we as members of the engineering profession meet with high school seniors and talk to them about our profession. These high school students are very eager to hear about our experiences. I highly recommend that you join us and see these young future engineers in person. If you are interested in learning more about the Engineers Week luncheon contact Ryan Dolan the Engineers Week representative at rcdolan@aep.com for more information.

FCC Auxiliary

By Paul Junk, PE, PS

The Franklin County Chapter of Ohio Society of Professional Engineers is Unique. We have the only remaining active auxiliary in Ohio. Engineering is not just a 9 to 5 profession. We have families who are interested in what we do and want to know what is going on in our lives.

The auxiliary is our support organization. The Auxiliary promotes interest and unity in the engineering profession by encouraging friendly, social and educational contacts among Professional Engineers, their families and the community.

The FCC Auxiliary consists of wives, sisters, daughters and daughter-in-laws of members of the Franklin County Chapter. The meetings are held monthly from September through May (except January). Typical meetings consist of luncheon with a speaker. Joint meetings with FCC have been very enjoyable. The Auxiliary sponsors two scholarships for students attending OSU.

The Auxiliary would like to invite new candidates to join. Dues are \$20.00 a year. Those that are interested may contact: Jane Smith 614-451-6911 (jecree@sbcglobal.net) or Agnes Benedict 614-262-7346 (abenedic@columbus.rr.com).



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A History of FCC/OSPE – Assassination and Old Pumps

(This is the sixteenth issue of the History of Franklin County Chapter, by L.E. Winget, Ph.D., P.E. The content is based on the Frank Geyer’s compilation “A History of FCC”, 1972.)

FY 1967-68 – The unfortunate assassinations of two very influential people in the United States occurred, namely Senator Robert F. Kennedy and the Reverend Martin Luther King, Jr. Major riots also occurred in the Democratic National Convention in Chicago. Delegates from North Korea and the United States met in Paris for the initial peace talks. Heavy floods occurred in the Red River Valley and the upper Mississippi and Missouri Rivers.

The Chapter elected B.W. Hatten as President and J.H. Jaeger as Vice President. In addition, there were five Functional Group Vice Presidents (with J.H. Jaeger as one) and 42 committees and/or special functional assignments. The budget for the fiscal year was \$9600. The meetings were held at the Arlington Arms Motel, Winding Hallow Country Club and the Imperial Motel. A tour was made of the Southerly Waste Water Treatment Facility. A joint meeting and dance with the Auxiliary was held at the Winding Hallow Country Club in October. The FCC Professional Engineers Family Picnic was held at the WRFD Park in June.

The topics of the speakers at the luncheons were:

- The Ohio Highways – (P.E. Masheter)
- I Haunt Old Houses – (Bill Arter)
- Mobilization Toward Healthful Environment – (E.P. Radford)
- Engineering Problems in the City Government – (M.E. Sensenbrenner)

(P.E. Masheter, Director of the Ohio Department of Highways; Bill Arter was a noted author and illustrator; E.P. Radford, Professor and Director of Health at the University of Cincinnati; M.E. Sensenbrenner was Mayor of Columbus.)

Significant Events: Mrs. Phyllis Hodson was the FCC Secretary of the FCC Office at 5 East Long Street and declared her hours from 9:30 to 13:30. The huge steam pumps at the Scioto River Pumping Station, which had served the city for over 60 years were hauled away to the scrap yard. *(These pumps should have had a better fate.)* New turbines had been installed. *(What a change!)*

Special Notice: Bernard Hatten and Gerald Johnson appeared on WBNS-TV in February, on a program called “A Man from COSI.” Member Russell Fling was honored with the OSPE Meritorious Service Award. Member J.W. Hagan was elected City Councilman for Worthington.

Next: - Unrest and Common Sense



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A Bit of History That Impacts Us All

If you wanted a cheap watch in the 1880, you went to the train station! For about 500 towns across the northern United States, that's where the best pocket watches were found. The vendor was not the railroad company but the telegraph operator.

Most of the time the telegraph operator was located in the railroad station because the telegraph lines followed the railroad tracks from town to town. It was usually the shortest distance and the rights-of-way had already been secured for the rail line.

Most of the station agents were also skilled telegraph operators and that was the primary way they communicated with the railroad. They would know when trains left the previous station and when they were due at their next station. It was the telegraph operator who had the watches and, in fact, they sold more pocket watches than almost all the stores combined for a period of about 9 years.

This was all arranged by "Richard," a telegraph operator in North Redwood, Minnesota. One day a load of watches arrived from the East, a huge crate of pocket watches. No one ever came to claim them. So Richard sent a telegram to the manufacturer and asked what they wanted to do with the watches. The manufacturer didn't want to pay for the freight back, so he wired Richard to see if Richard could sell them. Richard did. He sent a wire to every agent in the system asking them if they wanted a cheap, but good pocket watch. He sold the entire case in less than two days and at a handsome profit.

Bing-go, he ordered more watches from the watch company and encouraged the telegraph operators to set up a display case in the station offering high quality watches for a cheap price to all the travelers. It worked!

It didn't take long for the word to spread, and soon, people other than travelers came to the train station to buy watches. Richard became so busy that he hired a professional watch maker to help him with the orders. That person was "Alvah".

The business took off and soon expanded to many other lines of dry goods. Richard and Alvah left the train station and moved their company to Chicago. Oh yes, it all started with a telegraph operator named **Richard Sears** and his partner **Alvah Roebuck**."

And the rest is history." (Okay, engineers, where are you?)

How PE Licensure Has Changed *

Interesting article by Kathy Hart in the October issue of NCEES's [Licensure Exchange](#). Hart is the executive director of the Oklahoma State Board of Licensure for Professional Engineers and Land Surveyors, and she writes about the changes in licensure over the past 20 years.

She mentions three in particular:

Exam Administration

"In 1993, all exams were on paper and used #2 pencils that the board staff sharpened by hand before every exam administration. Exams were shipped to the board office (in a not particularly secure manner) and a couple of days were spent unboxing and lining up the exams to be distributed (in a not particularly secure manner) to the different exam sites, using handmade seating charts. Examinees could bring in whatever calculators they wanted and as much material as they could carry."

Mobility

"Twenty years ago, applications for licensure were printed and mailed (by snail mail) to anyone pursuing licensure. The application form had to be hand-typed, signed in front of a notary, and mailed back to the board office. The staff would receive the application form, process the application manually—including typing individual reference letters to be mailed out to the references—and request verification forms from other states by mail. Once the application was complete, it would be placed on the agenda for the next scheduled board meeting, which could be another two months away depending on the timing of completion of the application. The NCEES Record existed, but not in its current format, and no designation such as Model Law Engineer existed."

Review of Applications With Non-U.S. Degrees

"Two decades ago, no formal degree evaluations were conducted. The board requested original transcripts from the non-U.S. universities—and at times those were not available, so we had no research available to us. So basically, if they could produce a document, they would be accepted."

* Excerpted from NSPE Website Blog

An Excerpt from “Creation—An Allegory”

by D. B. Steinman, 1932 (From Tim Schaffer, Executive Director OSPE/EFO email)

Four men stood up with God when he made the world. They saw the nebulous mass take form under the hand of the Creator, and they watched with wonder as the shimmering sphere, flung from the fingers of omnipotence, found its place in the shining galaxy of stars.

Blinded by the sublime spectacle, the men fell down in humble worship. And God said to them: “Rise, and fear not.” And they rose and faced the Master with the new-born questions and ambitions that fired their souls. And one of the men asked: “How was it done?” And God replied: “Go, find out for yourself.” And that man went and became a scientist.

“Give it to me,” the second man begged. And God said to him: “Go, possess it for yourself.” And he went and became the Business Man.

“How beautiful,” exclaimed the third man. And God said to him: “You shall go and, because your soul burns within you, you shall create Beauty!” And the man went and became the Artist.

The fourth man said nothing but, as his eyes followed the unfolding of the plan of Creation, there kindled in his heart a desire to do these things. And to him God said:

“You too shall go, and you shall plan and build. You shall learn to master the forces I have called forth, and you shall continue the work of the Creation!” And that man went and became the Engineer!

And thus this noble group of God’s journeymen set out upon their appointed tasks. The engineer ran before the others to straighten the path for their feet. He blazed the trail through trackless forest and impregnable jungle, over jagged mountains, and across torrential streams. He cleared away obstacles, broke down barriers, and spanned the chasms that halted their progress. He explored the far places and the depths of the Earth for the materials the Journeymen needed,

and he fashioned the tools for their work. He devised shelters to protect them from the elements, and he built workshops for their labors. He mastered the elemental forces of Air, Earth, Fire, and Water, and he harnessed these to lighten the toil of Man. With head and heart and hand, he wrought and contrived to ease the tasks of his fellow Journeyman and to multiply the fruits of their labors.

The others leaned heavily upon the Engineer when the going was rough. He crystallized their visions and gave fruition to their efforts. He labored and delved for the Scientist, and harnessed his magic to ways of usefulness. He helped the Business Man find new Wealth, and with it he created the structure of industry and commerce. He furnished new materials and tools to the Artist, and made his dreams of beauty materialize in imperishable form.

With the Truths discovered by the Scientist, the Wealth garnered by the Business Man, and the Beauty dreamed by the Artist, the Engineer performed ever greater miracles—rearing the resplendent structure of Civilization and Human Progress.

. . . . And thus the Engineer goes through the ages—overcoming obstacles, conquering new forces, and reshaping the physical world. Unsparing of his energy, he plans and toils to create comfort, wealth, and happiness for his fellow-wayfarers. He is the pioneer and the leader in the onward march of Civilization.

With the successful achievement of each new monumental task, the Engineer has grown in strength, and greater responsibilities and talents have been entrusted to him. Today he has to be Scientist, Artist and Business Man, as well as Engineer. All four are now embodied in him and find expression in his creative genius. He works from vision to deed, and he applies Science and Business and Art in building his dreams into enduring realities. He plans and builds not only for his time, but for the generations to follow.



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2013-14 CALENDAR

Jan. 14	5:30 p.m.	FCC Board Meeting @ Korda Nemeth
Jan. 14	5:00 p.m.	Deadline for February <i>Columbus Engineer</i>
Jan. 16	Noon	Program: "Union Co. Soils Laboratory - Research of on-site sanitary wastewater treatment and reclamation using engineered drainage"
Feb. 10	5:30 p.m.	FCC Board Meeting @ Korda Nemeth
Feb. 14	5:00 p.m.	Deadline for March <i>Columbus Engineer</i>
Feb. 15	8:00 a.m.	Local Mathcounts Competition @ Columbus State Community College
Feb. 17-23		National Engineers Week (see www.eweek.org)
Feb. 19	8:00 – 3:00 p.m.	Engineer for a Day Program
Feb. 19	11:30 a.m.	Program: E-Week Luncheon - Bridgewater Conference Center, Powell
Mar. 8	8:30 a.m. - 3:00 p.m.	State Mathcounts Competition (FCC volunteers)
Mar. 11	5:30 p.m.	FCC Board Meeting @ Korda Nemeth
Mar. 14	5:00 p.m.	Deadline for April <i>Columbus Engineer</i>
Mar. 15		District Science Day
Mar. 15		Spring Certificate Ceremony (OSPE)
Mar. 20	Noon	Program: "I70/I71 Interchange" - Worthington Hills Country Club