



Engineers' News

October 2023

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[www.FortWayneEngineersClub.org](http://www.FortWayneEngineersClub.org)

## October Tour



**When:** Thursday October 26 @ 6:00 p.m.

**Address:** (see "Access" information below)

**Website:** <https://utilities.cityoffortwayne.org/>

**Info:**

The principle storage pond for water from the Deep Tunnel is located on the north side of the Maumee River across from the Water Pollution Control Plant (WPCP). A project is underway to cover most of the thirty-acre pond with floats designed to form a fabric which supports solar panels and blocks sunlight to suppress algae. It is

intended to generate 5 megawatts and will be the second largest of its type in the U.S. when completed in 2024. Fort Wayne City Utilities is nearly halfway through a long-term plan for energy independence, now being expanded as SustainFortWayne to include City of Fort Wayne operations. Nearby facilities screen larger objects and pump untreated water as needed between the storage pond and WPCP via large siphon tubes under the Maumee River. (Spoiler Alert: Most of the interesting transfer infrastructure, including pumps, are buried from view.)

**Access:**

- Beacon Street effectively continues south of Lake Avenue. Continue southward until reaching the automatic security gate. We will enter the pond facilities as a group. If all goes well, the usual white Fort Wayne Engineers Club feather flag should be at the corner of Lake Avenue and the southbound access drive. (Note that White Oak Drive, about a quarter mile to the east, has been superseded and will not provide access.)

**Tour Requirements:**

- Enclosed sturdy footwear suitable for rough ground and clothing suitable for weather conditions. No age restriction if accompanied by an appropriate adult. Avoid contact with pond water.

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## September Tour Summary



Light attendance occurred due to booming work and family demands. We greatly appreciated Flint & Walling hosting us despite busy times themselves.

Flint & Walling (F&W) is a family owned corporation based since the 1860's on Oak Street in Kendallville, Indiana, despite a huge global footprint and range of products. If you use an electrically powered sump or well pump, odds are very high that it was manufactured by F&W. Municipalities also widely utilize F&W pumps and electronics ranging from system-wide municipal water supplies to various outgoing sewage grinders and force mains.

To read more, click [here](#).

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## Items of Note

FWEC member Rod Vargo is Chair of the 28 year-old and all-volunteer [Utility Advisory Group](#), which formally advises Fort Wayne City Utilities and often City Council. Your comments are welcome at [rodvargo@comcast.net](mailto:rodvargo@comcast.net)

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## Volunteer Positions within the Club

**Membership and Contact Chair: Open**  
**Northeast Indiana DiscoverE Chair: Open**

### Vice President:

Club Vice President needed! It's time once again to ask club members to fill this vital spot in the club's leadership roster this year. The Vice President is generally in charge of arranging club tours, though this has traditionally been a team effort so it's not really all that much work. You would be expected to attend the monthly officers meeting (from the end of August until the end of May) and at the end of your one-year term, you would automatically become club president. The typical monthly time involved would be roughly 2 hours (including attending the officers meeting). If you enjoy the club and would like to see it continue to function, please consider volunteering for this spot.

Let us know if you're interested!

### Volunteer

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## General Club Info

Fort Wayne Engineers Club dues are \$0. Donations are welcome but strictly voluntary. In recent years, club funds have helped support Discover-E, the Regional Science and Engineering Fair, annual bridge building contests in schools, academic awards, networking events, mentoring, our website, and facilitating free tours.

Please see [FortWayneEngineersClub.org](http://FortWayneEngineersClub.org), [LinkedIn](#), or [Facebook](#) for updates on current Club activities, other news, and past newsletters.

Those participating in activities or hosting tours through FWEC do so strictly at their own risk, including disease exposures. Participation in club events is voluntary, free, nonprofit, and solely for the benefit of participants and the community at large. Anyone with an interest may participate unless restrictions are specified for specific events, such as minimum age or minimum safety attire.

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## Interested in hosting a tour?

Contact us today!

**Host a Tour**

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## Proposed FWEC Roster for FY2023-2024

President: Nathaniel Wisel

Vice President: *Open*

Secretary: Rod Vargo

Treasurer: John Magsam

First-year Board Members: Dave Gordon, Bert Spellman

Second-year Board Member: Ryan Stark, Ed Woodward

Third-year Board Member: Marna Renteria, Mike Magsam

Editor of Engineer News: Nathaniel Wisel

**Membership and Contact Chair: Open**

**Northeast Indiana DiscoverE Chair: Open**

**Vice President: Open for FY2023-2024**

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## Job posting and resumes listed

The club accepts both job openings from around the area, as well as resumes from those seeking employment. Please submit these to the following email address:

[Info@FortWayneEngineersClub.org](mailto:Info@FortWayneEngineersClub.org)

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## Advertise in the Engineers' News

The FWEC provides advertising space within the Engineers' News. Advertisements are only \$10 per issue and limited to ½ page of content.

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## September Tour Summary (cont'd)

F&W began business providing some of the dominant hand and wind powered water well pumps used during the last half of the nineteenth century. It maintains a windmill museum near Kendallville that is widely regarded. The engineering challenges of windmills are pertinent even today, but little appreciated.

([www.midamericawindmillmuseum.org](http://www.midamericawindmillmuseum.org))

Our tour focused on manufacture of electric motors for a number of F&W pumps in a building on Oak Street. FWEC tour participants continue to appreciate the details and precision required of reliable electric motors, especially those in hard worked and often abused uses such as these. The requirements dovetail with continuous improvements and investments in efficiency, safety, quality control, and cleanliness to sustain long term economic viability of a facility and overall business. About 4% of the workforce at this location is degreed engineers.

In general, the process is insertion of insulated and various-diameter copper strands into properly insulated outer discs. This creates a stator with various electrical pathways through the highly compacted copper windings. They are then shaped into a consolidated mass.

A rotor core and shaft is produced. The rotor is inserted into the stator, creating the internal workings of an electric motor. Lots must be done exactly right, and inspected.

A darkly humorous discussion transpired about our collective group experiences with molten metals in other companies, notably efforts at recycling. A drop of water contamination, for instance, can instantaneously expand 1200-1400 fold, essentially exploding to send molten metal flying.

The finished winding assemblies are enclosed in various outer castings/housings at other facilities. The housings must sustain various internal and external water pressures, and the motors remain water-tight for decades. Pump designs vary as to what impurities, such as rocks, are also pumped along or sometimes ground down to acceptable sizes. Impellers to drive, grind, and pressurize water are installed at

various times. A variety of electrical connections and/or variable frequency controls are available.

All of this depends on availability and retention of an appropriate workforce.

Kendallville has long seemed sufficiently large, pleasant, and affordable. Success on a global scale since the 1860's requires a stunning range of management and change. Sincere thanks to F&W and their Engineering Manager Mike Stockman for our first tour of this season.

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## Advertise Your Business

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