

E&M Engineers and Surveyors, PC

Fall 2010

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A Tale of Two Parks

By: Al Vanderpoel

Community parks are a top priority to the small municipalities in Pennsylvania and New York. Two of the finest parks that we are aware of are located in the Township of Sheffield in Warren County, and in Jones Township in Elk County. They are focal points of the communities, and points of pride to those that worked toward the development of the parks.

While these two parks are vastly different in looks, they had some common planning threads. Both started with a well thought out master plan. The master plan was used as a tool to request grant monies, and to insure that the individual components fit together. The master plan keyed on a layout that allowed space for the components to be well utilized, with handicapped accessibility insured and utilities available. E & M Engineers was able to assist with the surveying and drawings needed for the master plans.

Both parks had sponsors who scoured the available grant monies that might be available, and both communities pitched in 100% with local support and help from their township crews. Individuals spent countless hours in making things work, and dotting the i's and crossing the t's with government forms.

Both communities took risks, and could not afford to go out on a limb when the funding was less than 100% certain. Drawings and specifications are needed for construction, and E & M Engineers worked to fit the components into the overall site. Putting bids out at the right time, and working with the municipality with site inspection saved money and time.

Sheffield is almost complete with their park at the school site. New bleachers, pressbox, an all-weather track around the football field, a new softball field with dugouts, access roads and parking, fencing, underdrains throughout the area, and a new concession stand/restroom building make this area one of the finest school facilities around.

Jones Township is a park built around a baseball field with dugouts and bleachers, a sports court, play area, walking track, fishing piers, pavilion with kitchen and restrooms, parking, underdrainage, and landscaping throughout the park make a former woodlot look spectacular.



Jones Township Community Park, Elk County, PA

E & M Engineers and Surveyors can help with your park needs. We are proud to be associated with the Sheffield and Jones Township parks, and we would like to help with every community in our area. Good parks are sources of great pride in the community.

Earthquakes II

By: Jeffrey C. Bahret, P.E.

As Civil Engineers, we often are asked about the phenomenon of earthquakes. Here in Western New York and North Western Pennsylvania, the subject of earthquakes seem to rise to the forefront in regional conversation every two years or so. This article is a continuation of one presented in our Winter 2000 Newsletter, in which we addressed the questions: Do Earthquakes occur in Western New York and Pennsylvania? and What are Earthquakes Magnitude and Intensity?

What Causes an Earthquake?

Earthquakes in our area of the Northeast United States cannot be associated with specific faults, as opposed to the typical seismic activity in California. While California earthquakes typically occur at, or near the conjunction of two of the earth's major tectonic plates, earthquakes in our area occur in the middle of plates, far from the plate boundaries. The immediate cause of most of these shallow northeast earthquakes is the sudden release of stress along a fracture in the earth's crust, resulting in movement of the opposing blocks of rock passing one another. The movement causes a wave-like vibration to pass through the ground that we feel. It is much like the ripples that are generated when a pebble is dropped into a pond.

How do I Protect my Property?

There are a number of protective measures which can be easily employed by the property owner to minimize potential damage during an earthquake event. Many of these measures of protection cost very little (or nothing) and can have a significant impact in dollars saved:

- Bolt bookcases, china cabinets, and other tall furniture to wall studs. Brace or anchor high or top-heavy objects. During an earthquake, these things can fall over, causing damage or injury.
- Move large or heavy objects and fragile items (glass or china) to lower shelves.
- Store breakable items such as bottled foods, glass and china in low, closed cabinets with latches. Latches will help keep contents of cabinets inside.
- Store weed killers, pesticides and flammable products securely in closed cabinets with latches, on bottom shelves. Chemical products will be

less likely to create hazardous situations from lower, confined locations.

- Hang heavy items, such as pictures and mirrors, away from beds, couches and anywhere people sit. Earthquakes can knock things off walls, causing damage or injury.
- Strap your water heater to wall studs. The water heater may be your best source of drinkable water following an earthquake. Protect it from damage and leaks.
- Bolt down any gas appliances. After an earthquake, broken gas lines frequently create fire hazards.
- Install flexible pipe fittings to avoid gas or water leaks. Flexible fittings will be less likely to break.
- Check to see if your house is bolted to its foundation. Homes bolted to their foundations are less likely to be severely damaged during an earthquake. Homes that are not bolted have been known to slide off their foundations.
- Consider having your building evaluated by a professional structural engineer. Ask about home repair and strengthening tips for exterior features such as porches, front and back decks, sliding glass doors, canopies, carports and garage doors. A professional can give you advice on how to reduce potential damage.
- Follow local seismic building standards and safe land use codes that regulate land use.

What are the Facts about Northeast Earthquakes?

- The cities in the Northeast are among the most densely populated areas in the United States, which places more people at risk in the event of an earthquake.
- The area impacted by an earthquake in the Northeast can be up to 40 times greater than the same magnitude event occurring on the West coast due to our regional geology.
- Approximately 40-50 earthquakes are detected annually in the Northeast.
- Many older structures in the Northeast, such as schools, hospitals and fire stations, are built of un-reinforced masonry (i.e., "red brick") and are particularly vulnerable to damage or collapse in the event of an earthquake.
- Most states in the Northeast have adopted some seismic provisions into their state building codes for certain types of new construction.

- Unlike other areas of the country where earthquakes occur along known fault lines (e.g., California), Northeast earthquakes do not correlate with the many known faults that exist in the region.
- While there are many uncertainties about what causes earthquakes in our area of the Northeast, one thing is for certain: earthquakes will continue to occur.

NY & PA Continuing Education Requirements

BY: Chris Emst, P.E.

Professional Engineers and Land Surveyors are required to complete a minimum number of continuing education hours in order to renew their licenses. This article will explain why this continuing education is important and what requirements are in Pennsylvania and New York.

Pennsylvania

The State Registration Board for Professional Engineers, Land Surveyors and Geologists states “in order to safeguard life, health and property and to promote the public welfare, the practice of professional engineering, professional land surveying and professional geology in this commonwealth requires continuing professional education.” Each licensee shall be required to obtain twenty-four Professional Development Hours (PDH) relevant to professional practice during the biennial renewal period. PDH units may be earned as follows:

1. Successful completion of college courses
2. Completion of continuing education courses.
3. Completion of correspondence, televised, videotaped and other short courses or tutorials.
4. Completion of seminars, employer-sponsored courses, workshops or professional or technical presentations made at meetings, conventions or conferences.
5. Teaching, presenting or instructing in any of the activities listed above.
6. Authoring published papers, articles or books.
7. Obtaining patents

New York

The New York State Board for Engineering and Land Surveying states that “licensed professional engineers and land surveyors work in a world of evolving technology, increased consumer

expectations and other emerging issues. Practice in this changing environment requires ongoing developments in this profession to render quality services and to ensure public protection.” Professional Engineers and Professional Land Surveyors must complete 36 hours and 24 hours of continuing education during each three-year registration period, respectively. Each licensee must take continuing education in approved subject areas offered by approved sponsors. Acceptable continuing education includes the following courses and activities:

1. Completion of an approved continuing education course. A minimum of 18 hours of continuing education must be completed in courses for Professional Engineering and a minimum of 16 hours of continuing education must be completed for Professional Land Surveyors. The balance of hours required may be completed by the activities below.
2. Preparing and teaching a course offered by an approved New York State sponsor (provider) and in an acceptable subject area.
3. Authoring an article in an approved subject area in a peer reviewed journal or a published book.
4. Making a technical presentation in an approved subject area at a professional conference or meeting sponsored by an organization that is an approved sponsor (provider).
5. Obtaining a patent related to the practice of engineering.
6. Completing an approved self-study program which includes a requirement for passing a test in order to receive credit for completing the program.
7. Completing an educational tour in an approved subject area.

The documentation for completion of the continuing education in each state is the responsibility of the licensee and is subject to an audit by the state licensing boards. E&M Engineers and Surveyors considers continuing education an important part of our profession and works diligently to make sure that all of our licensed employees meet the requirements of the Pennsylvania and New York State licensing boards.

New York Scholarship Winner Announced

E&M Engineers and Surveyors PC has awarded its annual \$1,000 scholarship to Connie Draper of Delevan, NY. Connie graduated from Pioneer High School. Connie is attending ECC and will be pursuing a bachelor's degree in civil engineering in the future.



Pennsylvania Scholarship Winner Announced

E&M Engineers and Surveyors PC has awarded its annual \$1,000 scholarship to Ryan Ottney of Warren PA. Ryan graduated from Warren Area High School. Ryan is attending Penn State and is pursuing a degree in Civil Engineering.



Congratulations and Best Wishes to both

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