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Professional Engineer Corporate Seals

By: Jeffrey C. Bahret, P.E.

Ever seen one? Do you know what they are and their history? Their relevance has changed over recent years, and this article will attempt to inform and clarify current policy regarding their use.

First, lets start with some history into the reasoning and purpose that necessitated the creation of the "Licensed Professional Engineer". The first state to pass a licensure law was Wyoming, in 1907. Wyoming engineers were concerned with water speculators who lacked the qualifications or experience of trained engineers but were nonetheless using the term "engineer". Also, due to the failure of numerous dams and bridges that resulted in loss-of-life, the Tenth Amendment of the U.S. Constitution required the individual states to bear the responsibility for regulating the professions. Reinforced by the Supreme Court in Watson vs. Maryland (1910): "It is too well settled to require discussion at this day that the police power of the States extend to the regulation of certain trades and callings, particularly those which closely concern the public health". New York State legislatures enacted engineering licensure laws in 1920, and the Commonwealth of Pennsylvania did the same in 1921.

According to the State Education Laws, "Only a person licensed or otherwise authorized under this article shall practice engineering or use the title "Professional Engineer". A person licensed is an individual that has qualified by education, experience and examination and has been issued a State Professional Engineering License by the Education Department. A license to practice Professional Engineering can only be issued to an individual person, and can never be issued to a business entity of any kind.

So, returning back to the title and opening sentence of this article, here is an example of a Professional Engineer Corporation Seal:

Name of General Business Corporation

Number less than 150

Within the last year, we have seen this type of seal on Engineer Reports, Shop Drawings, Planning and Construction Documents. This Corporation PE seal should never be used on these types of documents, as will be further explained in this article.

Education Law requires that all business entities (not individual licensees) legally permitted to provide professional services obtain a "Certificate of Authorization" from the State Education Department. The businesses must be in the form of a professional service corporation (PC) or similar type of professional partnership (PP). The law explicitly prohibits any general business corporation (Inc.) from engaging in the practice of professional engineering, with one exception. There is one special class of general business corporation that may legally provide professional engineering services. These are general business corporations that on April 15, 1935, and continuously thereafter, have lawfully engaged in the practice of professional engineering and whose chief executive officer is a licenced professional engineer under the laws of the State. These types of businesses are often referred to as "grandfathered corporations". Hence, there still remains some of the oldest engineering companies with the grandfathered corporation professional

engineer stamps. Frankly, for many years no one questioned the validity of this seal when it was fixed on construction documents and was accepted as an equal. The fact is that it has never been an admissible substitute in concurrence with State Law.

The term "grandfathered corporation" relates to how the firm was formed and does business as it related to the special provisions of the State Law. The grandfathering does not permit the use of the corporate seal as the required Professional Engineer seal on any construction document, addenda, report or miscellaneous paper work.

So, if you ever receive a document fixed with a Professional Engineer Corporate Seal, send it back to the consultant and request the seal and signature of a licensed and duly registered individual from your State.

Developing Within a Floodplain in Pennsylvania

By: Chris Ernst, P.E.

This article gives key information to assist individuals, businesses or municipalities looking to develop in an area that has been defined as a floodplain. The key information is as follows:

A. Definitions[1]:

Floodplain – The lands adjoining a river or stream that have been or may be expected to be inundated by floodwaters in a 100-year frequency flood.

100-Year Frequency Flood – The flood magnitude expected to be equaled or exceeded on the average of once in 100 years; it may also be expressed as the flood having a 1.0% chance of being equaled or exceeded in a given year.

Floodway – The channel of the watercourse and portions of the adjoining floodplains which are reasonably required to carry and discharge the 100-year frequency flood. Unless otherwise specified, the boundary of the floodway is as indicated on maps and flood insurance studies provided by FEMA. In an area where no FEMA maps or studies have defined the boundary of the 100-year frequency floodway, it is assumed, absent evidence to the contrary, that the floodway extends from the stream to 50 feet from the top of the bank of the stream.

B. Authority

Most communities have a Floodway Management Ordinance in place that allows them to regulate how development will occur within a floodplain. The ordinance takes effect when an individual or business submits a building permit application and/or land development plan to the municipality for review and approval. The most critical piece of information that the municipality will look for will be the elevation of the first floor of the proposed structure and how this elevation correlates to the elevation associated with the 100-year frequency floodwater surface elevation. Typically, most municipalities will require the first floor elevation to be 12"-18" higher than the 100-year frequency floodwater surface elevation. The typical ordinance will also control the type of materials that may be located in a floodplain and as to what elevation hazardous materials must be stored at to protect human life and the environment.

The portion of the floodplain defined as the floodway is regulated by the state through the Pennsylvania Department of Environmental Protection (PADEP) and the federal government through the Army Corps of Engineers (ACOE). The municipal Floodplain Management Ordinance is superseded in the floodway and an individual, business or municipality will need to submit a joint permit application package to the PADEP and ACOE requesting permission to develop within a floodway. The above regulatory agencies will most likely require the applicant to submit a Hydrologic & Hydraulic analysis as part of the application package to prove that their development will not create any negative impacts by increasing the water surface elevations during flood events.

A municipality that is planning to develop within a floodplain within their jurisdiction must receive approval from the PADEP and ACOE prior to construction. In other words, a municipality cannot self-regulate its own activities within a defined floodplain.

C. Insurance

A very important issue to review when developing within a floodplain is whether or not you will need flood insurance. Financial institutions will most likely require an individual, business or municipality to acquire and maintain flood

insurance for the life of the mortgage unless the applicant is able to prove that their development is not within the floodplain. If the proposed development is within the floodplain, there are measures in place to avoid the purchase of flood insurance as long as certain criteria established by FEMA is met. In order to prove that the development meets the criteria, the developer will need to have a Professional Engineer or other qualified professional make a submission to FEMA for their concurrence.

The key information that FEMA will be looking for in a submission will be the height of the finished floor elevation of the proposed structure, the height of the ground adjacent to the proposed structure and the water surface elevation associated with the 100-year frequency flood. The adjacent ground is defined as all ground touching the proposed structure including any attached decks or garage. For FEMA to remove the Special Flood Hazard Area (SFHA) designation from a proposed development (and thus removing the need for flood insurance), the lowest adjacent ground elevation will need to be equal to or higher than the 100-year frequency water surface elevation. This is an important fact since the developer may need to install a substantial amount of fill material in order to meet this requirement.

Guidance on the requirements associated with developing within a floodplain may be found at FEMA's website at the following links:
www.fema.gov/library/viewRecord.do?id=1723
www.fema.gov/library/viewRecord.do?id=1492

Please contact our office if you have any questions in regards to the necessary steps that must be taken to develop a piece of land that has been determined to be located within a floodplain or floodway.

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1. Commonwealth of Pennsylvania, Pennsylvania Code, Title 25, Chapter 105, Dam Safety and Waterway Management

Pennsylvania Liquid Fuels Roads

By: Allan R. Vanderpoel, P.E.

Probably one of the more confusing issues to the local Pennsylvania Municipalities has to do with how to qualify new roads for liquid fuels reimbursements. Increasing the municipal road mileage on liquid fuel road credit will increase the reimbursement from PennDOT, a very easy way to generate more road maintenance funds.

In order to qualify a road for liquid fuel funding, certain requirements must be met. These requirements are:

- The road must have a minimum speed limit of 15 mph in a conventional two-wheel drive vehicle.
- The roadway must have a minimum 33-foot right-of-way, and a 16 foot width cartway (the cartway is the traveled portion of the roadway, not including the shoulder).
- The road must have a minimum length of 250 feet.
- The road must be connected to an existing liquid fuel road or state highway.
- The road must meet base/surface requirements of PennDOT.

If the road is a dead end, it must also meet the following cul-de-sac requirement:

- Roads constructed after January 1, 1980 must have a minimum 40 foot radius cul-de-sac. Roads constructed before this date are exempt from the cul-de-sac requirement. PennDOT may also consider an exception to the cul-de-sac if the municipality submits a letter accepting responsibility for the lack of a turn-around.

The following documentation is needed for the roads to qualify:

- A deed of dedication of the road.
- A survey showing the exact location of the road.
- An ordinance or resolution accepting the road.

If a road is more than 20 years old, it may qualify to be included easily on the liquid fuels system with a minimum of paperwork.

Call us if you have any questions about the liquid fuels requirements. We can help you determine if your road qualifies, and we have a format set up to show all the information PennDOT requests for the survey of the road. A small amount of up front work will result in a reimbursement that continues forever.

New York Scholarship Winner Announced

E&M Engineers and Surveyors, PC is pleased to announce the winner of its annual college scholarship. The winner of the $1,000.00 scholarships is Allison Hrycik of Colden. Allison graduated from Springville Griffith Institute Central School District in Springville and is attending Cornell University this Fall. She will be pursuing a Bachelor's degree in Civil and Environmental Engineering. The purpose of the scholarship is to encourage High School students to pursue a career in the field of Civil Engineering or Land Surveying.

Pennsylvania Scholarship Winner Announced

E&M Engineers and Surveyors, PC has awarded its annual $1,000 college scholarship to Ethan Skrzypek of Kersey. Ethan graduated from St.Mary's Area High School and is attending Penn State-DuBois this fall to pursue a Bachelor's degree in Civil Engineering.

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