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Pennsylvania State Wide Building Code

By: Al Vanderpoel, P.E.

In November of 1999, Act 45 was passed into law by the Pennsylvania General Assembly. As far as the construction industry is concerned, Act 45 may be the most significant legislation to come along in many years. Act 45, of course, is the Statewide Building Code.

First, the good news is that almost every other state in the nation has a building code, and it works. Most inspections are timely and if scheduled in advance, the inspections fit in well with the work progress. Some states have provisions that if an inspection is requested and not done in 48 hours, construction can continue. Individuals who I have talked to from other states do not see the building code as any more than a minor interruption of work, and all feel it is a good way to eliminate unsafe building practices.

The bad news is that the initial implementation will be difficult. The statewide building code has yet to be put into effect, and the first projects under the new code may find confusion. There are a number of unknowns that will need to be answered in the coming months. Probably the biggest question is what changes will take place in the plan reviews.

We do know that the Department of Labor and Industry no longer provides same-day plan approval with walk-in reviews. Reviews will continue by L & I through the mail-in process until the State Wide Building Code is implemented. Currently, it takes four to five weeks for a mail-in review, and again that amount of time if revisions are required. After implementation, those

municipalities who “opt in” will do their own reviews, and those who “opt out” will continue with the current system. Inspections will then follow as construction progresses.

The bottom line is that the state wide building code is not going away. Once we get over the implementation hurdles, it will be a benefit to Pennsylvania by eliminating shoddy construction. We do not have all the information we need at this time to answer questions about enforcement of the code, but we will find these answers and pass them along to you as we learn of them.

Two New Athletic Fields in the Bradford Area

By: Christopher Ernst, PE

The Bradford Area School District Athletic Department and other sports organizations in the City of Bradford and the surrounding communities will have two new fields available to them sometime this year. The first one will be a new multi-purpose field that will be located at the intersection of Poplin Avenue and the Willard Avenue Extension within Bradford Township. The field will be used primarily by the high school teams as a practice facility and will also be used for hosting events such as youth soccer and football. The second field will be a “Big League” size baseball field that will be located adjacent to the existing “Jim Gleason Ball Field” in the Tuna Cross Road Park in Foster Township. A more in-depth look at each of the proposed fields is as follows:

Poplin Avenue Athletic Field:

The City of Bradford Office of Economic and Community Development spearheaded the effort to make the construction of this field a reality. The lack of adequate practice space for the high school football team was the major catalyst for this project. The football team used to have to practice on one of the baseball fields in Callahan Park or on the main football field. Both of these scenarios were undesirable due to the damage that was done to the fields. The baseball field would need extensive work done to it before each spring season and the football field would really show the ill effects of having both practice and games on it by the end of the season. The Bradford OECD saw an opportunity to improve this situation by constructing a facility on property owned by the City within Bradford Township. The land is located within sight of the existing football field and within walking distance from the school. Even though the field's primary use will be as a practice facility for the high school, it will also provide another place for youth sport organizations to hold their events as well. The proposed facility will be a turf field that will have a sprinkler system for irrigation and will provide approximately 26 regular parking spaces and 2 handicap accessible spaces. The project is being funded by a DCNR grant that was obtained by the OECD under the Community Conservation Partnerships Program, a CDBG grant, the Bradford Area School District and a financial contribution by the Zippo Corporation. The project has been bid and Duffy, Inc. of Smethport, PA was awarded the contract with a bid price of approximately \$183,000. Bradford Township will also be contributing by constructing a portion of the project. The anticipated construction completion date is June 30, 2004.

Tuna Cross Road Baseball Field:

The Foster Township Supervisors have been making great strides in improving the Tuna Cross Road area. These improvements include removal and disposal of thousands of tires that had been left on land that was acquired by the Township, the planning for a new bridge that will carry Tuna Cross Road over the Tunungwant Creek (construction of this bridge is scheduled for 2005), and the proposed improvements for the Tuna Cross Road Park. The park will be improved by

construction of a parking lot that will accommodate approximately 94 regular parking spaces and 4 handicap accessible parking spaces, the construction of a pavilion and new playground and the installation of a new "Big League" size baseball field.

The new field will have the appropriate dimensions for a high school game, legion game or for the area adult leagues. The field will also be oriented as prescribed by regulations to minimize sun interference. Drainage will be installed under the new field and accessible paths will be constructed along with new bleachers. This field along with the other park improvements are being funded by a \$53,000 DCNR grant that was obtained by Foster Township under the Community Conservation Partnerships Program and by Foster Township. The construction of the park improvements will be completed by the Township, volunteer labor and possibly a portion may be bid out to contractors. The field and the other improvements will be completed by the end of this year.

These two new fields demonstrate what can happen for communities that tap into the resources that are available to them. Please contact our office for information on how your community can make these or other types of improvements with the assistance of state and federal money that could be made available to you.

SAFETY-KLEEN SYSTEM, INC.

Buffalo, New York Facility

by Jeffrey C. Bahret, PE

The facility's operations include the removal of water from used oil and treatment of non-hazardous oily wastewater. The facility currently processes about 25 million gallons of used oil and wastewater per year. Most of the oil processed by the facility is sent to Safety-Kleen's oil refineries in Breslau, Ontario and East Chicago, Indiana. Pre-treated wastewater from the process is discharged to the Buffalo Sewer Authority sanitary sewer.

The facility operates 24 hours per day and 7 days

a week. The average volume of wastewater treated is 40,000 gallons daily. The POTW permit allows 147,000 gallons/day discharge from the facility.

This project was to install a new Dissolved Air Flootation Unit (DAF) to add to the facility's wastewater treatment capability and to meet the new US EPA's CWT pretreatment standards.

The DAF unit includes the following sub-systems: flotation tank, contact chamber, skimming removal system, effluent discharge and re-circulation system air dissolving pipe. The specifications for each sub-system are described as follows:

The unit consists of a flotation tank constructed of corrosion resistance coated carbon steel or 304 stainless steel plate and reinforced with corrosion resistance coated carbon steel or 304 stainless steel tubular vertical wall structural supports and horizontal cross member supports. The unit is supported on a stainless steel base consisting of horizontal beams across the width of the unit and a continuous beam structure down both sides of the length of the unit. The base is constructed to allow for easy cleaning around and under the unit.

Influent wastewater enters the DAF unit through a flanged influent header into the contact chamber. The recycle stream is injected into the header nozzle prior to entry into the unit, and the recycle stream mixes with the influent. The contact chamber serves as an internal weir which provides even distribution and mixing of the process flow across the width of the unit. The contact chamber has a separate drain for removal of heavy solids which settle in the chamber.

The unit is equipped with a chain and flight top skimmings removal system driven by a low speed, gear motor assembly. The top skimmer system shall consist of double strands of 304 stainless steel double pitch roller chain, guided by UHMW shoes on stainless steel angle. The chain supports adjustable, reinforced SBR skimmer blades retained on 304 stainless steel or

fiberglass angle plates with stainless steel fasteners. The skimmer blades are spaced approximately every 5 ft. along the chainlength.

The chain system operates on single duty, carbon steel sprockets mounted on 303 stainless steel shafts turning in adjustable bearing supports. The system is driven by a variable speed drive (VFD) with a TEFC motor through a chain and sprocket system. An adjustable torque limiter with automatic re-engagement shall be installed to protect the equipment in case of overload. Adjustable timer controls are installed to provide for intermittent skimmer operation which allows for flexibility in the removal of skimmings from the unit. Sprocket guards are provided for all four skimmer chain sprockets.

The bottom trough is segregated from the effluent flow by a vertical baffle. A second vertical baffle directs the clarified effluent up into the header box and through an adjustable weir system. The weirs shall be adjustable and allow for up to 5" of vertical travel to determine the optimum liquid level in the unit, and they are designed to provide minimum fluctuation of the tank liquid level with the variation of influent flow. Clarified effluent overflowing the weirs collects in an internal trough and is discharged through a flanged nozzle.

Clarified wastewater from the discharge is recycled through the unit by a centrifugal pump designed to operate at pressures in excess of 85 psi. The pump features a cast iron casing, stainless steel shaft and bronze impeller, mechanical seals and a 460 V/3 ph/60 Hz/TEFC motor. Air is supplied into the recycle stream via an eductor loop from the discharge of the pump to the pump intake, drawing in ambient air and forcing it into solution with the recycle stream under pressure from the pump. Compressed air is added through this system via plant air. All recirculation piping is Sch80 PVC.

A 304 stainless steel air dissolving pipe rated for 125 psi is equipped with an automatic pressure safety relief valve. Liquid level in the ADP is automatically maintained by an air release valve with an in-line equalizer. Discharge pressure

from the recycle pump and the ADP is controlled by a diaphragm control valve with a EPDM diaphragm and a position indicator and a series of secondary whitewater injection points through stainless steel ball valves.

A liquid filled pressure gauge was provided for monitoring recycle pressurization performance. The ADP was equipped with a ¾" bottom drain valve and a 4" x 6" removable handway for inspection and servicing. The recirculation pump and ADP tank was mounted to the flotation tank.

