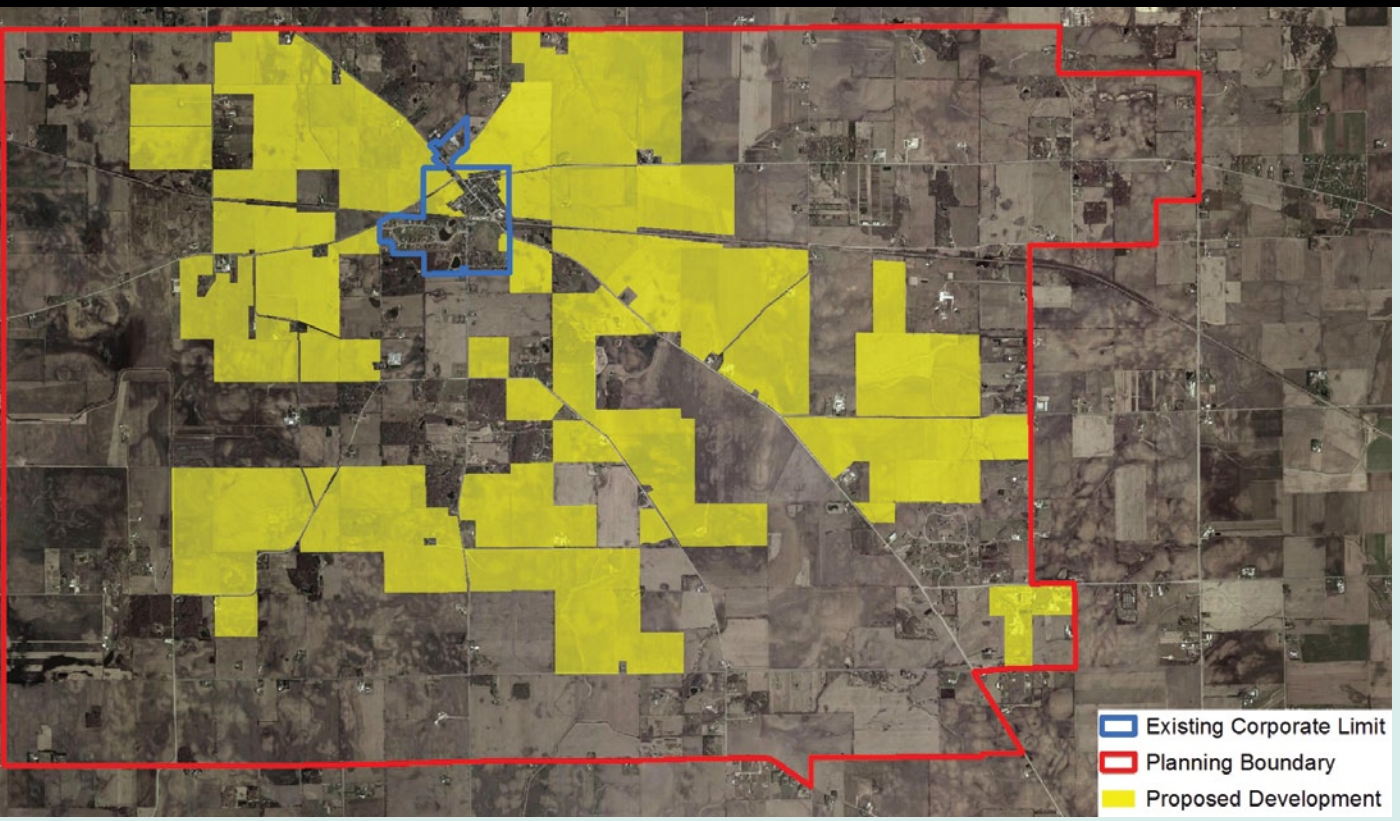
IN THIS EDITION

Fall/Winter 2007



▲Pre-Detailed Floodplain (Zone A) Study
▼Post-Detailed Floodplain Study

Protecting Floodplains

Background:
The Village of Burlington, a small rural community located in northwestern Kane County, Illinois, is on the verge of a significant development boom. In 2006, the Village of Burlington covered an area of approximately 0.35 square miles and had a population of 452. Year 2030 projections indicate a Village area covering 7 square miles with a population of approximately 28,000.

Having witnessed the devastating regional flooding of 1987 and 1996, the Village decided to integrate floodplain management into their coordinated infrastructure planning. The primary initiative of this effort was to perform detailed floodplain mapping of the tributaries in their jurisdictional planning area.

Funding:
Facing a lack of funding, the Village negotiated "up-front" funding of these floodplain management studies in annexation agreements with key developers who would benefit from the study results.

Mapping:
A total of four watersheds were studied consisting of Burlington Creek (11.96 square miles), West Branch-Burlington Creek (0.87 square miles), Virgil Ditch No. 3 (7.65 square miles), and Coon Creek (6.61 square miles). HEC-HMS was used for the hydrologic analysis of the watershed and HEC-RAS was used for the hydraulic analysis of the streams. The resulting floodplain and floodway boundaries were then delineated using ArcGIS with Countywide 2-foot interval contours serving as the basemap.

Development Criteria:

- All floodplains to be contained within conservation easements with a minimum filtration buffer distance, to be determined by the quality of the stream corridor
- Stream corridor enhancements required for impaired stream reaches as determined necessary by the Village
- A best management practice (BMP) minimum requirement plan to be established for each development on a site condition specific basis
- All storm sewers to daylight prior to entering the floodplain conservation easement
- Reducing the use of storm sewers in favor of bioswales/vegetated swales
- Promoting the use of naturalized detention
- Promoting native landscaping in-lieu of traditional turf grasses

Planning for the Future:

To ensure the long-term value of the special management areas to be protected, the Village is establishing a Special Service Area (SSA) for each new development annexed into the Village. The SSA funds will be specifically directed to surface water and watershed maintenance improvements.

Summary:

The Village of Burlington was proactive in developing an approach to protect the function and value of the floodplains within the Village planning area. By defining goals and identifying, educating, and involving stakeholders early in the process, the Village established a framework for the long-term management and maintenance of a valuable community resource.

If you have any questions or would like more information on this topic, you may contact Jay Nemeth, P.E. at (630) 466-9350 or jnemeth@eeiweb.com. ■

Have a Sewer Rehabilitation Project? Consider CIPP

Municipalities struggle to maintain deteriorating sanitary sewer systems. Issues of structural stability, inflow and infiltration, and the ability to handle required flows are prevalent. The traditional solution, removal and replacement, is still widely used today, however several trenchless technologies exist, reducing ground and resident disruption and costs. One of these trenchless technologies is cured-in-place pipe (CIPP) lining.

CIPP lining is a thermal resin saturated flexible felt woven liner that is inserted into the existing sewer pipe and cured with hot water or steam. After the liner has cured a small robot with televising equipment and a cutting tool travels through the pipe to cut out existing sewer services and re-introduce flow.

In one day, approximately 800 lineal feet of CIPP liner can be installed and fully operational in a typical residential subdivision. Additionally, this technology does not require large or destructive machinery and can be utilized for repairs without disturbing ecologically sensitive areas. CIPP liners, independent of the original pipe, are structurally stable and have a 100-year design life. While flow area loss exists, the liner's smooth wall typically maintains or slightly increases sewer capacity. Further, the liner eliminates the need for frequent cleaning of pipes with root problems.

To find out if CIPP lining is the best alternative for your rehabilitation efforts or obtain more information about this technology please contact Scot Prindiville, P.E. at (847) 683-3100 or sprindiville@eeiweb.com. ■

▲CIPP lining being steam cured

▲CIPP lining installed in sewer pipe

"The use of CIPP lining, instead of removal and replacement, for the rehabilitation of 6,685 feet of sanitary sewer in the Village of Carpentersville resulted in a savings of approximately $714,000."

Brad Sanderson, P.E., Vice President, EEI

Enterprises Challenge

Trivia, brainteasers and more...

The Enterprises Challenge will take place in each issue. The format for winning the "Enterprises Challenge" has changed from previous newsletters. Every correct answer submitted before February 1, 2008 will be entered in a drawing for a $100 American Express gift card.

Send your answers to Ben Jessup at bjessup@eeiweb.com or fax your answer to 630-466-9380, attention Ben.

Q In 1920 which city in the United States was first to erect an automatic stoplight?

Spring/Summer 2007 Challenge

Q What Chicago landmark, built from Joliet limestone in 1869, was one of the few buildings to survive the Great Chicago Fire of 1871?

A Chicago Water Tower

Contact the Editor

You may contact the editor at:
bjessup@eeiweb.com

Did You Know?

At the Illinois Section American Water Works Association Annual Conference in Springfield, Illinois, March 11-13, 2008, Timothy P. Farrell, P.E., Senior Project Manager and Stephen T. Dennison, E.I., Project Engineer of EEI's Environmental Group will be presenting, *'Mt. Simon Says'*. The presentation will discuss the need for additional potable water sources and the potential of utilizing the Mt. Simon sandstone aquifer of the Cambrian system.

Kevin S. Bomstad, P.E., Senior Project Manager and Michele L. Piotrowski, P.E., Senior Project Engineer of EEI's Civil Group will be presenting *'Water Storage: Are You Keeping Up?'*. The presentation will review the four key components a community should periodically review and analyze to ensure preparation for aging infrastructure, re-development or new growth.

If you are attending the Illinois Section American Water Works Association Annual Conference in Springfield, Illinois stop by our booth 800a. If you are unable to attend the conference, or would like more information on either of these presentations, you may contact any of these individuals at 630-466-9350. ■

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