

Enterprises

IN THIS EDITION
Spring 2009

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Special Achievement Awards

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Knowledge

Did You Know?

Enterprises Challenge

EI Wins Two ACEC-IL Special Achievement Awards

Engineering Enterprises, Inc. (EII) won two Special Achievement Awards for the project "Protecting Floodplains in Advance of Development" for the Village of Burlington, and for the project "Hampshire Wastewater Treatment Facility Expansion" for the Village of Hampshire. Special Achievement Awards are given for projects "worthy of special recognition of the engineer and the owner/client for achieving engineering excellence."

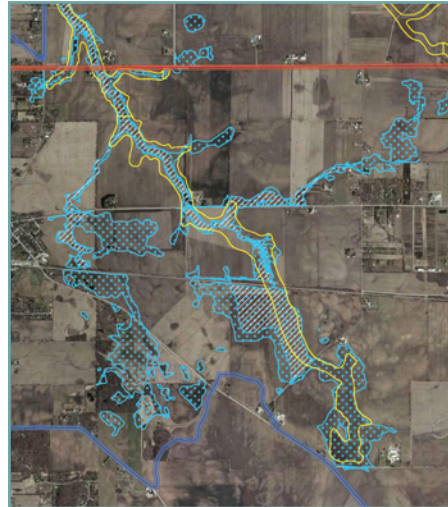
Forty-six Illinois firms were recognized for excellence in engineering before an audience of over 400 engineers, clients and government officials at the ACEC-Illinois' Thirty-Eighth Annual Engineering Excellence Awards Competition Luncheon, held February 13, 2009, in Chicago, Illinois.



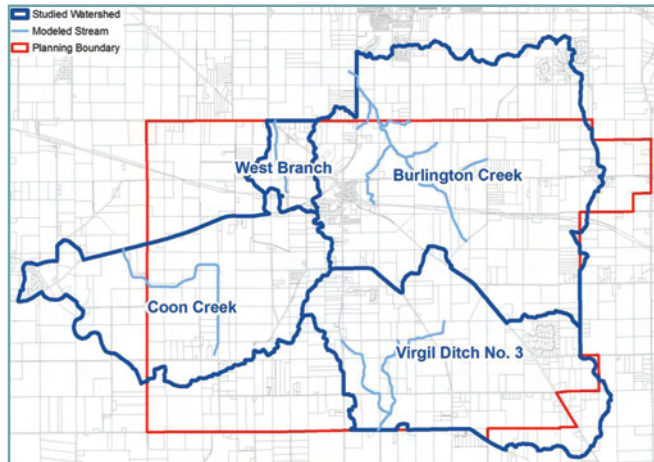
Protecting Floodplains in Advance of Development

Having witnessed neighboring communities become devastated by flooding, the Village of Burlington and Engineering Enterprises, Inc. (EEI) took a proactive approach to protect the floodplains within the land area to be included within the future corporate limits of the Village.

EEI conducted comprehensive floodplain studies and mapping of the entire Village planning area. Innovative short-term and long-term funding strategies were developed to pay for the initial study and for future stormwater and floodplain maintenance and improvements. The comprehensive hydrologic and hydraulic analysis, and future development planning promoting sustainable development, conservation design and the protection of natural resources within the Village of Burlington will protect the floodplain now and into the future.



Map of Floodplain and Floodway study



Tributary planning area for the comprehensive floodplain study

Hampshire Wastewater Treatment Facility Expansion

Engineering Enterprises, Inc. (EEI) provided planning, design and construction engineering services for the Village of Hampshire 1.5 MGD Wastewater Treatment Facility Expansion project. The goals of the project were to cost-effectively increase capacity of the existing facility, plan and design for future expansion, and take steps to remove Hampshire Creek from the Illinois Environmental Protection Agency (IEPA) 303(d) list for environmentally impaired waterways.

EEI reused existing buildings by retrofitting with new unit processes to reduce construction costs and environmental impacts. Unit processes were designed to be energy efficient through the use of components such as variable frequency drives (VFD's), and all unit processes and the facility site were designed for future expansion. Unit processes including tertiary treatment, and advanced treatment including a polishing wetland were designed to ultimately remove Hampshire Creek from the IEPA 303(d).



Inside of retrofitted chemical feed system building



Aerial photo of polishing wetlands

Spanning your Bridge Knowledge

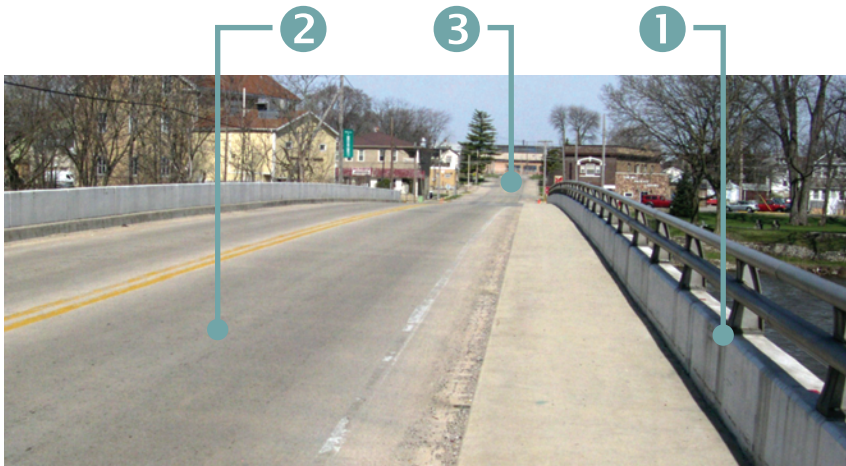
Have you ever wondered what a bridge was made of as you drive across it? Or maybe your latest crossword puzzle needed a four-letter word for a part of a bridge that supports the structure (the answer is a “pier”). To improve our crossword puzzle mastery or to just improve our bridge lexicon we turn to the newest member of the EEI team Dave Bronars, P.E., S.E. Dave brings 25 years of experience to his new role managing the structural engineering of transportation, water, wastewater, civil and environmental projects. Specifically, he brings extensive knowledge and experience in the planning, design and construction, and inspection and rehabilitation of road and railroad bridges. Bridges are comprised of two basic components, the Superstructure and the Substructure. The Superstructure and the Substructure are comprised of Parapets, Bridge Deck, Approach, Abutments, Bearings and Piers.

Bridge Superstructure is defined as those portions of the bridge, which include and are above the bearing devices. A partial list may include some or all of the following items: bearings, beams or other structural members, diaphragms, parapets, deck joints, sidewalks, handrails, and lighting.

1) Parapets are the bridge rails, steel or concrete that prevents vehicles from driving off the side of the bridge.

2) Bridge Deck is that portion of the bridge that contains the roadway portion, including the shoulders.

3) Approach spans are generally concrete slabs that transition the roadway surface to the bridge deck. These slabs may be supported on the soil beneath or span between a grade beam and the abutment.



Bridge Substructure is defined as those portions of the bridge below the bearings and may include such items as the piers, abutments, wingwalls, and footings.

4) Abutments are the foundation or substructure elements located at the ends of the bridge and support the transition between the approach slab and the bridge deck.

5) Bearings are in general a device that separates the superstructure from the substructure by supporting the ends of the beams at the piers and abutments.

6) Piers are the intermediate supports of the superstructure between the abutments. These may contain individual or multiple columns, walls, or piles. They may be constructed from concrete, steel, timber, or prestressed concrete elements.

To discuss any future bridge needs or maybe even for assistance with your next crossword puzzle, contact Dave Bronars, P.E., S.E., Structural Engineering Group Leader at: (630) 466-6700 or dbronars@eeiweb.com



Enterprises Challenge

Trivia, brainteasers and more...

Every correct answer submitted before May 15, 2009 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 630-466-6701, attention Ben.

Q What is the longest suspension bridge in the United States?

Spring / Summer 2008 Challenge

Q What Illinois City has an authentic, working Dutch windmill that was featured on a 1980's U.S. stamp?

A Geneva, Illinois

Contact the editor at:
bjessup@eeiweb.com

Did You Know?

2009 will mark the 35th Anniversary of Engineering Enterprises, Inc. (EEI). James K. Michels, P.E., CEO started EEI in a small office in Elburn, Illinois with two employees. Today EEI has grown to have a corporate office in Sugar Grove, Illinois and a branch office in Hampshire, Illinois with more than 55 experienced firm members including: licensed professional civil/structural engineers and land surveyors, LEED Accredited Professionals, and support team members. EEI provides a full range of services for planning, design and construction of infrastructure projects, including grant and funding assistance. Our expertise includes transportation, structural engineering, water, wastewater, stormwater management, construction management, professional land surveying and GIS.

35th Anniversary



**Engineering
Enterprises,
Inc.**

52 Wheeler Road
Sugar Grove, Illinois
630-466-6700

44W110 US 20
Hampshire, Illinois
847-683-3100

