

Blacksnake Creek Stormwater Separation Improvements Public Meeting Summary



Oct. 9, 2014

Lindbergh Elementary School gymnasium

2812 St. Joseph Ave.

City of St. Joseph, Missouri

5:30 p.m. – 7:00 p.m.

City of St. Joseph Public Works and Transportation Director, Jody Carlson, introduced himself to the audience and said he appreciated everyone's attendance.

Sheila Shockey, Shockey Consulting Services, announced the meeting format for the evening. She said the City of St. Joseph wants to hear from residents in the preliminary stages of the Blacksnake project and as the project progresses. Ms. Shockey identified the speakers who would be presenting, and said that there will be opportunities to talk with them and others following the presentation. Those presenting included Page Burks, Black & Veatch Engineering Manager; Christina Ostrander, U.S. Army Corps of Engineers Project Manager; and Matt Schultze, Black & Veatch Project Manager. Ms. Shockey pointed out the locations of stations to obtain more detailed information and ask questions following the meeting. She introduced Ms. Burks.

Project Goals and Background

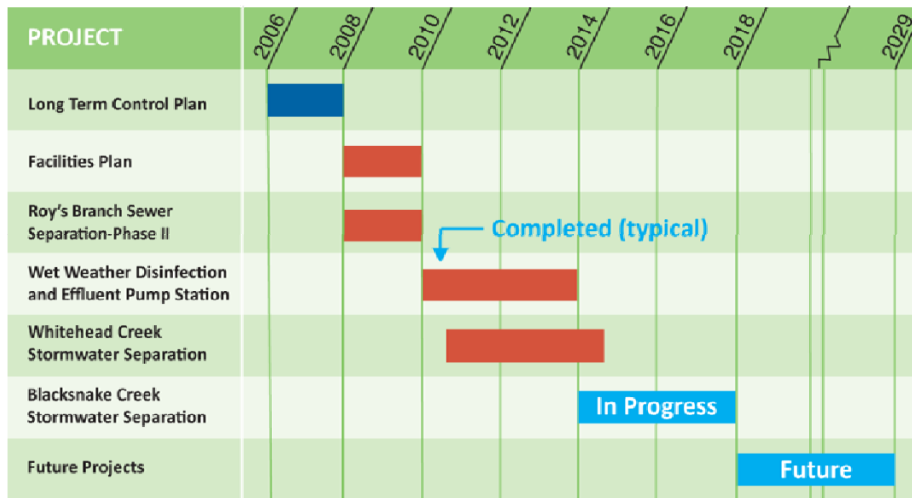
Ms. Burks, Engineering Manager, Black & Veatch, identified the overall goals of the Blacksnake Creek improvements:

- complying with regulatory mandates
- offering improvements with the best value, cost effectiveness to the city
- restoring the corridor; putting things back better than we found them
- integrating project elements to save money
- getting public input on the project.

Ms. Burks talked about the City of St. Joseph's Combined Sewer Overflow (CSO) Control Program, and explained combined sewers' function, and combined sewer overflows, which occur when it rains. The sewage and stormwater flows enter the same combined sewer pipe in St. Joseph, and these mingled flows are considered combined sewage. During dry weather, all of the combined sewer flow goes to the treatment plant where it is treated prior to being sent to the Missouri River. During storm events, the high volume of stormwater overwhelms the combined sewer as well as the treatment plant and the combined sewage overflows directly to the river, resulting in a combined sewer overflow (CSO).

The goal is to reduce the combined sewer overflows to the Missouri River. The City of St. Joseph has agreed to a compliance plan and a schedule, including nine different projects over 20 years.

**Initial Phase of the Combined Sewer Overflow Program
Consists of Several Projects**



The Blacksnake Creek Stormwater Separation project is required by the Combined Sewer Overflow (CSO) Control Program. By separating the stormwater from the combined sewer, approximately 2 million gallons a day of flow from Blacksnake Creek will be directed to the Missouri River and will not be treated at the plant. In addition to CSO compliance, this will reduce operations and maintenance costs.

The Blacksnake Creek Stormwater Separation Improvements will be integrated with other needed projects in the vicinity – a flood control detention basin at Karnes Road as well as roadway improvements at Karnes Road/Northwest Parkway and Cook Road. Ms. Burks pointed out benefits of integrating different elements in the project area:

- provides the best value and saves money
- provides opportunities for community benefits
- reduces future CSO program costs
(by addressing other easy-to-separate CSO flows, such as from the Corby Pond area).

Ms. Burks shared the design schedule for the stormwater and roadway improvements:

Design Activity/Stormwater & Roadway	Completion Date
Draft Conceptual Basis of Design Report	September 2014
Final Conceptual Basis of Design Report	December 2014
Surveying & Geotechnical Investigations	Spring 2015
Preliminary Design	Summer 2015
Final Design	Summer 2016

Ms. Burks said the project is in the early phases of the design process and all plans are still concepts at this point. The survey work is scheduled for November 2014 and geotechnical investigations would likely occur in the spring of 2015. The field investigations are required to develop more defined preliminary and final design drawings.

Transporting Stormwater

The methods to transport stormwater have been evaluated at different ranges of flows, such as those during combined sewer overflows or during a 100-year rainfall event. Stormwater can be moved near the surface with a buried pipe, buried box culvert or an open stream channel. It can also be transported with a tunnel, up to 175 feet deep.

Moving the stormwater near the surface would begin at Karnes Road and flow south in the area of the abandoned railway corridor east of St. Joseph Avenue. Ms. Burks showed a topographical illustration with a tunnel, which would likely be used to convey stormwater west to the Missouri River. Tunneling is an effective way to move the stormwater beneath existing infrastructure and challenging topography, such as the river bluffs in this area. Impact to the community would be minimal, occurring only at the entrance and exit of the tunnel. She also showed photos of a working shaft, such as what will be located near the Missouri River, and a tunnel boring machine used to mine the tunnel. The selection of the stormwater conveyance technology will be determined in the preliminary design.

The project team evaluated five different alignment corridors within the Blacksnake Watershed, from Cook Road in the north to Francis Street in the south in an effort to achieve these goals:

- minimize the project cost and the maintenance cost
- minimize private property acquisition
- maximize opportunities for cost-effective community enhancements
- provide the ability to incorporate Corby CSO flows.

An alternative analysis looked at economic and criteria-weighted non-economic factors to determine the “best value” alignment for the City. The non-economic criteria were weighted as follows: functionality, 35 percent; community, 30 percent; sustainability, 20 percent; and constructability, 15 percent.

The City of St. Joseph hosted several events asking the community for their input about community enhancement opportunities and goals for the Blacksnake Creek project. The top four project goals indicated by public input were: growth and development, flood control, ground water and surface water, and safety.

Ms. Burks said the Highland Avenue alignment provides the greatest value to St. Joseph based on an analysis considering economic and non-economic factors.

Detention Basin

Christina Ostrander, Project Manager, U.S. Army Corps of Engineers (USACE), said USACE has worked a number of years on a flood control feasibility study for the project area. She showed the potential location for the detention basin at Karnes Road. She said approximately 140 structures are affected when there is water overtopping at Karnes Road.

Ms. Ostrander presented a recommended plan for the detention basin which includes:

- constructing a dry detention basin with approximately 440 acre-feet of storage
- significantly reducing the flood risk for the St. Joseph Avenue corridor
- preventing an estimated \$3 million in annualized economic flood damages
- minimizing risk for approximately 100 structures from a 100-year flood
- working efficiently in coordination with other City plans to maximize benefits to the area.

This would provide detention for up to a 25-year storm event, saving up to \$3 million in annualized assessed damages and minimizing flooding for 100 structures.

Ms. Ostrander said the next steps for the detention basin include:

- completing the technical review of the draft feasibility report
- publishing the report for public review and incorporate comments as appropriate
- completing the project design in approximately 2015-2016
- constructing the basin in 2017-2019.

Following determination of final details, the USACE will sign a project partnership agreement (PPA) with the City of St. Joseph.

Ms. Ostrander said recreational features can be included with the basin, but they wouldn't be part of the USACE cost share.

Roadways

Matt Schultze, Project Manager, Black & Veatch

Mr. Schultze said the Metropolitan Planning Organization (MPO) has developed a long-range transportation master plan, including roadways and trails. The City of St. Joseph is integrating roadway

improvements in this project through the 2013 Capital Improvements Sales Tax funds. The goal is to enhance public safety and traffic flows. There are also stormwater hydraulic issues associated with the roadways and including them with the stormwater separation project provides additional efficiencies.

Mr. Schultze showed an aerial photograph of the six-way intersection that will be improved to a four-way intersection in the project area near Northwest Parkway and Karnes Road. Road improvements will also eliminate the nearby aging Northwest Parkway bridge in order to resolve bridge maintenance issues. Enhancing the connectivity to Krug Park and the urban trail system is another benefit to including this work in the project, supporting the MPO transportation master plan.

Cook Road is another street improvement that is integrated with the Blacksnake Creek project. The MPO transportation plan identifies rebuilding Cook Road as a future east-west minor arterial roadway in the northern portion of the City and this project is an initial step toward this goal. In addition, the creek is currently funneled into an undersized culvert in this area; the creek will be opened up to improve flow through that area supporting the stormwater separation project.

Opportunities

Mr. Schultze said that the project is addressing these issues:

- putting things back in a better way
- potentially using green solutions to provide function and be an amenity for the community
- integrating project elements to provide efficiencies, such enhancing cost-effectiveness and minimizing community disruptions
- investing in the Northside community
- improving water quality by reducing CSOs and the associated bacteria
- providing improved roadways is important to the community
- working to provide flood control and reduce flood insurance premiums
- exploring opportunities for nature trails, park improvements, coordination with the Remington Nature Center and future possibilities to add detention basin amenities.

Ms. Shockey talked about additional public involvement opportunities in both the spring and summer of 2015. She invited meeting attendees to interact with people at four different stations, including stormwater conveyance alignment selection, detention, potential easements, and green solutions. Project team members were available at each station to write down comments and respond to questions.