

**Programs, Projects & Operations  
Subcommittee Meeting  
February 10, 2009  
6:45 p.m.  
(or immediately following the PLPA Subcommittee)**

**Agenda**

**Programs, Projects & Operations:**

John Conley, Chairman  
Rich Tesar, Vice-Chairman  
David Klug  
Rick Kolowski  
John Schwope

**Alternate Members:** Fred Conley  
Tim Fowler

**Staff Liaison:** Gerry Bowen  
Martin Cleveland  
Amanda Grint  
Ralph Puls \*  
Dick Sklenar

1. Meeting Called to Order – Chairperson John Conley
2. Notification of Open Meetings Act Posting and Announcement of Meeting Procedure – Chairperson John Conley
3. Quorum Call
4. Adoption of Agenda
5. Proof of Publication of Meeting Notice
6. Review and Recommendation on City of Omaha Interlocal Agreement on Cole Creek Project – Gerry Bowen and Nina Cudahay, City of Omaha Public Works
7. Review and Recommendation on Amendment #1 to Professional Services Contract for Dakota County Floodplain Mapping Project – Amanda Grint and Josh Price, PBS&J
8. Review and Recommendation on West Branch Channel Project Low Water Crossing WW7 Repair Project Bids – Marlin Petermann and Terry Morrison, Ehrhart Griffin
9. Review and Recommendation on Papio Creek Watershed Structure W-2 Repair Professional Services Contract – Marlin Petermann and Laurie Carrette Zook
10. Review and Recommendation on Village of Waterloo Levee Improvements – Amanda Grint and John Callen, JEO

11. Update on California Bend Slope Failure – Marlin Petermann, Jim Becic and John Christensen, Thiele Geotech
12. Review and Recommendation on Cooperative Agreement with USA (Corps of Engineers) - West Branch Levee Repair Project - Marlin Petermann
13. Review and Recommendation on Chalco Hills Rec Area Road and Trail Rehab and Improvements Bids – Jerry Herbster
14. Adjourn

## Memorandum

To: Programs, Projects and Operations Subcommittee

Subject: Cole Creek Demonstration Project

Date: January 30, 2009

From: Gerry Bowen

In April, 2008, the District approved an Urban Drainageway Program application for cost share assistance from the City of Omaha on the Cole Creek Stormwater Demonstration Project. The project will improve the reach of Cole Creek between Sorensen Parkway and Hartman Street using predominantly “greener” stormwater management solutions including rain gardens, vegetated swales, increased buffers, and bio-retention cells. The total amount approved for the project was \$851,800.

The City is responsible for all installing the project and to provide all future operation and maintenance of the measures installed.

The attached interlocal agreement allows the District to provide these cost share funds over a period of two fiscal years. The FY 2009 budget includes \$200,000 for this project. It is proposed that the remaining \$651,800 be paid in FY 2010. The proposed payment dates are April 1, 2009 and April 1, 2010.

- **Management recommends that the Subcommittee recommend to the Board that the Interlocal Agreement with the City of Omaha for the Cole Creek Stormwater Demonstration Project be approved, subject to changes deemed necessary by the General Manager and accepted as to form by District Legal Counsel.**

## Memorandum

**To:** Programs, Projects and Operations Subcommittee

**Re:** Amendment #1 to Professional Services Contract for Dakota County Floodplain Remapping Project

**Date:** February 4, 2009

**From:** Amanda Grint, Water Resources Engineer

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In October 2007, the Board approved a professional services contract with PBS&J to develop new and/or updated flood hazard data for county wide DFIRM maps for Dakota County, in an amount not to exceed to \$184,820.50. A federal grant in the amount of \$138,000 had been secured through the Federal Emergency Management Agency (FEMA) for the project. PBS&J has since completed a detailed hydraulic and hydrologic study of two areas of South Sioux City as well as redelineating Approximate A Zones and incorporating updated Missouri River information. The proposed amendment includes three tasks which have been added to the original scope and increases the not to exceed fee by \$26, 600 to a total of \$211,420.50.

First, PBS&J was asked by South Sioux City (SSC) to provide alternative hydrologic and hydraulic analyses in order to reduce the DFIRM Floodway of the Old Silver Lake Creek watershed. PBS&J had performed the proper floodplain and floodway analyses as per FEMA requirements and the draft work map presented to the City. The City objected, stating that they wished to have a smaller floodway within this area due to current and expected development. The City proposed improvements to the drainage way including an increased conveyance system and storage capacity within the channel system to maintain or decrease the predicted base flood elevations. SSC presented these improvements to the Board in December 2008 for cost share under the Urban Drainageway Program. This additional analysis provided economic improvements for the City while also achieving flood damage reduction improvements.

In September 2007 the District entered an agreement with South Sioux City indicating that the City would contribute 50% of the non-federal funded portion of this project up to \$25,000. This agreement is enclosed and has been revised to increase the not to exceed fee to \$31,557 which would include 50% of the initial study as well as 50% of the additional analysis.

Second, during the DFIRM analyses PBS&J learned that on-going hydrologic and hydraulic analyses were being performed by the USGS on Omaha Creek near Homer, Nebraska. The USGS analyses would allow a detailed floodplain and floodway description for Homer, Nebraska. However, the USGS analysis has not been reviewed for FEMA acceptability. Therefore, the District is requesting PBS&J to review, modify as necessary, and incorporate the USGS analyses. This additional service will provide a direct betterment to the floodplain mapping in Homer, Nebraska as well as allow use of work of the USGS to be fully utilized.

Lastly, attendance at a community meeting and a several hours of technical support has been included for post preliminary processing. FEMA, along with their national service provider, and District staff handle most of the work during this phase however, due to the increase in floodplain area in South Sioux City and the addition of the detailed Homer study, it was requested that PBS&J include a fee to support District staff with these tasks.

In conclusion, additional services under Amendment #1 for the Dakota County Floodplain mapping project are estimated to cost an additional \$26,600, increasing the maximum fee from \$184,820.50 to \$211,420.50. A federal grant in the amount of \$138,000 and a contribution from the City of South Sioux City in the amount of \$31,557 leave the District responsible for \$41,863.50 for the project.

- **Management recommends that the Subcommittee recommend to the Board that the General Manager be authorized to execute the enclosed Amendment #1 to the professional services contract with PBS&J for the Dakota County Flood Plain Mapping Project which provides for an increase in the maximum fee to \$211,420.50 and the enclosed Agreement with South Sioux City for flood mitigation and mapping assistance subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.**

## MEMORANDUM

**TO:** Programs, Project and Operations Subcommittee

**SUBJECT:** West Branch Channel Project (84<sup>th</sup> to 96<sup>th</sup> Street)  
Low Water Crossing Site WW7

**DATE:** February 3, 2009

**FROM:** Martin P. Cleveland, Construction Engineer

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In 2006, Ehrhart Griffin and Associates prepared the design for seven low water crossings on seven tributaries to West Branch Channel in 84<sup>th</sup> Street to Giles Road reach. The low water crossings (box culverts) carry the 2 year frequency flood flows and were designed to handle over topping by larger storm events via articulated concrete block slope paving. The low water crossings were constructed by M.E. Collins in 2007 at a cost of \$525,000.

In 2008, the West Branch Channel Project and the associated tributaries experienced multiple high water events in the May-June period. The low water crossings were over topped by West Branch flows and tributary flows. The seven low water crossings performed well over all, with the only exception being Low Water Crossing WW7 (see enclosed location map). WW7 experienced some erosion on the downstream slope of the structure (see enclosed photos). The erosion led to some undermining of the concrete blocks and the loss of a few blocks.

Ehrhart Griffin has prepared two repair options (see enclosed plan sheets). The first option involves adding rock filled gabion at the base of the low water crossing downstream slope and resetting some blocks. The second option involved installing sheet piling at the base of the low water crossing downstream slope and installing a poured in place concrete slab on the lower slope. Enclosed is a bid summary for the January 30, 2009 bid opening. Five bids were received and the apparent low bid of \$22,295 is from Jochim Precast Concrete.

This work will be funded via West Branch Channel Project Contract Work account (Account 0103044479) and as of January 6, 2009, there is \$72,000 left in this account.

- **It is Management's recommendation that the Subcommittee recommend to the Board of Directors that the General Manager be authorized to execute a contract for construction of West Branch Channel Project – Low Water Crossing WW7 Repair Project with Jochim Precast Concrete, for their total base bid of \$22,295 for repair option #2.**

## Memorandum

TO: Programs, Project and Operations Subcommittee

SUBJECT: Papillion Creek Watershed Structure W-2 Repair Project  
Professional Services Contract

DATE: February 3, 2009

FROM: Martin P. Cleveland, Construction Engineer

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The referenced grade stabilization structure (dam) was built in 1972 by the Soil Conservation Service on an unnamed left bank tributary to Big Papillion Creek in Washington County, Nebraska at a location 2 miles north and 1 mile west of Kennard, NE. See attached location map.

Several recent Nebraska Department of Natural Resources Dam Safety Section Inspections have noted pipe distress (elongation of principal spillway joints) and foundation seepage. The elongation of the joints (separation of pipe sections) has reached 2.2 inches at two joints and this is close to maximum elongation permitted by DNR and it is now prudent to repair the joints.

In 2008, HDR Engineering performed a preliminary geotechnical evaluation of the pipe distress and foundation seepage (attached).

The next step in the repair process is to have a repair design prepared, permit applications (section 404) prepared and submitted and construction administration/observation. Attached is a proposed contract with HDR Engineering to provide these services.

This work will be funded via Project Maintenance Professional Services (Account 0103-124400) and as of January 6, 2009 there is \$232,760 left in this account.

- **It is Management's recommendation that the Subcommittee recommend to the Board of Directors that the General Manager be authorized to execute a professional services contract with HDR Engineering for Papio Creek Watershed Structure W-2 repairs for a maximum cost not to exceed \$60,569.**

## Memorandum

**To:** PPO Subcommittee

**Re:** Waterloo Levee Certification Update

**Date:** February 4, 2009

**From:** Amanda Grint, Water Resources Engineer

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In January 2008, the Village signed an agreement with the Federal Emergency Management Agency (FEMA) to designate the Waterloo levee as a Provisionally Accredited Levee (PAL). The PAL designation requires that all necessary documentation to support the levee accreditation will be submitted by January 15, 2010. This allows 24 months for the Village to study the existing levee and bring the levee into compliance or FEMA will take steps to remap the area to designate the Village as a flood prone area without levee protection.

In June of 2008, the Board entered in to an interlocal agreement with the Village to cost share (50/50) on the design of the levee improvements in order to certify the levee. JEO Consulting Group was retained by the Village to perform the study and levee design for \$397,000. They have completed a hydraulic analysis of the Elkhorn River, geotechnical study, and 60% plans for levee improvements to date. During this year of design work the most notable change came from the updated hydraulic analysis on the Elkhorn River which indicated that a railroad bridge had been modeled incorrectly in the published FEMA flood study. The revised study shows increases in flood elevations of 3-4 feet in some locations, creating a substantial change to the length of levee needing to be raised and impacts to the potential costs. The initial rough construction estimate to raise the levee to meet freeboard requirements was \$2 million but now with 60% plans complete the estimate is \$3.8 million. There are several items that are currently being worked out in the design phase which could impact the cost, namely land rights. There is a contingency figured in the estimate and as title work and final design is completed a more refined estimate will result.

On Thursday evening, February 26, the Village of Waterloo will hold a public meeting to update the residents on the progress and inform them of the alternatives (build or not build) and the costs associated with those alternatives. In order to represent the reality of the cost implications for this project, the Village would like an indication of the District's financial participation in the construction of levee improvements if that is the option chosen by the Village. Staff believes that a 50/50 cost share on the construction phase of the project as well would be consistent with District policy and in consideration of upcoming similar projects in the future.

- **It is management's recommendation that the Subcommittee recommend to the Board of Directors that the General Manager be directed to draft, for future Subcommittee consideration, an interlocal agreement with the Village of Waterloo that provides for the equal sharing of the costs of improvements necessary to certify the Village's flood control levee.**



## MEMORANDUM

**TO:** Programs, Projects and Operations Subcommittee

**SUBJECT:** California Bend Environmental Restoration Project – Access Road

**DATE:** January 15, 2009

**FROM:** Marlin J. Petermann, Martin Cleveland, and Jim Becic

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The California Bend site is a 215 acre site that is adjacent to and north of Blair, NE, on a Missouri River West Bank Chute, (Exhibit A). The NRD cost shared on the restoration of this site with the Corps of Engineers and the project was considered complete in 2004 (Exhibit B). At this time, the District assumed responsibility for operation and maintenance of this site. Since that time a high diversity of flora has established and the site is being used by a variety of fish species, avian fauna and furbearers. In 2005, a Recreation Master Plan was developed with the City of Blair to eventually allow public access and low impact recreation (Exhibit C).

In May of 2007, a rain event occurred over-and-above the site that resulted in overland flooding and a quick, yet short lived, rise of the Missouri River. This excessive rain caused several serious erosion concerns along the access road through the site (Exhibits D, E and F). Some sloughing in this area is non consequential to the District, but the threat to the only access road to the upstream end of the project is the major concern.

The Corps of Engineers was consulted regarding the best method(s) of repair. They provided a recommended plan, but they were not able to provide funding assistance.

An Invitation for Bids was published, three bids were received and in May 2008 the Board awarded the Slope Repair/Road Restoration Project to Valley Corporation. The Bid amount was \$57,675. Repair work commenced on May 19, 2008 and ceased on July 9, 2008. The slope failed during initial repair construction and the repair approach was then modified. The slope failed again after additional work was done. At the August 2008 Board meeting, Valley Corporation was approved for total payment of \$186,240.74.

Thiele Geotech, Inc., a geotechnical engineering consultant was hired to evaluate the slope failure and recommend possible options. Attached are copies of the Thiele Geotechnical Exploration Report dated November 22, 2008 and an Addendum #1, dated January 19, 2009.

The soil below the failed slope is soft clay and silt (at least 20 ft. deep as per borings), which provides for a very poor base for any slope reconstruction and low factor of safety.

The options Thiele Geotech, Inc. provided were as follows:

1. Flatten the slope to 20H:1V. This option has a safety factor of 1.22, which is less than desired 1.5.
2. Leave the slope as is and monitor for changes. Minor grading would be required to smooth the grade change between roadway and failed area below.
3. Install driven steel H-piles to help anchor the slope.
4. Install rock trenches to reinforce the soil mass to improve its resistance to slope failure.

Thiele Geotech, Inc. did not provide cost estimates for above options. Options 1, 3 and 4 would require design by a Civil Engineering consultant and perhaps additional geotechnical exploration. It is the staff's opinion that total repair costs could be in the \$250,000 range.

It is Management's plan to leave slope as is and monitor it for changes along with minor grading to allow good access and smooth the area with District equipment (Option 2). If the slope fails again in the future it is likely to occur along the same vertical slip-plane and not likely impact the adjacent landowner initially. Repair designs and construction bids could then be sought to address the situation more permanently.

## MEMORANDUM

**TO:** Programs, Project and Operations Subcommittee

**SUBJECT:** West Branch Levee Repair Project (84<sup>th</sup> to 72<sup>nd</sup> Street)  
Cooperation Agreement with USA

**DATE:** February 3, 2009

**FROM:** Martin P. Cleveland, Construction Engineer

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In May-June 2008 period, the West Branch Channel Project experienced multiple high water events. The cumulative effect of these events was channel bank erosion in many areas. District staff submitted several damage area locations to the Corps of Engineers for possible cost share assistance under the Corps Public Law 84-99 (PL84-66) Program. The referenced project area (see location map) is in the Corps program and the program provides an 80% Federal/20% Sponsor Cost-share ratio for flood related damage repairs. The Corps has designed the repair project and will handle project contracting.

Enclosed is a proposed cooperation agreement between USA (Corps) and the District to allow the Corps to repair the before-mentioned area and for District to provide 20% cost share of construction cost and administration. The Corps Project cost estimate is \$47,248.19 (for construction plus administration) and the District share is estimated at \$9,449.66. Once the project has been bid, we will have more accurate cost figures.

This work will be funded via West Branch Channel Project Contract Work Account (Account 0103044479) and as of January 6, 2009, there is \$72,000 left in this account.

- **It is Management's recommendation that the Subcommittee recommend to the Board of Directors that the General Manager be authorized to execute a cooperation agreement with USA for the West Branch Levee Repair Project.**

## MEMORANDUM

**TO:** Programs, Projects and Operations Subcommittee

**SUBJECT:** Review and Recommendation on Chalco Hills Recreation Area Road and Trail Rehabilitation and Improvements

**DATE:** February 4, 2009

**FROM:** Jerry Herbster, Park Superintendent

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The following projects have been scheduled for the spring of 2009:

1. Walking trail next to boulevard entrance road, from Giles Road to the four way stop (safety issue, as walkers were using the current road way).
2. Blacktop road surface replacement on west loop drive (only section that has not been replaced).
3. Concrete surface on trail over the dam (replace only blacktop surface remaining on trail system).
4. Replace retaining wall at NRC building with sidewalk (safety and maintenance issue).

At the beginning of this project the engineer firm, Sides & Associates, was contacted and retained to do the engineering, as they have done most of the work in the past for the District in this area.

The project was properly advertised in January 2009 and bids were received. The bids for the project were opened on February 3, 2009 at 10:00 a.m. at the District Headquarters located at 8901 S. 154<sup>th</sup> Street, Omaha, NE. There were 8 bids received, and the bids were divided into two categories, as per the engineering firms request; one for the concrete work and one for the asphalt work. The lowest and best bid for the concrete work was Tab Construction for \$105,064.50. The lowest and best bid for the asphalt work was Western Engineering for \$117,752.97. The total project lowest and best bids are \$222,817.40. The engineering estimate for this project was \$236,101.21. There is currently money in the budget for this project.

- **It is staff's recommendation that the bids of \$105,064.50 by Tab Construction and bid of \$117,752.97 by Western Engineering for the total of \$222,817.40 be accepted and awarded.**