



MINUTES
May 13, 2010

I. A meeting of the Shingle Creek Watershed Management Commission was called to order by Vice Chair Wayne Sicora on Thursday, May 13, 2010 at 12:45 p.m., at Lancer at Edinburgh, 8700 Edinbrook Crossing, Brooklyn Park, MN.

Present were: Abiy Assefa, Brooklyn Center; Dean Heng, Brooklyn Park; Janet Moore, Crystal; Karen Jaeger, Maple Grove; Dan Stauner, New Hope; Dawn Swanson, Plymouth; Wayne Sicora, Robbinsdale; Charles LeFevere, Kennedy & Graven; Ed Matthiesen and Diane Spector, Wenck Associates, Inc.; and Judie Anderson, JASS.

Not represented: Minneapolis and Osseo.

Also present: Shelley Schwaninger and Steve Lillehaug, Brooklyn Center; Todd Tuominen, Champlin; Greg Gappa, Crystal; Harlan Van Wyhe and Rick Lestina, Maple Grove; Kevin Springob, Plymouth; Richard McCoy, Robbinsdale; and Robert Marvin, Brooklyn Center.

II. The meeting was suspended at 12:47 p.m. to conduct a **joint public hearing** to take comment on a proposed amendment to the Shingle Creek/West Mississippi Second Generation Watershed Management Plan that adds seven projects to the Capital Improvement Program (CIP), including two in 2010. They are the Minneapolis 37th Avenue Greenway project in the Shingle Creek watershed and the Champlin Stream Stabilization at the Mill Pond project in the West Mississippi watershed. The regular meeting resumed at 1:20 p.m.

Following brief discussion regarding the comments received at the hearing, motion by Stauner, second by Heng to begin the 45-day review period for the **proposed major plan amendment**. *Motion carried unanimously.*

III. Motion by Stauner, second by Swanson to approve the **revised agenda**.* *Motion carried unanimously.*

IV. Motion by Moore, second by Heng to approve the **minutes of the April 8, 2010 meeting**.* *Motion carried unanimously.*

V. Motion by Swanson, second by Stauner to approve the **Treasurer's Report**.* *Motion carried unanimously.*

VI. Motion by Jaeger, second by Moore to approve the **May claims**.* Claims totaling \$123,605.53 were *approved by roll call vote*: ayes - Assefa, Heng, Moore, Jaeger, Stauner, Swanson, and Sicora; nays - none; absent - Minneapolis and Osseo.

VII. Open Forum.

A. Marvin was present to express his concerns re the findings of the **Wetland 639W** reports. He noted that the reports do not talk about why the wetland does not perform as a normal wetland. He queried whether soil borings had been taken and how the wetland could be converted to a healthy wetland. He indicated the reports do not talk about options such as alum treatments and removing some of the soils. Staff noted that this is phosphorus-exporting wetland. Sicora responded there are many

stakeholders, including the airport which is opposed to open water at the site. He also noted upcoming milestones including public meetings and reports to the four cities in the subwatershed. The four cities, Brooklyn Center, Brooklyn Park, Crystal and New Hope, must come together to agree on a cost-share policy for the construction phase of the project. Lillehaug requested Staff to provide a schedule of future activities so that this project can be done this year.

B. Moore noted that the **City of Crystal** is undertaking another road construction project which will incorporate rain gardens.

VIII. Communications.

A. The Commissioners reviewed the **Communications Log**.^{*} No action required.

B. The Commissioners received copies of the Commission's **2009 Annual Activities Report**.^{*}

C. The Commissioners also received the May 5, 2010 **Engineers Report**. It provided updates for various projects underway or upcoming in the Shingle Creek watershed. Matthiesen noted that the second site for the **Paired Intersection Study** will be in Robbinsdale.

IX. Water Quality.

A. Motion by Jaeger, second by Stauner to approve the **2010 Stream Monitoring Agreement with the USGS**.^{*} The Commission's share is \$3,750, and provides for operation and maintenance of specific conductance and water temperature monitoring and instrumentation on Shingle Creek at Queen Avenue in Minneapolis. *Motion carried unanimously.*

B. The **Shingle and Bass Creek Biotic Integrity and Shingle Creek Dissolved Oxygen (DO) TMDLs** are nearly drafted. The results were presented to the Technical Advisory Committee (TAC) on April 22, 2010. Spector provided a PowerPoint update to the Commissioners.

Staff have developed, calibrated and validated two QUAL2K models for the **Shingle Creek Dissolved Oxygen TMDL** - one for Lower Shingle Creek from the outflow of Palmer Lake in Brooklyn Center to the creek's confluence with the Mississippi River in Minneapolis and the second for Upper Shingle Creek from its headwaters at the confluence of Bass and Eagle Creeks in Brooklyn Park to the inflow of Palmer Lake. The scenarios indicated that DO in Shingle Creek may be improved through a combination of increasing DO exported from headwaters wetlands, including Palmer Lake, and by reshaping the streambed so that low flows are contained in a low flow channel.

Shingle Creek/Bass Creek Biotic Integrity TMDL. Bass Creek is listed for fish impairment while Shingle Creek is not. Likewise, Shingle Creek is listed for macroinvertebrate impairment, while Bass Creek is not. Likely candidate causes for these impairments include altered flow regime, lack of complex habitat, low Dissolved Oxygen, barriers and loss of connectiveness, and ionic strength (presence of chloride).

The Stressor ID completed for the TMDLs is based on the weight of evidence supporting or disputing each candidate cause. Scores are derived for each type of evidence and an evaluation is made of the consistency and credibility of the case based on the scores. Each candidate cause is classified as refuted, diagnosed, probable, unlikely or uncertain. Using this approach the Stressor ID preliminarily concludes that the strongest evidence supports altered flow regime as a primary cause of the lack of biotic integrity, followed closely by lack of complex habitat and low dissolved oxygen. All three causes are interrelated. While the barriers in the stream and the presence of higher levels of chloride contribute to the impairment, there is less evidence to support those as primary causes.

The scenario analysis and stressor ID will be presented to the MPCA this month and, if approved, the next step will be the completion of the TMDL document.

X. Watershed Management Plan.

A. Motion by Stauner, second by Moore is authorize the Acting Chair to sign the Section 319 Nonpoint Source Management Grant Agreement* with the Minnesota Pollution Control Agency (MPCA) for the **Twin Lake Wetland 639W Nutrient Export Reduction project**. The agreement is in the amount of \$300,000 and extends from October 1, 2009 to August 29, 2014. Motion carried unanimously.

The City of Crystal will be the lead agency for this project. Later this year when the four cities sharing in the balance of the cost of this project come to an agreement on cost sharing, a cooperative agreement between the Commission and the cities and a subgrant agreement between the Commission and the City of Crystal will be presented to the Commission for review and approval. A professional services agreement between the Commission and Wenck Associates to complete the plans and specifications and provide construction management services for this project will also be considered at a future meeting.

B. The proposed **Major Plan Amendment** revising the Capital Improvement Program (CIP) completed its 60-day review process on April 13, 2010, and a public hearing to receive public comments was conducted prior to this meeting. The schedule below sets forth the process the Commissions must follow to complete this major plan amendment. Since the Board of Water and Soil Resources (BWSR) often does not meet in July, this schedule assumes approval at the August 2010 BWSR Metro Committee and BWSR Board meetings.

May 14, 2010	Send out 45-day review documents
June 30 or so	Completion of 45-day review
July or August	County consideration and approval
August	BWSR consideration and approval
September 9, 2010	Commission adoption of amendment, project hearings and certification if necessary

C. The **Technical Advisory Committee (TAC)** will meet on Thursday, May 27, 2010, to receive feasibility reports for the projects identified in the 2010 CIP.

XI. Project Review.

SC2010-02 Gravel Mining Area Infiltration Outlets, Maple Grove.* Construct regional infiltration best management practices to gain credits to facilitate development in the Gravel Mining Area known as the Arbor Lakes commercial area. The project site boundaries are approximately Main Street, 85th Avenue, Pilgrim Lane and Highway 94.

The Commissions' volume management rule requires the runoff from a 0.5" storm over new impervious areas not leave the project site. The City project proposes construction of enhanced infiltration practices adjacent to four existing ponds and around the perimeter of pond P-51. Construction of the infiltration features at these five locations will result in volume credit to cover a total of 874.3 acres of commercial development.

The project concept was presented to Commission staff on April 1, 2010 at Maple Grove City Hall and to the Shingle Creek TAC on April 22, 2010. The meetings resulted in positive responses from Staff and the TAC and the direction was to treat this as a regional infiltration plan. The project review application was received on May 10, 2010, but since the application fee was not received, this application is considered incomplete. On receipt of the fee the 60-day review period will begin.

The water quality pollutant removal standards have already been met in the four constructed ponds and P-51, the one pond currently under construction. These ponds have been reviewed under previous project reviews and the GMA regional plan. To meet the Commission's water quality treatment requirement the site must provide ponding designed to NURP standards with dead storage volume equal to or greater than the volume of runoff from a 2.5" storm event, or BMPs providing a similar level of treatment - 80-85% TSS removal and 50-60% TP removal.

The four existing ponds and the one under construction meet the Commission rules requiring that site runoff be limited to predevelopment rates for the 2-, 10-, and 100-year storm events. These have been analyzed on previous project reviews for Arbor Lakes and the GMA. The runoff rate is reduced from the pre-development condition and meets Commission standards. Commission rules require the site to infiltrate 0.5" of runoff from new impervious area within 72 hours. The applicant assumes an infiltration rate of 1.5 to 1.7 inches per hour and has verified this by soils analysis in gravel mining well field studies and a double ring infiltrometer test in May 2009 showing a 7 in/hr rate. The infiltration inflow is treated by regional ponds.

Pond P51 is currently under construction. The infiltration enhancements to SC-P45, SC-P52.1, SC-P52.2 and SC-P52.4 are expected to be constructed during the next two years. The City's goal is to apply the 874.3 acres to as yet undeveloped land and to consider the direct drainage area to the ponds as completely developed. This will require tracking by the Commission as the area develops within the Infiltration Credit Map, March 2010. The already developed land within Arbor Lakes will be subject to infiltration rules when it redevelops in the future.

Several Type 4 wetlands are shown on the National Wetlands Inventory map within the Infiltration Credit Map area. The City is the LGU. There are no public waters or floodplain on this site.

Public notice is not required within 300 feet of the infiltration galleries for the five ponds since it is a continuation of the existing storm sewer system.

Motion by Stauner, second by Swanson to approve the concept for the four ponds where Commission money is not being expended, and directing Staff to return to the June meeting with additional information on Pond P-51, including how Commission funds may be used to create this project and whether this is a change in Commission policy. Further, this approval is subject to receipt of the following:

1. Information describing how infiltration capacity of these areas will be preserved during construction activities.
2. Results of post-construction infiltration tests demonstrating actual infiltration rates after each of the five sites is completed. The infiltration credit will be adjusted to match the actual rates.
3. Project review fee.

Motion carried unanimously.

XII. Special Studies.

XIII. Education and Public Outreach.

A. Water Quality Education Grants. Patrick Henry High School again requests the Commission to consider participating in the cost of their summer program on Shingle Creek. In its third year, this three week program provides a makeup credit for science and for social studies. The program is primarily for students who need makeup credits; however, other students can participate. This program provides education and outreach to an underserved group – most of the students are of Asian, African-American, or immigrant background and many are economically disadvantaged.

The emphasis of the program this year will be on learning stream restoration techniques with the students' final product being a restoration plan. Commission participation would be in the form of Staff time for providing programming, estimated at \$5,900, the same as last year. The Commissions' education and outreach budget is \$52,000. Three Rivers Park District and Hennepin County staff would also be involved in this program, with the cost of that staff time and materials borne by the respective agencies. In addition, Patrick Henry has applied for an education and outreach grant* of \$1,000 to cover the cost of materials, transportation, and any Three Rivers programming that must be provided at cost. Patrick Henry has also received a small grant

to fund a Mississippi River canoe trip through a nonprofit wilderness group. The program would be offered June 14 to July 1, 2010, at Olson Middle School, which is adjacent to Shingle Creek.

Motion by Jaeger, second by Stauner to approve the education grant in the amount of \$1,000, and Staff time up to \$5,900, both shared equally by the Shingle Creek and West Mississippi Commissions. *Motion carried unanimously.*

B. Following discussion with LeFevere, the **West Metro Water Alliance (WMWA)** has voted to draft a cooperative agreement to formalize the group. It was agreed by consensus of the Commissioners that the Shingle Creek WMC will serve as the lead agency. The agreement should be available for consideration at the June meeting. A copy of the *West Metro Education and Outreach Plan** was included in the meeting packet. The next meeting of WMWA is scheduled for 8:30 a.m., Tuesday, July 13, 2010.

XIV. Grant Opportunities.

A. The **Federal Section 319 research grant** and the **joint Minnehaha Creek Watershed District and Mississippi Water Management Organization research grant** requests for proposals have been issued and are due in mid-May.

The proposed project* would explore combinations of lightweight soil with a high degree of water retention and the optimum plant mix so a municipal public works department or warehouse maintenance crew could build and install a **green roof** with easily obtainable materials on all or a portion of their existing building without additional structural reinforcement or permanent irrigation.

The objective of the research is to develop several versions of light-weight, modular, high water retention soil to retrofit existing roofs to green roofs. Matthiesen has experimented over the last two years with combinations of rain garden soil, packing peanuts, wood chips, and Hydrogel as soil mixes and sedum and fescue as vegetation in his office and shop at Wenck. It appears the saturated weight is much less than an existing roof can handle and it looks promising that a soil could be developed to match a plant species that could be installed on an existing roof and survive without supplemental irrigation. Further, literature research has found that vermiculite and perlite should be explored as lightweight fill and to provide additional water retention capacity. In addition, mycorrhizal fungi could be added to stimulate root growth and provide traditional water holding capacity. Both Three Rivers Park District and the City of Robbinsdale are willing to assist in the grant by providing roofs and labor.

Both grants have a three year period. The first year will consist of constructing 25 to 40 panels 4" or 6" high 4ft by 4ft and grow them on the Wenck or a Three Rivers parking lot. A parking lot will be used to simulate roof top conditions at a ground surface. The panels will be fenced off to minimize plant predation and will be monitored for soil moisture, plant growth and temperature. The site will have a rain gauge. At the end of the first year a selection will be made of the most promising three or four combinations and panels and installed on Three Rivers, Robbinsdale and Wenck roofs. Roof runoff will be measured before and after installation to determine the water retention rate of the green roof panels. Panel monitoring will continue for the next two years with a report detailing performance, installation and maintenance costs.

Motion by Jaeger, second by Moore to approve the preparation of grant applications for the 319 federal grant and the Minnehaha Creek Watershed District/Mississippi Water Management Organization research grant at a cost of \$1,500 each, total of \$3,000, and authorizing \$10,000 to be used as match if a grant award is successful. In-kind services from Three Rivers and Robbinsdale can be included as a grant match. *Motion carried unanimously.*

B. Included in the meeting packet was a copy of a grant agreement with the Board of Water and Soil Resources (BWSR) for the two Clean Water Legacy Grants received last fall for the **New Hope 45th Avenue Pond** and the **Brooklyn Center Shingle Creek Restoration I-94 to CR 10** projects.* Both of these projects are

on track for construction later this year. Motion by Jaeger, second by Sicora to authorize the Vice Chair to execute the agreement on behalf of the Commission. *Motion carried unanimously.* Subgrant agreements with the cities of New Hope and Brooklyn Center specifying the terms for receiving the funds from the Commission will be considered for approval at a future meeting.

XV. Other Business.

A. At a work session held prior to this meeting, the members reviewed a draft **2011 operating budget** prepared by Staff. It assumed a total operating and capital expense budget of \$1,008,900, with assessments to the member communities totaling \$311,400, an increase of 2.3 percent, or \$7,000.

Part of the discussion revolved around funding the development of the SCWM third generation Watershed Management Plan. BWSR is currently developing revisions to Minnesota Rules 8310 which detail the required contents of watershed and local water management plans in the Metro area. It is expected the third generation Plan, assuming the Commissions will again complete a joint plan, will cost \$90,000-100,000, including engineering, admin, and legal costs. Assuming the typical 70/30 split between the two Commissions, the Shingle Creek share is estimated to be \$63,000 to \$70,000, and the West Mississippi share \$27,000 to \$30,000, with much of that cost occurring in 2011. While West Mississippi has adequate funds in its fund balance to pay for its share, Shingle Creek's unencumbered fund balance is about \$60,000, which is less than the minimum recommended fund balance of \$80,000 - \$100,000. Staff recommended that the fund balance not be used to pay for the cost of the third generation Plan and that the Plan be funded through an additional member assessment, allocated in the same manner as the annual budget assessment – 50% based on area and 50% based on net tax capacity in the watershed.

Later this year the two Commissions and the TAC will begin the planning effort by working with BWSR to develop the scope of the third generation Plan. This will allow Staff to provide a better cost estimate for the planning process. It is Staff's recommendation that the Commission inform the member cities that this additional assessment should be expected for 2011, but that the actual assessment will not be made until after planning and scoping the process and document.

At the work session the members directed Staff to develop a revised draft budget resulting in no increase in member assessments and to submit the revised budget to the Technical Advisory Committee (TAC) for review and comment at their May 27 meeting. Motion by Jaeger, second by Stauner to approve this directive. *Motion carried unanimously.*

B. Adjournment. There being no further business before the Commission, motion by Stauner, second by Moore to adjourn. The meeting was adjourned at 3:20 p.m.

Respectfully submitted,



Judie A. Anderson
Recording Secretary

JAA:tim

*item included in meeting packet

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