



APPROVED

Capitol Region Watershed District

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**Citizen Advisory Committee Meeting
Wednesday, January 11, 2012 – 7:00 p.m.**

CAC Members Present:

David Arbeit, Bill Barton, Pat Byrne, Janna Caywood, Wade Johnson, Mike MacDonald, Ted McCaslin, Shirley Reider, Michael Trojan, Michelle Ulrich, Jerry Wagner

Members absent with notice:

Steve Duerre, Gwen Willems

Others Present:

Seitu Jones, CRWD Manager
Mark Doneux, CRWD Staff
Dawn Nelson, CRWD Staff
Forrest Kelley, CRWD Staff
Melissa Baker, CRWD Staff

Welcome, Announcements, and Updates

Shirley Reider opened the meeting at 7:00 p.m. with introductions and a request for announcements. There were no announcements.

Public Comment – For items not on the Agenda.

There were no public comments.

Approval of Agenda

Ms. Reider asked for additions or changes to the Agenda. There were no additions or changes to the Agenda.

CAC 12-01-01 Motion: *To approve the CAC January 11, 2012 agenda as provided.*

MacDonald/Johnson

Unanimously approved

Approval of the December 14, 2011 CAC Minutes

Ms. Reider asked for additions or changes to the December 14, 2011 CAC Minutes. There were no additions or changes to the Minutes.

CAC 12-01-02 Motion: *To approve the CAC December 14, 2011 CAC Minutes as provided.*

Arbeit/MacDonald

Unanimously approved

Items for Review and Comment Requested By Board of Managers

BMP Performance and Cost-Benefit Analysis, 2007-2010, Melissa Baker

Melissa Baker said Capitol Region Watershed District in partnership with local government units and others have been designing and implementing stormwater best management practices (BMPs) throughout the watershed district to minimize the impacts of stormwater and improve the water quality of CRWD water resources. CRWD also operates and maintains select BMPs and assesses their effectiveness in stormwater volume reduction and pollutant removal.

Ms. Baker explained that the Stormwater BMP Performance Assessment and Cost-Benefit Analysis 2007-2010 represents an expansion of CRWD's Stormwater BMP Performance Assessment and Cost-Benefit Analysis that was approved by the Board in February 2010.

Ms. Baker said the Arlington Pascal Stormwater Improvement Project was the first large-scale capital improvement project that CRWD implemented. Construction of the project commenced in 2005 and was completed in 2007. The total capital cost of the project was approximately \$2.7 million. The goals of the project, which included reducing the frequency of localized flooding and reducing the pollutant loading to Como Lake, were met through the construction of eighteen stormwater BMPs in the 217-acre Como 7 subwatershed in St. Paul. The BMPs constructed included:

- An underground stormwater storage and infiltration facility (Arlington-Hamline Underground Stormwater Facility/Arlington-Hamline Facility);
- A regional stormwater pond (Como Park Regional Pond);
- Eight underground infiltration trenches; and
- Eight rain gardens.

Ms. Baker said extensive monitoring and modeling efforts have been conducted by CRWD since the Arlington Pascal Project BMPs became operational to ascertain and track the overall operation and performance of the individual BMPs and the project as a whole. Specifically, monitoring and modeling activities have aimed to determine BMP performance with regards to volume reduction, total phosphorous (TP) load removal, and total suspended solids (TSS) load removal.

Bill Barton asked if the District is treating water that is later being mixed with water that is not treated and sending it through ponds, isn't the water more imitable to pulling phosphorus out of the sediments and putting it back in the lake. Administrator Doneux said there is a significant reduction. The stormwater pond does have an overflow. Administrator Doneux said the other practices such as rain gardens and trenches do not have overflow.

Pat Byrne asked what type of rainfall are the rain gardens and trenches designed for. Ms. Baker said the rainfalls this past summer were 4 inches an hour; the water runoff has been contained in the trenches with minimal overflow so far.

Ms. Baker stated this report presents analysis on only modeled BMP performance results and actual maintenance data collected on the Arlington Pascal Project BMPs from 2007 through 2010. The analysis of actual monitoring data was excluded from this report; however, it was utilized for the calibration of the model.

Ms. Baker explained that in general, this report aims to present a comprehensive analysis on BMP performance and for determining overall project success to those decision makers, regulators, and practitioners interested or involved with stormwater management. The primary objectives of this report are to:

- Describe the Arlington Pascal Project BMPs and their purpose;
- Determine the volume and pollutant load reductions and volume and pollutant removal efficiencies (performance) of the BMPs;
- Determine the costs to construct, operate, and maintain the BMPs; and
- Estimate the costs to remove pollutants (cost-benefit analysis)

Ms. Baker said this report performance results from 2007 to 2010 and for a year with an average precipitation amount, for each Arlington Pascal Project BMP, are presented in the individual BMP chapters.

"Our mission is to protect, manage, and improve the water resources of the Capitol Region Watershed District."

Performance results include annual volume and pollutant load reductions and annual removal efficiencies for volume, TP, and TSS. In addition, annual total TP and total solids loads are also presented. Total TP and total solids loads incorporate the TP and TSS loads removed through the infiltration of stormwater runoff and settlement of suspended solids as well as the loads removed through the accumulation of settleable solids within the BMPs and any pretreatment units.

For the Arlington Pascal Project as a whole, on average 9.3 million cubic feet (cf) of stormwater runoff flowed to all BMPs each year, from 2007 through 2010. Of that volume an average of 20% was removed annually; 1.9 million cf per year. Annual stormwater volume reduction was strongly dependent on precipitation trends, especially in 2010 when a 23.5% increase in precipitation occurred. The average annual volume reduction by all BMPs was calculated to exceed the projected annual volume removal by 16,200 cf. Volume reduction costs for the entire project were between \$0.03 and \$0.06 per cubic foot from 2007 to 2010.

Ms. Baker explained that on average, 159 pounds (lbs) of total TP was removed by all BMPs annually from 2007 to 2010. Of that average annual load reduction, the portion of that load associated with the TP load removed through the infiltration of stormwater runoff and settling of suspended particles and the TP load contained within the settleable solids load which accumulated in pretreatment units and the BMPs themselves were fairly comparable. An average of 82 lbs (52%) of TP was removed through infiltration and settling and 77 lbs (48%) of TP was removed through the accumulation of settleable solids each year. The average annual total TP load (159 lbs) removed by the entire Arlington Pascal Project was slightly greater than the annual projected load (155 lbs). Annual total TP removal costs for the Arlington Pascal Project were calculated to be between \$395 and \$1,102 per pound from 2007 through 2010.

Mr. Byrne asked where the samples were coming from. Ms. Baker said the samples are from all 30 sump catch basins and 15 locations within the pipe gallery of the Arlington-Hamline Facility.

The TSS load flowing to all BMPs averaged 70,800 lbs each year from 2007 to 2010, of which an average of 57,100 lbs (81%) was removed. The average annual TSS load reduction by all BMPs exceeded the annual projected load (38,300 lbs) by 39%. For the total solids load, which includes TSS load removed as well as the settleable solids load captured by the pretreatment units and the BMPs, the Arlington Pascal Project removed an average 224,000 lbs per of total solid each year from 2007 to 2010. However, this did not exceed the annual projected load of 232,400 lbs. The removal costs for total solids, for the project, were calculated to be between \$0.33 and \$1.07 per pound.

Ms. Baker explained that annual volume and pollutant loading which flow to and were removed by each BMP were largely dependent upon the BMP's watershed area and total annual precipitation. Years with a greater amount of annual precipitation, saw greater volume and pollutant loading flowing to and being removed by the BMPs. Additionally, the greater the BMP watershed area, the greater the quantities of runoff and pollutant loads flowing to the BMPs.

Ms. Baker said of all the individual BMPs, the Como Park Regional Pond annually received and removed the largest amounts of runoff and pollutant loads than any other BMP because it has the largest drainage area (128 acres) of any other BMP. On average, 110 lbs of total TP were removed annually by the pond from 2008 through 2010. However, since the pond became operational in 2008, the TP removal efficiency of the pond was determined to be the lowest of any other BMP and has been achieving its maximum potential for TP removal (30%) each year. From 2008 to 2010, annual volume reduction efficiencies of the pond varied from 5% to 10% and TSS removal efficiencies varied from 69% to 82% and were also the lowest efficiencies observed than any other BMP. The average annual volume reduction cost for the pond was \$0.06 per cubic

foot and total TP and total solids removal costs averaged \$381 and \$0.22 per pound each year from 2008 to 2010.

The Arlington-Hamline Facility annually received and removed the second largest amounts of runoff and pollutant loads of all BMPs from 2007 through 2010. The average annual total TP load removed by the facility was 44.3 lbs. This BMP has the second largest drainage area of 50 acres. In addition, the Arlington-Hamline Facility had the highest removal efficiencies of all the BMPs. All stormwater runoff and associated pollutants which entered the facility were removed. The Arlington-Hamline Facility had annual volume reduction and TP and TSS removal efficiencies of 100% from 2007 through 2010. Average annual volume reduction and total TP and total solids removal costs averaged \$0.04 per cubic foot and \$590 and \$0.68 per pound, respectively.

Comparatively, the rain gardens received and removed the smallest amounts of stormwater runoff and pollutant loads than any other BMPs. The average annual total TP load removed by all rain gardens was 12 lbs from 2007 through 2010. However, the rain gardens cumulatively have the smallest drainage area (16 acres) than any other BMP so overall volume and pollutant loading flowing to the rain gardens were substantially less than any other BMP. Despite smaller volume and pollutant loads, the rain gardens were highly efficient; annual volume reduction and TP and TSS removal efficiencies were 100% from 2007 to 2009. Efficiencies were slightly lower in 2010 when a significantly higher amount of annual precipitation fell than in previous years. From 2007 to 2010, volume reduction and pollutant (total TP and total solids) removal costs averaged \$0.04 per cubic foot and \$1,089 and \$0.94 per pound each year.

The infiltration trenches have a total drainage area of 23-acres and received and removed an annual average load of 20 lbs of total TP from 2007 through 2010. Similar to trends in rain garden removal efficiencies, the infiltration trenches generally had volume reduction and TP and TSS removal efficiencies between 99% and 100% from 2007 to 2009. Efficiencies were lower in 2010 (75% to 82%). From 2007 to 2010, volume reduction and pollutant (total TP and total solids) removal costs averaged \$0.04 per cubic foot and \$1,089 and \$0.94 per pound each year.

Mr. Arbeit clarified that Ms. Baker was saying the Arlington Hamline Facility removal efficiencies means water goes in but never comes out. Ms. Baker said that is correct.

In general, the overall performance of the Arlington Pascal Project BMPs were exceptional with nearly all annual volume and pollutant load reductions meeting or exceeding annual projected load reductions. Volume reduction and pollutant removal costs for the BMPs have fluctuated annually due to fluctuations in annual operating costs and in the amount of volume and pollutant load reductions occurring each year. Thus, costs will continue to vary from year to year depending on the individual BMP.

The Arlington Pascal Project has been highly successful in removing volume and pollutant loading from the Como 7 Subwatershed and has achieved the target annual TP load reduction goal for Como Lake. Additionally, the Arlington Pascal Project has been proven to be a cost-effective strategy for achieving target volume and pollutant load reduction goals in a small subwatershed based on the calculated volume reduction and pollutant removal costs.

Janna Caywood asked if there is a primer somewhere that would give a description of the different treatments. Ms. Baker said staff could add something to the glossary.

The committee thanked Ms. Baker for her presentation.

Draft Rule Review, Forrest Kelley

Forrest Kelley provided an update on CRWD Rules Issues and Proposed Revisions. Mr. Kelley explained that the Joint Technical Advisory Committee on Rules (TAC) convened on June 21, 2011 to discuss possible revisions to the Districts' Rules. Mr. Kelley explained that the draft rule revision language was presented to the Board on November 16, 2011. Staff indicated a request to approve distribution of a draft rule for formal review would be presented on December 7, 2011; however, this was delayed in order to schedule an additional TAC meeting to informally review and discuss the proposed revisions. Mr. Kelley said this meeting was held on December 13, 2011. Mr. Kelley said discussion at the meeting focused on three main topics: the 10,000 sf land disturbance threshold, requiring sureties for public projects, and incidental wetland regulation. The meeting was productive and yielded good feedback and suggestions from the TAC members. Mr. Kelley said the next steps were for CRWD and RWMWD staff to review the written and verbal comments received and to propose new language where deemed appropriate and consistent with District goals. The new revisions were expected to be presented to the Board on January 4, 2012, with a request to authorize distribution for 45-day review and public comment. However, the City of St. Paul Department Heads and Mayor's Office staff requested additional time and meetings to discuss the proposed revisions. At the December 21, 2011 meeting, the CRWD Board of Managers made a motion to delay distribution of the draft rule until at least February 15, 2012.

Mr. Kelley said the first Rule revision proposed is Wetland Management Rule E. Mr. Kelley said the Wetland Management Rule E was adopted on September 6, 2006. Because 98% of the pre-settlement wetlands have been filled, and the remaining wetlands have generally been altered, the CRWD wetland rule was written to provide protection to all wetland areas within the District. This protection was incorporated into CRWD Rule by referencing the Minnesota Wetland Conservation Act (WCA), and eliminating exemptions and other activities that are allowed for under the State Rule.

In August 2009, revised WCA Rules were adopted by the State of Minnesota. Many of the revisions dealt with re-structuring and clarifying sections of Chapter 8420 and are generally consistent with previous editions. However, there are a number of wording changes that affect how CRWD Wetland Rule E is applied to wetlands within the District. The most significant change is the re-classification of incidental wetlands from an exemption to "non-regulated" wetlands. This change creates some ambiguity in the authority CRWD has to require permits for impacts to wetlands that exist due to activities taken for a purpose other than creation of wetland. Mr. Kelley said the new language is proposed in order to eliminate ambiguity between WCA and District Wetland rules.

Mr. Kelley explained that applicants are required to pay a surety prior to the permit being issued. The surety is to ensure activity under the permit shall be done in accordance with the approved plans and specifications. Mr. Kelley said at the end of the project there is an inspection and the surety is returned along with a certificate of completion. Sureties are not required of public entities, but past issues arose concerning contractor compliance and responsiveness during construction, and a lack of urgency in closing out permits for completed projects. Mr. Kelley said revised language would require sureties of the contractors completing the work for public entities.

Mr. Kelley said stormwater volume reduction and water quality requirements for projects less than one acre are inconsistent throughout the District. Mr. Kelley said the Rule revision language is to change the land disturbance threshold to 10,000 square feet for Stormwater and Erosion Control permits. Mr. Kelley said concerns include permits required for Stormwater on single family homes and the economic impact to small developers.

Mr. Trojan asked how many more projects would that be annually. Mr. Kelley said based on the past three years, it would be approximately 30 additional permits which would double the current work load.

The committee thanked Mr. Kelley for his update.

CAC 12-01-03 Motion: *Upon reviewing the proposed Rule revisions, the committee recommends that the Board reduce the disturbance threshold to 10,000 sf land.*

Arbeit/Barton

Unanimously approved

CRWD Logo Review, Mark Doneux

Administrator Doneux stated at the last Board meeting, Charles Ross, CRWD's graphic designer, presented four logo design options for the Board's review and comment. The Board selected the two logo design options as the preferred designs and directed staff to present them to the CAC for comment.

Administrator Doneux presented the two preferred logo designs. There were various comments. Shirley Reider said she wasn't sure if the building was the capitol or the cathedral. Wade Johnson said the windows in the building seem to be an awkward additional detail. Mr. Johnson said he likes option 1 without the windows. Many committee members agreed. Mr. Arbeit said option 1 is better in color than black and white. Ms. Reider said she likes option 1 also but not as much when it is in smaller print. Pat Byrne said he likes the bending of the river. Janna Caywood said option 1 says the water is flowing through the city while option 2 looks like the water is flowing past the city. Overall, CAC members preferred logo design option #1, "A River Runs Through It," over the logo design option #2, "Life on the Mississippi." CAC members like the focus of the river in option #1 and its asymmetrical, flowing design as opposed to option #2 where the skyline is more prominent and the river design is symmetrical.

Administrator Doneux said staff will provide the CAC comments to the Board and seek Board direction on which of the two logo options to refine as CRWD's new logo at the January 18th Board meeting.

Discussion

Staff and Program Updates

Trout Brook Interceptor – 35 E/Cayuga Interchange

Moved to February's Agenda.

Board of Managers and CAC Observer Update

Manager Jones reviewed recent Board actions including: the Annual meeting was December 21st, the election of officers was held and titles have changed. Joe Collins. The Board adopted the final 2010 Budget and Levy. The Board approved limiting salary increases in 2010 to a maximum of 3 percent. January 6th was a regular meeting with a special report from the district's financial management firm Ehlers & Associates. The Board authorized the distribution of a Request for Qualifications for a communications consultant which is part of the education plan.

Discussion - New & Old Issues

No Discussion

February 8, 2012 Agenda Overview

Trillium Site Update

Update on the Legacy Amendment meeting, Bill Barton

Janna Caywood requested an update on the City completing a Stormwater Plan for the park.

Adjourn – The meeting adjourned at 9:10 pm by consensus.

Respectfully submitted,

Dawn Nelson