Approved December 7, 2011

Capitol Region Watershed District

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Meeting Minutes of the Capitol Region Watershed District (CRWD) Board of Managers, for **Wednesday, November 16, 2011, 6:00 p.m.** at the office of the CRWD, 1410 Energy Park Drive, Suite 4, St. Paul, MN 55108.

Regular Meeting Minutes

I. Call to Order at 6:00 p.m. (President, Robert Piram)

A) Attendance	**Others Present**	**Public Attendees**
Robert Piram	Mark Doneux, CRWD	Monte Hilleman,
Joe Collins	Anna Eleria, CRWD	Saint Paul Port Authority
Seitu Jones	Bob Fossum, CRWD	Ed Matthiesen,
Mike Thienes	Dawn Nelson, CRWD	Wenck Associates
Mary Texer	Melissa Baker, CRWD	James Mogen,
	Forrest Kelley, CRWD	Ramsey County Attorney

B) Review, Amendments and Approval of the Agenda
Manager Piram asked for additions or changes to the agenda. There were no additions or changes to the agenda.

The Board adopted the Agenda as provided by consensus.

II. Public Comment – There were no public comments.

III. Permit Applications

A) Permit #11-027 Hewitt-Tatum RSVP (Kelley)
Mr. Kelley said the applicant is the City of St. Paul and the project is reconstruction residential streets and utilities. The applicable rules are Stormwater Management (Rule C), Floodplain Management (Rule D) and Erosion Control (Rule F). Mr. Kelley said the project has 6.9 acres of disturbed area and 6.9 acres of proposed impervious surface and the proposed stormwater management is two underground infiltration trenches. Mr. Kelley said the City has also offered the option of installing a boulevard rain garden to residents if space is not an issue. Mr. Kelley said staff recommendation is to approve the permit with two conditions.

Motion 11-11-06: Approve *Permit #11-027 Tatum-Hewitt RSVP with two conditions.*
1. Show inlet protection at all catch basins during construction.
2. Provide final plans signed by a professional engineer per the Minnesota Board of AELSLAGID.

Thienes/Texer
Unanimously approved

Mr. Kelley explained that on past City of St. Paul Linear projects, volume reduction bank credits have been requested and granted based on a dollar amount spent above the cost cap and a unit cost per cubic foot.

Mr. Kelley said as part of the rule revision process, language is proposed to clarify that only volume beyond the 1-inch requirement is eligible for deposit into the volume bank. This revision was deemed necessary to

eliminate confusion on how credits are calculated and move away from cost-benefit decisions based solely on up-front capital costs compared to the cost cap benchmark.

Mr. Kelley explained that staff propose approving the volume bank deposit of 4,067 cubic feet, and providing a letter to City of St. Paul staff indicating future permits and volume bank requests will be reviewed under the new policy and rule revision.

Motion 11-11-07: Approve Deposit of 4,067 Cubic Feet to the St. Paul Public Works Volume Bank and include the future policy letter.

Thienes/Jones
Unanimously approved

B) Port Authority Volume Bank Transfer (Kelley)

Mr. Kelley said on May 4, 2011 the Board approved the deposit of 153,535 cubic feet of volume reduction credits for the St. Paul Port Authority as part of permit 09-031 Wells and Russell. The Port Authority partnered with the City of St. Paul Public Works Department on the construction cost of the large underground infiltration system. Mr. Kelley explained that the Port Authority has submitted a letter requesting the transfer of 116,435.50 cubic feet to the City of St. Paul Public Works Department Sewer Division. Staff recommends approval of this transfer.

Motion 11-11-08: Approve the Transfer of 116,436 Cubic Feet of Volume Reduction Credits from the St. Paul Port Authority's Volume Reduction Bank to the City of St. Paul's Volume Reduction Bank with One Condition:

1. Receipt of final signed transfer request letter
2. Review and approval by the Ramsey County Attorney's office.

Thienes/Texer
Unanimously approved

C) Review of Draft Rules (Kelley)

Mr. Kelley said the Joint Technical Advisory Committee (TAC) convened on June 21, 2011 to discuss possible revisions to the Districts' Rules. While CRWD and RWMWD continue to gather information regarding costs for linear projects, draft Rule language has been modified to address the topics discussed at the TAC meeting. Mr. Kelley discussed proposed changes in the Rules with the Board noting that the language has not been finalized and is intended as a basis for discussion and to receive feedback from the Board regarding prioritizing Rule Amendments. Manager Collins said he would like more discussion on changing the land disturbance threshold.

D) Permit Violations Update (Kelley)

Mr. Kelley noted included in the Board packet is a memo from Ramsey County Attorney, James Mogen to the Central Corridor Light Rail Project office regarding erosion control violations. Mr. Kelley said he has received a response from Met Council stating they will resolve the issues. Mr. Kelley added that he and Met Council staff will conduct a drive through inspection on Friday.

E) Permit Program/Rules Update (Kelley)

There was no permit program/rules update.

IV. Special Reports – BMP Performance and Cost-Benefit Analysis, 2007-2010, Melissa Baker

Ms. 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.

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. 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 the 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.

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.

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.

The Board thanked Ms. Baker for her presentation.

V. Action Items

A) Minutes of the November 2, 2011 Regular Meeting (Nelson)

Manager Piram requested approval of the November 2, 2011 Regular Meeting Minutes.

Motion 11-11-09: *Approve Minutes of the November 2, 2011 Regular Meeting Minutes as presented.*
Texer/Jones
Unanimously approved

B) Accounts Payables/Receivables of October 2011

Manager Piram requested approval of the Accounts Payables/Receivables for the month of October 2011.

Motion 11-11-10: *Approve the Accounts Payables for $214,528.64, the Accounts Receivable for $10,872.38 and the Budget Report for the month of October 2011 and direct Treasurer and Vice President to endorse and disperse checks for payment.*
Thienes/Texer
Unanimously approved

C) Appoint Delegates for the MAWD Annual Meeting (Doneux)

Administrator Doneux said each year watershed districts are asked to appoint and certify two delegates and one alternate for the Minnesota Association of Watershed District (MAWD) annual meeting. Managers Collins, Thienes and Texer will be attending the MAWD annual conference. Managers Piram and Jones will not be in attendance this year. After discussion the Board elected Managers Collins and Texer to be Delegates for the MAWD annual meeting.

Motion 11-11-11: Appoint Managers Collins and Texer as delegates and Manager Thienes as the alternate for the MAWD 2011 Annual Meeting.

Jones/Texer
Unanimously approved

D) Adopt positions on proposed MAWD Resolutions (Doneux)

Administrator Doneux said as part of the annual meeting of the Minnesota Association of Watershed District (MAWD), delegates are asked to consider and take action resolutions submitted to the membership. Administrator Doneux discussed the following seven resolutions that are being considered at the annual meeting.

1. Reforming Watershed District Manager Appointment Process, Prior Lake Spring Lake
2: Increase Limit of Districts Funds to be contributed to a project that has been initiated by Resolution of the WD Board of Managers from $750Kt o $2M, Bois de Sioux WD
3: General Administration Levy Limit, Bois de Sioux WD
4: Increased penalties for possessing, transporting or introducing AIS to a water body, Pelican River WD
5: Reassign DNR Permitting responsibilities for control of AIS, Pelican River WD
6: Emerging Contaminants in Minnesota Watersheds, Sauk River WD
7: Natural Reproduction of Asian Carp needs to be addressed before the Asian Carp reach the waters of Minnesota, Lower Minnesota River WD

Motion 11-11-12: Authorize the delegates to assess the resolutions discussed before them and vote using their best judgment with a priority on resolution number 1.

Collins/Jones
Unanimously approved

VI. Unfinished Business

A) Villa Park Wetland Restoration Project Update (Fossum)

Mr. Fossum said staff have had 2 meetings with the City of Roseville staff in regards to the Villa Park dredging project. Mr. Fossum said staff are ready to conduct a public meeting that would include Villa Park and Lake McCarrons neighbors. Mr. Fossum said the public meeting has been scheduled at Roseville City Hall on December 8th at 6:00pm. Manager Thienes will attend.

B) Special and Partner Grants Update (Fossum)

Mr. Fossum reminded the Board that the Special and Partner Grants Committee is meeting November 28th at the District office at 5:00 pm.

C) Visual Identity Update (Eleria)

Ms. Eleria said the Visual Identity Committee received 18 Logo concepts from the designer. The Committee met earlier today and selected 3 concepts for the designer to refine the design further for the Board's review.

VII. General Information

A) CAC Update

Manager Thienes said the committee heard a presentation on Porous Pavement Paired Intersection Study by Ed Matthiesen from Wenck and Associates.

B) Administrator's Report (Doneux)

Administrator Approved Agreements

There were no Administrator approved grants.

General updates including recent and upcoming meetings and events

1) November Meetings and Events

   Nov 11 – Veteran's Day – CRWD office **closed**
   Nov 16 – CRWD Identity Rebranding Committee meeting, 5:00 pm, CRWD office
   Nov 16 – CRWD Board meeting, 6:00 pm
   Nov 24-25 – Thanksgiving holiday, CRWD office **closed**
   Nov 28 – Special and Partner Grant Review Committee meeting, 5:00 pm, CRWD office
   Dec 1-3 – Minnesota Association of Watershed Districts Annual Conference, Alexandria, MN

2) Mark Doneux, Anna Eleria, and Forrest Kelley represented the CRWD at a Chicago Green Infrastructure tour in Chicago, Illinois, on November 14-15. The tour was hosted by the Center for Neighborhood Technology and the Chicago Department of Transportation. The visit included presentations and site visits of projects in the Chicago central area.

VIII. Wednesday, December 7, 2011 Regular Meeting Agenda Review
There was no discussion.

IX. Adjournment – The meeting was adjourned at 7:38 p.m. by consensus.

Respectfully submitted

Dawn Nelson