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Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Company
Subject: Item 5B – BCWMC Review of City of Crystal Local Water Management Plan
Date: October 7, 2009
Project: 23/27 051 2009 003

5B. BCWMC Review of City of Crystal Local Water Management Plan

Recommendation: The Commission forward these comments to the City of Crystal regarding the BCWMC's review of the city's Local Surface Water Management Plan, and the Commission consider approval of the city's LSWMP upon receipt of the city's responses to the issues outlined in this memorandum.

We have reviewed the City of Crystal's updated *Local Surface Water Management Plan* (LSWMP) for conformance with the BCWMC Watershed Management Plan (Plan).

Overall, the LSWMP addresses most of the BCWMC's requirements. An important element of the LSWMP is the inclusion of the North Branch Bassett Creek Stream Assessment, which is summarized in the text and included as an appendix.

Metropolitan Council Comments:

In their September 30, 2009 letter to the BCWMC (attached), the Metropolitan Council stated that the city's LSWMP is consistent with the Council's *Water Resources Management Policy Plan*.

BCWMC Staff Comments

Staff has reviewed the city's LSWMP based on a comparison of the LSWMP with the BCWMC Plan requirements. Staff comments follow and are listed in Table 1. This memo concludes with additional staff comments comparing the LSWMP to statutory requirements (which are also in the BCWMC Plan). Comments in **bold** indicate issues where revisions to the LSWMP are required or recommended.

Table 1. Comparison of BCWMC Plan Requirements with the Crystal LSWMP Elements.

BCWMC Local Plan Requirement/Expectation	Crystal LSWMP Review
<p>1. Classify water bodies into one of four BCWMC management categories (Level I – IV) based on water quality goals and recreational uses of the water bodies (Section 4.2.2.1, policy B).</p>	<p>Policy 2.7 of the LSWMP cites the water quality levels of the BCWMC; Level 1 water quality standards are also cited in Policy 11.1 in Section 7.2.7. In that policy, it is stated that the city adopts the management classifications of the BCWMC.</p> <p>The LSWMP does not assign specific goals to individual water bodies based on the BCWMC levels.</p> <p>The LSWMP does not contain goals for Bassett Creek Park Pond or Bassett Creek; both are designated as Level III by the BCWMC.</p>
<p>2. Implement (with BCWMC) the water quality improvement options listed in Table 12-2 (Section 4.2.2.1, policy D).</p>	<p>Requirement met.</p> <p>The BCWMC Plan 10 year CIP (Table 12-2) includes a channel restoration project for the North Branch of Bassett Creek from 36th Avenue North to Bassett Creek Park. Table 12-3 (potential future projects) includes a possible alum treatment for Bassett Creek Park Pond and water quality improvements recommended in the Bassett Creek TMDL study.</p> <p>The LSWMP cites erosion issues in the North Branch of Bassett Creek as required in the BCWMC Plan. Section 8.1.4 references the completed stream inventory and describes the City’s cooperative efforts towards stream restoration in partnership with the BCWMC. This is listed in the LSWMP Implementation Table (Table 8.2) as item CIP-8. However, this item should be broadened and clarified to include the BCWMC-funded channel restoration project at an estimated project cost of \$660,000, proposed to be completed in 2013—2014, and the BCWMC as the funding source.</p> <p>The LSWMP also references potential alum treatment of Bassett Creek Park Pond as item CIP-10.</p>

BCWMC Local Plan Requirement/Expectation	Crystal LSWMP Review
<p>3. List the impaired waters in BCWMC that affect the city, acknowledge the need for a TMDL study at some point in the future, and identify the city's role in completing and/or implementing TMDL studies. In BCWMC, the impaired waters are Bassett Creek, Medicine Lake, Northwood Lake, Parkers Lake, Sweeney Lake, and Wirth Lake (Section 4.2.2.1, policy G).</p>	<p>Table 6.5 in the LSWMP lists the impaired waters in Crystal and adjacent communities. The table does not include the following lakes/impairments:</p> <ul style="list-style-type: none"> - Bassett Creek (Crystal), which is included on the 2010 draft 303(d) impaired waters list for chloride. It is recommended that the Table 6.5 include the (draft) chloride impairment. - Northwood Lake (New Hope), which is impaired for nutrients/eutrophication and biological indicators. - Wirth Lake (Golden Valley), which is impaired for nutrients/eutrophication and biological indicators. Areas of Crystal may become tributary to Wirth Lake during extreme flooding events. - Sweeney Lake (Golden Valley), which is impaired for nutrients/eutrophication and biological indicators.
<p>4. Identify the water bodies where water quality monitoring is undertaken by the city and by others (Section 4.2.2.1, policy I).</p>	<p>Requirement met. Table 6.2 in the LSWMP identifies those water bodies where water quality monitoring occurs. The table does not identify the agency/party performing the monitoring.</p>
<p>5. Identify any proposed capital improvement projects beyond those listed in Table 12-2 and Table 12-3, and/or the proposed movement of a water quality improvement project from Table 12-3 to Table 12-2 (Section 4.2.2.1, policy J).</p>	<p>Requirement met. No additional water quality improvement CIP projects are identified in Table 8-2 of the LSWMP (Implementation Table).</p>
<p>6. Comply with the BCWMC's requirement that all regulated stormwater be treated to Level I standards throughout the watershed (Section 4.2.2.2, policy A).</p>	<p>Requirement met. Policy 11.1 of the LSWMP states that all stormwater activities within the jurisdiction of the BCWMC will be treated to Level 1 standards and cites the following document as a resource: <i>Requirements for Improvements and Development Proposals</i>, July 17, 2008, as revised.</p>
<p>7. City shall adopt an ordinance that enforces the Minnesota State Law limiting the use of lawn fertilizers containing phosphorus.</p>	<p>Requirement met. Policy 2.12 of the LSWMP prohibits the use of fertilizer containing phosphorus and references City ordinance, Section 665.</p>

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BCWMC Local Plan Requirement/Expectation	Crystal LSWMP Review
8. Comply with the BCWMC's requirement that there be no increase in phosphorus load (non-degradation) for redevelopment projects that result in increased impervious surface (Section 4.2.2.4, policy A).	Requirement met. Policy 2.9 meets this requirement. In addition, Policy 2.1 of the LSWMP states that the City will require BMPs necessary to maintain or reduce current phosphorus loads, where feasible.
9. Include a buffer policy for land adjacent to water resources (including wetlands) (Section 4.2.2.3, policy A; and Section 8.2.2, policy D).	Requirement met. Policies 8.5 and 9.2 in the LSWMP refer to the establishment of buffer zones along shorelines; specific buffer requirements are not defined. Policy 10.1 specifies the 16.5 foot buffer requirement for wetlands.
10. Acknowledge control and responsibility for shoreland regulation (Section 4.2.2.3, policy G).	Requirement met. The LSWMP states that the current city code has no language pertaining to shoreland protection. Goal 9 in Section 7.2.6 in the LSWMP refers to the conservation and protection of shoreland areas, but cites no specific guidelines. Policy 9.3 states that the City plans to investigate the need for a shoreland ordinance and develop such an ordinance, if necessary; it is recommended that this action be included in the City's CIP (Table 8.2).

BCWMC Local Plan Requirement/Expectation	Crystal LSWMP Review
<p>11. Comply with the BCWMC Plan’s goals and policies regarding water quality (Section 4.2.2.2 Policy A, Section 4.2.2.4, policies A & C), flooding and rate control (contained in Section 5.0 of the Plan) (Section 5.2.2.2, policies C & N) acknowledging BCWMC’s authority to review improvements, developments and redevelopment projects and that cities are to forward such projects to the WMO for review.</p>	<p>The LSWMP acknowledges the BCWMC water quality performance standards (Policy 2.7) and references the <i>Requirements for Improvements and Development Proposals</i> (July 17, 2008, as revised) in Policy 11.1. Policy 2.9 of the LSWMP addresses the BCWMC non-degradation requirement for increased impervious area. It is recommended that the non-degradation requirements of the BCWMC be included in Table 6.6 of the LSWMP.</p> <p>Several of the flood control policies in the LSWMP are consistent with the flooding and rate control requirements of the BCWMC. The LSWMP, however, does not define permissible floodplain land uses. It is recommended that the LSWMP include a policy describing permissible floodplain land uses or stating compliance with the BCWMC requirements and referencing those requirements.</p> <p>Policy 2.1 in the LSWMP emphasizes BMPs to reduce stormwater runoff, where feasible, consistent with the flooding and rate control requirements of the BCWMC. It is recommended that a similar policy be included in the Water Quantity policies section of the LSWMP.</p> <p>Section 6.5 of the LSWMP acknowledges the BCWMC’s authority to review projects within the city. Policy 12.7 of the LSWMP states that the City will forward development plans to the watersheds for their review. It is recommended that this policy be expanded to include all types of projects that are subject to BCWMC review; Section 3.0 of the <i>Requirements for Improvements and Development Proposals</i> (July 17, 2008, as revised) lists the project types.</p>
<p>12. Acknowledge city’s responsibility for implementing BCWMC’s development policies (Section 5.2.2.2. Policy B).</p>	<p>Section 6.5 of the LSWMP states that the goal of the plan is to be compatible with the regulatory programs of the BCWMC. It is recommended that the compliance with BCWMC requirements be more clearly stated as a responsibility of the city. A more detailed description of the relationship between the BCWMC requirements and the policies of the city should be included in Section 6.5 or Section 8 of the LSWMP.</p> <p>It is also recommended that the LSWMP include a list of all types of projects that are subject to BCWMC review; Section 3.0 of the <i>Requirements for Improvements and Development Proposals</i> (July 17, 2008, as revised) lists the project types..</p>

BCWMC Local Plan Requirement/Expectation	Crystal LSWMP Review
13. Identify any proposed changes to the BCWMC flood control project system (Section 5.2.2.1, a number of policies).	Requirement met.
14. Acknowledge city’s responsibility for maintaining its stormwater management system, for cleaning the BCWMC flood control project features, and for stream maintenance and repairs that are primarily aesthetic improvements (Section 5.2.2.1, policy F, Section 7.2.2, policy J, and Section 12.4.1).	<p>Requirement met.</p> <p>Policy 14.5 of the LSWMP states that the City will maintain the BCWMC flood control project features, including removing debris, vegetation etc. Item OM-2 in the City’s implementation table (Table 8.2) includes the maintenance of the BCWMC flood control projects.</p> <p>Policy 14.6 of the LSWMP acknowledges that the BCMWC is responsible for the main channel and designated water quantity and water quality storage facilities shown on Figure 15 in the BCWMC Plan. Although the BCWMC is responsible for maintaining the flood control project system, the BCWMC Plan does not assign to the BCWMC the responsibility for maintaining water quality facilities. Policy 14.6 needs to be revised to clarify the respective maintenance responsibilities of the City and the BCWMC.</p> <p>Section 8.1.4 of the LSWMP states that the City’s budget item for the North Branch Bassett Creek stream repair project is primarily intended for aesthetic repairs or value added items.</p> <p>A list of BCWMC flood control features is included in the LSWMP in Table 5.1. For clarity, it is recommended that the “Highway 100 embankment” location be changed to “Highway 100 control structure.”</p>
15. City must require project proposers to apply BMPs to reduce runoff volume to the maximum extent practical. (Section 5.2.2.2. Policy D).	<p>Requirement met.</p> <p>Policy 2.1 of the LSWMP states that the City “...will require BMPs necessary to maintain or reduce...stormwater runoff volume loads...where feasible.” This policy does not specify project proposers as the responsible parties. It is recommended that a policy with similar intent be included in the Water Quantity policy section of the LSWMP.</p>
16. City must require rate control in conformance with the flood control project system design and the BCWMC Watershed management Plan.	<p>Requirement met.</p> <p>The LSWMP limits runoff to existing rates for the 2-year, 10-year, and 100-year 24-hour events. This is referenced in the LSWMP in Section 2.5 and Policy 1.1.</p> <p>Policy 2.8 emphasizes the use of infiltration as the preferred method of stormwater management.</p>

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BCWMC Local Plan Requirement/Expectation	Crystal LSWMP Review
17. Incorporate the BCWMC’s adopted 100-year floodplain elevations for the BCWMC’s trunk system (Section 5.2.2.2, policy F).	Requirement met. The LSWMP adopts the BCWMC 100-yr floodplain elevations in Policy 3.8 and references Table 5-3 of the BCWMC WMP. It should be noted that Table 5-3 was updated per a minor plan amendment in June, 2007. The LSWMP also references these elevations in Section 2.8. Although the flood elevations are referenced via the BCWMC, it is recommended that the elevations also be included in the LSWMP.
18. Meet policies regarding allowed land uses, structures, non-conforming uses and filling in established floodplains (Section 5.2.2.2. Policies G, H, and I),	The LSWMP does not address permitted land uses within the floodplain, or reference the policies of the BCWMC regarding this issue. The floodplain-related policies of the BCWMC are not referenced within the LSWMP.
19. Meet the BCWMC’s requirement that the lowest floor of all permanent structures be at least 2 feet above the established 100-year floodplain elevation and incorporate this requirement into city ordinances (Section 5.2.2.2, policy J).	Requirement met. Policy 3.2 meets this requirement. It is recommended that the language of the policy be revised to include waterbodies not categorized as “basins” or “facilities.”
20. Describe existing and proposed city ordinances, permits, and procedures for addressing erosion and sediment control and preparation of erosion control plans (Section 6.2.2, policy G).	Requirement met. The LSWMP states that there is a city erosion control ordinance; the performance standards of this ordinance are summarized in Table 6.6 of the LSWMP.
21. Comply with the BCWMC Plan’s goals and policies regarding erosion and sediment control (contained in Section 6.0 of the Plan) (Section 6.2.2, policy H).	Policy 6.2 of the LSWMP states that the City will update its erosion and sediment control ordinance to comply with the requirements and policies of the BCWMC. It is recommended that the LSWMP include a policy demonstrating the compliance of City erosion and sediment control practices with the BCWMC’s Requirements for Improvements and Development Proposals (July 17, 2008, as revised).
22. Complete and update inventories of significant erosion and sedimentation areas along the Bassett Creek trunk system and share this information with BCWMC. Only those areas identified in such an inventory are eligible for BCWMC funding (Section 7.2.2, policy F).	Requirement met. The LSWMP includes a summary of the <i>North Branch Bassett Creek Stream Assessment</i> (completed in 2008) in Section 6.6 and the entire inventory is included as an appendix to the LSWMP.

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BCWMC Local Plan Requirement/Expectation	Crystal LSWMP Review
23. Comply with the BCWMC Plan’s goals and policies regarding stream restoration (contained in Section 7.0 of the Plan) (Section 7.2.2, policy N).	Section 8.1.4 of the LSWMP states that the City’s budget for stream repair project elements along the North Branch Bassett Creek is for aesthetic repairs or added value features, but does not explicitly identify those repairs as a responsibility of the city. It is recommended that the City include a policy or additional text to clarify the City’s intention to cooperate with the BCWMC to complete BCWMC-funded stream restoration projects, and state that the City expects non-aesthetic improvements to be the financial responsibility of the BCWMC.
24. Cities shall have a buffer policy for all water resources in their respective stormwater management plans.	The LSWMP emphasizes the establishment of buffers, but with the exception of the 16.5-ft wetland buffer requirement, does not identify specific buffer requirements for other shorelines or reference additional requirements in other documents.
25. Acknowledge city or BCWMC responsibility as LGU for the Wetland Conservation Act (Section 8.2.2, policy F).	Section 2.6.3 of the LSWMP states that the City defers enforcement of the WCA to the BCWMC. It is recommended that this statement be clarified or expanded to indentify the City as the LGU while retaining the right to defer enforcement of the WCA to the BCWMC. It is further recommended that the LSWMP include a policy stating that the City retains LGU authority but may defer enforcement to the BCWMC as necessary.
26. Comply with the BCWMC Plan’s goals and policies regarding wetland management (contained in Section 8.0 of the Plan) (Section 8.2.2, policy G).	Requirement met. The policies included in Section 7.2.7 of the LSWMP are consistent with the BCWMC Plan.
27. Describe status of wellhead protection planning, if applicable (Section 9.2.2, policy C).	Requirement met. Crystal does not use groundwater as a water source; thus, a well-head protection plan is not required.
28. Each city is required to prepare a local plan. (Section 12.1.2).	Requirement met.
29. The permitting process used by the local government should be outlined in the SWMP. (Section 12.4)	Requirement met. The process is summarized in Section 3.1 of the LSWMP.
30. Meet the Requirements of Local Watershed Management Plans for identification of regulated areas (Section 12.4.1).	Requirement met. Required features are presented in the inventory section of the LSWMP (Section 2) and associated figures.

Other Statutory Requirements for Local Watershed Management Plans

31. Along with the above specific requirements from the BCWMC Plan, local watershed management plans are required to conform to Minnesota law (Minnesota Statutes 103B.235), Minnesota rules (Minnesota Rules 8410.0160 and 8410.0170), and the BCWMC Plan. The rules (Minnesota Rules 8410.0160) require (in part) that:

“Each local plan must include sections containing a table of contents; executive summary; land and water resource inventory; establishment of goals and policies; relation of goals and policies to local, regional, state, and federal plans, goals, and programs; assessment of problems; corrective actions; financial considerations; implementation priorities; amendment procedures; implementation program; and an appendix. Each community should consider including its local plan as a chapter of its local comprehensive plan.”

As noted in Item 2, it is recommended that the LSWMP include cost estimates for stream restoration work (by reach) to be completed along the North Branch Bassett Creek and funded by the BCWMC, in addition to the aesthetic work identified in Table 8.2 and Section 8.1.4. This information is useful, as stream restoration work funded by the BCWMC is undertaken by the City prior to reimbursement from the BCWMC. The LSWMP should discuss that water quality and stream restoration projects that are part of the BCWMC capital improvement program are paid for by an ad valorem tax collected by Hennepin County on behalf of the BCWMC.

32. In accordance with Minnesota rules (Minnesota Rules 8410.0100, Subp. 6), the BCWMC requires that local plans “...assess the need for periodic maintenance of public works, facilities and natural conveyance systems and specify any new programs or revisions to existing programs needed to accomplish its goals and objectives.” The local plans must also assess, at a minimum, the following maintenance issues, also taken from Minnesota rules (Minnesota Rules 8410.0100, Subp. 6):
- The need and frequency for street sweeping of public and private streets and parking lots.
 - The need and frequency for inspecting stormwater outfalls, skimmers, sumps, and ponds.
 - The adequacy of maintenance programs for stormwater facilities and water level control structures owned by both the city and private parties.
 - The need for other maintenance programs as considered necessary.

These requirements are met by the LSWMP.

33. Besides the above maintenance issues, local water management plans will be required to assess the following (taken from MN Rules 8410.0100, Subp. 6):
- The need to establish local spill containment cleanup plans.
 - The need for any other necessary management programs.

These requirements are met by the LSWMP.

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34. The BCWMC's general standards for local water management plans are as follows (taken from Minnesota Statutes 103B.235, Subd. 2):

- Describe existing and proposed physical environment
- Define drainage areas and the volume rates and paths of stormwater
- Identify areas and elevations for stormwater storage adequate to meet the performance standards established in the BCWMC Plan.
- Identify regulated areas.
- Set forth and implementation program, including a description of official controls and, as appropriate, a capital improvement program.

These requirements are met by the LSWMP with the exception of the following issues:

The LSWMP does not identify the elevations of stormwater storage areas within the city. Flood elevations applicable to individual water bodies are not specified within the LSWMP.

Stormwater flow directions are not specified in Figure 2.3 (which includes storm sewer data) or Figure 2.4 (which includes storm sewer data and storm sewersheds). It is recommended that flow directions be added to Figure 2.4.