Item 6C.
BCWMC 10-16-14
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engineering and environmental consultants

BARR

Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 6C. Review Draft Feasibility Study for 2016 Honeywell Pond Enhancement/Improvement Project (CIP BC-4), Golden Valley
BCWMC October 16, 2014 Meeting Agenda
Date: October 8. 2014
Project: 23270051 2014 632

6C. Review Draft Feasibility Study for 2016 Honeywell Pond Enhancement/Improvement Project (CIP BC-4), Golden Valley

Summary:

Proposed Work: 2016 Honeywell Pond Enhancement/Improvement Project (CIP BC-4)

Basis for Commission Review: Draft Feasibility Study Review

Recommendations:

1) Consider approval of the draft feasibility study, with recommended changes, and provide direction to the City of Golden Valley regarding which alternatives should be implemented.

The 2016 Honeywell Pond Enhancement/Improvement Project (CIP BC-4) will be funded by the BCWMC's ad valorem levy (via Hennepin County). The City of Golden Valley provided the draft feasibility study to the BCWMC Engineer for review, as directed by the Commission at their February 20, 2014 meeting. The following is a summary of the draft feasibility study and the Commission Engineer's recommended revisions for the draft feasibility study.

Feasibility Study Summary

The City of Golden Valley's draft *Feasibility Report for the Honeywell Pond Enhancement/Improvement Project* (WSB, October 7, 2014) examines the feasibility of several enhancement/improvement projects in the Honeywell Pond and nearby areas that will provide treatment of runoff from the watershed. Additional improvement alternatives were evaluated to reduce runoff rate, reduce runoff volume, and provide habitat enhancements in the area. The improvement options selected for implementation would be constructed as part of the Douglas Drive Improvement Project, scheduled for construction in 2016.

The draft feasibility report identifies three improvement options for the Honeywell Pond and nearby areas, including:

- Option 1 – Expansion of Honeywell Pond, construction of a low flow diversion system from Douglas Drive, and establishment of a buffer/habitat around the perimeter of the pond.
- Option 2a – Construction of a lift station and force main to Sandburg Learning Center Ballfields for irrigation, with a stub for irrigation at the Honeywell site and a force main to the south infiltration system (to be constructed as part of the Douglas Drive Project).
- Option 2b – Construction of a lift station and force main to Sandburg Learning Center Ballfields for irrigation and a force main to the south infiltration system (to be constructed as part of the Douglas Drive Project). Assumes no irrigation at the Honeywell site.
- Option 3 – Combination of Option 1 and Option 2a

The table below is an excerpt from Table 1.1 in the feasibility study:

Option	**Estimated Capital Cost**	**Estimated lbs Phosphorus Removed per Year**	**Annual Cost/lb removed**
Option 1 – Honeywell Pond expansion, low flow diversion from Douglas Drive, and buffer/habitat establishment around pond perimeter	$880,000	15.3	$3,148
Option 2a - Construction of a lift station and force main to Sandburg Learning Center Ballfields for irrigation, with a stub for irrigation at the Honeywell site and a force main to the south infiltration system	$322,000	13.5-27	$800 – $1,600
Option 2b - Construction of a lift station and force main to Sandburg Learning Center Ballfields for irrigation and a force main to the south infiltration system (to be constructed as part of the Douglas Drive Project)	$322,000	7.8 – 15.6	$1,400 - $2,750
Option 3 - Combination of Option 1 and Option 2a	$1,202,000	28.8 – 42.3	$1,650 - $2,450

The attached sheet from the City of Golden Valley (not included in the feasibility study) provides a summary of the project costs, funding, and the city's recommendations. As noted on the sheet, the city can contribute an estimated $450,000 towards the project. This, combined with the estimated $285,000 of BCWMC funding, results in an estimated $735,000 of funding available for this project. The city recommends implementation of Option 1 as the first priority, followed by implementation of Option 2a/2b, if additional BCWMC funding is available.

The feasibility report notes that the project may require the following permits/approvals:

1) Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers, and Section 401 certification from the Minnesota Pollution Control Agency (MPCA)
2) Compliance with the Minnesota Wetland Conservation Act
3) MPCA National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit
4) BCWMC approval
5) City of Golden Valley Stormwater Permit
6) City of Golden Valley Right-Of-Way Permit
7) MDNR Water Appropriations Permit

The feasibility study also notes that the project will also follow the MPCA's guidance document for managing dredged materials, if applicable.

Recommendations

The Commission Engineer recommends the following revisions to the draft *Feasibility Report for Honeywell Pond Enhancement/Improvement Project* (dated 10/7/2014):

1. During project design (should Option 1 be selected), we recommend evaluating the use of a weir in the low flow diversion structure to ensure that low flows from the Douglas Drive system will be directed to Honeywell Pond (and potentially improve the phosphorus removal numbers) and prevent backflow from Honeywell Pond during large storm events (10 and 100 year events).
2. Revise the label on Figure 4 to reflect the irrigation of the Sandburg Learning Center Ballfields as outlined in Option 2. The label currently reflects the subsurface infiltration system in the ballfields that is no longer an alternative in the study.
3. Remove reference to "pond construction" in Table 4.4.
4. Correct costs in text to match the costs given in the tables.

The revised (final) feasibility study must be submitted to the Commission Engineer for review and approval by the Commission.

PROJECT COSTS AND FUNDING SUMMARY
HONEYWELL POND ENHANCEMENT/IMPROVEMENT PROJECT

Pond / Water Quality Funding

City Storm Sewer / Water Quality Funding	$900,000.00
less Funds Needed for Douglas Dr Storm Sewer Work	*-$450,000.00*
Remaining City Storm Sewer / Water Quality Funding Available for Honeywell Pond Project	$450,000.00
Estimated BCWMC Funding (From 2016-2020 CIP)	$285,000.00
Total Estimated Funding for Honeywell Pond Project	**$735,000.00**

Summary of Recommended Options and Costs and Running Total of Costs

Number	Name	(Includes Indirect & Contingency) Total Cost	Running Total
Recommended Options for Implementation [1]		**$880,000.00**	**$880,000.00**
Option 1	Low Flow Trunk Diversion from Douglas Drive Expand Pond Footprint / Depth Enhance Habitat / Perimeter		
Recommended Additional Options [2]		**$322,000.00**	**$1,202,000.00**
Option 2	Construct Lift Station and Forcemain to Sandburg Site for Irrigation Construct Forcemain to Irrigate Honeywell Construct Forcemain South to Douglas Infiltration Area		
Option 3: Combine Options 1 & 2		**$1,202,000.00**	**$1,202,000.00**

[1] Funding from City and BCWMC should be available for Option 1

[2] If additional BCWMC funding is available, the City recommends adding Option 2

Notes:

** The Douglas Drive Reconstruction Project includes stormwater improvements independent of the proposed Honeywell Pond Project that meet NPDES, BCWMC and all other water quality requirements.

city of golden valley