

Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 5E – Consider Approval of 90% Plans for Main Stem (CIP CR2015) 10th Avenue to Duluth Street, Golden Valley
Date: June 10, 2015
Project: 23270051 2015 630

5E. Consider Approval of 90% Plans for Main Stem (CIP CR2015) 10th Avenue to Duluth Street, Golden Valley

Summary

Proposed Work: 2015 Main Stem Restoration Project (CIP CR2015)

Basis for Commission Review: 90% plan review

Change in Impervious Surface: N.A.

Recommendation: Conditional Approval

The 2015 Bassett Creek Main Stem Restoration project (CIP CR2015) is being funded by the BCWMC's ad valorem levy (via Hennepin County). The City of Golden Valley provided the 90% design plans to the BCWMC for review and comment, as set forth in the BCWMC CIP project flow chart developed by the TAC.

Feasibility Study Summary

The City of Golden Valley's 2015 Bassett Creek Main Stem Restoration Project Feasibility Report (WSB, June 10, 2014) examined the feasibility of restoring sites along the 9,500-foot reach of the creek from the intersection of 10th Avenue North and Rhode Island Avenue North to Duluth Street. The feasibility report identified 29 sites where bank erosion, bank failure, and infrastructure repairs were needed, in addition to removal of debris, fallen trees, gabion baskets, and block walls.

The feasibility report identified two restoration design options for the project: 1) a bioengineering (or soft armoring) approach that uses techniques that rely primarily on vegetation, and 2) a more structural (or hard armoring) approach that uses rock and other non-vegetative materials. Both approaches included the use of stone toe armoring. In the bioengineering approach, the stone toe was one foot high, while in the hard armoring approach, the stone toe was two feet high. Both approaches also included a section of six-foot high fieldstone boulder wall. The bioengineering approach included biologs, biologs with a stone

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toe, root wads, rock vanes, live fascines (dormant willow and dogwood cuttings), live stakes, and vegetated reinforced slope stabilization (VRSS). The more structural approach included two-foot high stone toe, and nine-foot high fieldstone boulder.

The feasibility report estimated that the bioengineering/soft armoring approach would require the removal of approximately 800 trees, while the more structural/hard armoring approach would require the removal of approximately 400 trees. A combination of these two options was preliminarily selected as a preferred option in many of the restoration areas.

The following text, quoted from the feasibility report, provided the approach the city would use in selecting the design option for each particular site:

The selection of the best option for a given stream reach will be based on a number of factors including but not limited to; ease of and ability to obtain access for installation and future maintenance, slope of creek bank, presence of mature trees in the area and need to remove trees, exposure of creek bank to sunlight, velocity of flow in channel reach, and property owners' preferences for type of treatment.

Since selection of the type of treatment used in a given area will need the support of the property owner, the City will need to finalize the design approach as a collaborative effort with the property owner. At this time, based on our review of the feasible options available and input from a number of property owners that attended a public informational meeting on the project, it is anticipated that either the vegetative or hybrid option would be selected for most areas of the channel requiring stabilization work.

The feasibility report estimated that project implementation would reduce the total phosphorus load by 60 – 100 pounds per year and the total suspended sediment load by 140,000 – 200,000 pounds per year.

Project Summary

The 90% design plans include the following design features:

- Slope shaping
- Biolog stabilization
- Live stakes
- Live fascines
- Biolog and stone toe
- Vegetated bench

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- Riprap toe stabilization
- Biolog and boulder toe
- Boulder wall
- Infrastructure repairs and improvements, including replacing flared end sections and sheet pile, placing riprap at storm sewer outfalls, installation of new pipe and manholes, and removal of debris, fallen trees, gabion baskets, and block walls.

Temporary and permanent erosion and sediment control measures include:

- Rock construction entrances
- Silt fence
- Floating silt curtain
- Erosion control blanket
- Seeding

The plans show the removal of approximately 425 – 455 trees over the project length.

Previous Reviews

The City of Golden Valley submitted the 50% design plans for this project and the BCWMC conditionally approved the 50% plans at its March 19, 2015 meeting. Following the conditional approval of the 50% design plans, the Commission Engineer met on April 2, 2015 (on behalf of the BCWMC) with Golden Valley staff and the city's consultant to discuss the recommendations from the 50% design plan review. On May 22, 2015 Golden Valley provided a preliminary draft of the 90% design plans that incorporated revisions addressing the majority of the BCWMC's comments provided on the 50% submittal. The Commission Engineer provided informal comments on the preliminary 90% plans, and the 90% design plans were resubmitted to the BCWMC on June 5, 2015. The resubmitted 90% plans sufficiently addressed the majority of the BCWMC Engineer's comments provided as part of the review of the preliminary 90% plans.

Recommendations

- A. Authorize BCWMC Engineer to provide administrative approval after final plans have been revised and comments have been sufficiently addressed.
- B. Conditional approval of 90% drawings based on the following comments:
 1. Several staging areas are shown as being outside of the construction limits; the limits for Areas B and E should be revised to include all work and staging areas (sheets 9 and 12).

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2. The plans call for live staking with willow and dogwood throughout the stabilized sections of Areas A, C, D, and E. A similar note is not included for Area B (sheet 14). The plans should clarify whether live staking is intended for any portions of Area B.
3. For the SWPPP (Storm Water Pollution Prevention Plan) notes and restoration plans, please note that
 - a. The project description in the SWPPP should be corrected to accurately describe the reaches of Bassett Creek that are proposed for stabilization.
 - b. Temporary or permanent mulch must be uniformly applied by mechanical or hydraulic means and stabilized by disc-anchoring or use of hydraulic soil stabilizers. The description of soil stabilization measures on Sheet 2 should include this requirement for both native seeding and turf seeding.
 - c. Temporary vegetative cover must be spread at 1.5 times the usual rate per acre. If temporary cover is to remain in place beyond the present growing season, two-thirds of the seed mix shall be composed of perennial grasses.
 - d. The restoration plan should show how erosion and sediment control will be accomplished for all access routes. The access route across the golf course in Area B does not appear to have erosion or sediment control measures incorporated except for a rock construction entrance; silt fence or other measures may be necessary along the downhill side of the access path.
 - e. The SWPPP states that temporary stockpiles “cannot be placed in buffer areas... unless there is a bypass in place to prevent stormwater run-on into the stockpile.” The staging area at 78+50 in Area D appears to conflict with this requirement if it is used for temporary stockpiles. This staging area should be moved out of the low floodplain and placed closer to the access driveway to prevent high stream flows from running through any temporary stockpiles.
4. The final plans must be submitted to the BCWMC Engineer for review and approval after modifications have been completed.