DeCola Ponds B & C Improvement Project 90% Design

Bassett Creek Watershed Management Commission Meeting
April 18, 2019
Kurt Leuthold PE, Barr Engineering Company
Outline

- Brief project overview - goals & recommendations from feasibility study
- Review funding sources
- Present 90% design
- Permitting update
- Final design and construction timeline
The DeCola Ponds B and C Improvement Project

Project study area:

Project goals:

- Reduce damages and improve public safety by developing 20–25 acre-feet of flood storage—that’s 19 feet of water over an entire football field!
- Water quality improvement, outlet modifications, sediment removal, and habitat restoration.
- Preserve recreational use and improve park user experience.
- Tree removal will be required to achieve flood storage and water quality improvements; but, the goal is to preserve significant hardwoods in the area and restore vegetation.

How do you create flood and water quality storage?

DeCola Ponds B&C Improvement Project Feasibility Study
Concept 3: Hybrid of Concepts 1 & 2
Estimated Cost (-20%/+30%) = $3.8 Million

DeCola Ponds B&C Improvement Project Feasibility Study
Project Funding Sources

- BCWMC CIP: $1.6 million
  (over 2 years 2019/2020)
- MnDNR Flood Damage Reduction Grant: $2.3 million
- Hennepin County/Golden Valley: $700,000
- Total = $4.6 million
Project Comparisons from 50% Design

- Additional flood storage volume remained the same – 24 ac-ft
- Medicine Lake Road flood depth reduction remained the same – 1.3 ft
  - (Phase 1 reduced MLR flood level approx 2 ft, total = 3.3 ft)
- Reduction of pond flood levels remained the same
  - Pond A, B, C = down 0.5 ft
  - Pond D = down 0.5 ft
  - Pond E and F = down 0.1 ft
Project Comparisons from 50% Design

- Open Water Expansion area remained the same – 2.0 acres
- Restored wetland and upland habitat remained the same – 3.0 acres
- Phosphorus removal remained the same - 10.8 lb/yr
- Estimated construction cost remained the same @ $4.1 million
- Added 2 benches
- Straightened the box culvert
- Completed detailed dewatering plan
Temporary Draw Down Details for DeCola Ponds A, B, and C

**Draw Down Level**

- **DeCola Pond A**
  - Normal Pond depth: 5.8'
  - Drawdown pond depth: 4.3'
  - Bottom of pond: 2.3'

- **DeCola Pond B & C (South)**
  - Normal Pond depth: 3.8'
  - Drawdown pond depth: 2.3'
  - Bottom of pond: 2.3'

**Draw Down Schedule**

- Temporary draw down begins September 2019
- and ends Early Spring 2020
Site Plan, 90% Design

Estimated Cost (-10%/+20%) = $4.1 Million

DeCola Ponds B&C Improvement Project Final Design

Concept Summary

Additional Flood Storage Created: 24.0 acre-feet

Open Water Expansion: 2.0 acres

Improved Water Quality: Additional 10.8 lbs/yr phosphorus removed

Restored Wetland and Upland habitat: 2.9 acres total

Medicine Lake Road 100-Year Flood Depth Reduced from 3.1 ft to less than 2 ft

Reduction of Flood Level on Ponds:

<table>
<thead>
<tr>
<th>DeCola Pond</th>
<th>Feet</th>
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<tbody>
<tr>
<td>A, B, C</td>
<td>0.5'</td>
</tr>
<tr>
<td>D</td>
<td>0.5'</td>
</tr>
<tr>
<td>E, F</td>
<td>0.1'</td>
</tr>
</tbody>
</table>
The following trail materials were evaluated for cost, durability, impacts due to snow removal, ADA compliance, routine maintenance needs, and permeability:

- Bituminous Asphalt
- Permeable Pavers
- Decomposed Granite
- Decomposed Granite with stabilizer
- Crushed Lime Rock
Working Through the Restoration Plan

- Feedback received from Dover Hilll Apartments management and maintenance staff regarding restoration
- Public comments – primarily from residents on Pond D (4/16/19)
- Will include a mix of native trees, shrubs, grasses, and forbs
- Restoration vegetation selection will also consider the proposed hydrology – peak elevations, frequency, duration
DeCola Ponds B&C Improvement Project Final Design
Permitting & Coordination

- Submitted State and Federal permit applications mid February, expect response within 6 months
- Coordination with utilities ongoing (MCES, private, and railroad)
- Continue working with residents & landowners (Dover Hill, residents on north end of DeCola Pond D)
Final Design Process

- **Sept. 2018**
  - Project authorized and MnDNR grant agreement executed

- **Oct. 2018**
  - Final design begins

- **Dec. 2018**
  - Environmental Assessment Worksheet (EAW) review period

- **Feb. 2019**
  - 50% design
  - EAW process ends and permitting begins
  - Public Open House #1
  - Present 50% design to BCWMC

- **April 2019**
  - 90% design
  - Public Open House #2
  - Present 90% design to BCWMC

- **June/July 2019**
  - Project bidding

- **Aug. 2019**
  - Permitting ends
  - Construction contract negotiations

- **2019**
  - Construction starts in September 2019 and concludes in summer 2020
Any Questions?