

Boxelder Creek Watershed B Dams IGA

Ken Sampley, P.E., Director of Stormwater Engr and Dev Review

- Does Council support the City entering into an Intergovernmental Agreement (IGA) with other municipal stakeholders for the operation and maintenance of Boxelder Creek Watershed Dams (B-2, B-3 and B-4)?
- Does Council have other questions for staff?



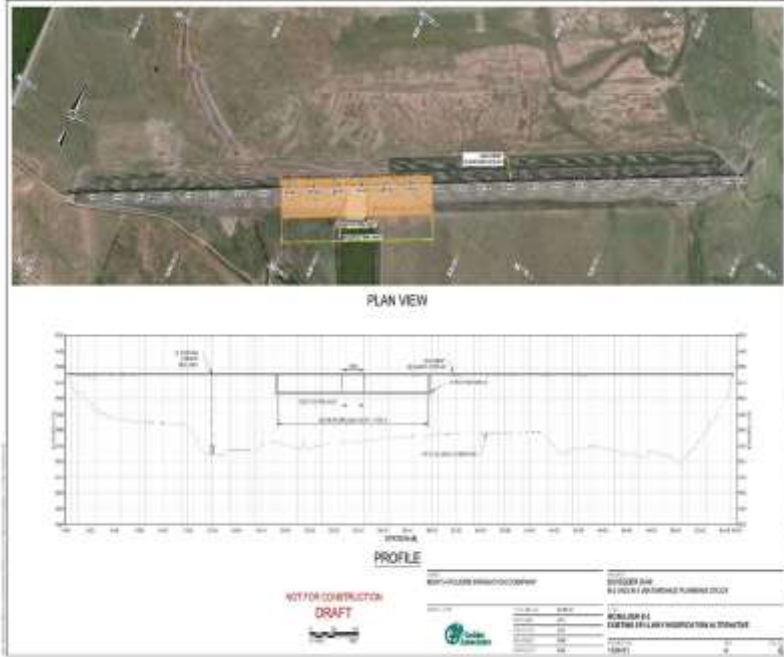
- Boxelder Creek Watershed Dams (B Dams) were built in late 1970s and early 1980's
- Goal -- Reduce flood risks for downstream land
- B Dams currently owned by North Poudre Irrigation Company (NPIC)
- 2013 -- State Engineer's Office (SEO) increased hazard rating to "High" due to downstream development
- Dams did not meet safety and performance standards established for "High" hazard classification



- Natural Resources Conservation Service (NRCS) and NPIC initiated rehabilitation studies in 2016
- Hydraulic modeling, dam breach evaluations, environmental review, alternative solutions
 - Decommissioning, new spillways, overtopping protection, fuse plugs, spillway modifications, increased freeboard
- Capital improvement costs from \$11 - \$20M each for Dams B-2 and B-3. NRCS could do a cost share of up to 65% if timely response from local governments.



- Stakeholder Group included:
 - Fort Collins Larimer County
 - Wellington Timnath NPIC
- IGA to co-fund Consultant effort to
 1. Develop a joint approach to address alternatives and costs
 2. Develop 2nd IGA -- Cost allocation for design, construction and maintenance
- June 6, 2019 -- Water Commission recommended Council approve IGA
- Resolution 2019-079 approved by City Council in July, 2019



2020 SEO Updates Rules and Regs

- New approach to dam safety
- PFMA – Potential failure modes and Likelihood of Failure
- Consultant -- Performed PFMA Analysis in 2020 and 2021

Could potentially avoid costly upgrades to existing dams depending on PFMA results

Analysis Determined

- Low Failure Likelihood
- Level 3 Consequence

If B Dam Emergency Actions Plans (EAPs) are updated and adequate warningsystem is installed

Result

- Acceptable Hydrologic Adequacy Requirement

| | | | | | |
|-----------------------------|-----------|-------------------|---------|-----------------------------|---------------------------------|
| Failure Likelihood Category | Very High | | | | |
| | High | | | | |
| | Moderate | | | | |
| | Low | | | All Dams - Adequate Warning | All Dams - Little or No Warning |
| | Remote | | | | |
| | | Level 1 | Level 2 | Level 3 | Level 4 |
| | | Consequence Level | | | |

SEO October 10, 2023 Letters for B-2, B-3 and B-4

Hydrologic risk for each dam is acceptably low and satisfactory at this time if the following conditions are met:

1. Install and maintain the early warning systems at the dams.
Connect to Larimer County's Flood Warning System.
Formally notify SEO when complete and operational.
2. Update and distribute the Emergency Action Plans (EAPs) annually.
3. Finalize and execute the Operations and Maintenance IGA for the B Dams that clearly designates ownership, responsibility and decision-making authority.

A Management Committee is established to implement the IGA and to provide technical and other recommendations. Each entity designates one representative to the Committee. The Committee shall:

- Adopt bylaws to facilitate its conduct of business;
- Meet at least annually;
- Provide advice and recommendations to the Parties;
- Complete tasks delegated to it under the IGA including:
 - Provide direction and recommendations to the Fiscal Manager;
 - Establish budgets; and
 - Review/update the Cost Allocation Model at least once every 5 years
- The committee shall operate by consensus

Flood Warning System

- A Pre-Disaster Mitigation grant in the total amount of \$100K has been received.
- The Federal funding will be 90% (\$90K).
- The Local funding total is \$10K. Fort Collins' share will be 1/5 of that amount which is equal to \$2K



B-2, B-3 and B-4 Dams

- Costs are allocated on a percentage basis for impacted communities. Fort Collins's share is 20.7%
- For first 5 years, Fort Collins annual share:
 - Operations and Maintenance (O&M) = \$ 7,659
 - Establish an O&M Fund for large scale rehabilitation = \$ 50,103
- Council previously approved annual funding of \$90K in both 2023 and 2024. Therefore, no additional funding is needed until 2025-2026

Note: Implementation of this IGA eliminates the need to construct costly improvements to B Dams B-2, B-3 and B-4.

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Fort Collins Utilities

