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TO: Alicija Hughes- Skandijs, Chair  
Public Works and Facilities Committee

DATE: April 21, 2025

THROUGH: Denise Koch, Director Engineering and Public Works

FROM: John Bohan, Chief CIP Engineer

SUBJECT: Mendenhall River Drainage Outfall Culverts – Check Valve Update

CBJ Engineering has been systematically reviewing and making improvements to stormwater drainage systems in the Mendenhall Valley since the 2023 glacial lake outburst flood (GLOF) to prevent the backflow of flood waters into the area. This memo provides an overview and update regarding those efforts.

After the record August 2024 GLOF and again after the October 2024 GLOF, inspections were made of the existing check valves and the ones that were installed in July 2024. All the check valves were found to be operating in good condition.

In addition to inspecting the check valves installed in July 2024, other river outfalls were inspected to determine whether additional culvert pipes could be vulnerable to a GLOF. Seven additional CBJ drainage culverts were found from Dimond Park down to Brotherhood Bridge that could be impacted from flooding at greater heights than was experienced during the August 2024 GLOF, and would help protect the schools and valuable infrastructure at Dimond Park and the SEAHRC Health Clinic, Trillium Landing and Riverview Senior Living as well as other valuable infrastructure in the Vintage Boulevard and Clinton Drive area.

Two culvert crossings along Back Loop Road, adjacent to the Back Loop bridge, were also identified as needing to be addressed as they pass flood water under Back Loop Road. Due to the configuration of these pipe draining in the direction of the river flow, check valves would not prevent flood waters from passing through. Temporary plugs will be installed in each of these culverts immediately before the GLOF and removed after the GLOF flooding has subsided, to prevent flood waters from inundating under Back Loop Road into Mendenhall River School Playground and Tournure Street Area. CBJ will be coordinating this work with the Alaska Department of Transportation & Public Facilities to ensure they are plugged immediately prior to the next GLOF.

The check valves were ordered in late February 2025, including the check valves needed for the drainage pipes installed through the HESCO Flood Barriers. The check valves are expected to ship from the manufacturer in mid-June and should be in Juneau by the end of June for immediate installation.

***Attachment:***

1. Culvert Outfalls – Back Loop and Dimond Park to Brotherhood Bridge Mendenhall River
2. Drainage Outfall Culverts – Update – Check Valves Installed! August 5, 2024