

MEMORANDUM

2707 Colby Avenue, Suite 900, Everett, WA 98201 | P 425.252.7700

To: Thomas Boydell, Economic Development Manager, City of Marysville
Cc: Chris Holland, Planning Manager, City of Marysville

From: Andrea Bachman, Senior Environmental Scientist, Perteet
Peter Battuello, Director of Environmental Services, Perteet

Date: January 25, 2024

Re: Marysville Riverwalk – Stream Mitigation Proposal

As part of its Riverwalk project, the City of Marysville will fill a surface water ditch that conveys jurisdictional waters between two wetland areas. Historically, water flowed between the upstream wetland and Ebey Slough. Development between 1930 and 1990 redirected upstream wetland water into a pipe that discharges to a stormwater ditch, then flows as surface water to the downstream wetland and an outfall to Ebey Slough.

This memorandum was prepared on behalf of our client, the City of Marysville (applicant), to explain the proposal to redirect the watercourse of concern, “Stream 1,” through a new conveyance that will separate jurisdictional water from City stormwater and discharge it directly to the downstream wetland. This memorandum focuses on the City’s approach to mitigating the filling of the jurisdictional ditch. Other documents associated with this project address wetland mitigation and other environmental considerations.

Background Information

Stream 1 flows from the southwest corner of Wetland 1 in a 400 linear-foot pipe to an open roadside drainage ditch, which receives additional stormwater inputs from the surrounding industrialized areas and is a part of the City’s downtown street system sewer system.

After entering the roadside ditch, the channel flows south for 316 feet, through a 90-foot-long culvert under an access road, and then another 250 feet of open channel before entering Wetland 2 and eventually out to Ebey Slough (Figure 1). The ditch conveyance is vegetated with grasses and blackberries along the side slopes, but above-bank riparian vegetation is nonexistent as it flows through the active industrial site. No fish habitat has been documented within this stream.



Figure 1. Existing Conditions.

The water from the stream historically flowed in a meandering channel between off-site Wetland 1 and Ebey Slough in an area now comprised of a filled sewage lagoon and associated access roads. Over the decades, industrial uses on and near the subject site prompted stream modifications.

Stream 1 is more than two feet wide in the drainage ditch on a low gradient of less than 5% between Ebey Slough and the upper reach in Wetland 1. Marysville Critical Areas Maps (Marysville, 2023) identify the stream as unregulated, but it is likely to meet the DNR criteria for Type F (WAC 222-16-030).

Summary of the Stream Reroute Proposal

The City analyzed stream alignment alternatives that identified multiple constraints and adverse impacts from the City's wastewater treatment operations and evaluated the use of mitigation options available to the City.

Alternatives to re-establish Stream 1 involved:

1. Re-establishing the channel along its historic alignment.
2. Re-aligning the channel to the southeast of the proposed development area.
3. Shifting Wetland 1's discharge to the southeast corner of the wetland and discharge to the Qwuloolt Estuary.
4. Separating jurisdictional waters from site stormwater through a new piping system and applying mitigation credits available to the City.
5. No action, which would involve retaining existing utility conditions.



Figure 2. Locations of the Alternatives.

These alternatives were assessed against the following criteria:

- Physical constraints
- Implementation schedule
- Habitat benefit

Physical Constraints

Alternatives 1 through 3 are all highly constrained by existing infrastructure. Alternatives 1 and 2 would need to cross a 16-inch sewer force main, portions of a filled wastewater treatment pond, a second 10-inch force main, and three service roads supporting the WWTP operations. Alternative 1 would further impact the planned development of the Sports Complex and establish buffers and setbacks that would prevent the development from proceeding. Alternative 3 must cross a 48-inch and 8-inch sanitary line and a developed right-of-way. The only available discharge point to the Qwuloolt Estuary is an existing stormwater treatment cell.

Alternative 4 is only slightly constrained as it can avoid the sewer system and directly connect Wetland 1 and 2. Alternative 5 requires no action.

Implementation Schedule

The site development is planned to start in 2027, with the adjacent public works property filling in 2024 through 2026. While the schedule for implementing on-site mitigation is achievable, the ability to structure the funding and implement sanitary sewer design requirements would require several years and likely not be ready for construction until 2030. This results in Alternatives 1 through 3 as being schedule constraints and not viable.

MEMORANDUM

Habitat Benefits

Alternatives 1 and 2 would improve water quality discharges to Ebey Slough by providing a natural flow system from Wetland 1 to the Slough. These alternatives will, however, be impacted by the imported material used to fill the lagoon.

Alternative 3 would need to commingle with untreated stormwater before reaching the Qwuloolt Estuary, thereby conflicting with the objectives of the project.

Alternative 4 would be an improvement over Alternative 5 as it separates jurisdictional waters from City stormwater.

Findings

The City recognizes the importance of restoring historically degraded stream habitat but finds such restoration technically impracticable under current and planned future development of the area between Wetland 1 and Wetland 2, as demonstrated in the alternative analysis. Based on the alternatives analysis presented above, the City selected Alternative 4. The City proposes to convey jurisdictional waters in a new pipe that directly connects Wetland 1 to Wetland 2. This alternative avoids physical constraints that are considered impracticable to overcome and improves water quality and hydrologic connection for jurisdiction waters to flow directly to Ebey Slough. Implementing this alternative will involve capping and abandoning the existing 400 linear feet of east-to-west flowing pipe and retaining the on-site drainage ditch solely for stormwater conveyance. That conveyance pipe can then be extended to achieve development objectives. Mitigation for the permanent loss of stream habitat will be through the City’s available off-site mitigation credits in the adjacent Qwuloolt Estuary mitigation bank.

Design elements associated with rerouting Stream 1 include an appropriately sized pipe to drain from off-site Wetland 1 to off-site Wetland 2 for a total length of about 640 feet.

The area and length of the existing open water ditched portion of the stream are used in calculating impacts and mitigation ratios. The open water ditch is approximately 6,800 square feet (0.16 acre) and 566 feet long through the proposed development site (see Table 1).

Table 1. Expected Impacts to Streams.

Watercourse	Impact (acre/linear ft)	Classification system used	Water type	303(d) Listed (parameters)
Stream 1	0.16/566	WDNR	F = Fish	None

Proposed Off-Site Mitigation (Bank Use)

The City plans to utilize available mitigation bank credits in the nearby Qwuloolt Estuary mitigation bank to mitigate the loss of stream habitat. Ecology's "Bank Use Plan" guidance, updated in 2022, indicates that banks can compensate for "unavoidable impacts to wetlands and other aquatic resources, including buffers, associated with their projects. Aquatic resources include but are not limited to wetlands, streams, rivers, other waters, and associated buffers." The document notes that the bank can mitigate stream impacts but does not give specific ratios. The Qwuloolt Estuary offers significant recovered habitat for Puget Sound Chinook, bull trout, and other salmonids through rehabilitated estuary habitat comprised of channels, marsh, mud flats, and riparian areas. Over 1.5 miles of lower Allen and Jones Creeks have been restored (Qwuloolt.org, 2013). Therefore, the bank can

MEMORANDUM

appropriately compensate for the impact of Stream 1. A bank use proposal is being developed for submission to Ecology and the Corps.

Functions to be Impacted

Water Quality Functions – While placing streams in pipes often reduces water quality functions, the contrary is anticipated at this project. Stream 1 was placed into a drainage ditch, which conveys runoff from an on-site public works facility. The surface runoff carries potential pollutants and suspended sediments. By placing Stream 1 in a closed system to convey only natural hydrology between Wetlands 1 and 2, the watercourse will no longer receive dirty stormwater runoff, and there is no risk of mobilized contaminants from the sewage lagoon fill entering the stream.

Fish and Wildlife Habitat Functions – The project is expected to have no direct impact on fish and wildlife habitat functions since none exist within the project area. Placing Stream 1 in a pipe eliminates potential fish habitat restoration opportunities.

Hydrologic Functions – The entire site is degraded with hardened surfaces, limited vegetation cover, and limited capacity to retain significant floodwaters. Most of the site is within the 100-year floodplain. Piping the stream could help to increase flow capacity, reduce erosional damage, and be less likely to overflow and damage nearby buildings and roads.

Regulatory Considerations

The project requires permit requests and notifications to the City of Marysville, the Department of Ecology, US Army Corps, and the Department of Fish and Wildlife. We are currently preparing a Bank Use Plan to be submitted to Ecology and the Corps for approval.

The project is in the early design stage, with preliminary information being submitted to the city planning department for review. As the design progresses, the City will align the proposal with the applicable laws, regulations, and guidance governing the action to place the stream in a piped system.

The proposed action is allowed under Marysville Municipal Code (MMC) 22E.010.230(3)(c) if it is part of an approved mitigation or rehabilitation plan that will result in equal or better habitat and water quality and will not diminish the flow capacity of the stream. The nearby Qwuloolt Estuary mitigation bank will provide a better habitat, as it has already restored over a mile of salmon habitat. On-site water quality and flow capacity will not be diminished, as above.

Summary and Conclusion

The City plans to separate Stream 1 from the existing stormwater system by installing a conveyance pipe (size to be determined) between Wetlands 1 and 2 and utilize bank credits from the Qwuloolt Estuary. The project applications submitted to the city planning department are under review. The necessary document submittals to all other agencies are forthcoming.

The City is committed to responsible and sustainable development and mitigating adverse environmental impacts to the greatest extent possible. The current proposal will meet these commitments.

MEMORANDUM

We look forward to further collaboration and communication with reviewing agencies and appreciate the time and consideration given to this proposal thus far.

Should you have any questions or concerns, please contact Andrea Bachman, Perteet's Senior Environmental Scientist assisting with environmental permit coordination, at andrea.bachman@perteet.com or 425.426.3817.