



**Snohomish County**

## Swamp Creek Drainage Needs Report

### APPENDIX E

# Geomorphic Channel Assessment

## Appendix E. Geomorphic Channel Assessment

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The scope of work for this Drainage Needs Report (DNR) did not include a geomorphic channel assessment. For some of the other DNR study areas, geomorphic analyses were conducted to evaluate erosion and sediment deposition problems. However, because there are fewer known historic erosion and sediment deposition problems in the Swamp Creek DNR study area, an assessment was not conducted for this DNR.

Erosion and sediment deposition are natural processes in stream systems. However, the rate of erosion often increases as a result of increased flow rates and volumes due to urbanization. Erosion and sedimentation may cause impacts to fish habitat, and in some cases, property damage. Hydrologic analysis conducted as part of the Swamp Creek DNR show that peak flow rates resulting from future development will not significantly increase. However, the durations of erosive flows will increase to varying degrees which could lead to increased erosion in the future. More detailed assessment of future erosion problems could be studied by the County in the future.

Although a channel erosion assessment was not performed for this study area, some site specific erosion problems were identified during field investigations for habitat and water quality. These site specific erosion problems can both impair habitat conditions as well as create water quality problems. The observed problems were listed in Section 8 as problems under habitat when observed by team habitat specialist and listed under water quality when observed by water quality specialist. The observed problems include the following:

- SW-SC-H-EX-07 – A section of Golde Creek has eroded in vicinity of 205th Place and 204th Street.
- SW-SO-H-EX-01 – A previously armored (with riprap) bank of Swamp Creek has been washed away near Locust Way and 219th Place and erosion is occurring.
- SW-SC-Q-EX-01 – Erosion of a section of Scriber Creek upstream of Locust Way was observed.
- SW-SO-Q-EX-02 – The banks of Swamp creek were observed to be eroding near the confluence with Scriber Creek.

In addition to the observed erosion problems above, three additional potential erosion problems were identified during a review of prior studies in the basin. These erosion problems were identified in the City of Lynnwood Comprehensive Flood and Drainage Management Plan (R. W. Beck, 1998) and discussed below. These potential problems were not observed in the field and because they were not confirmed as problems, they were not listed as problems in Section 8.0. Instead, a recommendation in Section 10 is made for the County to investigate these potential problem areas in a future study.

- 2703 204th Street SW. This location is just upstream of the Golde Creek crossing of 204th Street SW. The stream is eroding a bank located only a few feet away from an existing deck.

- 28th Avenue W between 201st Street SW and 203rd Street SW. Minor erosion of the channel along the 28th Avenue W was observed.
- Behind the townhouses at 2816 200th SW (private street). Minor erosion of the channel behind the townhouses was observed. The erosion in this area has the potential to undermine trees.