

Summary of Daylighting Benefits, Opportunities, and Constraints

Potential benefits and opportunities resulting from daylighting the downstream reach of Mill Creek include:

- Wildlife enhancement: additional open space (approximately 10 hectares) consisting of high quality habitat through a continuous, naturally-vegetated, riparian corridor. Additional benefits result from reduced potential for animal-vehicle collisions along existing roadways.
- Aquatic habitat: re-establishment of surface flow into the North Saskatchewan River, creating improved spawning habitat and new food sources to support fish populations in this area.
- Transportation improvements: redesign of the existing road network to enhance functionality and improve pedestrian and cycling connections.
- Barrier-free access: additional trails in the area and new connections to the Valley Line LRT Muttart Stop improve barrier-free access to the river valley park network and the downtown.
- Recreational enhancements: integrated open-space system, improving connectivity between Mill Creek Ravine, Muttart Conservatory, Henrietta Muir Edwards Park, Gallagher Park, the Low Level Bridge, and Mechanized River Valley Access.
- Reduced flood potential and stream erosion: better management of peak flows in a daylighted Mill Creek through diversion of upstream creek flows.

Potential constraints that have been identified and assessed as part of this feasibility study include:

- Roadway conflicts. Daylighting Mill Creek will require crossing between five and seven existing roadways, depending on the conceptual option selected.
- Drainage utility conflicts. There are a number of existing utilities within the potential daylighting corridor.
- Hydrology and geomorphology. The overall slope for the daylighted creek between the existing diversion structure south of Connors Road and the North Saskatchewan River is approximately one percent. The daylighted creek will have a high risk of erosion if flows are not properly managed and/or adequate protection measures are not incorporated into the design of the creek.
- Soil contamination. There are known areas of contamination adjacent to or within the daylighting study area located east of the Valley Line LRT alignment. Contamination is the result of former industrial use, including an incinerator and brick yard.