

Date: June 29, 1999

SUBJECT: POSSIBLE STREAM RESTORATION: FALAISE PARK

RECOMMENDATION

THAT the Board receive this report as information.

BACKGROUND

A community interest group has approached the Park Board to request investigation into the possibility of “daylighting” an apparent existing stream in Falaise Park. The group identified the stream from the Vancouver Old Stream Maps, (revised 1989), and realized that it is a tributary of Still Creek. (See **plan #1**).

Their interest in exposing the stream is two-fold. They wish to initiate and be a part of the long term daylighting of existing water courses throughout the city to enhance and preserve the natural environment. At the same time, they would like to work with the entire community in the creek catchment area as part of an educational/awareness programme to realize the potential of this natural resource. Resident and commercial participation within the watershed area is necessary, not only to maintain clean water in the creek, but to help fundraise the costs of the park redevelopment.

DISCUSSION

City Engineering is working with Park Board staff to determine the water source(s), (stream and stormwater) quantity and quality, watershed size, etc. in the park.

There is an existing 30" diameter storm drain in southern half of the park which leads into a 36" diameter storm line in the north end of the park. (See **plan #2**). The existing storm line lies on the old stream bed as shown by comparing Plan #1 to #2. City Engineering calculates that storm water runs at 120 cfs in a 25 year storm design. The watershed is approximately a 300 acre area above the park. At Park Board's request, City Engineering placed a flow metre into the catch basin at the outfall on Grandview Highway to measure the depth and volume of water in the 36" diameter pipe. As it had not been raining for about one week, the 3 inches of water in the pipe indicated groundwater. Engineering determined that there will always be a certain amount of water flow and it is unlikely that it will be completely dry. The community representatives were stirred by the sounds of water rushing through the drainage pipes in the park. City Engineering has explained that the water catchment area is both large and steep and the sounds are caused by runoff water even days after rainfall.

The stormwater runoff carries many chemical/toxic elements from pesticides to faecal contamination from dogs. The GVRD summarized typical city stormwater discharge quality in a number of catchment areas and itemized findings on a chart comparing them to acceptable contaminant levels. (See **Item #6**). The Still Creek Inventory (1985), by L. Dawson, et al

describes the many obstacles encountered in daylighting a stream with respect to contaminants and contaminators. i.e., the watershed contains two large industrial areas both adjacent to the creek which contribute metal fabrication and industrial finishing toxins in the creek. Residential contaminants include: solvents, paints, crankcase oils, bleaches, detergents, antifreeze, fertilizers, herbicides and pesticides. Renfrew Ravine is maintained by the GVRD. There is an issue regarding garbage dumping at the creek, as well as an incident of a slide. The creek is signed, as recommended in the Still Creek Report; “unfit for human contact.”

Design and Issues

The existing 30" storm water pipe lies 16 feet deep at the south end of the park (at Falaise Avenue), and approximately 10 feet deep in the centre of the park. Exposing the stream in the north end of the park is not desirable because of the existing playfields and new diamonds. Pipe exposure would, therefore, run approximately 580 feet in length. (See **plan #3**).

Riparian vegetation could be planted on side slopes at a manageable grade of 3:1. This width would equal a total of 84' -0", 42' on each side of a stream bed which could be approximately 5' wide. (See **plan #4**).

The Engineering department recommends that the existing pipe be retained in the ground to handle peak flows and the stream be located beside it. City Engineering will not be assisting with the costs to ‘daylight’ the stream as they have already separated storm and sewer lines in this neighbourhood. Leaving the existing storm drain will help reduce overall costs. An oil separator is not effective with large volumes of storm water such as those calculated at Falaise Park and City Engineering advised against the installation of an oil separator.

Identifying Benefits and Costs of Daylighting Streams

Benefits

The community has an opportunity to work together to enhance and preserve what is thought to be a tributary of Still Creek. A lot of work is required in the community to advance local initiatives to learn about stream health, educate residents about how they affect the health of the stream and initiate fundraising to offset the costs of daylighting the stream. The community representatives appear very keen to carry out the awareness campaign.

Although it is not recommended to daylight the north half of the park, daylighting the stream in the south half would enhance the aesthetics and use of this area. It is quite damp in most of the south end of the park and the lawn is infested with rough grasses which have taken over naturally where water is abundant. A stream bed and riparian vegetation would add to the interest and use of the park. Any stream restoration project has the potential to be a creative and improved redevelopment of open space, recreation and restoration of a historic or cultural resource.

The costs to redevelop the park are not unreasonable if the existing pipe is left in situ. The cost estimate assumes that the existing storm pipe is left in its present location. (See cost estimate -

item #5).

There is adequate water in the pipes to provide a stream like environment in flow periods. It will, however, be lower in the drier months, but not completely dry.

Costs and Concerns

It is safe to assume that stream water is proportionately lower than storm water and effectively the “stream” is actually ditch water. Signs would most probably be posted stating that the water is “unfit for human contact.” In the Still Creek Report and other resources which discuss stream restoration, this has been a recommendation.

The expenditure of \$200-\$225,000 for this development would have to be approved as part of the 2002-2002 Capital Plan, or a later one, over and above other park development projects which might deserve priority consideration for development in this community.

The water quality is dependent on the residents living in the catchment area and their awareness of what does NOT go into the drain system. Awareness and education within the 300 acre watershed would hopefully prevent residents from dumping toxic materials into the drain system and illegal connection of sewer lines into the storm drainage system.

During dry weather the storm water flows are less than in wetter times of the year. This leaves a rather unattractive space which usually begins to fill up with garbage. This creates a maintenance/operation burden which more than doubles staff work.

SUMMARY

Fundamentally, the notion of opening the creek or even running partial volumes of storm water through the south portion of Falaise Park has some credibility, especially as the park space in this portion of the park is lacking in recreational appeal. However, the following should be carried out to establish the validity of the project:

1. Meetings with the stream ‘daylighting’ advocates to present findings and facts as presented by City Engineering. Discussions regarding the Park Board’s concerns related to maintenance, recreational value, public health issues, development costs and awareness/education processes must take place before the community advances fundraising strategies.
2. A public process be initiated complete with preliminary plans, costs, recreational value, maintenance issues etc. in order to test public interest. Without the support of the catchment area, the project could fail.
3. A geological or hydrological consultant be retained to examine the stream/stormwater’s source, volume, quality and how it could be channelled, etc.

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