



CITY OF VANCOUVER

POLICY REPORT ENVIRONMENT

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TO: Standing Committee on Planning and Environment

FROM: General Manager of Engineering Services in consultation with the Director of City Plans

SUBJECT: Integrated Stormwater Management Plan for the Still Creek Watershed

RECOMMENDATION

- A. THAT Council approve the Integrated Stormwater Management Plan (ISMP) including the vision, goals and strategies for the Still Creek Watershed entitled "From Pipe Dreams to Healthy Streams", as summarized in this report.
- B. THAT staff pursue the ISMP action items that can be readily incorporated, at no significant cost, into City activities and programs in the Still Creek Watershed;
- C. THAT staff report back on the ISMP action items that will require additional staff and financial resources to undertake;
- D. THAT staff participate in a Vancouver-Burnaby-GVRD coordinating committee for the Still Creek watershed to facilitate programs in accordance with the Plan.

GENERAL MANAGER'S COMMENTS

The General Managers of Engineering Services and Community Services RECOMMENDS approval of A, B, C & D.

CITY MANAGER'S COMMENTS

The City Manager RECOMMENDS approval of the foregoing.

COUNCIL POLICY

Council has approved numerous policies supporting the protection and revitalization of Still Creek (see Appendix A for details - limited distribution. Copy available in City Clerk's Office).

SUMMARY

Approximately one third of the Still Creek watershed is in Vancouver with the remainder in Burnaby. Development in this watershed over the past several decades has resulted in flooding issues, poor creek water quality, loss of habitat and reduced recreational opportunities. To address the environmental, recreational and flooding concerns, an Integrated Stormwater Management Plan was developed jointly by Vancouver, Burnaby and Greater Vancouver Regional District (GVRD) staff. This Plan provides eight key goals and over 100 possible actions which will give City and Regional staff a useful tool box when dealing with land use and infrastructure planning projects in the Still Creek watershed. The goals and strategies of the Plan are designed to improve the environment, develop recreational opportunities and help manage flooding risks.

PURPOSE

This report summarizes the key findings in the draft Integrated Stormwater Management Plan (ISMP) for the Still Creek watershed, and recommends approval of the Plan. It also recommends that the Plan's action items be used when carrying out activities in the watershed.

BACKGROUND

Still Creek is part of the Brunette watershed and is one of the last remaining streams in the urbanized portion of Vancouver. The upper portion of the watershed starts in the Metrotown area of Burnaby. The watershed then drains into the eastern part of Vancouver, through Renfrew Ravine/Park and down into the Grandview-Boundary industrial area. From this location it flows back into Burnaby and discharges into Burnaby Lake. Approximately one third of this watershed is located in Vancouver. The creek is also defined as a "Drainage Area" under the Greater Vancouver Sewerage & Drainage District Act. The District, on behalf of its members, is responsible for maintaining the Still Creek drainage channel.

In 1929, Still Creek was envisioned as part of Harland Bartholomew's "Parks and Pleasure Drive" system connecting Vancouver and Burnaby along the natural stream. However, engineered solutions prevailed and sections of the Creek and its tributaries were culverted, channelized and relocated in order to move water quickly and efficiently away.

Throughout the 1950s and '60s, buildings were located close to the creek's edge in anticipation of a completely enclosed system, creating flood risk, erosion, poor water quality

and a loss of recreational opportunities. However, before the creek was fully enclosed, the philosophy of stormwater engineering shifted back to the preservation of more natural, open systems, resulting in a partly enclosed and partly open system.

In the late 1980s, Council developed policies to enhance and protect the creek, daylight culverted portions and link the 29th Avenue Skytrain Station to Burnaby Lake via a Still Creek Greenway. In 2002, Council endorsed the Still Creek Rehabilitation and Enhancement Plan and the first improvement project was completed in 2005.

Redevelopment within the Still Creek watershed in Vancouver and Burnaby has been increasing. It is now recognized that redevelopment of older properties can provide opportunities to enhance the creek and address watershed issues. As a result, Vancouver, Burnaby and the GVRD jointly developed a comprehensive stormwater management plan. This plan also complements the new Liquid Waste Management Plan approved by the Province in 2002, in which municipalities in the Greater Vancouver Regional District have committed to develop stormwater management plans for all of their watersheds over a 12 year period.

The Plan addresses the entire watershed and the activities of the public, private agencies and individuals that influence the watershed. Five public open houses and stakeholder workshops have been held to obtain input and comment on the draft Plan. The attendees included property and business owners bordering the creek, residents, stewardship groups and developers who provided valuable input into the Plan.

DISCUSSION

In a complex urban area such as the Still Creek watershed, activities by residents, businesses and governments all impact the watershed. This integrated stormwater management plan will be used as one of the land use planning and infrastructure planning tools for the Still Creek watershed to reduce the cumulative impacts of development on the environment and our recreational resources.

Vision, Goals and Strategies

The following vision for the Still Creek watershed was developed by the joint staff team:

“to protect or enhance the aquatic and terrestrial ecosystems and the human populations they support in an integrated manner that accommodates growth and development”.

This vision embraces the concept of “natural capital” - the value of nature as an essential part of our economy, and the fundamental interdependence between the health of our natural environment and human health and well-being. This philosophy is the basis for a growing trend towards more environmentally sensitive land use practices generally and in particular where watercourses are present. The broad directions of the ISMP will also support and provide input to the City’s Ecodensity initiative as part of that program’s principle to restore and expand natural environments that reflect our ecology, provide space for recreation and natural experiences and foster a sense of community.

In order to protect and enhance the “natural capital” of the Still Creek watershed, eight key goals have been developed under the three areas: rainwater management, environmental protection, and recreational enhancement.

The rainwater management goals are:

- Goal 1: Reduce flood impacts on people, property and the stream channel and strive to restore a more natural flow regime.
- Goal 2: Reduce stream erosion and downstream sedimentation to levels approaching a more natural system.

The strategies developed to meet these rainwater management goals include source control measures which will reduce peak runoff rates and volumes, increase base flows and improve water quality. Examples of source control initiatives include reducing impervious surfaces, using absorbent soils in landscaping, installing stormwater retention-infiltration structures, and creating vegetative swales along roadways and in parking lots. The level of imperviousness of an area is critical to a stream’s hydrology, environmental health and flood risk. There are many benefits from a water quantity and quality perspective in returning water to the soil, which acts as a sponge and filter rather than collecting the water on impervious surfaces and piping it to the nearest stream. Neighbourhood and watershed-scale rainwater management facilities and improved maintenance practices among Vancouver, Burnaby and the GVRD are also being considered to help achieve these rainwater management goals.

The environmental protection goals are:

- Goal 3: Protect and enhance streamside and aquatic habitats.
- Goal 4: Protect and enhance urban forest and terrestrial habitats.
- Goal 5: Protect and improve water quality.
- Goal 6: Maintain and augment native species biodiversity.

The proposed strategies to achieve these goals along the stream corridor include maintaining open-channel watercourses, improving fish access, improving habitat quality for fish and wildlife, providing continuous streamside vegetation, promoting native vegetation, controlling non-native vegetation, monitoring water quality and responding to monitoring results. Strategies proposed throughout the watershed include maximizing tree cover, preventing contaminants from entering the storm sewer system, encouraging watershed stewardship and protecting and enhancing habitat reservoirs and refuges.

The recreational enhancement goals are:

- Goal 7: Connect people with the watershed and its streams
- Goal 8: Provide stream related education.

The strategies designed to achieve these goals include creating a variety of experiences along the stream corridor and their tributaries, providing multiple opportunities for people to access the streams, developing an integrated watershed bike and pedestrian system, and creating and enhancing environmental education opportunities throughout the watershed. Implementation of these strategies is designed to improve the liveability of the area as well as to provide public education on the protection of our natural systems.

Plan Implementation Actions

Based on these goals and strategies, more than 100 short and longer-term action items have been developed, as detailed in the ISMP. Several important actions are already underway and are outlined in the bullets below. Some of the other action items can be pursued using current staff resources at no significant additional cost while many will require further study and resources in order to evaluate their costs and benefits. Examples of these action items are also outlined below.

Action items currently underway include:

- A major creek enhancement project (part of the Still Creek Enhancement Plan approved by Council in 2002) will improve the stream bed, reconstruct and replant the streamside areas with native vegetation and add a greenway along Cornett Road in the Grandview Boundary Industrial Area. A contract to develop the detailed design of this project was recently reported to Council. The project design and costing will be reported to Council in the Spring of 2007;
- Adjacent to the improvement noted above, an existing culverted section of Still Creek will be daylighted and a greenway added as part of the new Canadian Tire store development on Grandview Highway;
- Flood proofing measures have been developed along the lower sections of Still Creek (Grandview Boundary Industrial Area) and will be reported to Council in the near future as part of the City's overall flood proofing measures;

Examples of action items with no significant cost include:

- Community outreach to publicize the ISMP and educate the public;
- Educating and building partnerships with landowners and developers;
- Incorporating bio-filtration features into new corner bulges in residential areas;
- Developing an enhanced water quality monitoring program;

Examples of action items which will require further study and resources include:

- Developing comprehensive private property source control options (eg. stormwater retention-infiltration facilities, parking lot treatment systems, including bio-filtration swales, and permeable pavement options);
- Reviewing alternative street and sidewalk infrastructure design standards;
- Pursuing long-term acquisition of land at strategic locations to provide a continuous Still Creek greenway along the stream corridor.

As the action items are reviewed, implementation priorities will need to be determined and City policies and by-laws updated as required. Work undertaken by the City's Sustainability Group to develop the Vancouver Green Building Strategy (VGBS) will also complement many

of the goals and strategies in the Still Creek ISMP. Staff will be working together to ensure integration of both the VGBS and ISMP initiatives.

In order to protect and improve the Still Creek watershed, it is recommended that Council approve the Still Creek ISMP which includes the vision, goals and strategies for the entire Still Creek watershed. It is also recommended that staff review and incorporate the ISMP action items which have no significant cost into existing City activities and programs in the Still Creek area. In addition, action items which need more study and resources to undertake will be reported to Council as required.

As previously noted, several jurisdictions manage the activities in and around Still Creek. Coordination of improvements among Vancouver, Burnaby and the GVRD is needed to ensure there is an integrated approach for the entire watershed. It is recommended that staff be authorized to participate on a coordinating committee with Burnaby and the GVRD in order to enable the integrated and consistent application of the actions proposed in the Plan.

FINANCIAL IMPLICATIONS

No immediate funding is required to begin implementing the Plan. Many of the projects developed under the ISMP do require additional funding and will be brought to Council as they are developed.

ENVIRONMENTAL IMPLICATIONS

The ISMP seeks to protect and enhance aquatic habitat, terrestrial habitat and biodiversity in the Still Creek watershed. It embraces the concept of "natural capital" as the fundamental interdependence between the health of our natural environment and human health and well-being.

SOCIAL IMPLICATIONS

The ISMP seeks to enhance recreational opportunities in the Still Creek watershed. It also increases public awareness and understanding of our connection with natural systems and their value in maintaining quality of life.

CONCLUSION

The Still Creek ISMP is a management plan that identifies common goals for the watershed within the three jurisdictions of Vancouver, Burnaby and the GVRD. The Plan can be used as a key tool in future land use and infrastructure planning to help protect and enhance the Still Creek environment and its recreational opportunities and to help reduce the risk of flooding.

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APPENDIX A

Council Policy Related to Still Creek

In July, 1988 Council endorsed Still Creek to be maintained as an open water course, and to pursue day-lighting, enhancing the Creek, and providing public access to a continuous pedestrian/bicycle pathway linking Burnaby Lake to the B.C. Parkway at 29th Avenue Station.

In April, 1990, Council adopted the Still Creek CD-1 zoning and guidelines which apply to the lower Still Creek area.

In June 1994, Council approved an inflow and Infiltration reduction program in the Still Creek area to eliminate sewage discharges to the Creek resulting from sanitary and storm sewer cross-connections.

In May 2000, Council endorsed the draft Brunette Basin Watershed Plan and that it be considered when carrying out City activities in the Still Creek drainage basin.

In May 2000, Council approved limiting the impervious coverage for new developments in RS zones areas to 60 percent of the site area.

In July 2000, Council established the Still Creek/Greenway Enhancement fund with contributions from the Vancouver film studios for the lease of Cornett Road.

In July 2002, Council adopted the *Grandview Boundary Industrial Area Rezoning and Development Policies and Guidelines* which contain specific guidelines to protect and enhance Still Creek. At that time, Council also adopted the ten year actions and endorsed in principle the long-term (10 - 50 year) enhancement plan contained in the Still Creek Rehabilitation and Enhancement Study.

In May 2005, Council approved the Still Creek enhancement project at 3003 Grandview Highway.

In May 1992, the Park Board approved the Vancouver Park Board Management Plan which identifies Still Creek as a natural feature within the City that should be respected and enhanced.