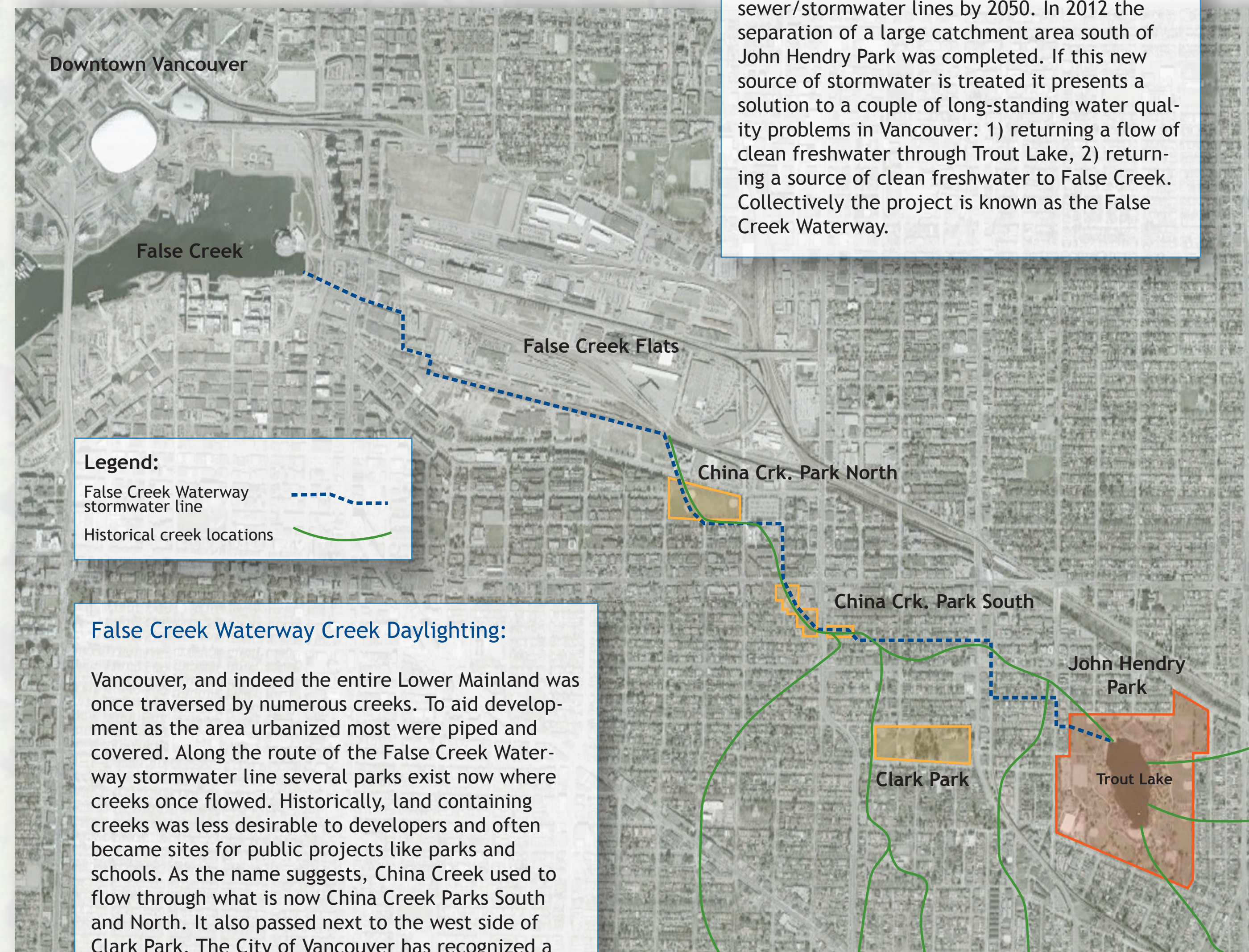


# CONTEXT AND INFORMATION

## Context Map and Background



### False Creek Waterway Project Background:

The False Creek Waterway is closely related to the City of Vancouver's sewer/stormwater separation project. In broad terms, separating stormwater from sewer lines prevents sewage overflows (called CSOs) into natural water bodies during heavy rainfall events. The city aims to separate all of its combined sewer/stormwater lines by 2050. In 2012 the separation of a large catchment area south of John Hendry Park was completed. If this new source of stormwater is treated it presents a solution to a couple of long-standing water quality problems in Vancouver: 1) returning a flow of clean freshwater through Trout Lake, 2) returning a source of clean freshwater to False Creek. Collectively the project is known as the False Creek Waterway.

### False Creek Waterway Creek Daylighting:

Vancouver, and indeed the entire Lower Mainland was once traversed by numerous creeks. To aid development as the area urbanized most were piped and covered. Along the route of the False Creek Waterway stormwater line several parks exist now where creeks once flowed. Historically, land containing creeks was less desirable to developers and often became sites for public projects like parks and schools. As the name suggests, China Creek used to flow through what is now China Creek Parks South and North. It also passed next to the west side of Clark Park. The City of Vancouver has recognized a tremendous opportunity to re-create sections of China Creek in these three parks using stormwater from the False Creek Waterway. Though the original routing and scale of China Creek would likely be unreasonable to propose, the project serves as an important chance to showcase stormwater as a resource and to reconnect urban residents with natural systems.

## Key Policy Linkages:

### Integrated Stormwater Management Plan (ISMP):

The daylighting of creeks through China Creek Parks South and North and Clark Park presents a tremendous opportunity for the public to learn about not only the history of stormwater management in Vancouver and its environmental impacts, but also how it can be executed in a more ecologically sound manner. Having public support for alternative methods of stormwater management will be a key component for the success of Vancouver's "Integrated Stormwater Management Plan".

### Greenest City Action Plan: Goal 6, Access to Nature:

Many residents of Vancouver, particularly young children and low income earners, do not have the opportunity to observe and interact with natural aquatic systems. It has been proven that connecting with natural systems at a young age increases the likelihood considerably that individuals will grow up with an understanding of ecology and act as stewards of the environment. Being the "Greenest City" will involve having a population that not only has access to nature, but also values and understands natural systems. The False Creek Waterway creek daylighting project constitutes an exciting opportunity to infuse several public parks with a tangible natural water system.

### Climate Change Adaptation Strategy (CCAS):

The City of Vancouver has recognized in its "Climate Change Adaptation Strategy" (CCAS) that our region can expect more extreme rain events due to climate change. With our current infrastructure this will result in increased localized overland flooding and more sewage overflows into natural water bodies from the city's combined sewer/stormwater system. One of the goals of the CCAS is to reduce the amount of stormwater entering the sewer system by managing portions of it at the surface through "green infrastructure" such as rain gardens. This would be one of the core functions of the proposed daylight creeks. Stormwater would infiltrate, evaporate and be used by plants while making its way through the creek beds.

## Frequently Asked Questions:

### Will creek daylighting result in more mosquitoes and West Nile Virus?

The proposed creek daylighting would be designed to prevent standing water for the duration needed to support mosquito eggs and larvae. Stormwater would either be flowing or would infiltrate into the ground. If pools of water were observed during maintenance to be stagnant and harboring mosquito eggs, a preventative maintenance strategy would be devised and added to the City of Vancouver's "Integrated Pest Management Plan".

### Will the creeks overflow and flood?

Each section of daylight creek receiving diverted stormwater from the False Creek Waterway stormwater line would be furnished with an overflow drain at its terminus where excess water would re-enter a subsurface stormwater pipe.

### Will the creeks always have water in them?

Because the proposed daylight creeks will be receiving diverted stormwater from the False Creek Waterway stormwater line they will change with the seasons and not run continually. They would be designed to look like dry creek beds with planting that can tolerate drought and periods of submergence.

## Design Principles

### CONTINUITY

Due to conflicts with existing park uses and grading requirements for water flow, creek daylighting is feasible in select locations. However, it is important that the design for each park visually stitch together daylight sections where possible to give the presence of a continuous creek in order to maximize the project's overall impact.

### EDUCATION

In order for this project to act as a successful education piece it needs to be safe and accessible. There also needs to be detailed and frequent signage in each park to direct people along the entire project route and to inform them about urban creeks and stormwater management.

### INVOLVEMENT

The community needs to be integrally involved in the design process of the False Creek Waterway creek daylighting for it to have any longevity, and to encourage people to take responsibility for the finished product. The design should also create opportunities for ongoing engagement and outreach.

# False Creek Waterway Creek Daylighting

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Keith Der



# Clark Park | CONCEPT PLAN

## Restored Creek Feature:

Similar to the proposed creek bed upstream, this section would receive water from the playfield drainage system as well as stormwater runoff from the park's surface. This area of Clark Park has a significant slope from east to west lending itself well to a terracing creek bed. It terminates at an open area with level grades, presenting an opportunity to create an attractive rain garden. The feature would then overflow into existing street drainage at the foot of Woodlands Dr. There are several mature trees at the east end of this section whose root zones are avoided by the routing proposed. However, this would need to be confirmed by an arborist.



## Restored Creek Feature:

The proposed False Creek Waterway stormwater line does not run close enough to Clark Park to make a diversion possible. However, there is an opportunity to create creek beds that would accept drainage from the park's surface and existing playfield drain lines. This section provides a favorable slope, terminating at a rain garden as shown. Existing park drainage at this location could be used as an overflow. The area chosen minimizes conflicts with tree root zones, but the specific routing would need to be reviewed by an arborist.

## Public Art Feature:

This playground and plaza are well used by children from the community and nearby schools. The space presents an exciting opportunity to educate children about stormwater and urban creeks while involving them in the design of their park. It is recommended that the nearby schools and community groups be approached to partner in a recurring public art program for children, possibly using the pavement, to visually extend the proposed dry creek beds.

## Rain Garden

The main function of this section is to visually tie the two lengths of creek bed together. It does not possess grades favorable for a flowing feature and runs too close to the root zones of several large trees. As such it is better suited as a shallow linear rain garden with the appearance of a dry creek bed.



# False Creek Waterway Creek Daylighting

designer: Niall McGarvey

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