



# MASTER PLAN FOR RENFREW RAVINE AND RENFREW COMMUNITY PARKS

September 2013



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# CONTENTS

|  |           |
|--|-----------|
| EXECUTIVE SUMMARY .....                            | i         |
| <b>1.0 INTRODUCTION.....</b>                       | <b>1</b>  |
| 1.1 CONTEXT .....                                  | 1         |
| 1.2 PURPOSE AND PROCESS.....                       | 4         |
| <b>2.0 SITE INVENTORY AND ANALYSIS .....</b>       | <b>6</b>  |
| 2.1 SITE CHARACTERISTICS.....                      | 6         |
| 2.2 SITE ANALYSIS .....                            | 9         |
| 2.3 SITE USE.....                                  | 11        |
| <b>3.0 CONCEPTUAL DESIGN.....</b>                  | <b>12</b> |
| 3.1 GUIDING STATEMENTS.....                        | 12        |
| 3.2 PROGRAM .....                                  | 14        |
| <b>4.0 PARK PLANS.....</b>                         | <b>18</b> |
| 4.1 DESIGN FEATURES .....                          | 18        |
| 4.2 PHASING AND COST ESTIMATE .....                | 26        |
| Appendix A: References .....                       | 36        |
| Appendix B: Summary of Public Engagement .....     | 37        |
| Appendix C: Site Inventory and Analysis Plans..... | 49        |
| Appendix D: Concept Plan Options .....             | 55        |

## PULL-OUT SHEETS AT BACK

- Sheet 1: Recommended Concept Plan
- Sheet 2: Renfrew Ravine Park Recommended Concept Plan
- Sheet 3: Renfrew Community Park Recommended Concept Plan
- Sheet 4: 3D Site Overview of Renfrew Community Park
- Sheet 5: 3D View of Core Recreation Area

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### COMMUNITY

We would like to thank the many community members who attended the visioning workshops and open houses and who provided responses to questionnaires. This plan is based on your valuable insights and preferences.

# EXECUTIVE SUMMARY



Foot Bridge over Still Creek in Renfrew Community Park

## CONTEXT AND PROCESS

Renfrew Ravine Park and Renfrew Community Park are located in East Vancouver, along Renfrew Street and its right-of-way from 19<sup>th</sup> Avenue to 29<sup>th</sup> Avenue. Land use in the area is dominated by older single-family homes, with some commercial uses along 22<sup>nd</sup> Avenue. Community amenities in the neighbourhood include schools, senior care facilities, and a fire hall.

Renfrew Ravine Park acts primarily as a nature sanctuary, with amenities that include walking paths, public art, and a few small public gathering areas. Renfrew Community Park is a hub for the community, with amenities and features that include a library, community centre, indoor pool, and various play and outdoor sports areas.

These parks are the first location where Still Creek emerges in the City of Vancouver. The creek and its ravine are the highlights of both parks, making them unique green spaces in the city. Community events, public art projects, and stewardship activities are centred around and inspired by the creek.

There have been many studies of Renfrew Ravine and Still Creek that provide background and some recommendations related to the ecological, hydrological and geotechnical issues within the two parks. An ecosystem-based stewardship plan is currently being developed that will focus on restoring as much of the natural ecological composition, structure, and function of the Still Creek watershed as possible. The recommendations of the Master Plan will contribute to achieving the Vancouver Park Board’s strategic direction to be a “Leader in Greening”.

The purpose of this project was to prepare short- and long-term development plans to increase recreation and education opportunities, the variety of park experiences, and universal access to nature, while preserving and enhancing the ecological functions and benefits of the parks. The planning was accomplished through a

comprehensive design and public engagement process, which included public workshops, three open houses, meetings with stakeholder groups, and multiple Steering Committee meetings.

A site inventory identifies the physical characteristics and uses of the parks. A site analysis identifies strengths, challenges, and areas and features to be protected, enhanced, and altered. Guiding statements, including a vision and objectives, establish guidance for the design and management of the parks. The program of elements to be included in each park is based on public responses to potential park amenities. Two concept plan options were generated as an exploration of program elements and the potential layout of the sites, and recommended plans were refined based on feedback on the options.

The following are the vision and description of the recommended plan for each park:

### Renfrew Ravine Park

#### ***Vision***

*Renfrew Ravine Park is a unique ecological sanctuary with healthy ecosystems composed of native plants and wildlife. The ravine provides important ecological services to the neighbourhood, city and region. Limited and carefully designed access to this park allows safe opportunities for green stewardship, education and advocacy.*

#### ***Description***

The plan for Renfrew Ravine Park proposes subtle changes to the park to preserve and enhance its natural function and aesthetics. The creek bed and banks will be modified where necessary to improve aquatic habitat and water quality. Vegetation will be enhanced by removing invasive species and planting native vegetation. The park will become more welcoming by including clear signage and public art at entrances and throughout the park. Existing routes through the park will be improved with more comfortable and accessible paths, and more places to sit and rest. Limited and carefully designed paths will be added into the ravine to bring visitors close to the creek. Views into the ravine will also be improved with decks at key viewpoints along paths.



Culvert Outlet at 29th Avenue



Mosaic Bench in Renfrew Ravine Park



Deciduous Forest in Renfrew Ravine

## Renfrew Community Park

### ***Vision***

*Renfrew Community Park is a community hub that offers access to nature and recreation amenities. Safe and inclusive access to the healthy ecosystems of the ravine allows opportunities for nature play, appreciation, education and stewardship for people of all ages and abilities. Other amenities in the park provide opportunities for recreation and vibrant arts and culture experiences in association with the community centre and library programs and services.*

### ***Description***

The plan for Renfrew Community Park protects and enhances the ecological integrity of the ravine, with changes to the amenities to improve visitor opportunities. New and improved paths will increase connectivity among park entries and features, and provide exercise loops. Paths into the ravine will be more accessible, with seating and viewing decks. The social hub will be a core area with a new playground, spray park, and event space, all integrated with rainwater features and trees. The parking lots will be reconfigured to improve efficiency, and a small dog off-leash area and community-based food production will be added. Native vegetation will be extended beyond the top of the ravine, encompassing an outdoor classroom, and the creek bed and banks will be restored to a more natural structure and composition.

### **Phasing and Cost Estimate**

The elements in the Master Plan will be implemented in phases over time. The phases are based on community priorities and efficiency of construction. The timing of each phase will be based on the need to replace and update existing amenities and the availability of funding. The specific timing for each phase is undetermined at this time. A class C cost estimate for each phase will support preliminary project approvals and budgeting.



Wood Rail Fence  
on the Banks of Still Creek



Lanterns at the  
Renfrew Ravine Moon Festival



Community Centre and Pool Building

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## INTRODUCTION



Still Creek Flowing Through Renfrew Ravine Park

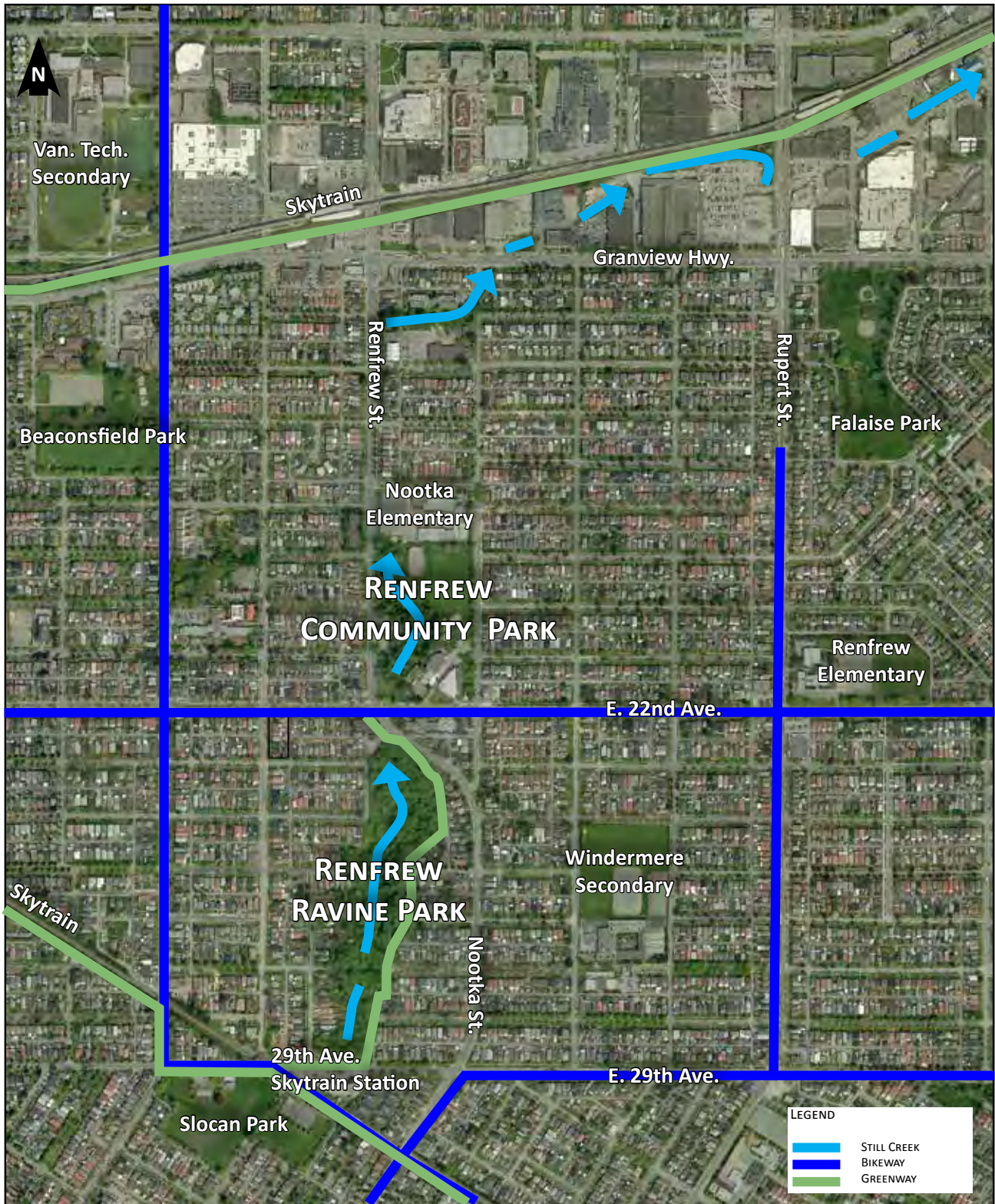
### 1.1 CONTEXT

Renfrew Ravine Park and Renfrew Community Park are located in East Vancouver. The highlight of these parks is Still Creek, which runs through both parks. Most of the watershed that contributes to the flow of Still Creek is developed land. The water that flows into the creek is conveyed primarily through storm sewers. Even much of the upper creek, within the City of Vancouver, is culverted beneath roads. Where it is visible, the creek is often confined between urban features. Renfrew Ravine is the first location where the creek emerges in the City of Vancouver from its underground storm sewer route.

Renfrew Ravine Park and Renfrew Community Park cradle Still Creek in a rare greenspace, within its original ravine. Nearly one kilometre of Still Creek is visible in the parks, flowing through only two culverts along this stretch. Downstream from the parks, the creek daylights again, becoming a fish-bearing creek, and eventually flowing into Burnaby Lake.

The two parks are located along Renfrew Street and its right-of-way from 19<sup>th</sup> Avenue to 29<sup>th</sup> Avenue. The two parks are separated by half of a city block at 22<sup>nd</sup> Avenue. A Skytrain station is located on 29<sup>th</sup> Avenue at the south end of Renfrew Ravine Park. Both 22<sup>nd</sup> and 29<sup>th</sup> Avenues are east-west arterials, and Renfrew Street is a north-south arterial at Renfrew Community Park. North of 22<sup>nd</sup> Avenue, traffic follows the Boyd Diversion one block east to Nootka Street past Renfrew Ravine Park.

The neighbourhood surrounding the parks is primarily residential, composed mostly of older single-family homes. There are also elementary and secondary schools and a fire station across Nootka Street from Renfrew Community Park. A large seniors' care facility is located between the two parks, and there are some commercial uses along 22<sup>nd</sup> Avenue.



Context Map

Renfrew Ravine Park is a 5.89 hectare (14.6 acre) undeveloped treed ravine that runs from 29<sup>th</sup> Avenue to the Boyd Diversion, half a block south of 22<sup>nd</sup> Avenue. The park is bordered on the east and west sides by residential housing, which generally follows the top of the ravine slope. The park varies in width from about 30 to 160 metres.

Renfrew Ravine Park acts primarily as a nature sanctuary, appreciated by the community for its vegetation, wildlife and fresh air. There are few amenities in the park aside from walking paths and small gathering areas. There is a designated greenway that runs the length of the park from 29<sup>th</sup> Avenue to the Boyd Diversion. Public art has been installed in the park through community initiatives.

Renfrew Community Park is 5.01 hectares (12.4 acres). It is bordered by 22<sup>nd</sup> Avenue to the south, Nootka Community Elementary School to the north, Nootka Street to the east, and Renfrew Street to the west.

Renfrew Community Park is a hub for the community, with many amenities and features that draw people to the park. The park includes a library and community centre with an indoor pool. On the east side of the park, there are sports and play amenities. The ravine on the west side of the park has several paths and provides access to and across Still Creek. The community embraces this park as a venue for arts and cultural events, environmental education, and as a location for public art installations.

There has never been a Master Plan for either of the parks. They have been developed in an ad hoc manner, with each feature being sited individually over time. There have been many studies of Renfrew Ravine and Still Creek that provide background and some recommendations related to the ecological, hydrological and geotechnical issues within the two parks. The studies include the following: Still Creek Rehabilitation and Enhancement Study (Lees, 2002), Still Creek Watershed Biodiversity Conservation Case Study (AXYS, 2005), Invasive Plants in the Still Creek Watershed (Raincoast, 2006), Still Creek Integrated Stormwater Management Plan (GVRD, 2006), and Renfrew Ravine Hydrology and Geotechnical Study (KWL, 2008).

The Vancouver Park Board's (VPB) goal is to have a Master Plan that will help to rehabilitate the ravine's ecosystem and to improve the recreation and education opportunities of the parks with short- and long-term capital development, programming and management strategies. This Master Plan will contribute to the VPB Strategic Plan direction of being a "Leader in Greening". The Strategic Plan objectives for Green Stewardship



Twilight Parade at the Renfrew Ravine Moon Festival



Lantern from the Renfrew Ravine Moon Festival



Bird House near the Community Centre

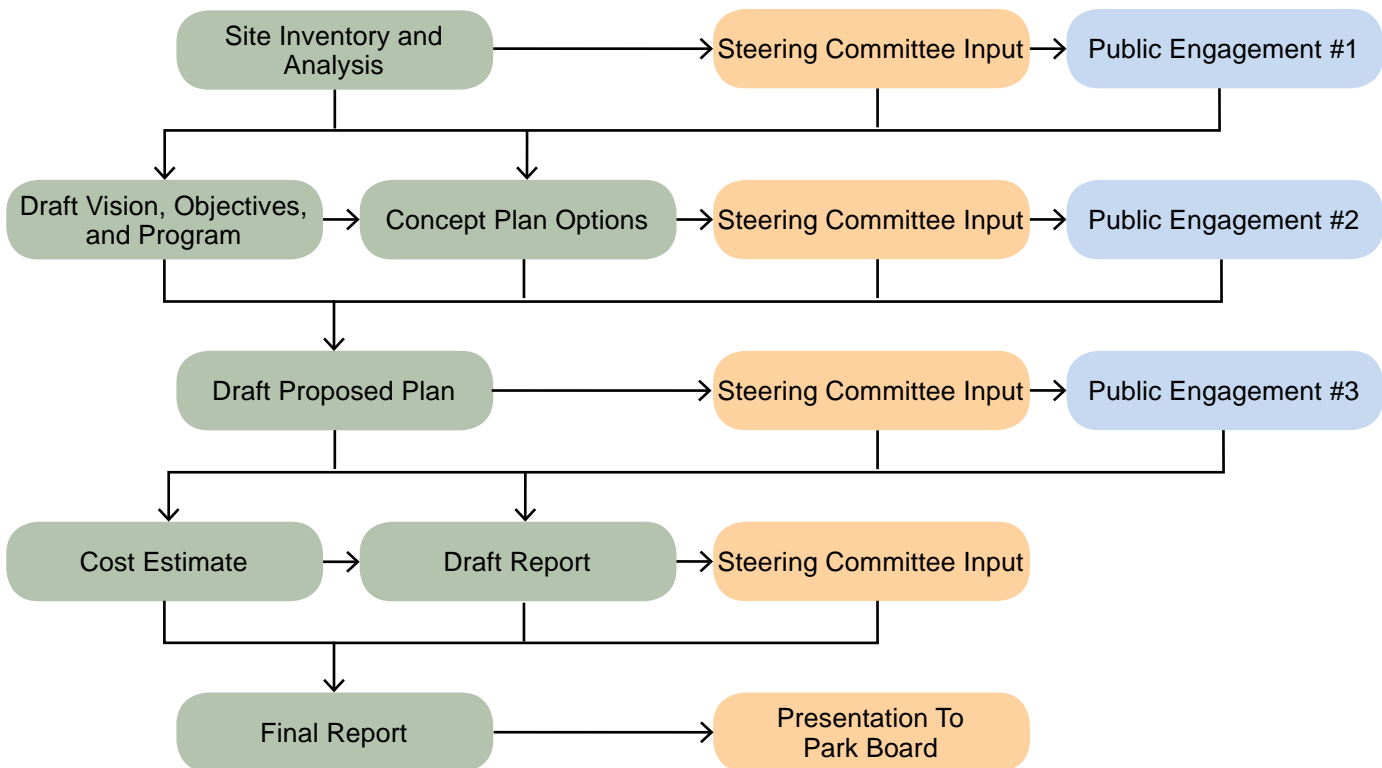
and Green Education and Advocacy will be met by advocating for ecosystem enhancement and increasing awareness and knowledge of sustainable living. This document summarizes the park planning process and describes the Master Plan for Renfrew Ravine and Renfrew Community Parks. The Still Moon Arts Society is preparing an ecosystem-based stewardship plan (EBSP) for the Still Creek watershed. The EBSP will focus on restoring as much of the natural ecological composition, structure, and function of the Still Creek watershed as is possible in an urban setting. Implementation of the EBSP will contribute to re-establishing an environment that supports human well-being, while providing many desirable ecological services, from stormwater management to carbon sequestration and storage.

The EBSP is a community-directed process that engages participants in the creation of a plan where youth lead and the arts are an integral part of the plan's expression. As a community-based process, the EBSP will require a number of years to complete. The Renfrew Ravine and Community Park Master Plan and the EBSP will be coordinated and complimentary.

## 1.2 PURPOSE AND PROCESS

The purpose of this project was to prepare short- and long-term plans to increase recreation and education opportunities, the variety of park experiences, and universal access to nature, while preserving and enhancing the ecological function and benefit of the parks. The planning was accomplished through a comprehensive design and public engagement process with input from staff, stakeholders and the public.

The planning process involved the following steps:



The public engagement and review events are summarized in the table below:

| Group  | Type of Engagement                                | Dates         | Number of Participants |
|--|---|---------------|------------------------|
| Public/Residents   | Information Booth at Still Moon Festival          | Sept 29, 2012 | Uncounted              |
|  | Workshops / Open House #1 / On-line Questionnaire | Nov 15, 2012  | 79                     |
|  |   | Mar 4, 2013   | 87                     |
|  |   | May 13, 2013  | 60                     |
|  |   |               |                        |
| Open House #3 / On-line Questionnaire  |   |               |                        |
| Educators from Local Schools and VSB Facilities  | Meeting   | Jan 28, 2013  | 6                      |
| Renfrew Seniors Group  | Presentation and Discussion                       | Jan 22, 2013  | 15                     |
| Renfrew Chinese Seniors Group  | Presentation (translated in Mandarin)             | Jan 25, 2013  | 45                     |
| Steering Committee (Metro Vancouver, Vancouver School Board, COV Engineering and Community Services, Renfrew CRC, Park Board Operations, Facilities and Planning Staff)  | Meetings  | Nov 7, 2012   | 10                     |
|  |   | Jan 7, 2013   | 10                     |
|  |   | Apr 8, 2013   | 10                     |
|  |   | Jun 13, 2013  | 10                     |
| Reflecting Still Creek – Art and Stewardship Project Advisory Committee (including Herb Hammond of the Silva Forest Foundation, Still Moon Arts Society, Evergreen Foundation, Windermere High School students and teachers, and SFU students) | Regular update meetings                           | Nov 21, 2012  | 10                     |
|  |   | Jan 24, 2013  | 10                     |
|  |   | Apr 24, 2013  | 10                     |
| Still Moon Committee, Park Board Operations, Park Development  | Meeting   | Oct 19, 2012  | 8                      |
| Renfrew Teen Advisory Group (Grade 8-12 students from Windermere, Killarney, Gladstone, and Van Tech)  | Presentation                                      | Mar 13, 2013  | 40                     |
| Nootka Elementary School PAC   | Presentation                                      | Mar 13, 2013  | 20                     |
| Park Board Commissioners   | ipad Briefing                                     | Feb 25, 2013  | 4                      |
| Trojans Football and Vancouver Lacrosse – executive and members  | Meeting   | Apr 16, 2013  | 18                     |

Input received during the planning process is summarized in Appendix B.

# 2.0

## SITE INVENTORY AND ANALYSIS



Aerial View of Renfrew Community Park

### 2.1 SITE CHARACTERISTICS

The characteristics of the park that are relevant to the Master Plan are illustrated on the Site Inventory plans (see Appendix C) and described below.

#### Renfrew Ravine Park

In Renfrew Ravine Park, Still Creek emerges from the City's storm sewer system at a culvert outlet near the 29<sup>th</sup> Avenue Skytrain Station. The creek bed within the park is largely in its original state with steeply sloped banks. A few isolated sections of the creek banks are supported with stone retaining walls. There is a storm sewer outlet on the east side of the creek that connects from 26<sup>th</sup> Avenue.

Most of the ravine slopes were considered "unstable" or "probably unstable" in the Renfrew Ravine Hydrology and Geotechnical Study (KWL, 2008). Some of the slopes on the west side are on private property. Two residential properties near the south end of the park extend to the bottom of the ravine. A land bridge crosses the ravine at 27<sup>th</sup> Avenue.

A greenway runs along the eastern border of the park. It is a gravel path within the park boundaries from 29<sup>th</sup> Avenue to the lane between 26<sup>th</sup> and 25<sup>th</sup> Avenues. The greenway then follows the lane adjacent to the park boundary to the Boyd Diversion. A short gravel path runs to the northern point of the park from the end of the lane. There are two viewpoints adjacent to the greenway path that look through overgrown vegetation into the ravine. A path crosses the ravine on the land bridge at 27<sup>th</sup> Avenue.

There are a number of unsanctioned trails that have been worn through the vegetation to the bottom of the ravine. The most notable are at the south-east and south-west corners of the park, and near 26<sup>th</sup> Avenue on the east side of the park.

Segments of wood rail and chain-link fencing have been installed on the east and south sides of the park, along the path and sidewalk. A vegetated berm along a portion of the lane on the east side of the park acts as an attempted barrier to dumping.

There is lighting on the path across the land bridge. Street lighting also exists in the lane on the east side of the park, and along the segment of Renfrew Street on the west side of the park.

The park is almost completely a mixed coniferous/deciduous forest composed of many species of native trees and understory plants. The vegetation at the edges of the park is dominated by invasive species, some of which occur throughout the ravine. There has been some restoration work by volunteers at safe and accessible locations in the park. A few old growth tree stumps persist in the ravine. Some fruit trees are remnants of an old orchard at the top of the ravine on the north-west side.

There are two small gathering areas with benches along 29<sup>th</sup> Avenue. The German Canadian Heritage Plaza is at the corner of Atlin Street and 29<sup>th</sup> Avenue. It includes formal planters with ornamental plantings. The Renfrew Ravine Sanctuary Park area is at the south-east corner of the park, and it contains native plantings and public art.

Public art has been installed along the east side of the ravine. The pieces include brass markers along the greenway, a labyrinth, and a mosaic bench.

## Renfrew Community Park

The western portion of Renfrew Community Park is dominated by the Still Creek ravine. The creek is channelized through this section, and the creek bed has eroded to bedrock. The creek banks are retained by cemented rock walls. At the north end of the ravine, the creek runs into a concrete flume before entering a culvert to exit the park. There is a storm sewer outlet on the east side of the creek that connects from 20<sup>th</sup> Avenue.

Some of the ravine slopes were considered “probably unstable” in the Renfrew Ravine Hydrology and Geotechnical Study (KWL, 2008).



Aerial View of Renfrew Ravine in 1962



Aerial View of Renfrew Ravine Today

## 2.0 SITE INVENTORY AND ANALYSIS

Vegetation in the ravine is a mixed coniferous/deciduous forest with many invasive species and some ornamental plants such as rhododendrons. Vegetation beyond the ravine is limited to trees along the boundary of the park and some ornamental plantings around the buildings.

Several paths enter the ravine and extend along the creek. There is a wood rail fence surrounding the creek at the top of the banks. Three bridges cross the creek to connect the park accesses on the west side to the facilities on the east side of the park.

The portion of the park beyond the ravine has recreation and leisure facilities including the following:

- library
- community centre with an indoor pool
- sports field
- playground
- wading pool
- lacrosse box
- field house

Vehicular access to the park is off Renfrew and Nootka Streets. A ??-space parking lot off Renfrew Street is located on a level area above the ravine. The vehicle entrance from Nootka Street leads to a ??-space surface parking area and a parkade below the library. There is a service road from Renfrew Street that leads to the bottom of the ravine, as well as service and fire access roads from 22<sup>nd</sup> Avenue.

There is a small public plaza on the corner of 22<sup>nd</sup> Avenue and Nootka Street. Public art has been installed throughout the park. It includes murals on the lacrosse box and pool and a mosaic water fountain. There are significant views to the mountains and downtown Vancouver from the north-east section of the park.



Wood Rail Fence around Still Creek



Stairs into Renfrew Ravine



Debris Catcher where Still Creek Exits  
Renfrew Ravine



## 2.2 SITE ANALYSIS

An analysis of the parks is based on the site inventory and input from the Steering Committee, stakeholders, and the public. The strengths and challenges of the site are listed in the table below and identified on the Park Analysis Plans (see Appendix C):

### RENFREW RAVINE PARK

| Amenity                             | Strengths  | Challenges                               |
|-------------------------------------|--|--|
| Locations in the Park               |  |  |
| 1. End of Renfrew Street            | Could restore edge of road to path                         | No connection to 25 <sup>th</sup> Avenue |
| 2. Lane Edge                        | Flat area available for path away from vehicular traffic   |  |
| 3. 25 <sup>th</sup> Avenue Road End | Terrain would allow for path connection to Renfrew Street. |  |
| 4. Vacant Park Land                 | Available land to expand planting                          |  |
| 5. 27 <sup>th</sup> Avenue Road End | Highly used path across ravine                             | Driveway access for private property     |
| 6. Lane Edge                        | Flat area available for path away from vehicular traffic   |  |
| Overall Park Features               |  |  |
| Paths                               |  | Poor connectivity                        |
| Views                               |  | Limited views into creek and ravine      |
| Parking                             |  | Minimal amount                           |
| Private Property Interface          |  | Encroachments, dumping in park           |

### RENFREW COMMUNITY PARK

| Amenity   | Strengths   | Challenges   |
|---|---|--|
| Locations in the Park                             |   |  |
| 7. End of Ravine                                  | Potential location for Metro sediment settling pond |  |
| 8. Lacrosse Box                                   | Recently renovated                                  | Minimal use  |
| 9. Sport Fields                                   | Well used   |  |
| 10. Emergency Container                           |   | Unightly   |
| 11. Parking Lot off Renfrew Street                |   | Portion close to riparian area                       |
| 12. Wading Pool                                   |   | Old, needs replacement                               |
| 13. Playground                                    | High use  | Poor connectivity                                    |
| 14. Field House                                   | Used for storage                                    | Old, cannot be renovated                             |
| 15. Entrance Driveway                             |   | Too much paving, unpleasant entrance                 |
| 16. Storage Area                                  |   | Unightly   |
| 17. Sidewalk                                      |   | Close to road  |
| 18. Corner of 22 <sup>nd</sup> and Renfrew Street |   | No sense of entry                                    |
| 19. Service Access                                |   | Minimal use, large amount of pavement                |
| 20. Fire Access                                   |   | Large amount of pavement                             |
| 21. Entrance to Library                           |   | Unwelcoming  |
| 22. Corner of 22 <sup>nd</sup> and Nootka Street  |   | Remnant landscape at corner                          |
| Overall Park features                             |   |  |
| Paths   | Near creek  | Mostly not universally accessible, poor connectivity |
| Views   | At north-east end of park                           |  |
| Parking   | Exceeds typical demand                              |  |

## 2.0 SITE INVENTORY AND ANALYSIS

A suitability analysis of both parks identifies areas to be protected, areas to be enhanced, and areas that could be altered with options to retain, remove or relocate facilities. Facilities to be replaced are also identified, as illustrated on the Park Analysis Plans (see Appendix C) and listed below:

### ***Amenities to Retain***

- Community Centre
- Library
- Sports field
- Existing plazas and gathering areas

### ***Potential Park Enhancement***

- Unprogrammed open grass areas
- Parking lot off Renfrew Street
- Wading pool
- Playground
- 27<sup>th</sup> Ave. land bridge

### ***Amenities to Remove***

- Field house
- Lacrosse box



Interpretive Signage at the Labyrinth



Labyrinth in Renfrew Ravine Park

## 2.3 SITE USE

The two parks are used in significantly different ways with the common element being appreciation of the creek area and environmental education and restoration.

### Renfrew Ravine Park

The ravine park supports limited use based on its environmental sensitivity, unstable slopes and challenging terrain. The primary use is walking and biking around the top of the park and crossing the ravine on the land bridge at 27<sup>th</sup> Avenue. There are also community activities that include public art and environmental restoration. During the Still Moon Festival every fall, a major community event organized by the Still Moon Arts Society, the walkways and public art pieces along the east side of the ravine are enlivened with music, performances, lanterns, and other artworks.

### Renfrew Community Park

The community park supports a wide range of sport, recreation, arts and culture activities. The following are the primary patterns of use:

- Frequent visits by people passing through portions of the park on their way to the library or community centre
- Frequent use of the playground and surrounding area by children and their caregivers, sometimes combined with visits to the library or community centre for programs
- Use of the sports field by the Vancouver Trojans Minor Football Association for all of their practices from April to October, and occasional use of the field for slopitch and special events
- Use of the field house as a storage space by the community centre and the football association
- Use of the lacrosse box for practices by the Vancouver Killarney Minor Lacrosse Association from February to July, and frequent informal use of the box by neighbourhood youth for ball hockey games
- Conversion of the entire park into a magical setting during the Still Moon Festival with lanterns throughout the creek and ravine area, diverse music and theatrical performances, extensive temporary public art pieces, concerts, dancing, tents for community organizations, and much more



Renfrew Ravine Moon Festival Evening Concert



Wading Pool in Renfrew Community Park

# 3.0

## CONCEPTUAL DESIGN



Public Open House

### 3.1 GUIDING STATEMENTS

The visions and objectives for the parks are based on input from staff, stakeholders and the public. They establish a framework and guidance for the planning, design and management of the parks. The statements are expressed in the present tense since it is hoped that this is how the parks will be described in the future.

#### Renfrew Ravine Park

##### ***Vision for Renfrew Ravine Park***

*Renfrew Ravine Park is a unique ecological sanctuary with healthy ecosystems composed of native plants and wildlife. The ravine provides important ecological services to the neighbourhood, city and region. Limited and carefully designed access to this park allows safe opportunities for green stewardship, education and advocacy.*

##### ***Objectives for Renfrew Ravine Park***

The Master Plan objectives elaborate upon the vision to guide the design. The objectives are as follows:

- Protect, enhance and restore habitats and the ecosystem resilience of the creek and forest
- Increase opportunities for stewardship, nature appreciation and interpretation, education activities, resting, gathering and the arts
- Restore natural look, function and water quality of the creek
- Improve safety and security
- Increase access into the ravine and improve access and connectivity around the top of the ravine

- Improve slope stability
- Focus resources on park management and bylaw enforcement
- Increase physical, ecological and perceived connectivity to Renfrew Community Park

## Renfrew Community Park

### *Vision for Renfrew Community Park*

*Renfrew Community Park is a community hub that offers access to nature and recreation amenities. Safe and inclusive access to the healthy ecosystems of the ravine allows opportunities for nature play, appreciation, education and stewardship for people of all ages and abilities. Other amenities in the park provide opportunities for recreation and vibrant arts and culture experiences in association with the community centre and library programs and services.*

### *Objectives for Renfrew Community Park*

The Master Plan objectives elaborate upon the vision to guide the design. The objectives are as follows:

- Protect, enhance and restore habitats and the ecosystem resilience of the creek and forest
- Increase opportunities for stewardship, nature appreciation and interpretation, and education activities
- Restore natural look, function and water quality of the creek
- Improve safety and security
- Increase access and connectivity around and through the park with consideration for universal design
- Improve park entries
- Make all new works environmentally friendly and reduce the impact of built works on the ravine and creek
- Improve the integration of the upper portion of the park with the ravine
- Integrate the design and programming of the park with the adjacent school
- Retain important city and mountain views
- Increase physical, ecological and perceived connectivity to Renfrew Ravine Park



Public Workshop



Public Open House

## 3.2 PROGRAM

The program identifies existing and potential amenities to be included in the Master Plan, along with relevant design criteria. The program for each park was refined through public responses to potential park amenities.

### Renfrew Ravine Park

#### *Environmental Restoration*

|  |
|--|
| <b>Creek enhancement</b>   |
| <ul style="list-style-type: none"> <li>Modify the creek bed in appropriate locations to provide areas of refuge for aquatic life and preserve the more natural composition and structure of the creek</li> </ul>         |
| <b>Vegetation enhancement</b>  |
| <ul style="list-style-type: none"> <li>Remove invasive plants and plant native species (pending analysis by geotechnical engineers)</li> <li>Open the tree canopy to improve forest composition and structure</li> </ul> |

#### *Recreation Amenities*

|   |
|---|
| <b>Paths / Walkways</b>   |
| <ul style="list-style-type: none"> <li>Improve sight lines and surfacing of paths around the top of the ravine</li> <li>Separate path from lane from 23<sup>rd</sup> to lane south of 25<sup>th</sup> Ave. on east side of ravine</li> <li>Provide access into the ravine in key locations, potentially with a raised boardwalk near the creek (pending analysis by geotechnical engineers)</li> <li>Provide path from 23<sup>rd</sup> to 25<sup>th</sup> Ave. on west side of ravine</li> <li>Ultimately provide a continuous path around the top of the ravine</li> </ul> |
| <b>Gathering areas / Viewpoints</b>   |
| <ul style="list-style-type: none"> <li>Provide viewing decks, potentially overhanging the slope, for wildlife observation and views to the creek</li> <li>Provide picnic tables in key areas for small group gatherings at the top of the ravine</li> </ul>   |

#### *Infrastructure*

|   |
|---|
| <b>Signage</b>  |
| <ul style="list-style-type: none"> <li>Provide maps and interpretive signs on the history, geology, ecology and social uses of the park</li> </ul>  |
| <b>Seating</b>  |
| <ul style="list-style-type: none"> <li>Provide benches along paths and at points of interest</li> </ul>   |
| <b>Entry features</b>   |
| <ul style="list-style-type: none"> <li>Enhance existing entrances to the park</li> <li>Provide inviting park entry features with signage, plantings and possibly public art at key neighbourhood interface points</li> </ul>  |
| <b>Garbage management</b>   |
| <ul style="list-style-type: none"> <li>Provide more garbage cans along the paths</li> <li>Improve public education related to park stewardship and the impacts of dumping (update/improve signage)</li> <li>Improve barriers or introduce natural components at vehicle access points to prevent dumping</li> </ul> |

|  |
|--|
| <b>Slope stability</b>   |
| <ul style="list-style-type: none"> <li>• Improve slope stability with bioengineered retention (pending analysis by geotechnical engineers)</li> </ul>  |
| <b>Lighting</b>  |
| <ul style="list-style-type: none"> <li>• Improve lighting along major paths</li> </ul>   |
| <b>Traffic calming</b>   |
| <ul style="list-style-type: none"> <li>• Explore opportunities with City Engineering to install traffic calming devices on the lane from 23rd to 26th Ave</li> </ul>                                     |
| <b>Creek crossings</b>   |
| <ul style="list-style-type: none"> <li>• Explore potential options in partnership with Metro Vancouver to remove 27<sup>th</sup> Avenue land bridge, daylight the creek, and install a bridge</li> </ul> |

**Unique Amenities**

|   |
|---|
| <b>Art</b>  |
| <ul style="list-style-type: none"> <li>• Rejuvenate and add new public art installations</li> </ul> |

**Amenities Not Included**

The following program elements were considered for inclusion in the Master Plan, but they were not selected for the reasons outlined below:

- Washrooms: low public demand, no supporting infrastructure
- Fence improvements on property lines: beyond City jurisdiction, responsibility of property owner

**Renfrew Community Park**

**Environmental Restoration**

|  |
|--|
| <b>Creek enhancement</b>   |
| <ul style="list-style-type: none"> <li>• Modify the creek bed to slow the flow and trap sediment by restoring the creek to a more natural composition and structure (pending analysis by engineers and ecosystem specialists)</li> <li>• Install check dams / cascades to diffuse water velocity at culvert outlets (pending analysis by engineers)</li> <li>• Modify the stream bank to provide pool and riffle sequences</li> <li>• Consider option to install sediment trap as proposed by Metro Vancouver</li> <li>• Explore opportunities with the VSB to daylight the creek at Nootka Elementary School</li> </ul> |
| <b>Vegetation enhancement</b>  |
| <ul style="list-style-type: none"> <li>• Remove invasive plants and plant native species</li> <li>• Plant native trees throughout the park</li> <li>• Extend native plantings beyond the creek to expand the riparian area and blend with the upper portion of the park</li> </ul>   |

## Recreation Amenities

|  |
|--|
| <b>Paths / Walkways</b>  |
| <ul style="list-style-type: none"> <li>• Provide a perimeter path around the park with secondary path connections to form loops and to access key amenities</li> <li>• Provide a path connection along the west side of the creek and around the south end, over the culvert to form a loop path</li> </ul>  |
| <b>Spray park</b>  |
| <ul style="list-style-type: none"> <li>• Remove the wading pool and replace it with a spray park</li> <li>• Incorporate nature play and education features</li> <li>• Explore opportunities to manage spray park runoff with natural detention / infiltration ponds</li> </ul>   |
| <b>Playgrounds</b>   |
| <ul style="list-style-type: none"> <li>• Update and consolidate existing playgrounds</li> <li>• Incorporate nature play elements into the playground, including plantings and custom features made from natural materials</li> </ul>   |
| <b>Gathering areas</b>   |
| <ul style="list-style-type: none"> <li>• Provide picnic tables in key areas for small group gatherings and for use as outdoor classrooms by neighbourhood schools</li> <li>• Provide large gathering area with event structure (see Unique Amenities below)</li> </ul>   |
| <b>Sports field</b>  |
| <ul style="list-style-type: none"> <li>• Retain size and location</li> <li>• Improve drainage on the sports field</li> </ul>   |
| <b>Lacrosse box</b>  |
| <ul style="list-style-type: none"> <li>• Remove lacrosse box and relocate to another site</li> <li>• Reconfigure the space into an open meadow area, including consideration of native plants to expand the habitat area, and a gathering space to take advantage of the view to the mountains and provide a location for education and culture opportunities</li> </ul> |

## Infrastructure

|   |
|---|
| <b>Parking / Vehicle access</b>   |
| <ul style="list-style-type: none"> <li>• Remove part of the parking lot off Renfrew Street closest to the riparian area</li> <li>• Reconfigure the entrance drive from Nootka Street to improve the character of this park entry and the efficiency of parking near the library and community centre</li> </ul> |
| <b>Signage</b>  |
| <ul style="list-style-type: none"> <li>• Provide maps and interpretive signs on the history, geology, and ecology of the park</li> </ul>  |
| <b>Seating</b>  |
| <ul style="list-style-type: none"> <li>• Provide benches along paths and near amenities for resting, viewing sports and play areas, and appreciating the City and mountain views</li> </ul>   |
| <b>Entry features</b>   |
| <ul style="list-style-type: none"> <li>• Enhance existing entrances to the park and community centre</li> <li>• Provide inviting park entry features with signage, plantings and possibly public art at key neighbourhood interface points</li> </ul>   |
| <b>Slope stability</b>  |
| <ul style="list-style-type: none"> <li>• Improve stability with bioengineered slope retention (pending analysis by geotechnical engineers)</li> </ul>   |



|   |
|---|
| <b>Rainwater absorption</b>   |
| <ul style="list-style-type: none"> <li>• Collect drainage from roads and the upper portion of the park in an ecologically responsible way (e.g., rain gardens, bioswales and detention ponds)</li> <li>• Provide opportunities for public education in ecological restoration approaches and techniques</li> </ul>  |
| <b>Lighting</b>   |
| <ul style="list-style-type: none"> <li>• Add lighting along primary paths through the park, retaining the “dark sky” over paths near the creek</li> </ul>   |
| <b>Washrooms / Storage</b>  |
| <ul style="list-style-type: none"> <li>• Remove field house when it has reached the end of its lifespan</li> <li>• Provide new washroom facilities attached to the community centre that are directly accessible from the park</li> <li>• Provide new storage facilities attached to the community centre that are directly accessible from the park</li> </ul> |

**Unique Amenities**

|   |
|---|
| <b>Art</b>  |
| <ul style="list-style-type: none"> <li>• Provide space suitable for public art installations at locations such as park entries, bridges, structures, and gathering spaces</li> </ul>  |
| <b>Event space</b>  |
| <ul style="list-style-type: none"> <li>• Provide a structure suitable for outdoor movies, picnics, tai chi, festivals and performances that can accommodate a temporary overhead cover</li> </ul>   |
| <b>Dog off-leash area</b>   |
| <ul style="list-style-type: none"> <li>• Provide a space for a small dog off-leash area</li> </ul>  |
| <b>Community-based food production</b>  |
| <ul style="list-style-type: none"> <li>• Provide for communal food production* activities in a location(s) with full sun exposure near the community centre and library</li> <li>• Increase demonstration plantings around buildings, including edible, native, and xeriscape plants</li> </ul> |

\* Community-based food production involves members of the public planting and tending fruit or vegetables in public locations.

**Amenities Not Included**

The following program elements were considered for inclusion in the Master Plan, however they were not selected for the reasons outlined below:

- Skateboard facility: low public support, contrary to the public interest in reducing impermeable areas in the park
- Fitness equipment: low public support
- Volleyball court: low public support
- Bike path: low public support, would not provide any key cycling network connections
- Farmer’s market: other farmer’s markets exist in close proximity to this area

# 4.0

## PARK PLANS



3D Visualization of the Core Recreation Area

### 4.1 DESIGN FEATURES

Two concept plan options were generated as an exploration of program elements and the potential layout of the site (see Appendix D). The preferred elements for the recommended plan were chosen based on feedback on the options from staff, stakeholders and the public (see pull-put sheets at back). The following is a description of the elements of the recommended plan, along with the rationale for the design.

#### Renfrew Ravine Park

##### *Environmental Restoration*

**Creek enhancement** - The creek bed will be modified in specific locations identified by engineers and ecosystem specialists to provide areas of refuge for aquatic life. These modifications will involve anchoring logs and rootwads, building gravel beds and pools, and enhancing the existing creek structure where appropriate. The installation of natural gravels and cobbles will enhance the habitat value of the channel. The installation of weirs may be required to assist with gravel retention. (Note that gravel may have to be replenished over time because of loss due to natural processes). Refuge areas may be incorporated into any instream design; however, this may only be practical should future daylighting of the creek downstream allow for fish access.

Water quality will be addressed at the 26<sup>th</sup> Avenue storm sewer outlet with end-of-pipe treatment options such as hydrodynamic/centrifugal settling systems as recommended in the Renfrew Ravine Hydrology and Geotechnical Study (KWL, 2008). Given the large drainage area contributing flows to this sewer outfall, it may be necessary to install multiple hydrodynamic units to achieve the desired water quality treatment efficiency.

Due to physical site constraints at the outfall location, including limited access and ecological sensitivities within the ravine area, the most practical location to install these units will likely be under the roadway along 26<sup>th</sup> Avenue.

**Vegetation enhancement** - Invasive species will be removed through a coordinated effort by Vancouver Park Board (VPB) staff and volunteers where and if feasible. Affected areas will be revegetated with native species of trees, shrubs and ground covers. (Note that most of the invasive species presence is on the banks of the ravine, and helps to provide slope stability. Plant removal should only be considered after consultation with a geotechnical engineer.)

An ongoing maintenance schedule will be established to monitor and control invasive species throughout the park. Native trees and shrubs will also be planted in available areas beyond the existing forest to expand the habitat area. In addition, all areas disturbed during construction of instream enhancement features, paths and creek crossings will be revegetated.

### Recreation

**Paths / Walkways** - New and existing paths will provide access around the top of most of the park, connecting to entry points and paths into the ravine. The existing greenway along the east side of the park will be modified by constructing new paths off the lanes within the park boundary. The existing trail along the Boyd Diversion will be improved. These paths will be the primary network for circulation around most of the park. They will be constructed of aggregate surface to a width of 2.5 m.

Pending detailed geotechnical studies, narrower path loops will provide access into the ravine and to the creek. These paths will be constructed of aggregate to a width of 1.5 m. Wooden stairs will be used on steeper sections of the paths descending into the ravine to reduce slope disturbance. The path along the creek will have sections of boardwalk as needed to cross saturated areas and protect valuable habitat from trampling. The boardwalk will be constructed of wood to a width of 1.5 m.

**Gathering areas / Viewpoints** - Existing gathering areas will be enhanced with features such as interpretive signage, more seating, and public art. New gathering areas will be constructed on the east side of the park at the street ends of 26<sup>th</sup> Avenue and 27<sup>th</sup> Avenue. These areas will be grass, and have picnic tables to



Zoom-in of the Renfrew Ravine Park Concept Plan



Renfrew Ravine Park Concept Plan

accommodate small gatherings or outdoor classes from the local schools. Viewing decks will be constructed at locations with good views into the ravine. They will improve oversight of the ravine to assist with security. The viewing decks will have benches to provide park visitors with a place to rest and gather. They will be about 3 m by 5 m, and constructed of wood or wood-alternative composite.

### **Infrastructure**

**Signage** - A consistent system of directional, identification, and regulatory signs conforming to VPB standards will be installed throughout the park. Interpretive signs regarding the ecology, geology, and history of the site will be installed at appropriate locations.

**Seating**- Park benches will be installed along paths, at viewpoints and at gathering areas. Picnic tables will be installed at gathering areas.

**Entry features** - Identified park access points will be modified to welcome park visitors with clear and consistent signage that conforms to VPB standards. Park entry areas will be enhanced with native plantings, and have opportunities for temporary or permanent art installations.

**Garbage management** - Garbage cans will be installed at gathering areas, and located next to benches along paths.

**Slope stability** - Slope stability will be improved with bioengineered slope retention pending analysis by geotechnical engineers. The removal of invasive species and construction on the slopes of the ravine may have negative consequences for slope stability. It is recommended that a geotechnical engineer be retained prior to the design and/or implementation of any projects in the ravine or at the top of the ravine slope.

**Creek crossings** - The land bridge at 27<sup>th</sup> Avenue will be removed and replaced with a freestanding steel truss bridge. The bridge will be 4 m wide to accommodate pedestrians and cyclists, and approximately 50 m long to span across the top of the ravine. The materials that form the land bridge will be excavated and removed from the site. The creek will be daylighted to support more habitat area for aquatic life, and the sides of the ravine will be restored to a more natural state to increase the habitat value of the riparian corridor.



Existing Interpretive Signage



Existing Entry Feature



Existing Public Art

### ***Unique Amenities***

**Art** - Existing public art pieces will remain in their current locations. Public art that has been damaged or removed will be restored or replaced where possible. Opportunities for temporary and permanent public art will be made available at park entries and at gathering areas.

## **Renfrew Community Park**

### ***Environmental Restoration***

**Creek enhancement** - A series of check-dams constructed of natural materials will form cascades at the 22<sup>nd</sup> Avenue culvert outlet to reduce the velocity of the water entering from Renfrew Ravine Park (pending engineering studies). These will be rock weirs in a step-pool sequence at the culvert outlet. Large boulders will also be placed to prevent movement of the weirs during periods of high flow.

The creek bed will be widened and the depth modified where possible to form a more natural pool and riffle sequence of flow. The creek bed will be restored to a more natural channel bottom, which will involve the removal of the concrete from the banks, followed by the widening of the base of the channel along with the placement of boulders, large woody debris and other materials. These measures will armour the banks, provide opportunities to enhance aquatic habitat, and improve water quality by allowing sediments to settle.

The installation of natural gravels and cobbles will also enhance the habitat value of the channel. The installation of weirs may be required to assist with gravel retention. (Note that gravel may have to be replenished over time because of loss due to natural processes). Refuge areas may be incorporated into any instream design; however, this may only be practical should future daylighting of the creek downstream allow for fish access.

Water quality will also be addressed at the 20<sup>th</sup> Avenue storm sewer outlet with end-of-pipe treatment options such as hydrodynamic/centrifugal settling systems as recommended in the Renfrew Ravine Hydrology and Geotechnical Study (KWL, 2008). Due to physical site constraints at the outfall location, including limited access and ecological sensitivities within the ravine area, the most practical location to install the water quality



3D Site Overview of Renfrew Community Park Concept Plan



Renfrew Community Park Concept Plan

treatment system(s) may be beyond the ravine, where the existing storm sewer is currently aligned along the south end of the sports field. Alternatively, the treatment system(s) could be constructed beneath Nootka Street, however this could result in additional costs related to utility relocations and the required restoration of the roadway.

**Vegetation enhancement** - Invasive species will be removed through a coordinated effort by VPB staff and volunteers. Targeted removal of the most affected areas is recommended, specifically at the upstream and downstream extents of the channel and along the west bank. Affected areas will be revegetated with native species of trees, shrubs and ground covers. An ongoing maintenance schedule will be established to monitor and control invasive species throughout the park. Native trees and shrubs will be planted in available areas beyond the existing forest to expand the habitat area. Trees will be planted throughout the rest of the park to line paths and define spaces, while respecting view corridors. In addition, the above-described creek enhancements will involve the planting of native species of trees and shrubs along the higher elevations of the restored banks.

### **Recreation**

**Paths / Walkways** - Existing sidewalks, realigned sidewalks and new paths will provide access around the entire perimeter of the park, connecting to key facilities and park entry points. New paths will be constructed of well compacted aggregate surface to a width of 2.5 m. The primary network will be graded at slopes less than 8% to accommodate wheelchair access. Narrower paths will connect between facilities and to the primary network. They will act as links across the site and provide short loops for recreational use. These paths will be constructed of aggregate to a width of 1.5 m.

**Spray park** - The existing wading pool will be replaced with a spray park to reintroduce water play into the park in a safe and more sustainable manner. The location, next to the playground, will facilitate parental oversight and encourage overlapping play opportunities. The proximity to the ravine and rainwater management facilities will allow opportunities for children's education and nature experiences. A platform in the spray park area will serve the dual purpose of a deck to lounge on when the spray park is in use and a stage for events. Some spray features may be removable or adaptable to allow the space to support public events. The surface of the spray park will be safe for use as a seating or gathering area in front of the platform. The spray park will be about 450 m<sup>2</sup>.



Existing Paths



Potential Spray Park



Potential Playground

**Playground** - The three existing play areas will be consolidated into one large playground. Existing features will be updated, reused or removed, and new features will be added. Nature play elements will be incorporated into the design, including plantings and custom features made from natural materials. The location, near the spray park, ravine and rainwater management facilities, will facilitate oversight, encourage overlapping play, and allow opportunities for education and nature experiences. The playground will be about 600 m<sup>2</sup>, with play structures for children of various ages in defined portions of the play area. A new playground for the preschool will be located on the ravine side of the community centre, in the area currently used as storage space. It will be about 60 m<sup>2</sup> and will have features suitable for preschool children only.

**Gathering areas / Viewpoints** - The existing gathering area at the corner of Nootka Street and 22<sup>nd</sup> Avenue will be improved and enhanced with features such as interpretive signage, more seating, and public art. A new gathering area will be constructed near the corner of Renfrew Street and 22<sup>nd</sup> Avenue, slightly down the slope of the ravine. Another gathering area will be constructed in place of the field house next to the detention pond (described below). These areas will have benches picnic tables, interpretive signage, public art and permeable paving to define the space and accommodate universal accessibility. There will also be a gathering area in place of the lacrosse box in the meadow (described below) that will have picnic tables to accommodate small gatherings or outdoor classes from the local schools. Viewing decks will be constructed at locations with good views into the ravine. They will improve oversight of the ravine to assist with security. The viewing decks will have benches to provide park visitors with a place to rest and gather. They will be about 3 m by 5 m, and constructed of wood or wood-alternative composite.

**Sports field** - The sports field will retain its current size and location. Drainage will be improved to help retain the quality of the playing surface through a longer season. A path around the field will provide the opportunity for a short jogging or walking loop.

**Lacrosse box** - The lacrosse box will remain at its current location until the end of its safe usable lifespan. Once the playability of the lacrosse box has diminished beyond VPB standards, it will be removed. The area will be restored to a meadow with native trees to complement the riparian habitat of the adjacent ravine. The meadow will be an open space used for passive recreation, and include a small gathering area that could be used by schools as an outdoor classroom (described above). A new lacrosse box will be constructed in a more appropriate location in another park.



Potential Gathering Area



Existing Lacrosse Box

### **Infrastructure**

**Parking / Vehicle access** - Some of the parking off Renfrew Street will be removed and replaced with a dog off-leash area (see the description below). The entrance to the parking off Nootka Street will be reconfigured to line up with 21<sup>st</sup> Avenue. No parking spaces will be removed from this lot. The service access road to the community centre from 22<sup>nd</sup> Avenue will be reconfigured to include a hammerhead where vehicles can turn around. The emergency container will be moved to the service access area from the parking lot off Renfrew Street.

**Signage** - A consistent system of directional, identification, and regulatory signs conforming to VPB standards will be installed throughout the park. Interpretive signs regarding the ecology, geology, and history of the site will be installed at appropriate locations.

**Seating** - Park benches will be installed along paths, at viewpoints, gathering areas and near recreation amenities. Picnic tables will be installed at gathering areas.

**Entry features** - Identified park access points will be modified to welcome park visitors with clear and consistent signage that conforms to VPB standards. Park entry areas will be enhanced with native and ornamental plantings, and have opportunities for temporary or permanent art installations. Entries to buildings will be enhanced with plantings, and will be modified if necessary to allow universal accessibility.

**Slope stability** - Slope stability will be improved with bioengineered slope retention pending analysis by geotechnical engineers. Although the slope is not as significant within Renfrew Community Park, the removal of invasive species and construction on the slopes of the ravine may have negative consequences for slope stability. It is recommended that a geotechnical engineer be retained prior to the design and/or implementation of any projects in the ravine or at the top of the ravine slope.

**Rainwater absorption** - A series of bioswales, rain gardens and detention ponds will be installed to convey, collect and infiltrate rainwater that falls on the paved and other impermeable areas. Rainwater will also be collected from Nootka Street and the parking lot off Nootka Street, and directed into bioswales in the south-east corner of the park. Detention ponds will retain and infiltrate the rainwater. Nootka Street will have rain



Potential Stream Bank Stabilization



Existing Field House



gardens in the no parking zones at the 19<sup>th</sup> Avenue and 20<sup>th</sup> Avenue intersections. Rain gardens will also be installed in the boulevard of Renfrew Street near the entrance to the parking off that street. Interpretive signs will be installed to educate the public about the process and benefits of the rainwater management system.

**Washrooms / Storage** - The field house will remain until it no longer meets the structural safety standards of the VPB. Once it is no longer usable, it will be removed and the area will be established as a rainwater detention pond that links to a system of rainwater absorption features. New storage spaces that can accommodate sports equipment will be constructed on the north-east and north-west walls of the pool. A new washroom facility will be constructed on the north-east wall of the pool. These structures will open to the outside so they will be directly accessible from the park.

**Creek crossings** - A new bridge will be constructed near the mid-point of the creek to link the existing path on the east side of the creek with a new path on the west side. The bridge will increase access to the creek and improve overall connectivity across the park. It will be designed and constructed to match the existing bridges in the park. It will be built of wood and the dimensions will be approximately 6 m long and 2.5 m wide. The structure will be elevated sufficiently above the channel to ensure that it does not affect the hydraulic regime of the creek.

### ***Unique Amenities***

**Art** - Existing public art pieces will remain in their current locations where possible. As recreational features such as the lacrosse box and wading pool are replaced, the art features associated with them (e.g., the mural and mosaic fountain) will be moved or replaced. Opportunities for temporary and permanent public art will be made available at park entries and at gathering areas.

**Event space** - The event space will include the spray park and its platform (see description above), and the existing sloped area to the south. The platform will be oriented to allow views of the mountains and downtown Vancouver from the grass slope. The grass slope will be gently terraced to accommodate seating during performances. Trees will be planted to define the event space and to frame the views beyond. A path from the entry at 20<sup>th</sup> Avenue will provide access to the area for park visitors, service vehicles and event deliveries.



Potential Spray Park Platform



Potential Dog Park



Potential Community-based  
Food Production

**Dog off-leash area** - A portion of the parking lot off Renfrew Street will be removed and replaced with a small fenced dog off-leash area. The amount of parking to be removed amounts to about one third of the existing parking lot, and will yield an off-leash area of about 1000 m<sup>2</sup>. The area will have native trees planted throughout. The surface of the dog off-leash area will be pea gravel and grass.

**Community-based food production** - Areas along the southern boundary of the park and between the library and community centre will be available for community-based food production based on community initiatives. The extent and cost of the work will be established when a community group shows interest to partner with the VPB on food production in the park.

## 4.2 PHASING AND COST ESTIMATE

### Phasing

The Master Plan for Renfrew Ravine and Renfrew Community Parks will be implemented in phases over time. The items in each phase are primarily based on the priorities expressed during public consultation. In addition, compatible items are grouped in the same phase, as are amenities close to each other, for efficiency of construction.

The timing of each phase will be based on the need to replace and update existing amenities and the availability of funding. The specific timing for each phase is undetermined at this time.

The phases are intended as a guideline for implementation. There are no major constraints affecting the order of construction, and priorities can change over time. Every item in each phase is contingent on the availability of funding. Items can therefore be juggled between phases based on funding opportunities and community interest. The preliminary phasing plan is described in the cost estimate summary below.



Existing Playground



Existing Stream Bank Stabilization



Old Growth Stump in Renfrew Ravine Park

## Cost Estimate

This estimate is a Class C cost estimate based on typical 2013 construction costs. It uses measured quantities from the preferred concept plan. It is considered to have a 'moderate' degree of accuracy and can be used for preliminary project approval and budgeting. More detailed cost estimates will need to accompany preliminary and detailed design. A description of the items in each phase and a Class C cost estimate are outlined on the following pages.

### Renfrew Ravine Park

#### Phase 1

##### A. Vegetation Enhancement

- Remove invasive species, including disposal off-site (where feasible and where slope stability will not be affected as determined by a geotechnical engineer)
- Supply and install native trees and shrubs in areas where invasive species have been removed
- Supply and install native trees and shrubs in open areas of the park and along new pathways
- Install native species around all instream enhancement features

##### B. Paths / Walkways -East side of Ravine

- Install 2.5 m wide gravel paths, including site preparation and placement of gravel base and surface courses
- Supply and install benches on concrete pads

| Item                      | Description of Work                          | Unit           | Unit Price | Quantity | Amount            |
|---------------------------|--|----------------|------------|----------|-------------------|
| <b>A</b>                  | <b>Vegetation Enhancement</b>                |                |            |          |                   |
| 1                         | Invasive Species Removal                     | m <sup>2</sup> | 7.00       | 16,500   | \$ 115,500        |
| 2                         | Infill Planting with Native Plants           | m <sup>2</sup> | 60.00      | 4,750    | \$ 285,000        |
| 3                         | New Native Plantings Area                    | m <sup>2</sup> | 65.00      | 400      | \$ 26,000         |
| 4                         | Trees  | each           | 4,000.00   | 43       | \$ 172,000        |
| Subtotal - A              |  |                |            |          | \$ 598,500        |
| <b>B</b>                  | <b>Paths / Walkways -East Side of Ravine</b> |                |            |          |                   |
| 1                         | Wide Gravel Paths (2.5m)                     | m <sup>2</sup> | 60.00      | 850      | \$ 51,000         |
| 2                         | Benches                                      | each           | 1,500.00   | 3        | \$ 4,500          |
| 3                         | Signage                                      | each           | 1,000.00   | 5        | \$ 5,000          |
| Subtotal - B              |  |                |            |          | \$ 60,500         |
| <b>SUBTOTAL ALL ITEMS</b> |  |                |            |          | <b>\$ 659,000</b> |
| 20% Contingency           |  |                |            |          | 131,800.00        |
| 15% Design Fees           |  |                |            |          | 98,850.00         |
| <b>TOTAL BEFORE TAX</b>   |  |                |            |          | <b>\$ 889,650</b> |
| GST                       |  |                |            |          | \$ 44,483         |
| <b>TOTAL</b>              |  |                |            |          | <b>\$ 934,133</b> |

**Phase 2**

**C. Gathering Areas / Viewpoints**

- Prepare sites of new gathering areas, including site grading and placement of growing medium and grass seed
- Supply and install picnic tables on concrete pads
- Design and construct viewing decks
- Supply and install benches on viewing decks
- Design, supply and install interpretive signs

**D. Paths / Walkways –West Side**

- Install 2.5 m wide gravel paths, including site preparation and placement of gravel base and surface courses
- Supply and install benches on concrete pads
- Supply and install garbage cans
- Supply and install directional, identification and regulatory signs
- Design, supply and install interpretive signs
- Install entry features, including growing medium, plants, and park entry signs

| Item                                  | Description of Work      | Unit           | Unit Price | Quantity | Amount            |
|---------------------------------------|--------------------------|----------------|------------|----------|-------------------|
| <b>C Gathering Areas / Viewpoints</b> |                          |                |            |          |                   |
| 1                                     | Picnic Tables            | each           | 3,500.00   | 8        | \$ 28,000         |
| 2                                     | Benches                  | each           | 1,500.00   | 14       | \$ 21,000         |
| 3                                     | Interpretive Signage     | each           | 1,000.00   | 15       | \$ 15,000         |
| 4                                     | Viewing Decks            | each           | 25,000.00  | 4        | \$ 100,000        |
| Subtotal - C                          |                          |                |            |          | \$ 164,000        |
| <b>D Paths / Walkways -West Side</b>  |                          |                |            |          |                   |
| 1                                     | Wide Gravel Paths (2.5m) | m <sup>2</sup> | 60.00      | 800      | \$ 48,000         |
| 2                                     | Benches                  | each           | 1,500.00   | 12       | \$ 18,000         |
| 3                                     | Garbage Cans             | each           | 200.00     | 10       | \$ 2,000          |
| 4                                     | Signage                  | each           | 1,000.00   | 5        | \$ 5,000          |
| 5                                     | Entry Features           | each           | 1,500.00   | 9        | \$ 13,500         |
| Subtotal - D                          |                          |                |            |          | \$ 86,500         |
| <b>SUBTOTAL ALL ITEMS</b>             |                          |                |            |          | <b>\$ 250,500</b> |
| 20% Contingency                       |                          |                |            |          | 50,100.00         |
| 15% Design Fees                       |                          |                |            |          | 37,575.00         |
| <b>TOTAL BEFORE TAX</b>               |                          |                |            |          | <b>\$ 338,175</b> |
| GST                                   |                          |                |            |          | \$ 16,909         |
| <b>TOTAL</b>                          |                          |                |            |          | <b>\$ 355,084</b> |

**Phase 3**

- E. Paths / Walkways –To and along the bottom of ravine (subject to detailed geotechnical evaluation)
  - Install 1.5 m wide gravel paths, including site preparation and placement of gravel base and surface courses
  - Design and construct 1.5 m wide wood stairs
  - Design and construct 1.5 m wide wood boardwalk if/as needed
  - Supply and install benches on concrete pads
  - Supply and install directional, identification and regulatory signs
  - Design, supply and install interpretive signs
  
- F. Creek Enhancement
  - Design and install refuge areas including excavation of materials; placement of boulders, woody debris, rip rap and cobbles; and planting emergent aquatic vegetation
  - Install end-of-pipe centrifugal settling system
  
- G. Creek Crossing -27<sup>th</sup> Ave. Land Bridge
  - Remove land bridge, including excavation and removal of material, grading of ravine slope, creek restoration and planting native trees and shrubs (The estimate assumes the land bridge material is not contaminated. If the material is contaminated the cost would increase by \$2,300,000 for disposal.)
  - Design and construct foot bridge

| Item   | Description of Work                                  | Unit           | Unit Price | Quantity | Amount              |
|--|--|----------------|------------|----------|---------------------|
| <b>E Paths / Walkways -To and Along Bottom of Ravine</b> |  |                |            |          |                     |
| 1  | Narrow Gravel Paths (1.5m)                           | m <sup>2</sup> | 60.00      | 500      | \$ 30,000           |
| 2  | Stairs   | m <sup>2</sup> | 540.00     | 150      | \$ 81,000           |
| 3  | Boardwalk  | m <sup>2</sup> | 540.00     | 500      | \$ 270,000          |
| 4  | Benches  | each           | 1,500.00   | 6        | \$ 9,000            |
| 5  | Signage  | each           | 1,000.00   | 5        | \$ 5,000            |
| Subtotal - E   |  |                |            |          | \$ 395,000          |
| <b>F Creek Enhancement</b>                               |  |                |            |          |                     |
| 1  | Refuge Areas for Aquatic Life                        | each           | 3,000.00   | 8        | \$ 24,000           |
| 2  | End-of-pipe centrifugal settling system at 26th Ave. | each           | 225,000.00 | 1        | \$ 225,000          |
| Subtotal - F   |  |                |            |          | \$ 249,000          |
| <b>G Creek Crossing -27th Ave. Land Bridge</b>           |  |                |            |          |                     |
| 1  | 27th Ave. Land Bridge Removal and Slope Restoration  | L.S.           | 250,000.00 | 1        | \$ 250,000          |
| 2  | Pedestrian Bridge at 27th Ave.                       | L.S.           | 500,000.00 | 1        | \$ 500,000          |
| Subtotal - G   |  |                |            |          | \$ 750,000          |
| <b>SUBTOTAL ALL ITEMS</b>                                |  |                |            |          | <b>\$ 1,394,000</b> |
| 20% Contingency  |  |                |            |          | 278,800.00          |
| 15% Design Fees  |  |                |            |          | 209,100.00          |
| <b>TOTAL BEFORE TAX</b>                                  |  |                |            |          | <b>\$ 1,881,900</b> |
| GST  |  |                |            |          | \$ 94,095           |
| <b>TOTAL</b>   |  |                |            |          | <b>\$ 1,975,995</b> |

## Renfrew Community Park

### *Phase 1*

#### A. Vegetation Enhancement

- Remove invasive species, including disposal off-site
- Supply and install native trees and shrubs in areas where invasive species have been removed
- Supply and install native trees and shrubs in open areas of the park
- Install native species around all instream enhancement features

#### B. Paths / Walkways

- Install 2.5 m wide gravel paths, including site preparation and placement of gravel base and surface courses
- Install 1.5 m wide gravel paths, including site preparation and placement of gravel base and surface courses
- Grade slopes for primary paths into ravine to be less than 8% slope
- Supply and install benches on concrete pads
- Supply and install directional, identification and regulatory signs
- Design, supply and install interpretive signs
- Install entry features, including growing medium, plants, and park entry signs

#### C. Spray Park

- Prepare site, including demolition of the wading pool and site grading
- Design and construct spray park, including surfacing and spray features
- Design and construct platform

#### D. Event Space

- Grade slope into terraces, including site preparation and rough grading
- Supply and install grass, including growing medium and grass seed
- Supply and install trees, including growing medium

| Item                            | Description of Work                | Unit           | Unit Price | Quantity | Amount              |
|---------------------------------|------------------------------------|----------------|------------|----------|---------------------|
| <b>A Vegetation Enhancement</b> |                                    |                |            |          |                     |
| 1                               | Invasive Species Removal           | m <sup>2</sup> | 3.50       | 6,900    | \$ 24,150           |
| 2                               | Infill Planting with Native Plants | m <sup>2</sup> | 60.00      | 11,500   | \$ 690,000          |
| 3                               | New Native Plantings Area          | m <sup>2</sup> | 65.00      | 2,700    | \$ 175,500          |
| 4                               | Trees                              | each           | 400.00     | 54       | \$ 21,600           |
| Subtotal - A                    |                                    |                |            |          | \$ 911,250          |
| <b>B Paths / Walkways</b>       |                                    |                |            |          |                     |
| 1                               | Wide Gravel Paths (2.5m)           | m <sup>2</sup> | 60.00      | 2,900    | \$ 174,000          |
| 2                               | Narrow Gravel Paths (1.5m)         | m <sup>2</sup> | 60.00      | 1,000    | \$ 60,000           |
| 3                               | Regrading Paths into the Ravine    | m <sup>2</sup> | 15.00      | 2,500    | \$ 37,500           |
| 4                               | Benches                            | each           | 1,500.00   | 40       | \$ 60,000           |
| 5                               | Signage                            | each           | 1,000.00   | 10       | \$ 10,000           |
| 6                               | Entry Features                     | each           | 1,500.00   | 13       | \$ 19,500           |
| Subtotal - B                    |                                    |                |            |          | \$ 361,000          |
| <b>C Spray Park</b>             |                                    |                |            |          |                     |
| 1                               | Spray Park                         | L.S.           | 300,000.00 | 1        | \$ 300,000          |
| 2                               | Platform                           | L.S.           | 25,000.00  | 1        | \$ 25,000           |
| Subtotal - C                    |                                    |                |            |          | \$ 325,000          |
| <b>D Event Space</b>            |                                    |                |            |          |                     |
| 1                               | Rough Grading to Terrace Slope     | m <sup>2</sup> | 5.00       | 600      | \$ 3,000            |
| 2                               | Growing Medium/Hydroseed           | m <sup>2</sup> | 20.00      | 600      | \$ 12,000           |
| 3                               | Trees                              | each           | 400.00     | 6        | \$ 2,400            |
| Subtotal - D                    |                                    |                |            |          | \$ 17,400           |
| <b>SUBTOTAL ALL ITEMS</b>       |                                    |                |            |          | <b>\$ 1,614,650</b> |
| 20% Contingency                 |                                    |                |            |          | 322,930.00          |
| 15% Design Fees                 |                                    |                |            |          | 242,197.50          |
| <b>TOTAL BEFORE TAX</b>         |                                    |                |            |          | <b>\$ 2,179,778</b> |
| GST                             |                                    |                |            |          | \$ 108,989          |
| <b>TOTAL</b>                    |                                    |                |            |          | <b>\$ 2,288,766</b> |

**Phase 2**

- E. Gathering Areas / Viewpoints – Existing and in ravine
  - Prepare site of new gathering area, including site grading
  - Install permeable paving, including base and surface courses
  - Design and construct viewing decks
  - Supply and install benches on viewing decks and gathering areas
  - Design, supply and install interpretive signs
  
- F. Paths / Walkways –Beyond Park Boundary (road ROW and VSB property)
  - Install 1.5 m wide concrete sidewalk, including removal of existing sidewalk, site preparation and placement of base and surface courses
  - Install 2.5 m wide gravel paths, including site preparation and placement of gravel base and surface courses
  
- G. Sport Field
  - Install French drains, including site preparation and placement of drain pipe, gravel, growing medium and grass seed
  
- H. Rainwater Absorption
  - Install bioswales, including site preparation and placement of drain rock, growing medium and grass seed
  - Install detention pond, including site preparation and placement of drain rock, growing medium and plants
  - Install rain gardens, including site preparation and placement of drain rock, growing medium and plants
  
- I. Play Areas
  - Prepare site of main playground, including removal of existing play features, edging and surfacing, and rough grading of the site
  - Supply and install new play equipment for main playground, including playground edging, wood fiber safety surfacing, and design and construction of custom features
  - Supply and install preschool play equipment, including site preparation, playground edging and wood fiber safety surfacing
  
- J. Creek Crossing
  - Design and construct wood foot bridge



| Item  | Description of Work                        | Unit           | Unit Price | Quantity | Amount              |
|---|--|----------------|------------|----------|---------------------|
| <b>E Gathering Areas / Viewpoints -Existing + In Ravine</b> |  |                |            |          |                     |
| 1   | Benches                                    | each           | 1,500.00   | 8        | \$ 12,000           |
| 2   | Interpretive Signage                       | each           | 1,000.00   | 3        | \$ 3,000            |
| 3   | Permeable Paving for Gathering Areas       | m <sup>2</sup> | 100.00     | 50       | \$ 5,000            |
| 4   | Viewing Decks                              | each           | 25,000.00  | 2        | \$ 50,000           |
| Subtotal - E  |  |                |            |          | \$ 70,000           |
| <b>F Paths / Walkways -Beyond Park Boundary</b>             |  |                |            |          |                     |
| 1   | Sidewalk on Renfrew St. Reconfiguration    | m <sup>2</sup> | 110.00     | 250      | \$ 27,500           |
| 2   | Gravel Paths on School Board Property      | m <sup>2</sup> | 60.00      | 200      | \$ 12,000           |
| Subtotal - F  |  |                |            |          | \$ 39,500           |
| <b>G Sports Field</b>                                       |  |                |            |          |                     |
| 1   | Drainage Improvements                      | m <sup>2</sup> | 10.00      | 6,000    | \$ 60,000           |
| Subtotal - G  |  |                |            |          | \$ 60,000           |
| <b>H Rainwater Absorption</b>                               |  |                |            |          |                     |
| 1   | Bioswales                                  | m <sup>2</sup> | 80.00      | 300      | \$ 24,000           |
| 2   | Detention Pond near Play Area              | m <sup>2</sup> | 140.00     | 100      | \$ 14,000           |
| 3   | Rain gardens off Nootka St. and Renfrew St | m <sup>2</sup> | 140.00     | 150      | \$ 21,000           |
| Subtotal - H  |  |                |            |          | \$ 59,000           |
| <b>I Play Areas</b>   |  |                |            |          |                     |
| 1   | Main Playground                            | L.S.           | 400,000.00 | 1        | \$ 400,000          |
| 2   | Preschool Playground                       | L.S.           | 100,000.00 | 1        | \$ 100,000          |
| Subtotal - I  |  |                |            |          | \$ 500,000          |
| <b>J Creek Crossing</b>                                     |  |                |            |          |                     |
| 1   | Bridge                                     | L.S.           | 37,500.00  | 1        | \$ 37,500           |
| Subtotal - J  |  |                |            |          | \$ 37,500           |
| <b>SUBTOTAL ALL ITEMS</b>                                   |  |                |            |          | <b>\$ 1,108,400</b> |
| 20% Contingency   |  |                |            |          | 221,680.00          |
| 15% Design Fees   |  |                |            |          | 166,260.00          |
| <b>TOTAL BEFORE TAX</b>                                     |  |                |            |          | <b>\$ 1,496,340</b> |
| GST   |  |                |            |          | \$ 74,817           |
| <b>TOTAL</b>  |  |                |            |          | <b>\$ 1,571,157</b> |

**Phase 3****K. Creek Enhancement**

- Design and construct cascades including excavation of materials, and placement of rock weirs and large boulders
- Design and construct creek bed and bank modifications including excavation of materials; placement of rip rap, clusters of large woody debris, boulders, cobbles and gravels for the creek banks and bed; and placing growing medium and plants on the upper portions of the banks
- Install end-of-pipe centrifugal settling system

**L. Washrooms / Storage**

- Remove field house, including demolition and site restoration
- Design and construct washroom extension onto pool building
- Design and construct two storage extensions onto pool building

**M. Lacrosse Box**

- Remove lacrosse box, including demolition and site restoration
- Install meadow area, including growing medium and grass seed
- Supply and install trees, including growing medium
- Design and construct new lacrosse box in new location

**N. Gathering Areas –in Place of Field House and Lacrosse Box**

- Prepare site of new gathering areas, including site grading
- Install permeable paving, including base and surface courses
- Install grass, including growing medium and seed
- Supply and install benches in gathering area
- Supply and install picnic tables on concrete pads in meadow area
- Design, supply and install interpretive signs

**O. Parking / Vehicle Access**

- Remove parking area from parking lot off Renfrew St., including demolition and site restoration
- Design and construct vehicle entrance from Nootka St., including demolition of existing entrance, site preparation, and installation of concrete curbs and asphalt driveway
- Design and construct modifications to 22<sup>nd</sup> Ave. service access road, site preparation and installation of new curbs and asphalt driveway

**P. Rainwater Absorption**

- Install detention ponds near Nootka St. parking lot, including site preparation and placement of drain rock, growing medium and plants
- Install detention pond in place of field house, including site preparation and placement of drain rock, growing medium and plants

**Q. Dog Off-leash Area**

- Supply and install pea gravel surface, including site preparation
- Supply and install fence around perimeter of area
- Supply and install trees, including growing medium

| Item                              | Description of Work                                  | Unit           | Unit Price | Quantity | Amount              |
|-----------------------------------|--|----------------|------------|----------|---------------------|
| <b>K Creek Enhancement</b>        |  |                |            |          |                     |
| 1                                 | Check-dam Cascades at 22nd Ave. Culvert Outlet       | each           | 1,000.00   | 4        | \$ 4,000            |
| 2                                 | Creek Bed and Bank Replacement                       | L.M.           | 875.00     | 300      | \$ 262,500          |
| 3                                 | End-of-pipe centrifugal settling system at 20th Ave. | each           | 225,000.00 | 1        | \$ 225,000          |
| Subtotal - K                      |  |                |            |          | \$ 491,500          |
| <b>L Washrooms / Storage</b>      |  |                |            |          |                     |
| 1                                 | Field House Demolition and Removal                   | L.S.           | 40,000.00  | 1        | \$ 40,000           |
| 2                                 | Washroom Extension onto Pool Building                | L.S.           | 500,000.00 | 1        | \$ 500,000          |
| 3                                 | Storage Extensions onto Pool Building                | L.S.           | 200,000.00 | 1        | \$ 200,000          |
| Subtotal - L                      |  |                |            |          | \$ 740,000          |
| <b>M Lacrosse Box</b>             |  |                |            |          |                     |
| 1                                 | Lacrosse Box Demolition and Removal                  | L.S.           | 30,000.00  | 1        | \$ 30,000           |
| 2                                 | Meadow Area (Growing Medium/Hydroseed)               | m <sup>2</sup> | 20.00      | 1,700    | \$ 34,000           |
| 3                                 | Trees  | each           | 400.00     | 7        | \$ 2,800            |
| 4                                 | New Lacrosse Box                                     | L.S.           | 100,000.00 | 1        | \$ 100,000          |
| Subtotal - M                      |  |                |            |          | \$ 166,800          |
| <b>N Lacrosse Box</b>             |  |                |            |          |                     |
| 1                                 | Permeable Paving for Gathering Area                  | m <sup>2</sup> | 100.00     | 100      | \$ 10,000           |
| 2                                 | Benches  | each           | 1,500.00   | 4        | \$ 6,000            |
| 3                                 | Picnic Tables  | each           | 3,500.00   | 8        | \$ 28,000           |
| 4                                 | Interpretive Signage                                 | each           | 1,000.00   | 6        | \$ 6,000            |
| Subtotal - N                      |  |                |            |          | \$ 50,000           |
| <b>O Parking / Vehicle Access</b> |  |                |            |          |                     |
| 1                                 | Parking off Renfrew St. Demolition and Regrading     | m <sup>2</sup> | 20.00      | 850      | \$ 17,000           |
| 2                                 | Entrance from Nootka St. Reconfiguration             | m <sup>2</sup> | 80.00      | 1,000    | \$ 80,000           |
| 3                                 | Service Access Road from 22nd Ave Reconfiguration    | m <sup>2</sup> | 80.00      | 300      | \$ 24,000           |
| Subtotal - O                      |  |                |            |          | \$ 121,000          |
| <b>P Rainwater Absorption</b>     |  |                |            |          |                     |
| 1                                 | Detention Ponds Near Nootka St. Parking Lot          | m <sup>2</sup> | 140.00     | 100      | \$ 14,000           |
| 2                                 | Detention Pond to Replace Field House                | m <sup>2</sup> | 140.00     | 100      | \$ 14,000           |
| Subtotal - P                      |  |                |            |          | \$ 28,000           |
| <b>Q Dog Off-leash Area</b>       |  |                |            |          |                     |
| 1                                 | Dog Off-leash Area                                   | L.S.           | 50,000.00  | 1        | \$ 50,000           |
| 2                                 | Trees  | each           | 400.00     | 7        | \$ 2,800            |
| Subtotal - Q                      |  |                |            |          | \$ 52,800           |
| <b>SUBTOTAL ALL ITEMS</b>         |  |                |            |          | <b>\$ 1,650,100</b> |
| 20% Contingency                   |  |                |            |          | 330,020.00          |
| 15% Design Fees                   |  |                |            |          | 247,515.00          |
| <b>TOTAL BEFORE TAX</b>           |  |                |            |          | <b>\$ 2,227,635</b> |
| GST                               |  |                |            |          | \$ 111,382          |
| <b>TOTAL</b>                      |  |                |            |          | <b>\$ 2,339,017</b> |

## APPENDIX A: REFERENCES

AXYS Environmental Consulting Ltd. (AXYS), prepared for Greater Vancouver Regional District, *Still Creek Watershed Biodiversity Conservation Case Study*, 2005.

Greater Vancouver Regional District (GVRD), *Still Creek Integrated Stormwater Management Plan*, 2006.

Kerr Wood Leidal Associates Ltd. (KWL), *Renfrew Ravine Hydrology and Geotechnical Study*, 2008.

Lees + Associates (Lees), et al., prepared for City of Vancouver, *Renfrew Still Creek Rehabilitation and Enhancement Study*, 2002.

Raincoast Applied Ecology (Raincoast), prepared for City of Burnaby, *Invasive Plants in the Still Creek Watershed*, 2006.

# APPENDIX B: SUMMARY OF PUBLIC ENGAGEMENT

## INPUT FROM PUBLIC WORKSHOPS AND OPEN HOUSE #1 – NOVEMBER 2012

In November, 2012, an open house and workshops were held regarding the Master Plan for Renfrew Ravine Park and Renfrew Community Park. The purpose of this public engagement was to inform participants about the planning process, and to request their perceptions about the existing site use, vision/objectives, and existing and future amenities in the parks.

### Public Workshops

The following is the input from the workshops, with each bullet representing an idea put forth during brainstorming for the topics on the left. The numbered sections are listed in order of priority, as determined by “voting” using audience response technology (ART). The lists for Vision/Objectives and New Amenities were prepared by each group, and participants selected their top three priorities in each section. The unnumbered bullets are in the general order of importance based on the number of times a topic was mentioned.

#### **Public Workshop 1, 4:30pm, November 15, 2012**

- 22 participants

|  |   |
|--|---|
| <p><b>Primary use of parks</b> (participants checked as many as apply to them)</p> | <ol style="list-style-type: none"> <li>1. Walking / jogging</li> <li>2. Nature appreciation</li> <li>3. Community Centre / Library</li> <li>4. Gathering / hanging out</li> <li>5. Arts, culture, community events</li> <li>6. Stewardship activities</li> <li>7. Playground / wading pool</li> <li>8. Dog walking</li> <li>9. Sports fields</li> <li>10. Lacrosse / sport box</li> </ol>   |
| <p><b>Strengths of Renfrew Ravine Park</b></p>                                     | <ul style="list-style-type: none"> <li>• Wild/natural greenspace</li> <li>• Wildlife: Birds, butterflies, animals, fish (?)</li> <li>• Habitat for plants and animals</li> <li>• Quiet and peaceful</li> <li>• Water</li> <li>• Nature observation /appreciation / outdoor classroom</li> <li>• Paths, land bridge</li> <li>• Plants: berries, forest, old growth tree stump, native species</li> <li>• Access to nature</li> <li>• Well maintained, little garbage</li> <li>• Natural playground</li> <li>• People watching</li> <li>• Art: labyrinth</li> </ul> |

|   |  |
|---|--|
| <p><b>Challenges of Renfrew Ravine Park</b></p>             | <ul style="list-style-type: none"> <li>• Garbage dumping</li> <li>• Invasive species</li> <li>• Dark, not enough lighting</li> <li>• Illicit activities: drug use, loitering</li> <li>• Feels unsafe</li> <li>• Few benches</li> <li>• Traffic in lane (23<sup>rd</sup> to 25<sup>th</sup>)</li> <li>• Needs garden and more native plantings</li> <li>• Artificial look</li> <li>• Not big enough</li> <li>• Paths: narrow, uneven</li> <li>• No safe access to water</li> <li>• Not enough safety hazard signs</li> <li>• No management</li> </ul> |
| <p><b>Vision / Objectives for Renfrew Ravine Park</b></p>   | <ol style="list-style-type: none"> <li>1. Healthy ecosystem</li> <li>2. Clean water</li> <li>3. Native plants</li> <li>4. Nature education opportunities</li> <li>5. Access to water</li> <li>6. Watershed consideration</li> <li>7. Accessibility</li> <li>8. Safety</li> <li>9. Paths around and to neighbourhood</li> <li>10. Fish</li> </ol>   |
| <p><b>New amenities desired for Renfrew Ravine Park</b></p> | <ol style="list-style-type: none"> <li>1. Trails – upper level</li> <li>2. Boardwalk / trail down to creek</li> <li>3. Education programs</li> <li>4. Interpretive signs and maps</li> <li>5. Nature / art features</li> <li>6. Night lighting – upper level</li> <li>7. Restrict vehicles on lanes</li> <li>8. More art</li> <li>9. More / better seating – upper level</li> <li>10. Washrooms</li> </ol>   |
| <p><b>Strengths of Renfrew Community Park</b></p>           | <ul style="list-style-type: none"> <li>• Library / Community Centre (programs and facilities)</li> <li>• Creek</li> <li>• Access to creek</li> <li>• Playground</li> <li>• Bridges across creek</li> <li>• Feels safe / welcoming</li> <li>• Ornamental gardens</li> <li>• Community events: moon festival</li> <li>• Outdoor classroom</li> <li>• Plants: trees, native species, berries</li> <li>• Unique geology</li> <li>• Natural / semi-natural</li> </ul>   |

|   |   |
|---|---|
| <b>Challenges of Renfrew Community Park</b>             | <ul style="list-style-type: none"> <li>• Paths: overgrown, unstable, not accessible, not connected on west side</li> <li>• Buildings</li> <li>• Fence along creek</li> <li>• Lack of benches, tables, gazebos</li> <li>• Polluted water</li> <li>• Cement in creek bed</li> <li>• Lack of life in creek</li> <li>• Lack of access to water (fence, concrete bank)</li> <li>• West parking lot</li> <li>• Wading pool</li> <li>• Dogs</li> <li>• Feeling unsafe in ravine area</li> <li>• Separation from school</li> <li>• Garbage: beside field house</li> <li>• Slope at south-west corner</li> </ul> |
| <b>Vision / Objectives for Renfrew Community Park</b>   | <ol style="list-style-type: none"> <li>1. Nature education</li> <li>2. Naturalization</li> <li>3. Collaboration with school</li> <li>4. Expand riparian area</li> <li>5. Promote healthy lifestyle</li> <li>6. More accessible</li> <li>7. Safety</li> </ol>  |
| <b>New amenities desired for Renfrew Community Park</b> | <ol style="list-style-type: none"> <li>1. Covered picnic / bandshell</li> <li>2. Farmer's market</li> <li>3. Community gardens</li> <li>4. More / looping trails</li> <li>5. Spray park</li> <li>6. Accessible washrooms</li> <li>7. More display gardens</li> <li>8. New playgrounds</li> <li>9. More interpretive signage</li> <li>10. Skateboard wall</li> </ol>   |

**Public Workshop 2, 6:30pm, November 15, 2012**

- 24 participants

|   |   |
|---|---|
| <b>Primary use of parks (participants checked as many as apply to them)</b> | <ol style="list-style-type: none"> <li>1. Walking / jogging</li> <li>2. Nature appreciation</li> <li>3. Community Centre / Library</li> <li>4. Arts, culture, community events</li> <li>5. Stewardship activities</li> <li>6. Gathering / hanging out</li> <li>7. Playground / wading pool</li> <li>8. Sports fields</li> <li>9. Dog walking</li> <li>10. Lacrosse / sport box</li> </ol> |
|---|---|

|  |  |
|--|--|
| <p><b>Strengths of Renfrew Ravine Park</b></p>   | <ul style="list-style-type: none"> <li>• Natural space / Nature in the city</li> <li>• Plants: native trees, forest</li> <li>• The creek</li> <li>• Cool, quiet, peaceful, isolated from city</li> <li>• Paths, land bridge</li> <li>• Sense of history</li> <li>• Wildlife: birds and animals</li> <li>• Sounds: water</li> <li>• Views to the creek</li> <li>• Seeing others</li> <li>• Art</li> </ul>   |
| <p><b>Challenges of Renfrew Ravine Park</b></p>  | <ul style="list-style-type: none"> <li>• Garbage / dumping</li> <li>• Invasive species</li> <li>• Poor maintenance by city</li> <li>• Polluted water</li> <li>• Unsafe: criminal activity, needles</li> <li>• Low use of grassy areas, labyrinth</li> <li>• Garbage bins</li> <li>• Existing path is poorly marked</li> <li>• No access to creek</li> <li>• No path on west side of ravine</li> <li>• Rotten fences along private property</li> <li>• No way to cross between 22<sup>nd</sup> and 26<sup>th</sup> Avenue</li> <li>• Land bridge</li> <li>• New zoning around ravine</li> </ul> |
| <p><b>Vision / Objectives for Renfrew Ravine Park</b></p>  | <ol style="list-style-type: none"> <li>1. Habitat protection / enhancement</li> <li>2. Better management and enforcement</li> <li>3. Stewardship</li> <li>4. Limit access</li> <li>5. Education / interpretation</li> <li>6. Access to creek / park</li> <li>7. Encourage / program more use – awareness</li> <li>8. Paths around top – accessible</li> <li>9. Safety</li> </ol>   |
| <p><b>New amenities desired for Renfrew Ravine Park (integrated results of two voting lists)</b></p> | <ol style="list-style-type: none"> <li>1. Bridge to replace land bridge</li> <li>2. Limit new amenities</li> <li>3. Benches</li> <li>4. Fences – wood – on property lines</li> <li>5. Interpretive signs</li> <li>6. Garbage cans</li> <li>7. Viewpoints</li> <li>8. Lighting on paths</li> <li>9. More art</li> <li>10. Walkway on west side</li> <li>11. Walkways into ravine</li> <li>12. Natural play</li> <li>13. Outdoor classroom</li> <li>14. Community spaces</li> <li>15. Exercise station</li> <li>16. Washrooms</li> </ol>   |



|   |   |
|---|---|
| <b>Strengths of Renfrew Community Park</b>              | <ul style="list-style-type: none"> <li>• Access to creek</li> <li>• Library / Community Centre</li> <li>• Creek</li> <li>• Community events: Moon Festival</li> <li>• Quietness, tranquility, refuge from Renfrew Street.</li> <li>• Paths along creek, walkways</li> <li>• Playground, kids playing</li> <li>• Plants: trees</li> <li>• Wildlife: ducks</li> <li>• Accessibility</li> <li>• Ravine</li> <li>• Views to mountains</li> <li>• Views of creek</li> <li>• Sounds of water</li> <li>• Level of maintenance</li> </ul> |
| <b>Challenges of Renfrew Community Park</b>             | <ul style="list-style-type: none"> <li>• Polluted water</li> <li>• Limited parking</li> <li>• Channelized creek</li> <li>• Manicured areas, grass monoculture</li> <li>• Poor maintenance</li> <li>• Lack of trees</li> <li>• Flooding of ravine during heavy rains</li> <li>• Waterlogged sports field</li> <li>• No path on west side</li> <li>• Near major streets</li> <li>• Lack of interpretive signage</li> <li>• No off-leash area</li> <li>• Playgrounds are old</li> </ul>  |
| <b>Vision / Objectives for Renfrew Community Park</b>   | <ol style="list-style-type: none"> <li>1. Stewardship</li> <li>2. Natural state</li> <li>3. Integrate upper park with ravine</li> <li>4. More community engagement</li> <li>5. Accessibility</li> <li>6. Recreation focus</li> <li>7. Developed / maintained</li> <li>8. Art</li> <li>9. Education</li> <li>10. Link with school</li> </ol>   |
| <b>New amenities desired for Renfrew Community Park</b> | <ol style="list-style-type: none"> <li>1. Detention ponds, creek enhancement</li> <li>2. Natural play space</li> <li>3. Gathering / seating space</li> <li>4. Bandshell / movies / events</li> <li>5. Spray park / pool</li> <li>6. Interpretive signs, art</li> <li>7. Community garden</li> <li>8. Fitness equipment, volleyball</li> <li>9. Trail on west side</li> <li>10. Dog off-leash area</li> </ol>  |

## Open House Comment Forms

The following is a summary of the input from the comment forms that were filled out at the open house and on-line. There were 33 comment forms submitted. The numbered sections are listed in order of priority, as determined by the number of respondents who selected that option. The bullets represent other suggestions given by respondents.

|  |   |
|--|---|
| <p><b>Primary use of parks</b></p>             | <ol style="list-style-type: none"> <li>1. Walking</li> <li>2. Nature appreciation</li> <li>3. Community Centre / Library</li> <li>4. Community Events</li> <li>5. Walking into the ravine</li> <li>6. Arts and culture activities</li> <li>7. Stewardship projects along the ravine</li> <li>8. Gathering / hanging out</li> <li>9. Short cuts to other places</li> <li>10. Playground</li> <li>11. Jogging</li> <li>12. Relaxing / picnicking</li> <li>13. Use sports box</li> <li>14. Use sport field</li> <li>15. Wading pool</li> <li>16. Dog walking</li> <li>17. Use ball diamonds</li> </ol> <p>Other:</p> <ul style="list-style-type: none"> <li>• Class research / field trip</li> <li>• Moon festival</li> <li>• Biking</li> <li>• Bird watching</li> </ul>   |
| <p><b>Strengths of Renfrew Ravine Park</b></p> | <ol style="list-style-type: none"> <li>1. Natural vegetation</li> <li>2. Bird sounds</li> <li>3. Fresh smells / fresh air</li> <li>4. Walking route along the east edge</li> <li>5. Small mammals</li> <li>6. Trail across the ravine at 27<sup>th</sup> Avenue</li> <li>7. Stewardship projects</li> <li>8. Public art</li> <li>9. Lighting along east side lanes</li> </ol> <p>Other:</p> <ul style="list-style-type: none"> <li>• Still Creek restoration</li> <li>• The creek, creek in urban environment, link to Still Creek</li> <li>• Peacefulness, tranquility, cool, quiet, contemplative, private</li> <li>• Sound of creek</li> <li>• Moon festival</li> <li>• Teaching opportunities</li> <li>• Natural</li> <li>• Place to jog</li> <li>• Habitat, open greenspace</li> <li>• Berries for food</li> </ul> |

|   |   |
|---|---|
| <p><b>Challenges of Renfrew Ravine Park</b></p>             | <ol style="list-style-type: none"> <li>1. Dumping of waste</li> <li>2. Invasive, non-native plants</li> <li>3. Water quality in the creek</li> <li>4. No continuous path on west side</li> <li>5. Don't feel safe or secure</li> <li>6. Limited views to the creek</li> <li>7. Can't get down to the creek</li> </ol> <p>Other:</p> <ul style="list-style-type: none"> <li>• Creek is too restricted</li> <li>• Not many trails</li> <li>• Drug related activity</li> <li>• No way to cross the ravine between 22<sup>nd</sup> and 26<sup>th</sup> Avenue</li> <li>• Doesn't look natural enough</li> <li>• Poor lighting (too many trees)</li> <li>• Access points aren't inviting</li> </ul>  |
| <p><b>Vision / Objectives for Renfrew Ravine Park</b></p>   | <ol style="list-style-type: none"> <li>1. Enhance vegetation with native species</li> <li>2. Encourage more stewardship activities</li> <li>3. Remove invasive species</li> <li>4. Improve water quality</li> <li>5. Improve safety and security</li> <li>6. Increase access around the top of the ravine</li> <li>7. Increase access into the ravine</li> <li>8. Improve slope stability</li> </ol> <p>Other:</p> <ul style="list-style-type: none"> <li>• Off-leash areas</li> <li>• Reduce stormwater drainage into the creek, harvest rain water</li> <li>• Resilient ecosystem: Improve stream diversity, improve structure and composition of the forest</li> <li>• Maintain as natural / wild</li> <li>• Limit development</li> <li>• Nature appreciation</li> <li>• Expand through Collingwood to Norquay Park</li> </ul> |
| <p><b>New amenities desired for Renfrew Ravine Park</b></p> | <ol style="list-style-type: none"> <li>1. Proper trails into the ravine</li> <li>2. Increase / rejuvenate public area</li> <li>3. More / better viewpoints</li> <li>4. Path along the west side of the ravine where possible</li> </ol> <p>Other:</p> <ul style="list-style-type: none"> <li>• Reduce impermeable surfaces</li> <li>• Community education</li> <li>• No path on west side</li> </ul>  |

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|--|--|
| <p><b>Strengths of Renfrew Community Park</b></p>  | <ol style="list-style-type: none"> <li>1. Natural vegetation</li> <li>2. Views of the city and mountains</li> <li>3. Play areas / wading pool for children</li> <li>4. Trail along the creek (east side)</li> <li>5. Community art and gardens</li> <li>6. Bird sounds</li> <li>7. Sports fields</li> <li>8. Fresh smells / fresh air</li> <li>9. Plazas near the Community Centre and Library</li> <li>10. Parking under Library</li> <li>11. Lacrosse box</li> <li>12. Small mammals</li> <li>13. Field house</li> <li>14. Parking off Renfrew Street</li> </ol> <p>Other:</p> <ul style="list-style-type: none"> <li>• Creek is above ground</li> <li>• Ravine</li> <li>• Moon festival</li> <li>• Library / Community Centre</li> <li>• Link to school</li> <li>• Geology</li> </ul>   |
| <p><b>Challenges of Renfrew Community Park</b></p> | <ol style="list-style-type: none"> <li>1. Debris and concrete in creek</li> <li>2. Invasive, non-native plants</li> <li>3. No continuous path on west side of creek</li> <li>4. Not enough places to walk</li> <li>5. Lack of a continuous loop trail system</li> <li>6. Not enough to do</li> <li>7. Park entries unclear / unappealing</li> <li>8. Field house under-used</li> <li>9. Parking off Renfrew Street</li> <li>10. Play areas / wading pool outdated</li> <li>11. Parking under Library</li> </ol> <p>Other:</p> <ul style="list-style-type: none"> <li>• Aged playground equipment</li> <li>• Lack of map of the trails or interpretive signage</li> <li>• Manicured areas, monoculture grass areas</li> <li>• Feels unsafe in ravine area</li> <li>• Polluted stream</li> <li>• Fence</li> <li>• Screaming kids</li> <li>• Waterlogged in winter</li> </ul> |

|   |   |
|---|---|
| <b>Vision / Objectives for Renfrew Community Park</b>   | <ol style="list-style-type: none"> <li>1. Enhance vegetation with native species</li> <li>2. Remove invasive species</li> <li>3. Improve slope stability</li> <li>4. Encourage more stewardship activities</li> <li>5. Increase path network around and through the park</li> <li>6. Improve water quality</li> <li>7. Provide more gathering areas</li> <li>8. Improve accessibility of the paths</li> <li>9. Provide amenities for larger /better events</li> <li>10. Increase / rejuvenate public art</li> <li>11. Improve park entries</li> <li>12. Update aging play areas</li> <li>13. Make all new works environmentally friendly</li> <li>14. Provide amenities for more activities</li> <li>15. Reduce the impact of parking on the park</li> <li>16. Improve safety and security</li> </ol> <p>Other:</p> <ul style="list-style-type: none"> <li>• Remove concrete</li> <li>• Increase habitat (i.e. with wildlife trees)</li> <li>• Restore resilient ecosystem / natural space</li> <li>• Steam connectivity</li> <li>• Places to sit</li> <li>• Maintain slope with bioengineering</li> <li>• Provide link between the Community Centre, nature, and the school</li> </ul> |
| <b>New amenities desired for Renfrew Community Park</b> | <ol style="list-style-type: none"> <li>1. Nature education / interpretation</li> <li>2. Improved path connections and accessibility</li> <li>3. More gathering / event spaces</li> <li>4. Community gardens</li> <li>5. Off-leash dog area</li> <li>6. More easily accessible washrooms</li> <li>7. Updated playground</li> <li>8. Spray park</li> </ol> <p>Other:</p> <ul style="list-style-type: none"> <li>• Improve water quality and nature</li> <li>• Covered area for Taichi, community festival, etc.</li> <li>• Bike path</li> <li>• Farmers market, flea market, vendors, bake sale</li> <li>• Less amenities / maintain existing</li> </ul>  |
| <b>Amenities to replace or use differently</b>          | <ol style="list-style-type: none"> <li>1. Wading pool</li> <li>2. Lacrosse box</li> <li>3. Some of the parking lot area off Renfrew Street</li> <li>4. Field house</li> <li>5. All of the parking lot area off Renfrew Street</li> </ol> <p>Other:</p> <ul style="list-style-type: none"> <li>• Change parking surface to be permeable</li> <li>• Have more benches, gazebos</li> <li>• Playground needs updating</li> </ul>  |

## INPUT FROM OPEN HOUSE #2 – MARCH 2013

In March, 2013, an open house was held regarding the Master Plan for Renfrew Ravine Park and Renfrew Community Park. The purpose of this public engagement was to provide information and request input on the project vision and objectives, and two concept plan options. 57 people attended the open house. Comment forms were available at the open house and on-line. There were 87 comment forms submitted. The preferred elements are listed below. Where preferences for each concept are close, both options are listed. The numerical results of the voting for the Vision and Objectives and the Concept Plans are included for interest, but these numbers have no statistical validity.

### *Vision and Objectives*

| Response              | Count |
|-----------------------|-------|
| Great                 | 21%   |
| Needs minor revisions | 49%   |
| Needs major revisions | 30%   |

### *Concept Plans*

| Response       | Count |
|----------------|-------|
| Concept Plan A | 54%   |
| Concept Plan B | 46%   |

### *Renfrew Ravine Park*

| Element                                      | Preferred Concept  |
|--|--|
| Paths  | A: New paths adjacent to the road and lane at the north end of the park. Single access path to the creek.<br>B: New paths set back from the road and lane at the north end of the park, and along the creek with multiple access points. |
| Foot Bridges                                 | B: New small foot bridge across the creek at E. 25 <sup>th</sup> Avenue  |
| Ravine Crossing at E 27 <sup>th</sup> Avenue | B: Existing land bridge crossing replaced with foot bridge to daylight creek in this location.   |
| Viewing Decks                                | A: At multiple locations with good views of the creek.   |
| Creek Enhancements                           | B: Daylighted creek at E. 27 <sup>th</sup> Avenue land bridge crossing.  |
| Rainwater Absorption                         | A: Increased by planting multi-layered native vegetation.<br>B: Small roadside rain gardens as well as planting multi-layered vegetation.  |
| Vegetation Enhancements                      | A: Invasive species removal and replacement planting with native species within existing forested areas.   |

| Element                | Preferred Concept   |
|------------------------|---|
| Public Gathering Areas | A: New outdoor classroom area in the ravine.<br>B: Multiple new gathering areas, including an outdoor classroom at the top of the ravine. |

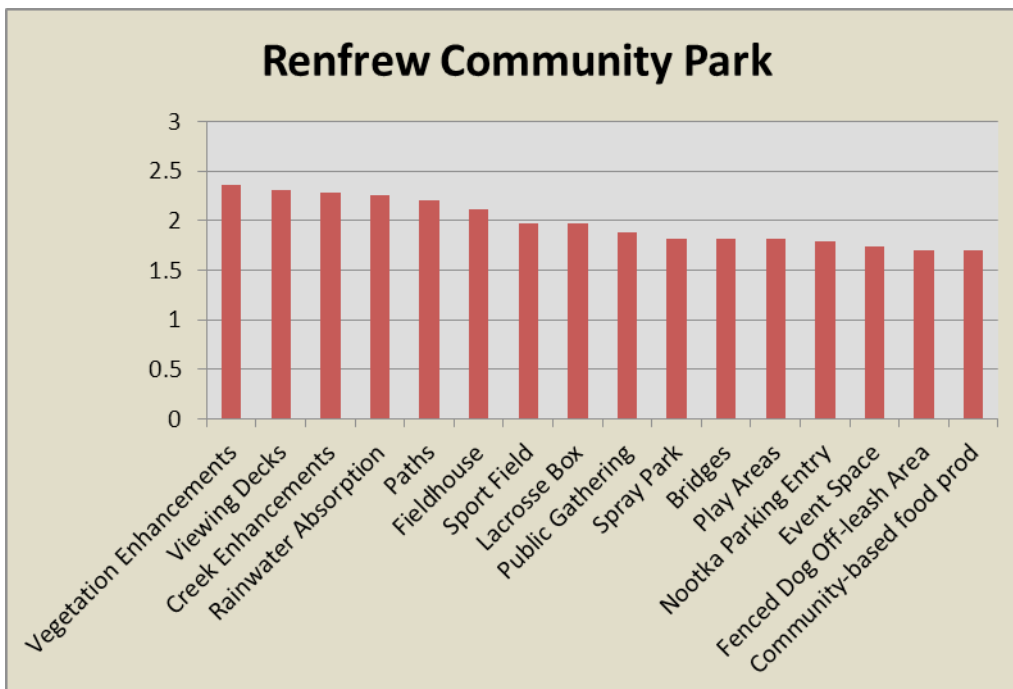
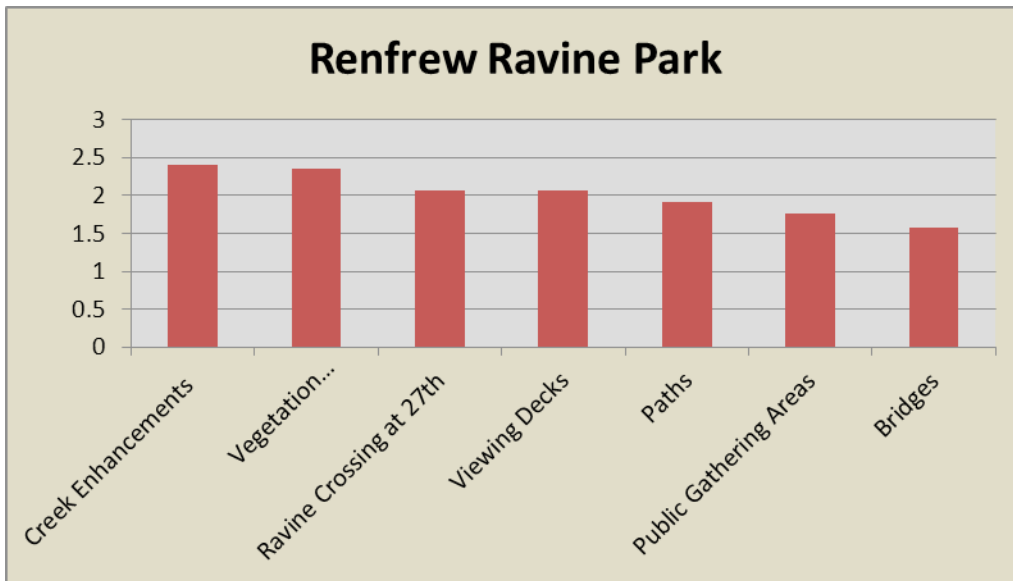
### ***Renfrew Community Park***

| Element                 | Preferred Concept  |
|-------------------------|--|
| Paths                   | A: New pathway connection to the creek.<br>B: New perimeter path, loop routes and increased path connections to the creek.                         |
| Foot Bridges            | B: New foot bridge across creek.   |
| Viewing Decks           | A: Two locations, with views up and down stream.<br>B: Two locations, with views upstream and across the ravine.                                   |
| Creek Enhancements      | B: Removal of creek channel walls and alterations to stream bed and banks. Naturalize and restore stream bank appearance.                          |
| Rainwater Absorption    | A: Bio-swales and detention ponds.<br>B: Small rain gardens.   |
| Vegetation Enhancements | A: Expansion of native forest and meadow habitat.  |
| Parking Areas           | A: Removal of 1/3 of the parking lot off Renfrew Street.   |
| Event Space             | A: Small platform incorporated into the spray park facing the sloped grass seating area.   |
| Public Gathering Areas  | A: New outdoor classroom area in the open meadow.<br>B: Multiple new gathering areas including an outdoor classroom area at the top of the ravine. |
| Lacrosse Box            | A: Removal of lacrosse box to add meadow area and outdoor classroom.   |
| Sports Field            | A: Existing sports field size maintained.  |
| Play Areas              | A: New and inclusive playground in existing location and preschool playground next to the community centre.  |
| Spray Park              | A: Replaces wading pool in existing location.<br>B: Added to new and inclusive playground.   |
| Dog Off-leash Area      | A: None.<br>B: In place of some of the parking area off Renfrew Street.  |

### **INPUT FROM OPEN HOUSE #3 – MAY 2013**

In May, 2013, an open house was held regarding the Master Plan for Renfrew Ravine Park and Renfrew Community Park. The purpose of this public engagement was to provide information and request input on the proposed plan. Participants were asked to rate the level of importance for each element in the proposed plan as low, moderate, or high. Attendance at the open house was 52 people. Comment forms were available at the open house and on-line. There were 60 comment forms submitted.

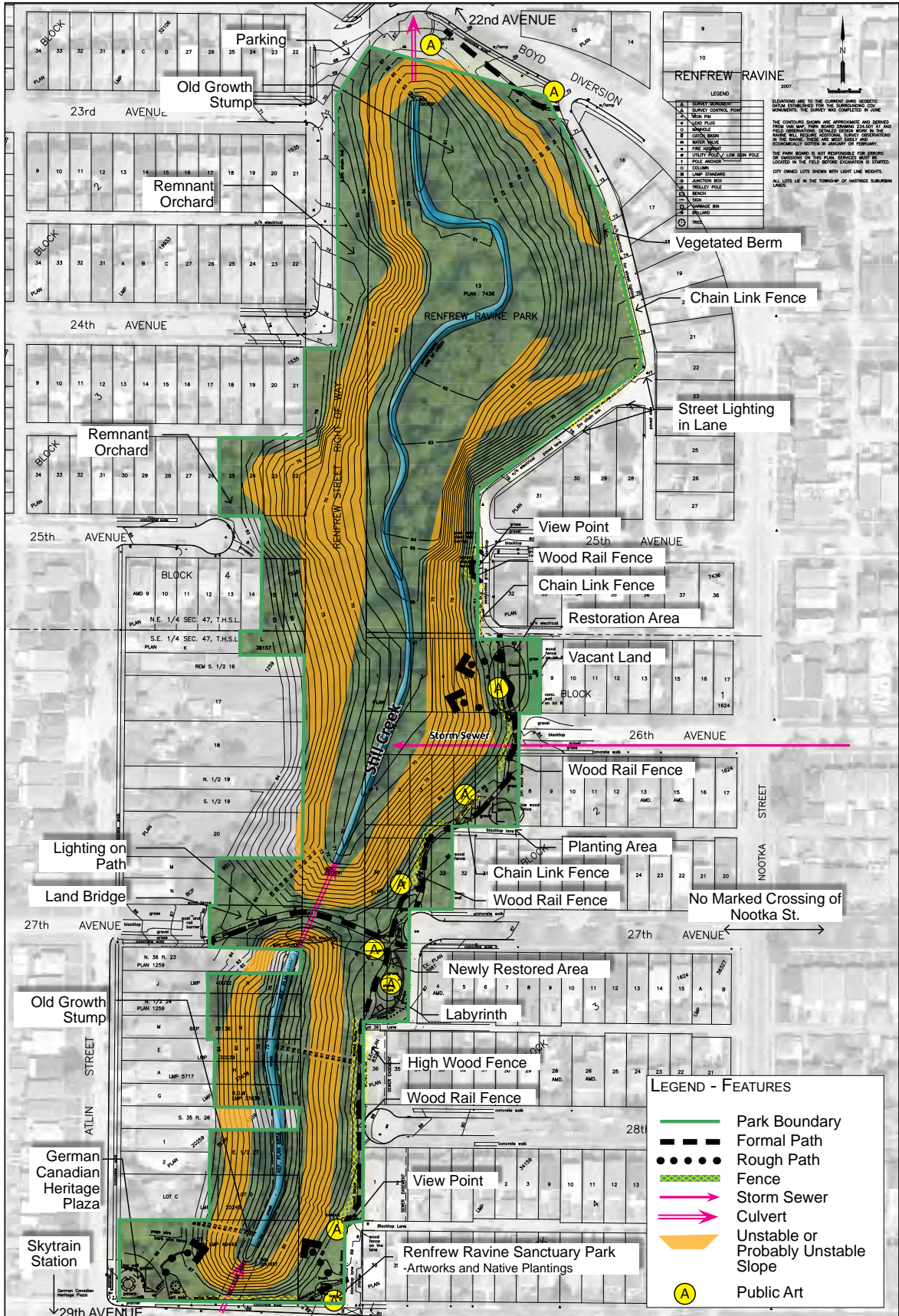
The following graphs summarize the input from the comment forms. The elements are organized in order of importance, calculated based on the ratings by participants on the comment forms. The results were calculated for each element by attributing a value of 1 for each low rating, 2 for each moderate rating, and 3 for each high rating, then adding the values and dividing by the number of responses for an overall score out of three. Elements with higher overall scores are of higher importance than elements with lower overall scores. The numerical results are compared for interest, but these numbers have no statistical validity.



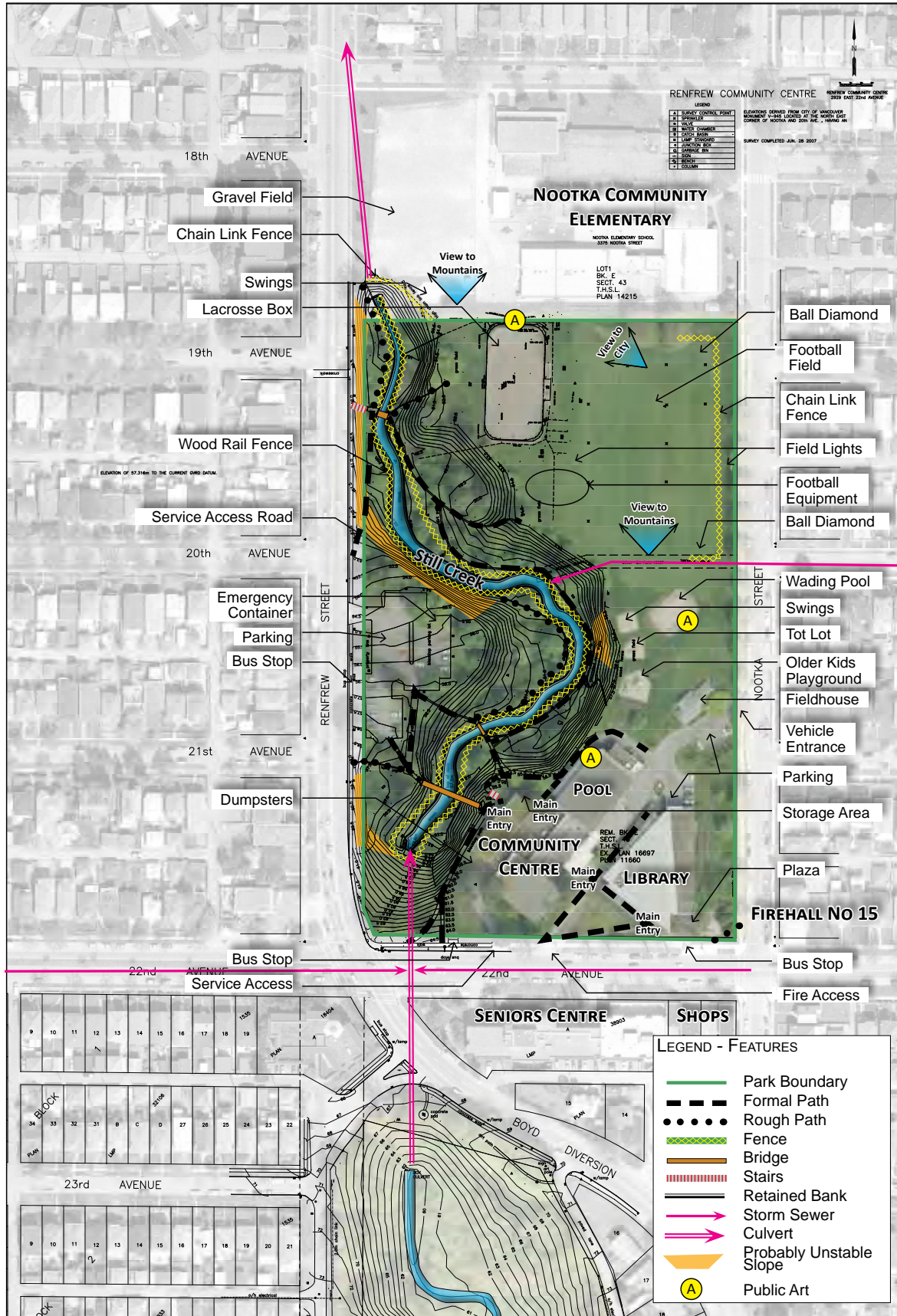


# APPENDIX C: CONCEPT PLAN OPTIONS

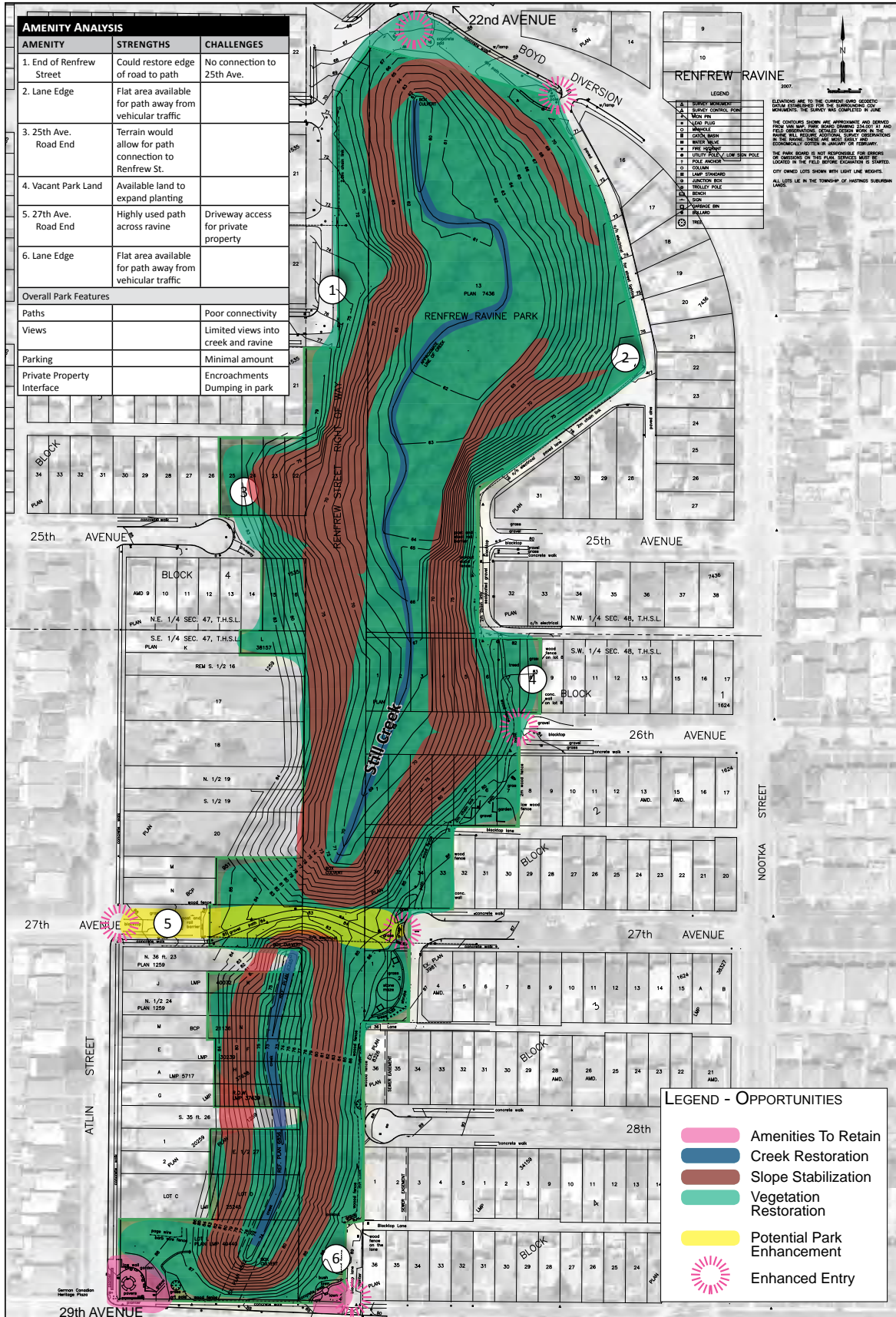
See following pages.



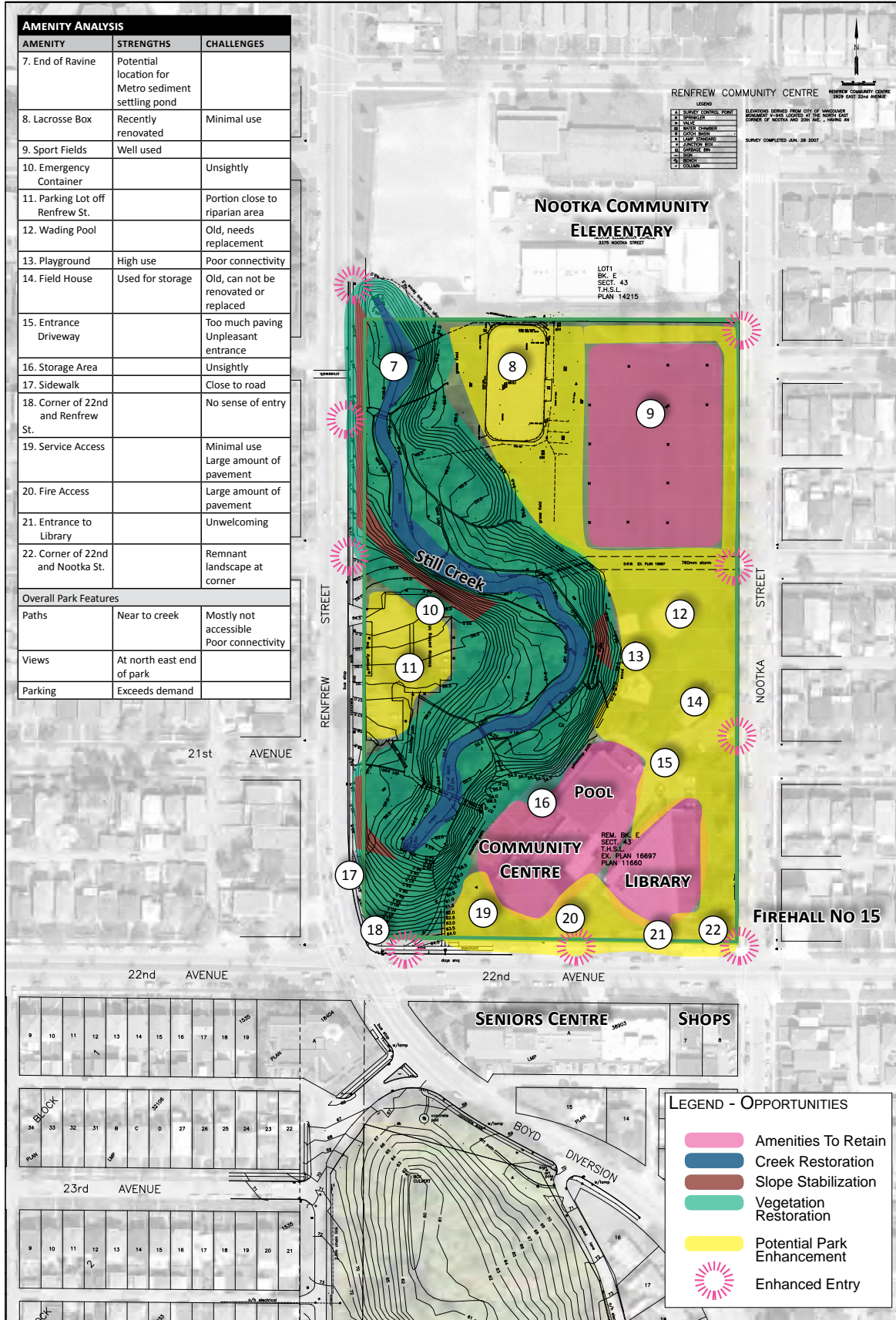
**Renfrew Ravine Park Site Inventory**



**Renfrew Community Park Site Inventory**



## Renfrew Ravine Park Site Analysis



### Renfrew Community Park Site Analysis



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# APPENDIX D: CONCEPT PLAN OPTIONS

See following pages.



Concept Plan A





Concept Plan A: Community Park



Concept Plan B



Concept Plan B: Community Park