



February 5, 2020

TO: Park Board Chair and Commissioners
FROM: General Manager – Vancouver Board of Parks and Recreation
SUBJECT: VanPlay Implementation - One Water Initiatives

RECOMMENDATION

- A. THAT the Vancouver Park Board support the implementation of VanPlay goals related to connectivity, biodiversity, and the natural flow of water in parks through collaboration with other City of Vancouver One Water initiatives, as outlined in this report;
- B. THAT the Vancouver Park Board endorse the Rain City Strategy's Parks & Beaches Action Plan, attached as Appendix A;
- C. THAT the Vancouver Park Board support staff collaboration with the City of Vancouver's Integrated Blue-Green Systems Planning initiatives (Watersheds, Greenways, and Blueway Feasibility) as they pertain to parks and recreation; and
- D. THAT the Vancouver Park Board support the exploration of integrating rainwater management opportunities in Charleson, Columbia, and John Hendry Parks, as outlined in this report .

REPORT SUMMARY

VanPlay, the Parks and Recreation Services Master Plan, sets clear direction for the future of parks, connectivity, biodiversity, and the natural flow of water in Vancouver. As these bold moves reach beyond the borders of parks, collaboration with the City of Vancouver and other partners is needed to fully achieve these new city-building initiatives.

As Vancouver's climate changes, warmer and wetter winters and hotter and drier summers will persist. Adaptation is not a choice. Vancouver's rapidly redeveloping context offers an opportunity to rethink traditional forms of water management by exploring delivery based on ecological systems thinking.

To this end, Park Board and City staff have been working together in three areas related to the management and treatment of rainwater run-off:

- Rain City Strategy: a long-term policy for collective action around green rainwater infrastructure (GRI) implementation in Vancouver;
- Integrated Blue-Green Systems Planning: a response to three Council motions directing staff to report back on Watershed Revival, Greenways Plan, and the False Creek to the Fraser River Blueway concept.
- Rainwater/Parks Integration Opportunities; potential opportunities to achieve multiple benefits (including biodiversity and connectivity) through integrating area rainwater into, and adjacent to select parks.

Park Board staff actively participated in the development of the [Rain City Strategy](#) and the [Blue-Green Systems Planning scopes of work](#) that City Council approved on November 5, 2019. Rainwater catchment opportunities are being considered where mutual benefit could be achieved by integrating neighbourhood rainwater management systems adjacent to and within parks.

Charleson, Columbia, and John Hendry parks have been identified for further study and design for such mutual benefits. Positive park outcomes would include increased biodiversity, reduced potable water consumption, reduced combined sewer overflows, increased access to nature and better park connectivity via newly “greened” street areas. Pending approval of the recommendations in this report, master plans for these parks would be developed (or in the case of the John Hendry Park Master Plan, ongoing planning augmented) and brought to the Board for decision.

The Rain City Strategy, Blue-Green Systems planning, and proposed rainwater/parks integration opportunities all fall within the City’s [One Water](#) framework. These initiatives (collectively, “the One Water initiatives”) align with the [goals](#) and activate the [bold moves](#) outlined in [VanPlay](#).

All discussions between Park Board and City Engineering Services staff have been grounded in mutually agreed upon project objectives that include protection of Park Board interests, including maintaining or increasing park land, meeting or enhancing service levels, and fulfilling multiple shared objectives focussed on achieving the greatest public benefit.

BOARD AUTHORITY / POLICY / PREVIOUS DECISIONS

Per the [Vancouver Charter](#), the Park Board has exclusive jurisdiction and control over all areas designated as permanent and temporary parks in the City of Vancouver, including any structures, programs and activities, fees, and improvements that occur within those parks.

On July 23, 2018, the Park Board approved the first two reports of [VanPlay](#), Parks & Recreation Services Master Plan: [Inventory and Analysis](#) & [10 Goals to Shape the Next 25 Years](#). The following VanPlay goals are relevant to One Water initiatives:

- *Goal 1:* Grow and renew parks, community centres and recreation assets to keep pace with population growth and evolving needs;
- *Goal 4:* Focus on core responsibilities of the park board, and be a supportive ally to partners;
- *Goal 5:* Adapt our parks and recreation amenities to a changing climate;
- *Goal 6:* Create a green network that will connect our parks, waterfront and recreation areas; and
- *Goal 7:* Restore Vancouver’s wild spaces and vital biodiversity.

On October 9, 2019, the Park Board approved the final 2 reports of [VanPlay](#), Parks & Recreation Services Master Plan: [Strategic Bold Moves](#) & [The Playbook, Implementation Plan](#). The [Strategic Bold Moves](#) presents tools to create a more connected and equitable future for parks and recreation amenities.

On November 5, 2019, Council adopted the [Rain City Strategy](#), a green rainwater infrastructure and rainwater management initiative that was developed through a collaborative effort by City and Park Board staff. At the same meeting, Council approved the [Integrated Blue-Green Systems Planning](#) which builds on efforts undertaken to date by the City and Park Board, and provides proposed scopes of work to identify short- and long-term projects.

The initiatives outlined in this report are also supported by several other Park Board strategies, including the: [Urban Forest Strategy](#) (2018 & 2014), [Water Conservation Action Plan](#) (2017); [Biodiversity Strategy](#) (2016), [Bird Strategy](#) (2015), and the [Environmental Education and Stewardship Action Plan](#) (2014).

BACKGROUND

The land that the City of Vancouver now occupies was once a rainforest that contained vast areas of marsh and over 50 streams that flowed either to the sea or the Fraser River. The oceans and mountains that surround Vancouver are powerful forces that shape the moist coastal climate.

Since time immemorial, First Nations sustained themselves and the land. Colonizers cleared the forest and through rapid industrialization, significantly disrupted the city's natural water cycle with impermeable surfaces, such as buildings and streets, and decreased green spaces that absorb and support rainwater infiltration. Rain that used to be absorbed by the ground or flow through vegetated streams, thereby recharging aquifers and supporting local ecosystems, is instead intercepted by roofs and paved surfaces and directed into an underground pipe network.

Vancouver's once vast natural hydrological system of streams and groundwater flow is now largely piped underground and cut-off from any natural systems. The surface rainwater that once fed natural habitats has largely been lost. And, when rain events exceed the capacity of the system, storm and sanitary water flow into the surrounding receiving waterbodies in the form of Combined Sewer Overflows (CSOs) that impact both marine ecosystems and shoreline beaches and parks. An initiative to update the City's strategy to mitigate CSOs is currently underway.

One Water

Vancouver's [One Water](#) approach to integrated water management looks at the full water cycle in all its forms: drinking water, wastewater, rainwater, surface water, and groundwater. It is a city-wide framework for collaborating across departments to make water-related decisions that benefit the community, economy, and the environment.

As illustrated in Figure 1, Park Board strategies (such as VanPlay and Biodiversity) and water management related projects (such as Hinge Park) are nested within the One Water approach. The Park Board also approved a [Water Conservation Action Plan](#) for reducing potable water consumption, however the initiatives included in this report primarily consider rainwater, surface water, and the recharge of groundwater.



Figure 1: Vancouver's One Water Approach

VanPlay

In VanPlay's [Strategic Bold Moves](#), Bold Move 2: Asset Needs calls for increasing the natural area diversity of landscapes in parks, including wetlands, to better support local biodiversity and offer more diverse experiences. Flow of water, thriving ecosystems, active communities, and sense of place are guiding principles of Bold Move 3: Connectivity. One Water initiatives provide opportunities to advance these Bold Moves through collaboration with other City projects and strategies.

Asset Targets

VanPlay includes Asset Targets as a supporting tool for considering what needs to be addressed within each area. For Natural Areas, VanPlay identifies opportunities to expand habitat, restore ecosystems, and improve access to nature throughout the city.

Further, there is a specific call to establish principles for the integration of green infrastructure in parks where it brings overall benefits to the park and park users, but avoids loss of usable parkland to infrastructure. Within the Implementation Plan, there is even more specific alignment with the One Water initiatives regarding Freshwater Resources.

Connectivity

The Connectivity Bold Move states: "projects which achieve multiple objectives, and perform multiple functions make the most efficient use of public land as a scarce but valuable civic resource. This land use planning approach looks for solutions based on the interactive and interdependent nature of many factors, including how people use the land, development planning, surface and groundwater flows, landforms and slopes, species and habitats, and ecological conservation". One Water directly addresses this Bold Move in taking a holistic approach to water systems across parks and adjacent civic areas.

DISCUSSION

Rain City Strategy

Developed through a collaborative effort by City and Park Board Staff, the Rain City Strategy is a long-term policy for 'collective action around green rainwater infrastructure (GRI) implementation in Vancouver'. Building from the City's provincially-mandated Integrated Rainwater Management Plan (IRMP, 2016), the [Rain City Strategy](#) sets ambitious, updated

targets with the goal of creating holistic, integrated systems that improve and protect water quality, limit the volume of water entering pipes city-wide, and enhance climate resilience and healthy urban ecosystems.

The Rain City Strategy includes nine Transformative Directions and three practical Action Plans to support GRI implementation related to (1) Streets and Public Spaces, (2) Buildings and Sites and, developed with Park Board Staff, (3) Parks and Beaches.

The Parks and Beaches Action Plan consists of 12 ‘Implementation Programs’ and 4 ‘Enabling Programs’, which have emerged through existing Park Board policy and best practices, including VanPlay, the Urban Forest Strategy, the Biodiversity Strategy, and [Park Development Standards](#). These actions are listed in Table 1 below, with details on each program provided in more detail in Appendix A.

Rain City Strategy - Parks & Beaches Action Plan	
#	Implementation Programs
P&B-01	Green Rainwater Infrastructure Integration into Park Development Standards
P&B-02	Protect and Enhance Park Service Levels through Green Rainwater Infrastructure Retrofits
P&B-03	Non-potable Water Systems and Water Conservation & Efficiency
P&B-04	Green Rainwater Infrastructure Integration into Playing Fields
P&B-05	Parks and Recreation Spaces Climate Change Adaptation Program
P&B-06	Create a Green Network that will Connect our Parks, Waterfront and Recreation Areas
P&B-07	Enhanced Urban Forest Program
P&B-08	Enhanced Park Biodiversity Program
P&B-09	Minimize Impervious Surfaces within Parks and Recreation Spaces
P&B-10	Multi-stakeholder Land Acquisition for Rainwater Management and Park Use in Key Watershed Areas
P&B-11	Green Rainwater Infrastructure Operation and Maintenance and Asset Management
P&B-12	Protect and Enhance Beaches and Waterfront Program
#	Enabling Programs
P&B-13	Citywide Green Rainwater Infrastructure Financial Planning and Sustainable Funding Program
P&B-14	Research and Innovation Program
P&B-15	Shift in Park Board Process & Capacity Building
P&B-16	Industry Capacity Building & Public Engagement

Table 1: Rain City Strategy – Parks & Beach Action Plan

Blue-Green Systems Planning

The [Integrated Blue-Green Systems Planning](#) recommendations approved by Council on November 5, 2019, responded to three Council motions regarding Watershed Revival, the Greenways Plan, and the False Creek to the Fraser River Blueway concept. The Council report

(presented in parallel with the Rain City Strategy) built on and integrated the efforts undertaken over the past decades by the City and Park Board. The recommendations draw directly on VanPlay connectivity principles and diagramming, and support the exploration of blue-green systems in conjunction with the Vancouver Plan, the Rain City Strategy, and work on the Greenways Plan.

One of the Approaches for Action initiatives outlined in the VanPlay Playbook Implementation Plan (Parks Connections + Network P.2.10) recommends that the Park Board “collaborate with the City's transportation team to review the Greenways Plan and enhance access to parks and community centres during major projects and updates to the citywide active transportation network”.

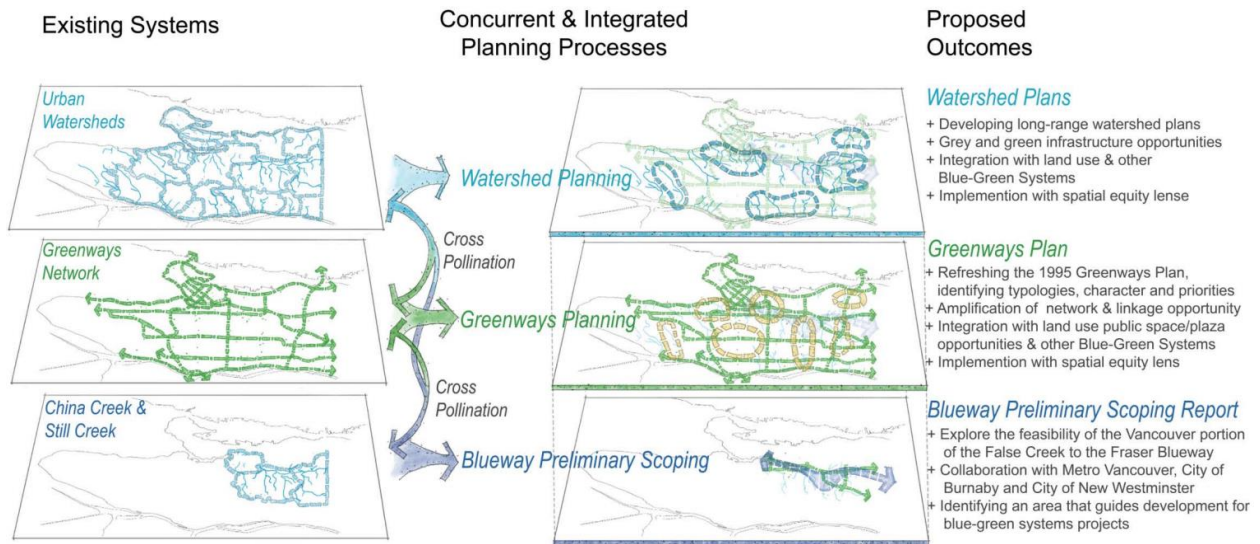


Figure 2: Connected Blue-Green Systems Conceptual Diagram

Park Board staff have been requested to be part of the three teams that will work on Watersheds, Greenways, and Blueway Feasibility.

Rainwater/Parks Integration Opportunities

Park Board and City staff have been discussing rainwater catchment opportunities where mutual benefit could be achieved from the integration of neighbourhood rainwater flows adjacent to and into parks. A successful example of rainwater/park integration can be seen in Hinge Park, where immediate area rainwater is treated through a naturally managed wetland area (see Figure 3).



Figure 3: Hinge Park

Additional benefits of an expanded green infrastructure system include the potential to convert street right-of-ways and other non-park lands into open space amenities.

Currently, there are three pilot projects being considered: 1) Charleson Park, 2) Columbia Park, and 3) John Hendry Park.

1) Charleson Park

In March of 2019, the City launched a two-year process to create a comprehensive [Broadway Plan](#) for the area that includes Charleson Park. The 30-year plan will focus on opportunities to integrate new housing, jobs, and amenities around the new Broadway subway line. In order to accommodate future population growth and adapt to climate change, extensive upgrades to sewer and water mains will be necessary.

A water lens has been integrated throughout the planning process, which explores opportunities for a more balanced approach to investments and considers traditional piped infrastructure, green rainwater infrastructure, water harvest and re-use strategies.

A central feature of Charleson Park is a waterfall and stream/pond system, currently fed by potable water. The waterfall was initially built as a recirculating system; however, due to technical issues, it is currently run as a single-pass, non-recirculating feature, making it the one of the largest potable water users in the parks system and non-compliant with the City of Vancouver Waterworks By-Law.

The Charleson rainwater catchment area (north of West 12th Avenue to False Creek, between Hemlock and Heather streets) has been identified as a key project component of the Broadway integrated water management plan. The catchment presents an opportunity to capture, treat, and convey rainwater run-off from the sub-catchment south of Charleson Park to False Creek, contribute to (CSO) reductions, and provide a non-potable water source for the Charleson Park water feature.

Similar to the creation of Hinge Park in Olympic Village, this project is an opportunity for collaboration between the City and the Park Board in integrated management of rainwater run-off through the implementation of climate resilient utility servicing solutions that enhance both the community and ecosystem needs. Potential opportunities include: a rainwater fed waterfall and stream/pond system; wetland enhancement for rainwater filtration treatment within Charleson Park; and upstream green infrastructure within the catchment area street right-of-ways, planned and designed in collaboration with Engineering. These benefits directly align with VanPlay, and particularly with the Connectivity Bold Move.

With Board support, staff will proceed to work with Engineering to assemble a project team to study the Charleson catchment area, and then will report back to the Board in late 2020.

2) Columbia Park

As described in a [briefing memo sent to the Board on July 10, 2018](#), City Engineering and Planning staff are working collaboratively with Park Board staff and others to develop an integrated water management plan for the Cambie Corridor. The current water infrastructure serving the area (e.g., potable water, sanitary sewer, and rainwater run-off, including an



Figure 4: Charleson Park

extensive combined sewer system), was designed for much less density and is already at or beyond capacity. This will only be exacerbated with the population growth expected as part of the Cambie Corridor Plan.

Recognizing the need to approach rain and rainwater run-off management in a more holistic way, modeled after natural systems and not limited by jurisdictional boundaries, Park Board staff have been discussing sustainable rainwater run-off management strategies through district-scale green infrastructure opportunities. These may include rain gardens, wetlands, and new trees, which would increase biodiversity and provide benefits to water, people, and wildlife.

Specifically, Columbia Park and its surrounding drainage catchment area, including Alberta Street, will be examined. Columbia Park and Alberta Street can be viewed as one blue-green system and the first piece of the larger vision to create a continuous habitat corridor from Queen Elizabeth Park to the Fraser River, described in VanPlay as the Little Mountain to Big River concept. There is potential to incorporate rainwater management features in Columbia Park while still maintaining and meeting future service levels and programming needs in the park.



Figure 5: Columbia Park

A key potential feature of this project is to demonstrate how water sensitive urban design can successfully be incorporated into design of public spaces, roads, and the parks within the study area. Additionally, the project will advance the VanPlay vision of biodiversity, and enhanced connectivity of both open spaces and habitats. The design should be multifunctional – a place for people, including pedestrians and cyclists, while providing critical ecosystem services.

The collaborative discussions between Park Board and City staff have been grounded in mutually agreed upon project objectives, including:

- maintaining or increasing useable park land while ensuring that Park Board-determined service levels are met now and in the future; and
- fulfilling multiple shared objectives through an integrated planning process focussed on achieving the greatest public benefit.

Over and above informing Columbia Park discussions, these objectives will underpin all One Water initiative conversations between Park Board and City staff.

VanPlay highlights the need to keep pace and provide open space for the population as it increases, and to work toward expanding and connecting our green and blue networks to create a resilient city. Collaborations between the Park Board and City aligns with VanPlay goals, bold moves, and implementation recommendations. With Board support, staff will proceed to work with Engineering Services to assemble a project team for this specific watershed and Columbia Park, then report back to the Board with a draft Master Plan in early 2021.

3) John Hendry Park

As part of the initial John Hendry Park master planning process in 2015, a [Stormwater Management Plan](#) was produced that discussed options for diverting rainwater run-off from the surrounding neighbourhood into Trout Lake. The City has subsequently studied hydrology in the north Nanaimo Street catchment area and has been separating storm and sanitary flows for the purpose of redirecting only storm flows toward Trout Lake. This work aligns with green infrastructure best practices and contributes to a reduction of CSOs coming from the Nanaimo Street catchment area.

Public engagement for the [John Hendry Park Master Plan](#) resumed in 2019 and work is underway on the draft plan. It is expected the final proposed plan will be ready to present to the Board in mid-2020. Public engagement has included the themes of water and biodiversity, and the master plan will include considerations of lake water quality and natural habitat enhancements, which will align with VanPlay and the Rain City Strategy.



Figure 6: John Hendry Park

UNDERLYING RECONCILIATION PRINCIPLES

Drawing on learnings from the Park Board's ongoing intergovernmental work with the Musqueam, Squamish, and Tsleil-Waututh Nations, some key principles should be considered in the Park Board's potential work on the One Water initiatives:

- as much as possible, and with regard to appropriately resourcing and respecting their time, the Park Board and City should partner with Musqueam, Squamish, and Tsleil-Waututh governments;
- a holistic approach to ecological management is essential, and will require cross-departmental collaboration to adequately address competing priorities with the aim of prioritizing ecological health;
- the development that interrupted the integrated water systems of this region happened during colonial settlement; the Nations have undertaken extensive stewardship and ecological work in their territories -- their expertise and worldview should be recognized;
- the history held and maintained by the Nations should impact decision-making around place-based decisions for water management.

FINANCIAL IMPLICATIONS

Funding for one regular full-time Park Board planner position was approved as part of the Rain City Strategy report approved by Council in 2019. This position will create capacity for the Park Board to collaborate with City staff on the planning work necessary to advance Park Board related One Water initiatives.

Subject to agreement between the City and Park Board to ensure aligned operations principles, staff expect that City Engineering Services will cover some of the capital and operating costs for

improvements to parks that have combined rainwater management and park amenity attributes. Updates on these opportunities will be provided to the Board as they develop.

NEXT STEPS

Subject to the Board's approval of the recommendations outlined in this report, collaborative work with the City will begin, including planning implementation of Park Board related components of the Rain City Strategy, the Blue-Green Systems initiatives, and planning rainwater integration into parks.

Master Plans for Charleson and Columbia parks will be developed incorporating One Water initiatives, and will be brought to the Board for decision. Similarly, area rainwater management and green infrastructure considerations will be incorporated into the ongoing John Hendry Master Plan exercise. Staff expect to bring that master plan to the Board for decision by the end of 2020.

CONCLUSION

There are significant and exciting opportunities to begin implementation of components of VanPlay in concert with the City's One Water initiatives. Aligned outcomes include park connectivity, biodiversity, and the natural flow of water.

The Park Board has been well-represented in the City's development of the Rain City Strategy and Blue-Green initiatives recently approved by Council. Similarly, Park Board staff have collaborated closely with the City on early planning work identifying Charleson, Columbia, and John Hendry parks as pilot sites for rainwater/parks integration. Potential VanPlay-related outcomes include increased biodiversity, reduced potable water consumption, reduced combined sewer overflows, and better park connectivity and urban forest planting opportunities via greenways and swales from street area that is currently asphalt.

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Parks & Beaches		
Implementation Programs		
P&B-01	Green Rainwater Infrastructure Integration into Park Development Standards	Develop new and/or modify existing Park Development Standards, Standard Technical Specifications and Best Management Practices to facilitate the integration of green rainwater infrastructure in parks, beaches and recreational spaces. Ensure that new and modified standards, specifications and best management practices adopt the provincially-mandated Citywide Integrated Rainwater Management Plan, including the IRMP’s rainwater management design standard and performance target. This initiative will be guided by high-level principles, which shall be developed and adopted to inform an integrated water management approach across all parks, beaches and recreational spaces.
P&B-02	Protect and Enhance Park Service Levels through Green Rainwater Infrastructure Retrofits	Explore opportunities to integrate green rainwater infrastructure retrofits in parks, beaches and recreation spaces to address drainage issues and manage areas prone to surface water ponding and flooding and to enhance park biodiversity and visual amenities. Ensure that green rainwater retrofits on parks, beaches and recreation spaces protect, and ideally enhance, service levels.
P&B-03	Non-potable Water Systems and Water Conservation & Efficiency	Explore opportunities for the use of non-potable water systems, and water conservation & efficiency to reduce potable water use and reduce park discharges to the city’s sewer and drainage system. Retrofit and new capital project opportunities to pursue include the use of non-potable water systems for irrigating parks and recreation areas, implementing re-circulating systems on splash pads and water features, and the use of smart controls to minimize discharges to the sewer system from non-critical water features during combined sewer overflows. This work shall include developing policies, design, operation and maintenance standards to ensure the safe and well-regulated use of these measures to ensure the health and wellbeing of park and recreation area users.
P&B-04	Green Rainwater Infrastructure Integration into Playing Fields	Undertake research to identify opportunities to update playing field design standards to incorporate green rainwater infrastructure as part of enhancing playing field drainage and improving field service levels. Retrofit an existing playing field or identify a playing field under development for a pilot / demonstration project that incorporates green rainwater infrastructure. Monitor the performance of pilot/demonstration project(s) and incorporate lessons learned to inform future playing field projects.
P&B-05	Parks and Recreation Spaces Climate Change Adaptation Program	Undertake research to identify risks to parks and recreation areas associated with drainage, flooding and drought and how these will be impacted by climate change. Develop and adopt more holistic way of planning, delivering and managing water resources, utilities and green rainwater infrastructure as part of achieving VanPlay’s Goal #5 - adapt parks and recreation spaces to a changing climate.

P&B-06	Create a Green Network that will Connect our Parks, Waterfront and Recreation Areas	Work citywide to implement a layered GRI, human and ecological network to help achieve VanPlay Goal #6 to create a green network to connect parks, waterfronts and recreation spaces. Utilize pilot and demonstration green network projects to determine how to best integrate green rainwater infrastructure and deliver benefits through these networks and apply findings to enhance their delivery across the city.
P&B-07	Enhanced Urban Forest Program	Undertake research to understand how green rainwater infrastructure can help protect, grow, and manage trees to create a diverse, resilient, and beautiful urban forest across the city. Use findings to guide the implementation of green rainwater infrastructure capital and retrofit programs that enhance the city's urban forest cover.
P&B-08	Enhanced Park Biodiversity Program	Undertake research to understand the biodiversity benefits associated with green rainwater infrastructure and use findings to enhance the delivery of the Park Board's Biodiversity Strategy. Green rainwater infrastructure practices shall be used as part of improving the quality of Vancouver's natural areas and to support biodiversity and increase access to nature.
P&B-09	Minimize Impervious Surfaces within Parks and Recreation Spaces	In new and existing parks, implement Park Board design best practices, such as permeable pavement and other green rainwater infrastructure practices to minimize impervious surfaces and drain impervious surfaces to green rainwater infrastructure practices to enhance how rainwater is managed.
P&B-10	Multi-stakeholder Land Acquisition for Rainwater Management and Park Use in Key Watershed Areas	Contribute to a reduction in paved surfaces and associated rainwater runoff as well as provide a location for the management of rainwater and park amenity space through land acquisition across the city. Work with partners to find synergies for the acquisition of new land in areas with critical drainage or flooding issues, urban heat island issues and other concerns, and use this land for rainwater management and recreational use.
P&B-11	Green Rainwater Infrastructure Operation and Maintenance and Asset Management	Identify sustainable funding mechanisms and develop plans to finance the management of green rainwater infrastructure assets in parks, beaches and recreation areas including operation and maintenance over their life cycle. Implement an effective operation and maintenance program for green rainwater infrastructure assets that preserves and extends their level of service and their service life.
P&B 12	Protect and Enhance Beaches and Waterfront Program	Work in partnership with Indigenous Peoples, other levels of government and stakeholders to protect and enhance the city's beaches and waterfront through improvements to rainwater quality and reduction of combined sewer overflows into waterways. Seek opportunities to implement green rainwater infrastructure to enhance recreational uses of beaches and the waterfront, improve aquatic habitat for fish and wildlife and help mitigate and adapt to impacts associated with climate change.

Parks & Beaches		
Enabling Programs		
P&B-13	Citywide Green Rainwater Infrastructure Financial Planning and Sustainable Funding Program	Identify equitable sources of long-term funding for green rainwater infrastructure, including funding sources associated with pollutant generation. Use funding source(s) to develop and implement a holistic financial plan that encompasses capital costs, asset management and operation and maintenance to enable green rainwater infrastructure implementation in capital projects and retrofits in parks, beaches and recreation spaces. Undertake research to develop a business case to identify funding requirements to manage these assets to preserve and extend their service life and level of service.
P&B-14	Research and Innovation Program	Continuously improve ways of managing rainwater in parks, beaches and recreation spaces by undertaking research and keeping up-to-date on innovations in the green rainwater infrastructure sector. Contribute to industry best practice and innovations in the sector by reporting monitoring data and analysis and lessons learned at conferences and workshops.
P&B-15	Shift in Park Board Process & Capacity Building	Facilitate adaptation of Park Board processes to enable the successful implementation of green rainwater infrastructure. Encourage this shift through greater collaboration and updating internal processes to adapt to a changing environment. Staff knowledge and capacity to support the implementation of green rainwater infrastructure will be strengthened through training, standards, guidelines and other approaches and tools.
P&B-16	Industry Capacity Building & Public Engagement	Facilitate building capacity amongst designers and contractors by communicating Park Development Standards, Standard Technical Specifications and Best Management Practices applicable to implementing green rainwater infrastructure in new parks capital projects. Achieve the Park Board's VanPlay Goal #7 to engage with industry professionals, designers, and contractors through environmental stewardship and educational programs to build awareness on how green rainwater infrastructure integrates with wild spaces and vital biodiversity across the city's parks, beaches and recreational spaces.

