Table of Flood-Related Capital Projects in the Metro Vancouver Region Since 2010 (sorted by jurisdiction)

Jurisdiction	Project No.	Program Name	Project Name	Project Description	Flood Type	Federal Contribution	Provincial Contribution	Estimated Total Cost	Estimated Start Year	(Estimated) Completion Year	Project Status
Burnaby	**3**	Clean Water and Wastewater Fund	Combined Sewer Separation Program 2017	The project works will include: - Separation of 1,355m of combined sewer mains into separate sanitary and storm sewer systems; - Replacement of 1,185m of aged watermains within the same road sections; and, - Restoration of affected road pavements, curb and gutter, sidewalk structures.	Pluvial	$2,943,080		$5,886,160	2017	2024	Completed
Burnaby	**48**	Municipality Funded	Burnaby Fraser River Dike Upgrade near Byrne Creek	The $6-million dike upgrade will raise the dike to 3.9 metres above geodetic elevation. The dike section between Glenlyon and Byrne creeks, known as Reach 8, will be the last major upgrade to the Fraser River Dike.	Riverine & Coastal			$6,000,000	2019		Completed
Coquitlam	**9**	Disaster Mitigation and Adaptation Fund	New drainage and environmental channel project	The project seeks to reduce the risk of future flooding events on Cedar Drive in Coquitlam BC. The project involves the relocation and raising of Cedar Drive, and constructing a drainage channel parallel to Partington Creek. Additionally, the project will significantly reduce the number of residents without essential services and number of people directly affected, who will not have access to the road during high precipitation events.	Riverine	$4,454,000		$11,135,000	2022	2029	In Progress
Coquitlam; kʷikʷəƛ̓əm (Kwikwetlem First Nation)	**57**	Green Infrastructure Stream of the Investing in Canada Infrastructure Program	Joint flood mitigation program	With rising water levels and increased rainfall due to climate change, the flooding risk is increasing for slaka̓yánc IR1, the regional transportation network, Mayfair Industrial Park in Coquitlam, and within X̌éxətəm Regional Park. Through this project, the Kwikwetlem First Nation and Coquitlam will upgrade the area's existing flood protection network and construct enhanced dikes. The project will also strengthen fish habitat and install new flood boxes to support water connectivity through the dike and local drainage system and to prevent back flow.	Riverine & Coastal	$11,487,350	$4,827,684	$19,978,000	2027	2029	Planning
Delta	**28**	Provincial-Territorial Infrastructure Component - Small Communities Fund	12th Avenue Storm Water Management Improvements	The 12th Avenue Drainage Pump Station required a complete replacement as it was at the end of its useful life. The pump station replacement is part of the City's 12th Avenue Stormwater Management improvement plan. Key considerations for this upgrade were: Station to meet post-disaster criteria. Presence of liquefiable soils require ground densification (stone columns) under the station footprint to satisfy the seismic criteria. Design accounts for climate change through incorporating a future capacity increase by simply changing the pumps with all other systems being sized accordingly. Three submersible Flygt axial-flow pumps providing an initial 3.6 m^3/s combined, with an option to upgrade to 5.4 m^3/s. Pumps operate on VFDs. Dyke was raised from an elevation of 3.1 m to 4.1 m. Pump station is located within a Metro Vancouver park and required significant environmental permitting. Stationary generator on site, sized to operate two pumping units. Architectural design of the structures.	Pluvial	$2,700,000		$8,100,000	2018	2020	Completed
Delta	**30**	Building Canada Fund - Communities Component	Boundary Bay Dike Foreshore Protection (2 Sites)	The Delta project includes 450 metres of dike along Boundary Bay between 96th and 104th streets as well as 50 metres of dike north of Beach Grove. Work will improve the grade of the slope and provide a larger riprap protection layer. It's a continuation of dike erosion protection upgrades underway since 2003.	Coastal	$252,555	$413,445	$1,000,000	2014	2016	Completed
Delta	**31**	Building Canada Fund - Communities Component	Boundary Bay Dike Foreshore Protection: Between 96 St and 104 St	The project will upgrade approximately 300 metres of the Boundary Bay Dike, between 96 Street and 104 Street, by improving the slope and adding riprap on the seaward side of the dike. The project is the fifth phase of an erosion protection project that started in 2003.	Coastal	$87,284		$600,000	2010	2011	Completed
Delta	**32**	Building Canada Fund - Communities Component	Boundary Bay Dike Foreshore Protection: Oliver Pump Station Area	The project will upgrade approximately 300 metres of the Boundary Bay Dike in the Oliver Pump Station area by raising the dike, improving the slope, and adding riprap on the seaward side of the dike. The project is the seventh phase of an erosion protection project that started in 2003.	Coastal	$107,292		$600,000	2010	2011	Completed
Delta	**33**	Building Canada Fund - Communities Component	Boundary Bay Dike Foreshore Protection: Beharrel Pump Station Area	The project will upgrade approximately 250 metres of the Boundary Bay Dike in the Beharrel Pump Station area by improving the slope and adding riprap on the seaward side of the dike. The project is the sixth phase of an erosion protection project that started in 2003. The Boundary Bay Dike provides a coastal barrier that protects low lying agricultural land and ultimately, the communities of Ladner, lower Tsawwassen and Surrey.	Coastal	$69,625		$515,000	2010	2011	Completed

Jurisdiction	Project No.	Program Name	Project Name	Project Description	Flood Type	Federal Contribution	Provincial Contribution	Estimated Total Cost	Estimated Start Year	(Estimated) Completion Year	Project Status
Delta	**34**	Disaster Mitigation and Adaptation Fund	84th Street Drainage Pump Station	The 84 Street Drainage Pump Station will address flooding concerns, including water ponding on roadways, railway tracks, and agricultural lands. The station will manage stormwater, transporting it through a force main pipeline to the discharge point at the Boundary Bay dike. It will also protect critical transportation networks, including local roads, Highway 99, and the railway corridor to Deltaport, from disruptions caused by flooding-related closures. Additionally, the pump station will include a flap gate and an energy dissipation structure to prevent backflow and minimize environmental impacts on local ecosystems.	Pluvial	Portion of $7,600,000		$14,000,000	2025		In Progress
Delta	**38**	Building Canada Fund - Communities Component Top Up	Westham Island Dike (Trim Road) Upgrade	This project will widen the structure and upgrade 130 metres of the dyke.	Coastal	$49,173		$266,519	2010	2011	Completed
Delta	**39**	Building Canada Fund - Communities Component Top Up	Boundary Bay Dyke Foreshore Upgrade	No detailed project descriptions found.	Coastal	$183,345		$700,000	2010	2011	Completed
Delta	**42**	Provincial Grants	Beach Grove Seawall Improvements and Foreshore Protection	Delta is embarking on two projects that will mitigate flood risk arising from high tides, storm surges and wind driven waves. In the Beach Grove area the city will replace a section of deteriorating seawall that has developed large cracks. The second area targeted for mitigation is a 450 metre section of dike in Boundary Bay at the southern end of 96th Street, where the city will install large rip rap material to minimize debris deposits and damage from storms. The combined funding will help Delta upgrade the foreshore and seawall protecting over 2,000 residents in areas that have been hit by frequent flooding.	Coastal		$550,000	$825,000	2016		Completed
Delta	**47**	Disaster Mitigation and Adaptation Fund	Silda Drainage Pump Station	The Silda Drainage Pump Station will reduce the risk of flooding at Highway 91/17 interchange. It will also address flooding concerns, including water ponding on roads, railway tracks, and pedestrian trails, as well as impacts on local businesses in the low-lying catchment area.	Pluvial	Portion of $7,600,000			2027		In Progress
Delta	**54**	Community Emergency Preparedness Fund	Boundary Bay Dike Improvements	The City will initiate a pilot project that involves raising a section of the Boundary Bay dike adjacent to Boundary Bay Airport between 72 Street and 88 Street.	Coastal		$2,000,000				In Progress
Langley Township	**4**	Investing in Canada Infrastructure Program	Yorkson Lowlands Stormwater Management and Ecological Restoration	The proposed project will increase the capacity to treat and manage stormwater by constructing a series of wetlands to and improve surface water quality. The project works include: - Site preparation, slope grading, and mobilization; - Removing invasive reed canary grass; - Stream channel restoration; - Excavating an approximately 21,000 m3 stormwater wetland; - Excavation work to connect stomrwater channels to the constructed wetlands; - Planting, mulching and site surface upgrades to prevent re-colonization of invasive plant species; - Removing old stormwater (culverts) infrastructure; - Installation of stormwater control weirs; - Planting wetlands with native wetland plant, tree, and shrub species; - Building a 250 metre access trail to the site; and, - Installation of interpretive signage.	Pluvial	$692,744		$1,731,860	2024	2025	Pre-Construction
Langley Township	**37**	Building Canada Fund - Communities Component Top Up	West Langley Dike Upgrade	The project will raise the West Langley Dike crest by approximately 1.1 metres and widen the crest to 4 metres along a 960 metre section of the dike. The project will also include slope re-grading, cross-sectional improvements, and improving the tie-in to high ground at the west extent of the dike. This section of dike protects numerous businesses/facilities including Metro Vancouver's Northwest Langley Wastewater Treatment Plant, Mainland Sand and Gravel, Lehigh Cement Ltd., Chemical Lime Company of Canada Inc., Brenntag Canada Inc., and Burnco Rock Products Ltd.	Riverine	$314,989		$1,425,000	2010	2011	Completed
Metro Vancouver - Electoral Area A; q̓i̓ c̓əy̓ (Katzie First Nation)	**58**	Emergency Program Act / Growing Communities Fund	Barnston Island Dike Improvements	In summer 2023, the Province provided Metro Vancouver with a grant of $5.25 million under the Emergency Program Act. The funds are for dike improvements to advance flood protection and help ensure Barnston Island remains a viable place for living and farming. Metro Vancouver has allocated an additional $1.5 million from the provincial Growing Communities Fund to toward implementation of dike improvements.	Riverine & Coastal		$6,750,000		2023		In Progress
New Westminster	**2**	Clean Water and Wastewater Fund	Sapperton Combined Sewer Separation	The project works will include: - Approximately 10.8km of storm main; - Approximately 134 manholes; and - Related works.	Pluvial	$3,326,172		$6,652,344	2017	2024	Completed

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New Westminster	**7**	Investing in Canada Infrastructure Program	West End Combined Sewer Separation & Green Infrastructure Program	This project will help increase the capacity to manage wastewater and increase the capacity to treat and/or manage storm water through installation of green Infrastructure which will improve the quality of storm water that enters the Fraser River. This project will separate combined sewers in the City as a part of ongoing efforts to separate a minimum of 1.5% of combined sewer system and align with Metro Vancouver's Integrated Liquid Waste and Resource Management Plan. The project works include: - Installation of approximately 8.4 km of storm sewers; - Installation of approximately 24 rain gardens; - Installation of approximately 3 permanent flow monitoring stations; - Installation of necessary appurtenances; and, - Rehabilitation of roadworks impacted by project works.	Pluvial	$5,705,595		$14,263,988	2024	2027	Pre-Construction
New Westminster	**43**	Community Emergency Preparedness Fund (CEPF)	Queensborough Dike Shoreline Protection Rehabilitation	The City of New Westminster is proposing to rehabilitate and stabilize a failing segment of existing rip-rap shoreline protection, approximately 130 metres in length, along the Queensborough Dike. The Project would consist of: Site preparation, including removal of vegetation, anthropogenic debris, existing rip rap and profile and grading the slope Placement of geotextile, filter rock, rip rap and fill, if required Vegetation planting on the rip rap bench and riparian area	Riverine & Coastal		$800,000		2024	2025	In Progress
North Vancouver City; North Vancouver District	**46**	Provincial Grants	Mackay Creek Flood Mitigation	The $2.4-million project includes $334,666 from the City of North Vancouver and $474,461 from the District of North Vancouver. The combined funding will help the two local governments build a 1,200-metre-long flood protection dike on both sides of Mackay Creek between Marine Dr. and First St. The new dike, being built on both the east and west sides in a coordinated manner by the two local governments, will increase public safety and protect adjacent residential, commercial and light-industrial lands, as well as public transportation corridors from flooding and its associated costs in lost business and property damage.	Riverine		$1,600,000	$2,400,000	2017		Completed
North Vancouver District	**5**	Investing in Canada Infrastructure Program	Reduction of Inflow and Infiltration Program (RIIP) - Lynn Valley	The proposed project will increase the capacity to manage wastewater with rehabilitation of sewer pipes to reduce the inflow of rainwater into the system. The inflow and infiltration of rainwater into the sanitary sewer system is causing sanitary sewer overflows, allowing raw sewage to enter the environment. The pipe improvements will reduce the frequency of overflows, reduce system operating costs, and reduce the need for future infrastructure improvements. The project works will include: - rehabilitation of about 4500 m of sanitary sewers; - rehabilitation of manholes, lateral connections, and chambers; - repair of cross connections and pipe defects; and, - inspection of about 75 km of sanitary sewer.	Pluvial	$2,000,000		$5,000,000	2022	2026	In Progress
North Vancouver District	**29**	Provincial-Territorial Infrastructure Component - Small Communities Fund	District of North Vancouver Creek Flood and Debris Flow Disaster Mitigation Infrastructure	This disaster-mitigation project in North Vancouver will control flood and debris flow in the Deep Cove and Lynn Valley areas. The project includes better protecting the culvert inlet and debris basin upgrades on Thames Creek at Grouse Mountain Road; new inlet protection and a debris basin on the Thames Creek at Kilmer Road; culvert and diversion inlet improvements; a debris basin, trash racks and overflow structures at two locations on Kilmer Creek; replacing the culvert on Gallant Creek at Deep Cove Road; and constructing a debris basin on Gallant Creek upstream of Badger Road. These improvements will help reduce the risk of flooding and the property damage and clean up associated by debris typically carried by flood waters.	Riverine	$841,683		$2,525,050	2016	2019	Completed
North Vancouver District	**40**	Building Canada Fund - Communities Component Top Up	Lynnmour Dike Flood Protection	The project will upgrade the flood protection works on Lynnmour Creek including the St Denis Road Dike, the Fire Training Centre deflection berm, the Orwell Street deflection berm, the Forsman Road floodway, and a park berm. The project will protect residential properties in the Lynnmour area.	Riverine	$142,780		$428,340	2010	2010	Completed
Pitt Meadows	**10**	Provincial-Territorial Infrastructure Component - Small Communities Fund	Pitt Polder Pump Station Replacement	To replace the aging and failing Pitt Polder (1952) pump station with new, more efficient technology (duplex screw system with backup power and electrical components) set above the 200 year flood elevation level.	Riverine	$2,325,000		$6,975,000	2018	2024	Completed

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Pitt Meadows	**44**	Community Emergency Preparedness Fund (CEPF)	Fenton Pump Station Replacement	This grant will provide the opportunity to replace the Fenton Road pump and back-up generator including rebuilding the motor centre, switchgear and power upgrades, installation of new tubes and pumps, as well as a back-up generator for the Baynes Road pump. The two existing pumps at the Fenton Station are at the end of their service life and are the only pumps which service the surrounding dike system. Work on this project will begin in the coming months and is expected to be completed by January 2022.	Riverine & Coastal		$739,740		2020	2024	Completed
Port Coquitlam	**11**	Disaster Mitigation and Adaptation Fund	Maple Creek Drainage Pump Station Upgrade	The Maple Creek Drainage Pump Station project will protect people and properties in low-lying areas from flooding caused by increased rainfall and rising sea levels. It will replace the existing pumps with fish-friendly pumps and upgrade the floodbox structure for improved water management, while enhancing fish passage and survival. Additional upgrades will include seismic and structural improvements, as well as enhancements to civil, mechanical, and electrical systems.	Riverine	$5,600,000				2027	Design
Port Coquitlam	**56**	Disaster Mitigation and Adaptation Fund	Cedar Creek Drainage Pump Station Upgrade	The Cedar Creek Drainage Pump Station project will increase capacity to effectively manage water flow during storm events resulting from climate change. This includes providing flood protection for residential, commercial, and agricultural properties in low-lying areas, while also preventing localized flooding on roads. This project will replace the existing pumps with fish-passable pumps, upgrade the existing floodbox, and add a permanent generator.	Riverine	$4,000,000				2026	Design and permitting
q̓ʷɑ:ńÅəń (Kwantlen First Nation)	**51**	First Nation Project	McMillan Island Rip Rap	In 2016, McMillan Island was undergoing significant bank erosion at the east end caused by the Fraser River. To protect the island from further erosion, Kwantlen First Nation (KFN) received authorizations to armor 1.7 km of the bank with rip rap, which is rock placed on shorelines, between 2017 and 2018. This protects the north east portion of the island, effectively delaying the most significant risk of erosion that threatens to split the island	Riverine & Coastal				2017	2018	Completed
Richmond	**27**	Investing in Canada Infrastructure Program	No. 3 Road South Drainage Pump Station and Dike Upgrade	The project consists of two components. Reconstructing the pump station will quadruple its pumping capacity from 1.2 m3/s to a minimum of 4.8 m3/s. Raising approximately 220 m of dike by 1.2 m to an elevation of 4.7 m will connect two already raised sections, resulting in over 1,200 meters of dike built to year 2100 flood design levels. Completing this project will enhance the City's level of flood protection and ensure that Richmond is better prepared for climate change induced sea level rise and increases to rainfall intensities while protecting approx. 29,500 residents, 47 businesses and 8 square kms of agricultural land.	Riverine & Coastal	$1,350,991		$13,000,000	2025	2028	Pre-Construction
Richmond	**53**	Vancouver Airport Authority Funded	Sea Island Climate Resilience Project	The project will see YVR upgrade the dike and drainage system on Sea Island by raising the existing perimeter dikes by approximately one metre to a total height of 4.7 metres and improving overall drainage and geotechnical stability.	Riverine & Coastal				2024	2025	In Progress
Richmond	**59**	Likely Infrastructure Stimulus Fund	Gilbert Road South Drainage Pump Station Rehab	Stormwater Management	Pluvial	Likely a portion of $1,224,445		Likely a portion of $4,049,000		2010	Complete
Richmond	**60**	Municipality Funded	Cambie Road West Pump Station Rebuild	Stormwater Management	Pluvial					2010	Complete
Richmond	**61**	Municipality Funded	No. 4 Road North Pump Station Rebuild	Stormwater Management	Pluvial					2011	Complete
Richmond	**62**	Municipality Funded	Williams Road Pump Station Rebuild	Stormwater Management	Pluvial					2013	Complete
Richmond	**63**	Funding details not found	Oris "Parc Riviera Phase 1" Superdike Construction	Dike Raising	Riverine & Coastal					2013	Complete
Richmond	**64**	Funding details not found	Onni (Steveston) "Imperial Landing" Superdike Construction	Dike Raising	Riverine & Coastal					2013	Complete

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Richmond	**65**	Municipality Funded	No. 1 Road North Pump Station Rebuild	Stormwater Management	Pluvial					2014	Complete
Richmond	**66**	Provincial Grants	Bath Slough Pump Station Rebuild	Stormwater Management	Pluvial		$2,040,000			2015	Complete
Richmond	**67**	Funding details not found	Woodward Slough Drainage Pump Station Rehab	Stormwater Management	Pluvial					2015	Complete
Richmond	**68**	Funding details not found	Aspac (west of Oval) Superdike Construction	Dike Raising	Riverine & Coastal					2016	Complete
Richmond	**69**	Funding details not found	Oris "Kawaki" Superdike Construction	Dike Raising	Riverine & Coastal					2017	Complete
Richmond	**71**	Funding details not found	Britannia Flood Protection Improvements	Following significant flooding in December 2014 that was the result of a combination of high tide and storm surge, a number of flood protection concepts were developed in consultation with City staff and the Britannia Heritage Shipyard Society. The solution involved flood-proofing the existing perimeter bulkhead wall and raising it by approximately 0.7 m, to an elevation of 2.9 m, through the installation of a vinyl sheet pile wall with wooden cladding to maintain the heritage appearance of the site. For sections of the floodwall that required walkway access to three historic buildings, removable aluminum flood panels were installed for high water events to ensure the wall is water tight throughout.	Riverine & Coastal					2018	Complete
Richmond	**72**	Funding details not found	Aspac "River Green" (east of Oval) Superdike Construction	Dike Raising	Riverine & Coastal					2018	Complete
Richmond	**73**	Funding details not found	Oris "Parc Riviera Phase 2" Superdike Construction	Dike Raising	Riverine & Coastal					2018	Complete
Richmond	**74**	Likely provincial grants	No. 2 Road North Pump Station Design	Stormwater Management	Pluvial					2018	Complete
Richmond	**75**	Disaster Mitigation and Adaptation Fund	Horseshoe Slough Drainage Pump Station	Stormwater Management	Pluvial					2020	Complete
Richmond	**76**	Disaster Mitigation and Adaptation Fund	Shell Road North Drainage Pump Station	Stormwater Management	Pluvial					2020	Complete
Richmond	**77**	Disaster Mitigation and Adaptation Fund	Gilbert to No. 3 Road South Dike Upgrade	Dike Raising	Riverine & Coastal					2020	Complete
Richmond	**78**	Disaster Mitigation and Adaptation Fund	No. 7 Road South Drainage Pump Station	Stormwater Management	Pluvial					2021	Complete
Richmond	**79**	Disaster Mitigation and Adaptation Fund	No. 9 Road South Dike Upgrade	Dike Raising	Riverine & Coastal					2022	Complete
Richmond	**80**	Disaster Mitigation and Adaptation Fund	Steveston Highway to No. 3 Road Pump Station Upgrade	Stormwater Management	Pluvial		$1,000,000			2022	Complete
Richmond	**81**	Funding details not found	Steveston Highway to Gilbert Road Pump Station Upgrade	Stormwater Management	Pluvial					2022	Complete
Richmond	**82**	Disaster Mitigation and Adaptation Fund	No. 3 Road to Finn Slough Dike Upgrade	Dike Raising	Riverine & Coastal					2023	Complete

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Richmond	**83**	Funding details not found	Burkeville Drainage Upgrades	The Burkeville neighbourhood is undergoing a comprehensive drainage upgrade project that includes replacing ageing watermains, sanitary sewers, and roadways in several phases. The phasing is designed to prioritize address servicing concerns and reduce construction impacts to the community. During each phase, drainage, water, sanitary, and road infrastructure improvements within the identified phasing areas will be completed. Upgrading the drainage network will reduce local flood risks by increasing the City's storm system capacity and better servicing the Burkeville area.	Pluvial			$3,000,000		Q4 2024	
Richmond	**84**	Funding details not found	Lynas Lane to No. 2 Road along River Road North Dike Upgrade	Dike Raising	Riverine & Coastal					2027	In Design
Richmond	**85**	Muncipality Funded	6080 Dyke Road to Gilbert Road South Dike Upgrade	Dike Raising	Riverine & Coastal					2027	In Design
Richmond	**86**	Funding details not found	No. 4 Road to No. 5 Road South Dike Upgrade	Dike Raising	Riverine & Coastal					2028	In Design
səlilwətaɬ (Tsleil-Waututh Nation)	**45**	Community Emergency Preparedness Fund (CEPF)	Reserve Shoreline Adaptation and Habitat Enhancement Project	Key objectives for the reserve shoreline adaptation and restoration project are to: -attenuate wave action and protect community lands and sensitive archaeological sites from coastal erosion and flooding; -use nature-based solutions that integrate Indigenous Knowledge and stewardship technologies to restore marine ecology and culturally important local species; -reconnect community members to the shoreline by facilitating shoreline access at suitable places; and -build TWN capacity and stewardship role through training and community member involvement in all stages of the project.	Coastal		$2,000,000		2023		In Progress
Surrey	**13**	Disaster Mitigation and Adaptation Fund	Colebrook Dyke (100 Series): Mud Bay	Upgrading 7.5 kilometres of the earth dyke along Mud Bay and at the mouth of the Serpentine River, including flood boxes, providing protection to the Highway 99 regional link to the Peace Arch border, BC Hydro's primary transmission line and regional sewer and watermains. This project will be done in phases.	Coastal				2022?	2027	In Progress
Surrey	**14**	Disaster Mitigation and Adaptation Fund	Colebrook Drainage Pump Station Replacement	Removing and replacing existing pump station built in the 1990's at 13168 - 48 Avenue with a modern pump station. The new pump station will protect the agricultural floodplain area from extreme flooding. It will include new 'fish friendly' pumps to allow fish to pass through unharmed and will be less vulnerable to the impacts of a seismic event.	Riverine & Coastal						In Progress
Surrey	**15**	Disaster Mitigation and Adaptation Fund	Serpentine River Sea Dam	Removing and replacing the sea dam with a modern structure that is climate and seismic resilient. The new structure will have a higher crest elevation, and a robust foundation and dyke tie-in to resist extreme earthquakes.	Coastal						Planning
Surrey	**16**	Disaster Mitigation and Adaptation Fund	152 Street Road Upgrades	Raising and widening 152 Street crossing the floodplain and making improvements along King George Blvd from Highway 99 to Serpentine River to provide secondary flood protection for 152 Street. We will also twin the Nicomekl River Bridge and create a four-lane road and bridge crossing with cycling and pedestrian pathways. This will improve flood resilience and emergency response as well as help reduce congestion.	Coastal				2023	2026	In Progress
Surrey	**17**	Disaster Mitigation and Adaptation Fund	Nicomekl Riverfront Park	Creating a 3-km riparian park that incorporates recreation, traditional culture and natural values with flood attenuation features. These features will include wetlands and habitat islands. The new Nicomekl Riverfront Park will employ innovative climate adaptation and mitigation measures. It will also provide opportunities for reconciliation, climate awareness, and environmental stewardship.	Coastal				2024		In Progress
Surrey	**18**	Disaster Mitigation and Adaptation Fund	King George Boulevard Bridge and Nicomekl River Sea Dam Replacement	Upgrading the adjacent 100-year old sea dam to improve flood and irrigation controls.	Coastal						Planning
Surrey	**19**	Disaster Mitigation and Adaptation Fund	Crescent Beach Storm Sewer Upgrades	Continuing expansion of perforated storm sewer system together with ground and road raising. This will provide efficient conveyance to manage storm water runoff and rising groundwater levels. This project will be done in phases.	Coastal						In Progress

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Surrey	**20**	Disaster Mitigation and Adaptation Fund	Lower Nicomekl River and Serpentine River Dyking	Upgrading the dyking system at the Serpentine dyke between 88 Avenue and Fraser Highway. This will increase the area's resiliency to sea level rise and protect Surrey lowlands from coastal flooding. We will also replace the flood boxes at Fry's Corner Pump Station (7627-176 St) to protect the surrounding area, agriculture and highways from future flooding. This project will be done in phases.	Coastal						In Progress
Surrey	**21**	Disaster Mitigation and Adaptation Fund	Lower Nicomekl River and Serpentine River Dyking	Upgrading the dyking system at the 3-kilometre reach of the Nicomekl River between Elgin Road and the 40 Avenue Pump Station. This will increase the area's resiliency to sea level rise and protect Surrey lowlands from coastal flooding. This project will be done in phases.	Coastal						In Progress
Surrey	**22**	Disaster Mitigation and Adaptation Fund	SRY Rail Link Serpentine Bridge Replacement	The new railway bridge is resilient to flooding and sea level rise. It will help the city realize the full benefits of the Serpentine-Nicomekl flood control system to improve flood control of agricultural land.	Coastal				2019	2020	Completed
Surrey	**23**	Disaster Mitigation and Adaptation Fund	Burrows Drainage Pump Station Upgrade	The new Burrows Pump Station is resilient to flooding and earthquakes. The new design allows fish to pass through it easier and it has better flood control and irrigation for surrounding agriculture. A new building houses the electric controls to power the new fish-friendly pump.	Coastal				2020	2021	Completed
Surrey	**24**	Disaster Mitigation and Adaptation Fund	Stewart Farm Sanitary Pump Station Upgrade	The Stewart Farm sanitary pump station is part of the City of Surrey's sanitary sewer system to collect wastewater from the community and carry it to the Annacis Island Wastewater Treatment Plan. This station is located at low elevation on the south bank of the Nicomekl River. This lower part of the river is impacted by tides which makes the station more vulnerable to flooding. The pump station needed to be raised to avoid any damage to the infrastructure and environment, while keeping it functioning in the case of a severe flood.	Coastal				2020	2021	Completed
Surrey; Delta; Semiahmoo First Nation	**12**	Disaster Mitigation and Adaptation Fund	Coastal Flood protection	The project consists of the new construction, rehabilitation and expansion of 13 assets including pump stations, sea dams, dykes, road, bridges, and a park which provide transportation, water, wastewater, stormwater, and safety essential services. The project will provide a higher level of protection to surrounding agricultural lands, traffic corridors and other infrastructure of local, regional and national importance. This project includes projects 13 to 26	Coastal	$76,602,850		$187,000,000	2019	2028	In Progress
Surrey; Delta; Semiahmoo First Nation	**26**	Disaster Mitigation and Adaptation Fund	Mud Bay Nature-based Foreshore Enhancements	The Mud Bay Nature-based Foreshore Enhancements Project is a partnership between City of Surrey, City of Delta and Semiahmoo First Nation. The project involves a nature-based approach to flood protection known as a living dyke. The project will begin with Pilot Studies to test stabilization techniques for the living dyke in two locations in Mud Bay. This will mitigate river flooding and the loss of biodiversity. It will also help salt marsh habitats keep pace with rising sea levels.	Coastal				2023	2027	In Progress
Surrey; Semiahmoo First Nation	**25**	Disaster Mitigation and Adaptation Fund	Campbell River Pedestrian Bridge Replacement	Partnering with the Semiahmoo First Nation to remove and replace the failing pedestrian bridge over the Campbell River. This bridge connects the Semiahmoo First Nation with the City of Surrey and City of White Rock. The new structure will be built to current flood protection standards and allow for 1 meter of sea level rise. It will also provide an alternate emergency access route.	Coastal						Planning
Vancouver	**1**	Clean Water and Wastewater Fund	Vancouver South Sewer Separation Project	The project works will include: - 1400m sanitary trunk sewers; - 1400m storm trunk sewer; - 40 manholes; - 80 service connections; - Import backfill; - Pavement and curb restoration; and, - Miscellaneous appurtenances.	Pluvial	$5,837,500		$11,675,000	2017	2024	Completed
Vancouver	**6**	Investing in Canada Infrastructure Program	Hastings Sunrise Sewer Renewal & Green Infrastructure Project	The proposed project will replace the existing combined sewer with new separate sanitary and storm sewers in the Hastings Sunrise area of the City to mitigate flooding, reduce sewer overflows into local marine waters and increase capacity for future. The addition of green infrastructure components will capture pollutants and allow rain water to infiltrate the ground. The project works include: - Replacement of about 4.5 km of combined sewer in the Hastings Sunrise area with separated storm and sanitary sewers; - Installation of about 30 bio-retention bulges and about 18 catch basin with infiltration drywell manholes; - Installation of approximately 1km of sidewalks; - Restoration of disturbed surface infrastructure including manholes, service connections, other appurtenances, testing and surface restoration; - Pre & Post construction monitoring, flow monitoring; and, - Related site works.	Pluvial	$8,182,684		$20,456,710	2022	2026	In Progress

Jurisdiction	Project No.	Program Name	Project Name	Project Description	Flood Type	Federal Contribution	Provincial Contribution	Estimated Total Cost	Estimated Start Year	(Estimated) Completion Year	Project Status
Vancouver	**8**	Natural Infrastructure Fund	Rain City Strategy Using Nature-Based Solutions	The Project will implement or enhance natural infrastructure distributed across the city, including rainwater tree trenches, wetlands, stream restoration, and hybrid infrastructure such as bioswales and permeable land cover. Once complete, this project will improve water quality and provide climate adaptation and increase flood resilience, species protection, and biodiversity. Furthermore, it will improve livability for residents by reducing urban heat island effects, improving air quality and creating more access to nature.	Pluvial	$18,900,000		$31,500,000	2023	2024	In Progress
Vancouver	**35**	Infrastructure Stimulus Fund	Upper Trout Lake East Sewer Separation	This project involves replacing and extending several hectares of the sewer line in the eastern portion of Trout Lake Tributary.	Pluvial	$3,333,300		$10,000,000	2010	2011	Completed
Vancouver	**36**	Infrastructure Stimulus Fund	Upper Trout Lake West Sewer Separation	This project involves replacing and extending several hectares of the sewer line in the eastern portion of Trout Lake Tributary.	Pluvial	$3,333,300		$10,000,000	2010	2011	Completed
Vancouver	**41**	Community Emergency Preparedness Fund (CEPF)	Southlands Tide Gates Replacement Program	In 2014, the City completed the Coastal Flood Risk Assessment (Phase 2). This report evaluated various flood mitigation approaches and identified key assets in the floodplain. In Southlands, there are over 400 buildings (primarily residential), approximately 2,000 people and several recreational assets that may be impacted during a severe flood event. The report indicated that Southlands is at risk for significant flooding in the near future during a very rare flood event. However, a tide gate failure would render areas of Southlands vulnerable to flooding during much more common events.	Coastal		$750,000		2021	2023	Completed
Vancouver	**49**	Vancouver Board of Parks and Recreation	Stanley Park and English Bay Seawall Repairs Phase 1 & 2	The project includes repair works at multiple locations along the seawall between the foot of Chilco Avenue at Coal Harbour and Sunset Beach Park near the mouth of False Creek. Repair works include undermining and bulge repairs, cavity repairs and mortar repointing, and reconstruction of one section of seawall. The repair work is being conducted to improve public safety, maintain the structural integrity on the seawall, and repair damage caused by storms and age-related impacts. The proposed repair works are being completed in two phases. Phase 1 works started in March 2018 and were completed in December 2018. Phase 2 works started in early 2019 and are continuing in 2020.	Coastal			$4,500,000	2018		Completed
Vancouver	**52**	Privately Funded	Development at 3398 North Arm Avenue (East Fraser Lands Area 1)	Prior to the PDP submission, the applicants provided several studies of the building footprints and parkade design based on flood protection and its required setbacks. A minimum of 30 m (98.4 ft) setback is required for flood protection from the high-water line. Also, a minimum of 7.5 m (24.6 ft) setback is required from provincial lease areas by the city of Vancouver which will accommodate a flood protection wall. An 8 m (26.2 ft) dike will also be provided for flood protection which will serve as a multi-use pathway. The proposed dike considers the future sea level rise and provides the required expansion of 0.75 m (2.4f ft) in the design of the dike	Riverine & Coastal				2024	2028	Preliminary DP application in progress
Vancouver	**90**	Federal, municipal, and TransLink funded	Translink Marpole Transit Centre	This facility will be designed for the operation and maintenance of 350 40' equivalent Battery Electric Buses.. 3-storey garage structure, 2 storey maintenance buildings and ancillary buildings. The site is raised to City of Vancouver's Flood Construction Level of 4.6 m.	Coastal			$848,305	2023	2026	In Progress
Vancouver	**91**	Municipality Funded	Fraser St. outfall replacement	Tide gate project - A gate installed on storm sewer outfalls that prevent coastal flooding from entering the sewer system. Under construction now	Coastal					2026	In Progress
Vancouver	**92**	Municipality Funded	Oak St. outfall replacement	Tide gate project - A gate installed on storm sewer outfalls that prevent coastal flooding from entering the sewer system. Waiting for permit	Coastal					2027	In Progress
Vancouver	**93**	Muncipality and Developer Funded	East Fraser Lands Area 2 dike	A 1 km dike extending east from Kerr St.	Riverine & Coastal					2020	Complete
West Vancouver	**50**	Municipality Funded	Lawson Park Riparian Enhancement	The shoreline and creek mouth at Lawson Park have undergone extensive enhancement work with great success. Reshaping the pathway will permit the expansion of the riparian habitat along the upper shore and replace the existing angular rock along the upper beach with round river rock which has been reclaimed from nearby construction work. The project will provide better protection for the upper shore and John Lawson Park from flooding or overtopping by waves, or debris impact. In addition the project will improve public access across the site and to the shoreline, improved aesthetic value of the upper shore for visitors to the site, and enhanced biodiversity.	Coastal			$25,000	2012	2012	

Jurisdiction	Project No.	Program Name	Project Name	Project Description	Flood Type	Federal Contribution	Provincial Contribution	Estimated Total Cost	Estimated Start Year	(Estimated) Completion Year	Project Status
West Vancouver	**55**	Municipality Funded	Lawson Creek to McDonald Enhancement	The projects at 15th Street, Lawson Pier, Lawson Creek, 18th Street, and McDonald Creek and Bypass involved the construction of tombolos and wave trips that were initially positioned along the upper and mid shore to rebuild the upper shore. In addition to the relocation and construction of tombolos, expansion of the existing riparian habitat bench along the shoreline will provide additional wave protection and drainage, preventing flooding and overtopping of the Seawalk while increasing biodiversity across the site and improving the aesthetic value of the site for the public	Coastal			$25,000	2012	2012	
West Vancouver	**70**	Municipality Funded	Culvert Inlet Enhancement at various locations	Ongoing Creek Culvert Inlet improvements at various locations throughout the District to improve ability for debris management and better intake efficiencies allowing more time for crew to response during high flow events.	Riverine			$1,000,000	2022	2027	Ongoing
West Vancouver	**87**	Muncipality and Developer Funded	Five Creeks Stormwater Protection Project	In 2013, The District of West Vancouver adopted an Integrated Stormwater Management Plan (ISMP) which identified many sections of the existing creek systems are incapable of conveying large storm events safely. The multi-phased project entailed the construction of a large-diameter stormwater pipe that runs from above the Upper Levels Highway, down to a new outfall at the Burrard inlet to address concerns of overland flooding for the benefit of both existing and future neighbourhoods below and above the Upper Levels Highway within the watershed area referred to as the Five Creeks (Pipe, Westmount, Cave, Turner, and Godman Creeks). Intake structures installed on the creeks capture any significant stormwater that will overflow the creek banks and divert the excess flow into the pipe.	Riverine				2020	2023	Complete
West Vancouver	**88**	Municipality Funded	Drainage Improvements at the Intersection of Ross Crescent and Ross Lane	In 2018, to address localized drainage issues observed at the outlet of Claymore Creek watershed, this project involved the installation of approximately 50 meters of 600mm diameter storm bypass on Ross Crescent. The project connected Claymore Creek West directly to an existing culvert inlet bypassing the section of the existing channel which was under capacity. The works also included channel improvement utilizing gabion and Lock Block headwall, and a custom-built debris deflector to improve debris management.	Pluvial			$160,000	2018	2018	Complete
West Vancouver	**89**	Municipality Funded	Drainage Improvements at Stonecrest Culvert Inlet	In 2018, to address localized drainage issues observed at the culvert inlet from massive amounts of debris washed down from Willow Creek, this project involved the construction of a Lock Block debris collection basin, installation of a large triangular shaped steel debris deflector, new debris screen and improvements to access and provisions for machine access for debris management.	Pluvial			$85,000	2018	2018	Complete