

Infrastructure

11



GOALS

- 11 (A) Victoria's well-maintained infrastructure and facilities meet the needs of residents and business utilizing best management practices.
- 11 (B) Victoria's healthy, clean, high-quality drinking water is used in a thrifty way and maintained through generations.
- 11 (C) Efficient and effective liquid waste management protects human health and the natural environment and makes use of resource potential.
- 11 (D) Rainwater resources are carefully managed with collection, diversion, and re-use practices that moderate runoff volumes and maximize water quality.
- 11 (E) The waste stream to the regional landfill has been reduced to a minimum, with recovery, re-use, recycling and composting of resources undertaken as standard practice.

OVERVIEW

Infrastructure is the collection of physical assets that a government or private company owns and manages within a service area. Decisions about infrastructure have a considerable impact on existing conditions and future opportunities for development. Sustainable infrastructure for municipal and regional services, such as water supply, solid waste, waste treatment, electricity, gas and telecommunications, is critical for community resiliency.

Across the country, municipalities face major capital costs for the repair and replacement of aging and deteriorating infrastructure. Victoria's infrastructure is among the oldest in Canada. Large portions of the City's storm and sanitary sewers were built before 1919 and are at, or near, the end of their useful lives. The majority of water mains also require replacement in the coming decades. Beyond the issue of deterioration, infrastructure will need to be improved to accommodate the projected population and employment growth that will increase demand for public and private utilities such as potable water and energy. Infrastructure improvements are also required for adaptation to the impacts of climate change, which are forecast to include warmer and drier summer weather and more frequent and intense precipitation in winter.

This plan strategically focuses higher density residential and commercial development in the Urban Core, Town Centres and Urban Villages in compact land use patterns that manage growth through intensification to minimize the need for new infrastructure, in contrast to green field development.

This plan gives priority to policies that support closed loop systems in resource recovery, and focus on integrated rainwater management. This approach includes landscape designs that reduce peak runoff volumes from storms, plantings that tolerate climate change and integration of small-scale technology such as grey water harvesting in building design and new construction. The plan supports steps for Victoria to move towards elimination of waste-related greenhouse gas emissions and almost entirely away from landfilling of waste.

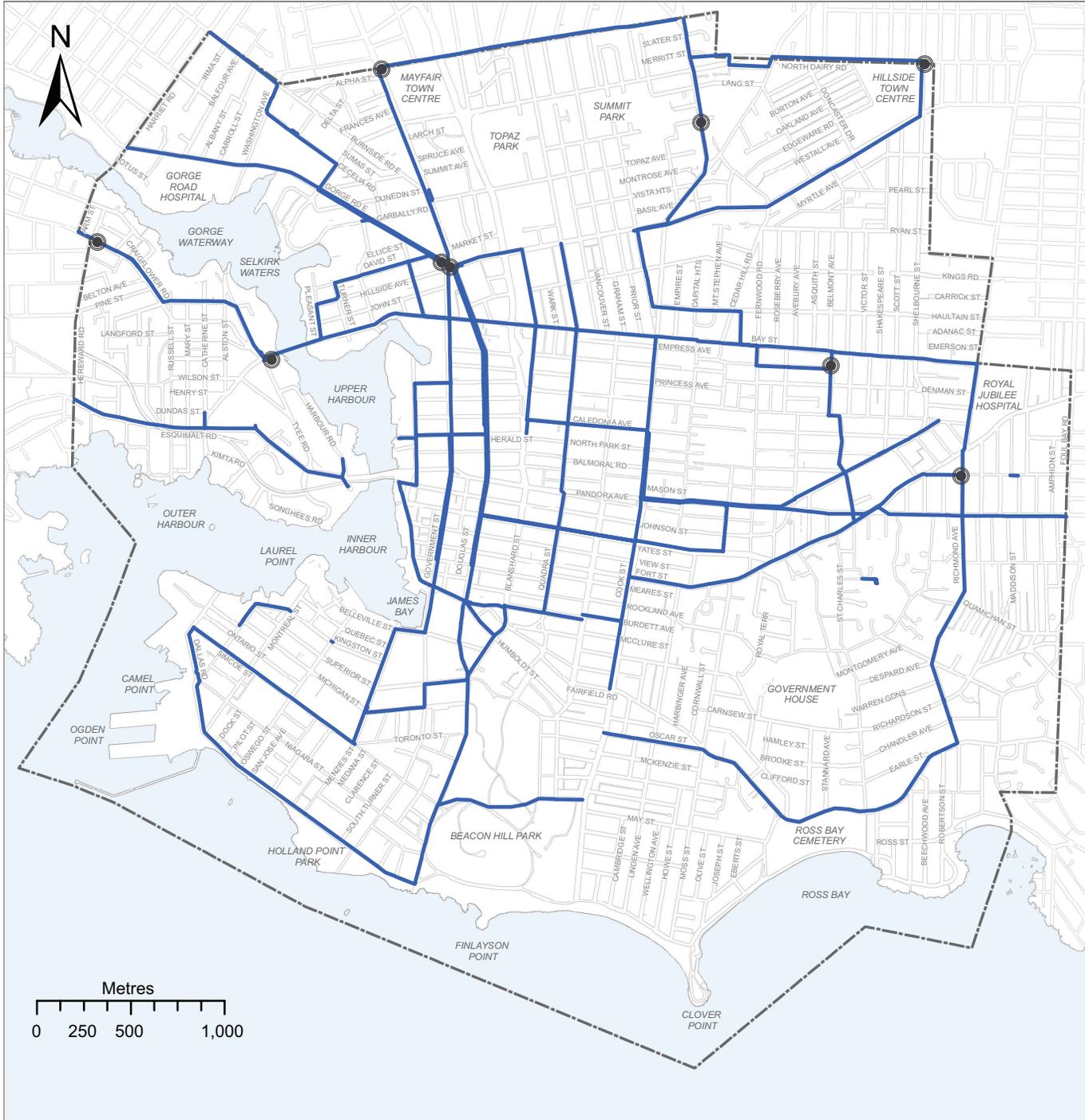
BROAD OBJECTIVES

The infrastructure policies of this plan collectively address six broad objectives:

- 11 (a) That urban growth is accommodated through strategic improvements to, and efficient use of, existing infrastructure.
- 11 (b) That water and solid waste are managed as closed loop systems with optimal levels of recovery and re-use.
- 11 (c) That demand for potable water is reduced, and its supply and distribution is cost-effective.
- 11 (d) That an integrated approach to rainwater is established and maintained in coordination with watershed planning.
- 11 (e) That waste water is managed to safeguard public health and to protect the marine environment.
- 11 (f) That discarded materials are managed to significantly reduce waste at landfill and eliminate waste-related emissions.

INFRASTRUCTURE ASSETS MANAGEMENT

- 11.1 Maintain and enhance infrastructure, including water, waste water, rainwater and solid waste facilities and services identified on Map 13, Map 14, Map 15 and Map 18 [SEE ALSO SECTION 18 – EMERGENCY MANAGEMENT].
- 11.2 Work with utility providers to maintain and enhance public and private facilities and services for electricity, gas and telecommunications.
- 11.3 Enable the urban growth concept in this plan through development cost charges that provide funds to pay the capital costs of providing, constructing, altering or expanding transportation, water, drainage and sewage facilities, and providing and improving parkland.
- 11.4 Maintain and enhance the allocation of resources for civic infrastructure repairs, upgrades and replacement in the 20 Year Capital Plan.
- 11.5 Continue to bridge the gap between existing infrastructure and needed physical improvements through:
 - 11.5.1 Coordination with Capital Regional District plans and works undertaken;
 - 11.5.2 Phasing that is generally consistent with the growth concept in this plan; and,
 - 11.5.3 Development and regular review of master plans for civic facilities and services.
- 11.6 Routinely report on the physical condition of civic infrastructure and resources required for its maintenance, upgrade and replacement.
- 11.7 Continue to maintain, repair, upgrade and replace roads and sidewalks consistent with the policies and maps in the Transportation and Mobility Section of this plan and related City policies and subdivision and development regulations [SEE ALSO SECTION 7 – TRANSPORTATION AND MOBILITY].
- 11.8 Reserve public land and public rights-of-way above and below ground for civic infrastructure, and avoid incompatible utility land uses in the same location.
- 11.9 Encourage public and private utilities to relocate overhead wiring to underground, where feasible, through City subdivision and development regulations and as guided by public realm guidelines, prioritizing the Urban Core, Town Centres and Urban Villages as well as key pedestrian routes such as those identified on Map 7.



MAP 13

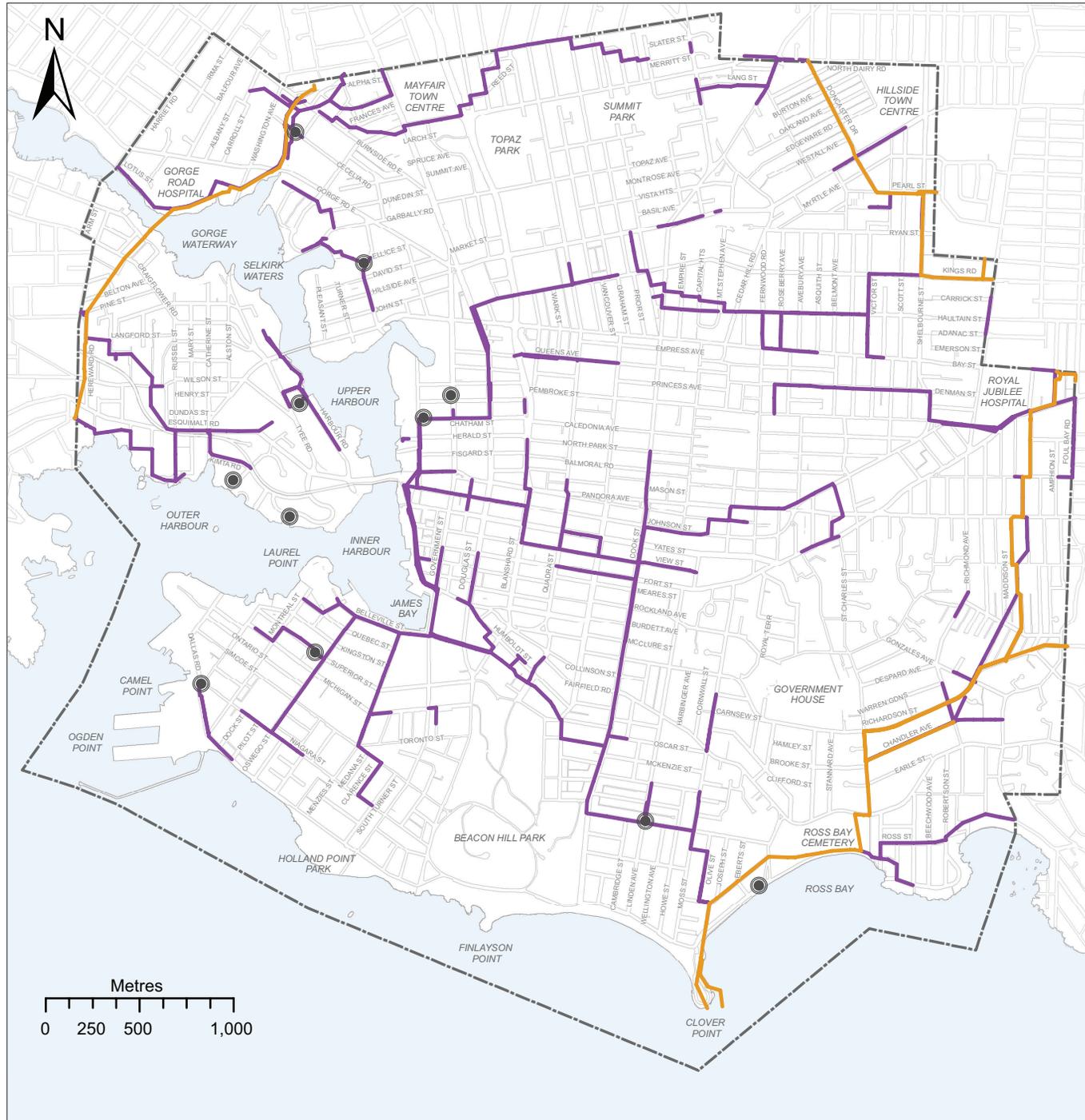
Water Main Network

● Pressure Reducing Valve (PRV)

— Major Water Main*
(300 mm or greater diameter)

This map identifies existing infrastructure only. The phasing of future capital works will be defined through Master Plans for civic infrastructure and subsequent amendments to the OCP bylaw.

*Civic infrastructure includes water mains less than 300 mm, which are not included on this map.



MAP 14
**Sanitary Sewer
 Main Network**

● Sanitary Pump Station

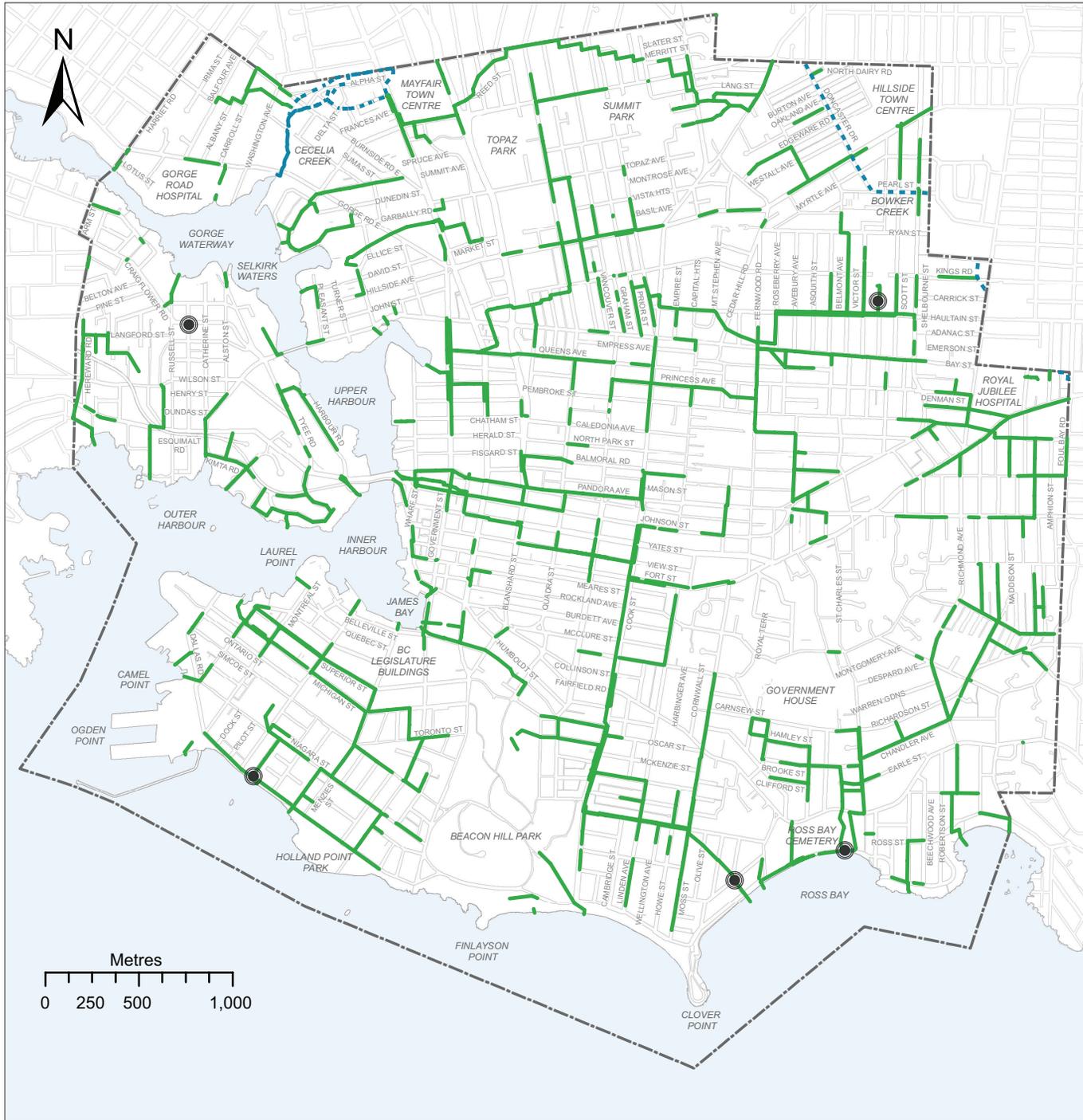
Major Sanitary Sewer Mains*
 (250 mm or greater diameter)

— City of Victoria
 Sanitary Sewer Main

— Capital Regional District
 Sanitary Sewer Mains

This map identifies existing infrastructure only. The phasing of future capital works will be defined through Master Plans for civic infrastructure and subsequent amendments to the OCP bylaw.

*Civic infrastructure includes sanitary sewer mains less than 250 mm in diameter, which are not included on this map.



MAP 15

Stormwater Main and Natural Drainage Network

- Storm Pump Station
- Major Stormwater Main* (250 mm or greater diameter)
- Open Creek
- - - Enclosed Creek

This map identifies existing infrastructure only. The phasing of future capital works will be defined through Master Plans for civic infrastructure and subsequent amendments to the OCP bylaw.

*Civic infrastructure includes stormwater mains less than 250 mm in diameter, which are not included on this map.

GREEN INFRASTRUCTURE PRIORITY

- 11.10 Support and enable closed loop systems for new and existing civic infrastructure, where waste is minimized and natural processes are integrated into systems and services that include, but are not limited, to:
 - 11.10.1 Water supply management;
 - 11.10.2 Waste water management;
 - 11.10.3 Integrated rainwater management;
 - 11.10.4 Solid waste management;
 - 11.10.5 Sustainable energy provision;
 - 11.10.6 Urban food production; and,
 - 11.10.7 Functional urban forest that supports community health and resiliency in the context a changing climate, including increased instances and intensity of heatwaves.
- 11.11 Encourage and support [green infrastructure](#) in City policy and regulations for a healthy, biodiverse and resilient natural environment, as consistent with provincial legislation.

WATER SUPPLY MANAGEMENT

- 11.12 Continue to work with the Capital Regional District, the health authority, community organizations, the private sector and individuals to promote water conservation technology and practices.
- 11.13 Maintain and enhance the City's water utility services, and move towards a cost-recovery model for repairs, upgrades and replacement of infrastructure including major water mains identified on Map 13.
- 11.14 Continue to support water demand management through green building policies for private development and civic facilities including, water conservation building features, permeable surfaces and low water plantings in site design [SEE ALSO SECTION 12 – CLIMATE CHANGE AND ENERGY].

WASTE WATER MANAGEMENT

- 11.15 Continue to support the Capital Regional District in the regular update and implementation of the Core Liquid Waste Management Plan.
- 11.16 Continue to support the Capital Regional District and the health authority in monitoring and evaluating the effects of waste water discharges on public health and the protection of the watershed and coastal marine environment.
- 11.17 Consider opportunities for collection, treatment, storage and re-use of grey water in new multi-residential, commercial, office and mixed-use development that align with relevant provincial legislation.

INTEGRATED RAINWATER MANAGEMENT

- 11.18 Maintain and enhance the City's stormwater utility services and work towards a cost-recovery model for repairs, upgrades and replacement of infrastructure including major storm sewers identified on Map 15.
- 11.19 Provide direction for adaptation to more intense and frequent precipitation events through the development and regular update of an Integrated Stormwater Management Plan with policies and actions for:
 - 11.19.1 Phasing of improvements to the City's stormwater system including major storm sewers;
 - 11.19.2 Green infrastructure on public lands; and,
 - 11.19.3 Integration of natural features and processes in City facilities.
- 11.20 Promote sustainable site design that reduces peak runoff volumes and rainwater contaminants through elements such as on-site retention, pervious surfaces, green space, and plantings.
- 11.21 Continue to support the Capital Regional District in its requirements that new major industrial developments incorporate appropriate technology to remove oil wastes and oil sediments from stormwater.

SOLID WASTE MANAGEMENT

- 11.22 Work with the Capital Regional District and the private sector to develop and maintain a system that:
 - 11.22.1 Sorts the three streams of solid waste at the unit level, building level and in every neighbourhood including for recyclables, organic material and residual garbage;
 - 11.22.2 Manages organic materials to avoid greenhouse gas emissions; and,
 - 11.22.3 Reduces other greenhouse gas emissions generated through waste management, including transportation and processing.
- 11.23 Encourage partners in the public and private sectors to develop a recycling program for construction waste.
- 11.24 Explore the feasibility of variable demolition fees as a mechanism to encourage the recovery of construction materials, and the reduction of solid waste in landfill.