4. ENVIRONMENT AND SUSTAINABILITY

Protecting and enhancing the environment and its functions for current and future generations is foundational to the success of the Uptown–Douglas (UD) area. Addressing the issues of climate change, resource depletion and energy security is particularly critical for the health of future generations. This Plan seeks to transition the UD area from an auto-centric area with limited ecological assets towards a greener, people-friendly environment where residents live, work and play.

Saanich has declared a Climate Emergency and has committed to the following targets:

- Cut community greenhouse gas emissions in half by 2030 and to net zero by 2050;
- Transition to a 100% renewable energy by 2050; and
- Prepare for a changing climate

Saanich's Climate Plan identifies key actions within six theme areas to achieve these targets. These include mobility, buildings and infrastructure, food and materials, ecosystems, community wellbeing and leadership in District operations.

The UD Plan supports Saanich's climate goals by encouraging more compact transit oriented development, diverse housing options and maintaining less energy intensive housing forms that use renewable heating and cooling systems, providing better walking, cycling and public transit options, facilitating access to nature and integrating low-carbon solutions and environmental considerations into urban design.

Healthy and functioning natural systems are critical to the well-being of communities, both locally and globally. Watercourses, the urban forest and other natural areas are vital to the community's livability, health and environmental sustainability. They support biodiversity, cleaner air and water, animal and plant habitat and contribute to climate change resiliency. They provide opportunities for residents to connect with nature, enjoy a quiet moment, and better understand natural processes and systems.

The UD planning area is part of the Cecelia Creek Watershed and the Colquitz Creek Watershed. Development has occurred over part of the area where Cecelia Creek once flowed, resulting in the loss of what might have once been a significant natural feature in the area. Cecelia Creek is now one of the most degraded creek systems in the region. Most of the pollution in Cecelia Creek comes from urban runoff from impervious surfaces. Due to industrialization and development, there are few remaining natural features in the area. This Plan aims to restore and enhance these features for a healthy and productive environment.

All sections of this Plan work towards developing the fundamental components of a sustainable community, while this chapter specifically focuses on climate and energy resiliency in the built environment and the management of natural resources and systems in the UD area.

OBJECTIVES

A. Support Saanich's climate targets by significantly reducing building and transportation greenhouse gas emissions and supporting the shift to 100% renewable energy.

B. Encourage sustainable urban design by promoting conservation and resiliency through green buildings, energy efficiency, renewable energy and green infrastructure.

C. Increase resilience and capacity to adapt to climate change impacts in both natural and human systems.

D. Create ecological value and improve storm water management through new green infrastructure and the enhancement of existing open spaces.

E. Enhance and restore environmental assets including Cecelia Creek and its Watershed.

F. Improve urban forest health and significantly expand the tree canopy cover throughout the area.

G. Increase the permeability of surfaces throughout the UD area.

Boulevard, Uptown Shopping Centre

4.1 URBAN FOREST

The urban forest is the sum total of all trees and their associated ecosystems and includes trees on private lands, parks, boulevards and other public spaces. The urban forest is a critical component of a functional green infrastructure system and sequesters carbon, filters air and water, reduces energy demands, creates shade and contributes to social well-being.

Mapping completed in 2016 showed that the majority of the Uptown–Douglas (UD) area has less than 5% tree cover. The conservation organization, American Forests, suggests that a healthy canopy cover in a central business district (i.e. a downtown) should be 15%, with the number going up to 25% canopy cover for healthy urban residential areas. Using these measures, the UD area falls short of optimal tree cover.

The Saanich Urban Forest Strategy sets a goal of no net loss of tree canopy for the District. Meeting this goal will be a challenge, as a shift to higher density building forms and an increased demand for utility corridors, wider sidewalks, bike lanes and vehicle turn lanes within road rights-of-way will impact space available to plant trees. However, opportunities will also be presented through future redevelopment, where sites dominated by surface parking can be redeveloped to better integrate the urban forest and rights-of-way can be expanded to accommodate appropriate planting area for trees to thrive. Policies within this Plan seek to achieve 20% canopy in the UD Plan area, much of which will be realized through redevelopment over time.

POLICIES

4.1.1 Implement the Urban Forest Strategy by retaining, planting and maintaining sizeable trees along boulevards, on municipal properties, in riparian areas, in parks and on private lands as a means to expand the urban forest, establish street tree canopies, and support climate change mitigation and adaptation.

4.1.2 Target 20% tree canopy coverage in the UD Plan area.

4.1.3 Consider climate change in management decisions for the urban forest, including species selection, street-scale species diversity, innovative planting solutions, and the allocation of resources for maintenance such as watering or hazard tree removal.

4.1.4 Cluster tree and shrub plantings at major intersections (or other focal points) to create a visual respite in areas of extensive pavement and provide opportunities for significant understorey planting.

4.1.5 Require adequate soil volumes in boulevard tree plantings, including through a minimum 2 metre wide planting area and through the use of engineered soil cells (See also Section 7: Significant Streets and Policy 8.2.10).

4.1.6 As part of street design, identify line assignments for trees to facilitate early planting in advance of road dedication.

4.1.7 Through periodic updates to the Tree Protection Bylaw and environmental regulations, promote the protection of the urban forest.

4.1.8 Pursue opportunities to introduce native tree and shrub species, including Garry Oaks, on boulevards and public space plantings, where appropriate.

4.2 CLIMATE CHANGE MITIGATION: BUILT ENVIRONMENT AND ENERGY

The Uptown–Douglas (UD) Plan aims to reduce building and transportation related energy use and greenhouse gas emissions by: focusing future residential and employment growth in nodes and corridors served by rapid and frequent transit service; improving active transportation amenities, bus service and access to electric vehicle charging; and increasing housing options that enable residents to live close to services and employment opportunities. Additionally, the higher density mixed-use and multi-unit building forms identified in this Plan typically result in significantly lower per capita energy consumption due to shared walls and building energy systems. This combination of locational efficiency and denser building forms will provide more employment and residential opportunities in highly energy efficient areas.

Building energy performance in Saanich is guided by the BC Energy Step Code, which establishes progressive performance steps in energy efficiency for new buildings. The Step Code will progress from the current BC Building Code level to net zero energy ready buildings by 2032. Saanich has adopted the Step Code, with building energy performance requirements increased over time. In order to meet our local and global greenhouse gas emissions targets and as part of building a sustainable community and building stock that is resilient to a changing climate, new development will need to meet, or exceed, the mandated Step Code level of that time and utilize renewable energy (e.g. electricity, which is currently 97% renewable) for space and hot water heating systems.

An opportunity to support both climate mitigation and adaptation is the development of district energy systems, which can facilitate a flexible and efficient supply of local renewable energy sources, and support energy security through decentralized energy generation and stable energy prices. For district energy systems to be feasible and function effectively, a concentration of medium to high density development is required to create adequate demand. In a 2012 District Energy Review Study, the UD area was identified as the area of Saanich that could best support a future district energy system. To advance the potential implementation of district energy, this Plan looks to proactively put the supporting pieces in place by increasing density along major roads and in proximity to the transit hub and by encouraging systems in buildings that can be easily connected to a future small or larger scale district energy system.

POLICIES

4.2.1	Encourage new developments to minimize energy consumption through opportunities such as passive solar design and highly energy efficient building envelopes and ventilation systems.
4.2.2	For new and existing developments, encourage the use of renewable energy for space and hot water heating systems such as air-source heat pumps, geoexchange, solar thermal, photovoltaic, biomass, hydro-electric and wind.
4.2.3	Explore incentive tools and programs to encourage development of net zero carbon and/or net zero energy ready buildings.
4.2.4	Encourage the provision of charging facilities for electric vehicles and electric bikes beyond required levels (See also Policy 6.5.8.)
4.2.5	Undertake a feasibility study to assess the potential of developing a district energy system designed for renew able fuels in the UD area.
4.2.6	Support climate change adaptation by encouraging integration of green roofs that can improve stormwater runoff, building energy performance, habitat opportunities, urban cooling outcomes, and access to green space.
4.2.7	Optimize the potential viability of and future connection to a future district energy system in the UD area by encouraging the use of hydronic heating systems in new medium and high density developments.

4.3 CLIMATE CHANGE ADAPTATION: BUILT ENVIRONMENT AND RESILIENCE

Climate projections for our region predict an increase in extreme weather events that include flooding, drought, temperature extremes and high wind events. The Uptown–Douglas (UD) area is highly impermeable with few green spaces, resulting in an increased risk of overland flooding, higher urban heat island effect and lower air quality.

To create greater resiliency, new developments and redevelopments will need to consider this future context and create site designs that enhance stormwater management, reduce the urban heat island effect and grow the urban forest.

POLICIES

4.3.1 Support redevelopments that introduce green space, green roofs, living walls expand the urban forest and provide weather protection and shading.

4.3.2 Collaborate with the Capital Regional District regarding a potential study to comprehensively assess the Saanich portion of the Cecelia Creek Watershed, assess the feasibility of daylighting Cecelia Creek, and identify priority actions for possible improvements.

4.3.2 Design landscaping to adapt to increasingly variable climate, including through the use of native and drought-tolerant species.

4.3.3 Design developments to provide adequate cooling and ventilation to account for extreme heat and poor air quality events, and take advantage of passive cooling, where possible.

4.3.4 Support the installation of efficient irrigation systems that enable the establishment of a viable urban forest and enable plantings to withstand extended periods of low precipitation and high temperatures.

4.3.5 Encourage the use of flat roofs for amenity space, renewable energy generation and green roofs.

4.4 WATERSHEDS AND STORMWATER MANAGEMENT

Rainfall and stormwater runoff are the main sources of water in a watershed. The quality and quantity of stormwater runoff is affected by alterations to the land, including agriculture, urban development, and the activities of people within the watershed. The Uptown-Douglas Plan is located in both the Cloverdale Creek sub-watershed of Cecelia Creek and the Colquitz Creek Watershed (Map 4.1). This means activities in the UD affect ecological assets like Swan Lake, the Gorge Waterway and Colquitz Creek. This Plan guides development practices in the area to mitigate negative impacts on local watersheds.

POLICIES

4.4.1 Support the Capital Regional District in undertaking an intermunicipal study to comprehensively assess the Cecelia Creek Watershed, assess feasibility of daylighting Cecelia Creek and identify priority actions for improvements.

4.4.2 Further to Policy 4.4.1, and as informed through the feasibility study, consider options to enhance Cecelia Creek though redevelopment of properties and public spaces along the historical alignment, including through improving riparian areas in the above ground section adjacent to the Switchbridge.

4.4.3 Through redevelopment seek to acquire additional dedication to secure the historical alignment for future enhancements to Cecelia Creek.

4.4.4 Increase awareness of Cecelia Creek and the Cecelia Creek watershed, including through interpretive signage and public art.

4.4.5 Maximize permeability, minimize stormwater runoff and improve stormwater quality through low impact development practices such as bioswales, engineered raingardens, green roofs and permeable pavement.

4.4.6 Encourage rainwater harvesting for re-use of non-potable water for landscape irrigation.

4.4.7 Limit discharge into municipal stormwater drainage systems and place focus on on-site stormwater management.

4.4.7 Explore options to enhance the stormwater management practices of existing industrial and commercial businesses to enhance the quality and quantity of stormwater entering the receiving environment.

Map 4.1 Watersheds: Cecelia Creek and Colquitz River

4.5 NATURAL AREAS AND GREEN SPACES

The Uptown–Douglas (UD) area has limited natural features, with the most notable natural asset being Swan Lake on the periphery of the Plan area. Most of the UD area has been developed and industrialized reducing natural areas, however, future developments can create opportunities to increase public and private green space and natural areas. Existing open space assets, such as the Galloping Goose Regional and Lochside Regional Trails and the historic Garry Oak ecosystem, can be enhanced and built upon to create green corridors and enhance environmental performance.

POLICIES

4.5.1 Where development is adjacent to natural areas or green spaces, seek opportunities to increase the size of the green space, expand the overall connectivity of the green space network and ensure ecologically sensitive areas are not negatively impacted.

4.5.2 Enhance the transition between Swan Lake and the Municipal Campus through creating a buffer zone and considering opportunities for low impact development practices on the municipal campus site, such as permeable pavement or rain gardens.

4.5.3 Explore opportunities to enhance the ecological value of Regina Park with respect to stormwater management, biodiversity and pollutant mitigation (See also Policy 8.2.8).

4.5.4 Create and enhance green corridors as identified in Map 4.2 through:

- Planting additional trees within the right-of-way;
- Adding pocket parks with trees and appropriate vegetation, including along the Galloping Goose Regional and Lochside Regional Trails (See Section 8.3);
- Integrating stormwater management features; and
- Reducing impervious surfaces within the right-of-way and on adjacent properties.

4.5.5 Prepare an inventory of supported planting materials for development projects that reflect the principles of Naturescape and includes drought-resistant and native species.

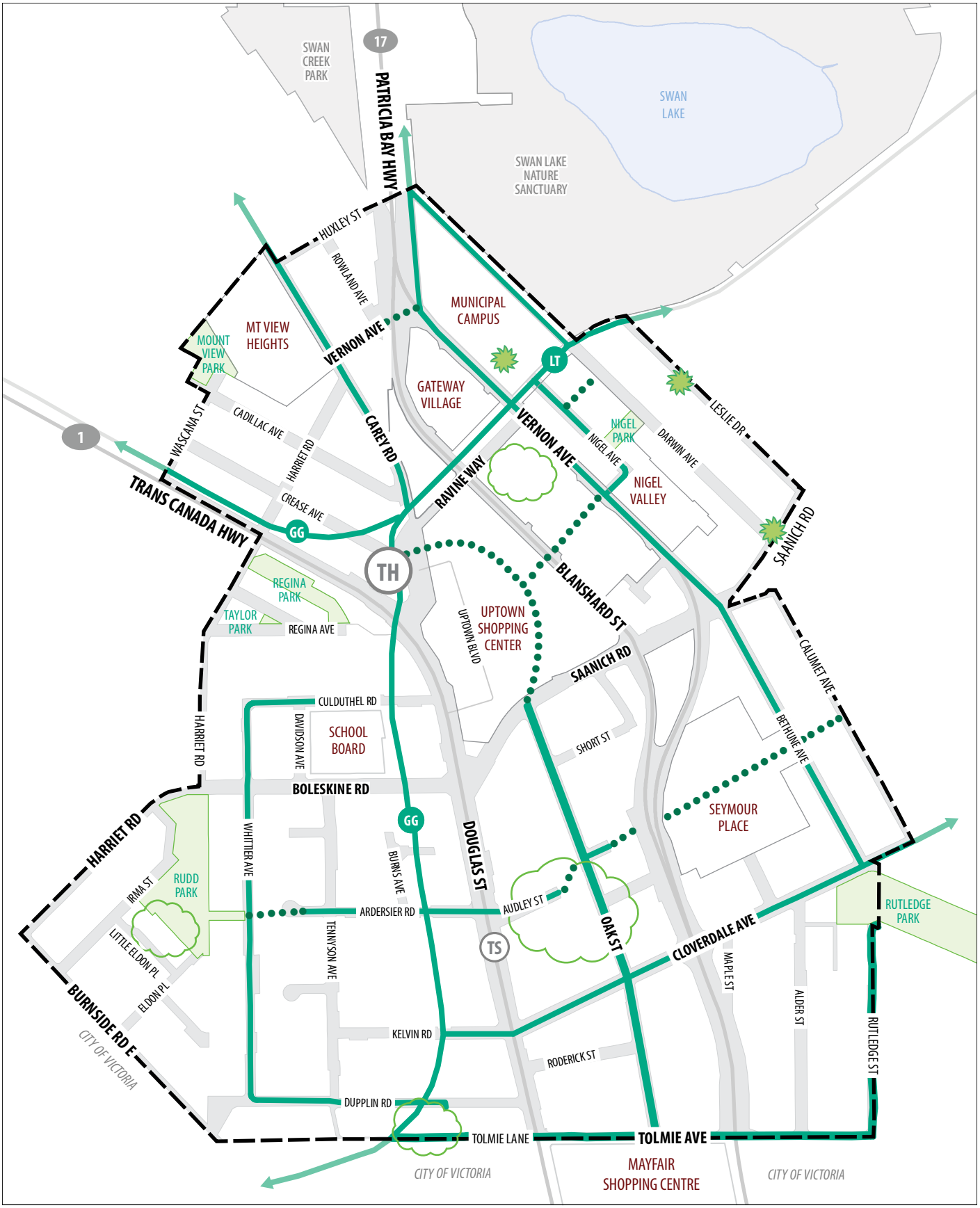
4.5.6 Consider climate change in decisions around the protection and management of natural areas and biodiversity.

4.5.7 Pursue protection, restoration and connection of remnant natural areas such as Garry Oak clusters, rock outcrops, and low-lying shrub vegetation to enhance habitat and resilience.

4.5.8 Look for opportunities to expand the dominant heritage landscape of the UD area by planting Garry Oaks and associated vegetation where possible.

4.5.9 Adding pocket parks throughout the UD area, including working with the CRD to achieve this along the Galloping Goose and Lochside Regional Trails.

Mount View Heights



Map 4.2 Natural Areas and Green Corridors