South Island Highway (19A)
Conceptual Design - Phase 2

City of Campbell River
Engineering Services




June 2005

Lanarc Consultants Ltd.
Richard Drdul Community Transportation Planning
Highland Engineering and Surveying
AMEC Americas Ltd.

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Foreword

This document represents the recommendations for long-term improvements to the South Island Highway (19A) and adjacent public lands in the City of Campbell River. Please see the Project Introduction for Limits of the Study Area.

This report, after review by the South Island Highway Liaison Committee and Staff, will be forwarded for Council consideration. Refinements to the document may follow prior to final adoption by Council.

Comments, or queries about the status of the project should be directed to the City of Campbell River, in the name of:

Ron Neufeld, P.Eng. ron.neufeld@dcr.ca

South Island Highway Liaison Committee Motion

At the April 12, 2005 Meeting of the South Island Highway Liaison Committee, the following motion was moved by Theo Piercy, and seconded by Ken Barth:

The South Island Highway Liaison Committee endorses the plan as amended and requests that it be put forward to Council for their review and consideration.

Approved unanimously.

Acknowledgements

It is a rare opportunity as consultants to be given a mandate to prepare concepts for 6.5 kilometres of waterfront – especially when the waterfront is as spectacular as that offered by Campbell River. The authors wish to recognize and thank the many organizations and individuals that provided their time and experience to this project – listed below, in no order of priority:

Lanarc Consultants Ltd.
David Reid, FCSLA, Landscape Architect, Planner, Principal
Don Crockett, BCSLA, Landscape Architect, Principal
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Jana Zelenski, Landscape Architectural Intern
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AMEC Americas Ltd.
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South Island Highway Liaison Committee
Councillor Laird Ruehlen
Councillor Mary Ashley (Alternate)
Ken Barth
Steve Januszewski
John Clark
Theo Piercy
Bill Cosulich
Keith Price
Phil Skognes (staff)
Ron Neufeld (staff)
Sean Roy (staff)

Support Staff: Anneke Young

In particular, we would also like to express our gratitude to the volunteer members of the South Island Highway Liaison Committee – who gave freely of their time and expertise to help us understand and find the appropriate solution for Campbell River.

We also appreciate the many responses we received from the general public, both at the workshops and by writing in response forms and letters.

Thank you.

Introduction

The Project

Improvements to Highway 19A in Willow Point are now under construction. What improvements should be made to the rest of Highway 19A in the long term?

How do we provide a safe, beautiful, sustainable and cost effective transportation and waterfront corridor – a source of pride and economic stimulus for Campbell River?

The City of Campbell River has assembled a consulting team and liaison committee to create a concept plan for the remainder of the Highway 19A corridor, including two areas:

1st Ave. to Hilchey

and

Willow Creek to Jubilee Parkway

The project is focussed on public land in the corridor . The project limits are:

Public Highway right of way

- Adjacent road stubs
- Public parks
- City lands in the corridor

Private lands are not a part of the project.

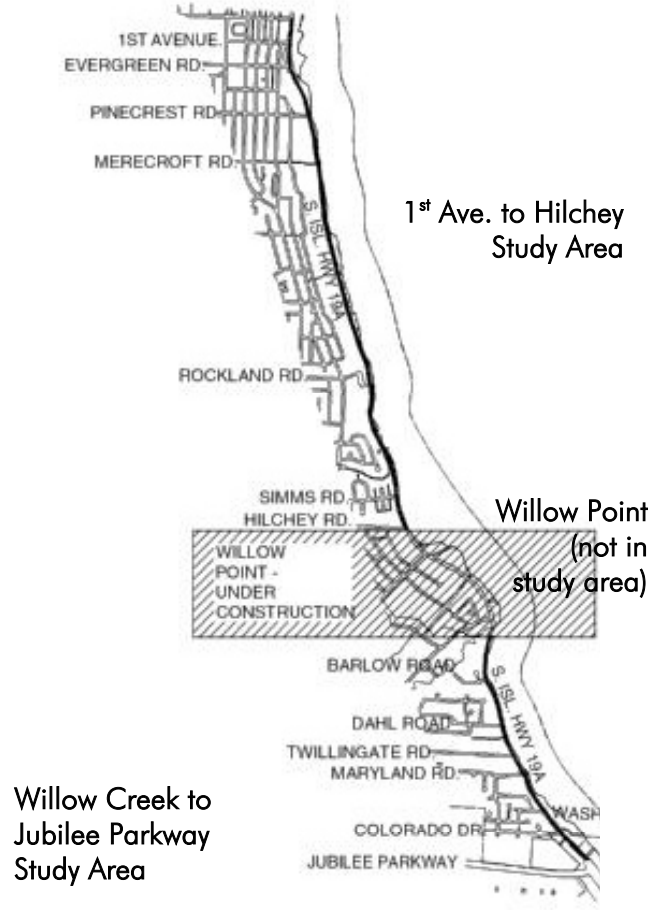


Figure 1: Extent of the South Island Highway Concept Plan Phase 2 Project.

Photo Credit: Lanarc Consultants Ltd.

Figure 2: Existing South Island Highway in Campbell River .

Project History

The primary gateway from the South Island into Campbell River is the waterfront highway known as the South Island Highway (19A). The majestic ocean views and accessible beaches create a strong draw for existing and new residents in the corridor. They also attract a growing number of tourists every year.

Despite its natural attractions, the Island Highway corridor is dominated by the automobile. With the exception of the Seawalk, pedestrian, cycling and transit facilities are minimal. Roadway efficiency and safety is being compromised by a lack of crosswalks, turning lanes and traffic controls.

In recognition of the need for improvements to the area, the City completed guidelines in 1989 and 1993. In 1996/97 the City established the Willow Point Highway Committee, and prepared conceptual plans for improvements between Barlow and Hilchey Roads. Since then, private developments along that section have been required to comply with the objectives set out in the plan.

In 2003 the Island Highway between the City's south boundary and the Quadra Island Ferry terminal was devolved from the Province to the City, placing the financial burden for upgrading the roadway on the shoulders of the citizens of Campbell River.

In late 2003, Council and adjacent property owners approved a Local Improvement Program for the upgrading of the Willow Point section of the Island Highway. This is now under construction, with the objective of completion by mid-2005.

In recognition that the Willow Point segment is the first phase of a larger project, Council approved a Phase 2 plan that will produce conceptual drawings for the remainder of the highway from 1st Ave to Hilchey, and from Willow Creek to the Jubilee Parkway.

Lanarc Consultants is leading a team of planners, landscape architects and engineers to complete the South Island Highway Concept Plan – Phase 2.

Process

The South Island Highway Liaison Committee has been formed to identify opportunities and provide the community with a direct link to the design team. The consultants worked closely with them.

In addition, two public events were held to encourage input from residents and businesses along the corridor, and from the general public.

The input from the committee and the entire series of workshops has been considered in the final recommendations, and is made available to Council through this report.

Products

This Report, with accompanying drawings and appendices, includes the following products:

1. A Design Brief: summarizing the recommendations.
2. Plan Drawings: Appendix A and separate full size drawings illustrate the concept.
3. Cost Estimates: Appendix B provides cost estimates for the roadway, utility and parks improvements.
4. Outside Funding Opportunities: Appendix C lists key senior government and other funding programs that may apply.
5. Roundabout Discussion: Appendix D provides more detailed information on the performance of Roundabouts at roadway intersections.
6. Public Comments Received: Appendix E is a full record of all public input and comments received related to this project.
7. Slide Show: Appendix F provides a record of the summary slides provided to Council.
8. Visualizations: Appendix G compiles the 'before and after' visualizations created for the project.

In general, the products are intended to provide a clear vision and support a funding program for implementation of the project over the foreseeable future.

Design Elements

The study reviewed issues and options, for items such as:

Roadway Elements

- Number of traffic lanes
- Speed limit
- Driveway access
- Left turn provisions
- Amount of landscape median
- Roundabouts or traffic signals
- Bicycle lanes
- Bus stops
- Sidewalks
- Curbs
- Crosswalk spacing
- Boulevards
- Lighting

Utility Elements

- Upgraded Sewer Force Main
- Upgraded Water Main
- New Storm Sewers and Stormwater infiltration
- Undergrounding of Overhead Lines

Park Improvements

- Waterfront habitat
- Views of water and ships
- Seawalk
- Beach access points
- Connecting pathways
- Separation from traffic
- Parking
- Trees and planting
- Park lighting
- Public art and amenities
- Signage systems

Design Recommendations

Vision

Campbell River, as BC's newest City, is a 'gateway to the wild'. Its dramatic location at the north end of the Strait of Georgia make it the point where many tourists and residents leave the perceived 'settled' area of the South Island and South Coast, and enter the 'wild' area of the North Island and BC/Alaska coastline.

The South Island Highway and adjacent shoreline (the South Campbell River Waterfront) act as Campbell River's 'gateway to the wild' for wheeled and pedestrian traffic. Motorists arriving from the south are re-united with sweeping vistas of ocean for the first time since the Courtenay/Comox area. For local residents and tourists alike, the waterfront parks and seawalk provide access and visual connection to the foreshore, Discovery Passage and Discovery Islands. The view is filled with reminders of the 'gateway to the wild' – including fishing activity, recreational, industrial and cruise ship marine traffic, views to Mainland wilderness, and abundant eagles, seabirds and marine life.

The vision for the South Campbell River Waterfront is to celebrate its role as 'Gateway to the Wild', and as public lands in the area are redeveloped to accommodate utility and transportation improvements, to create a built environment that complements and is equal in attraction to the spectacular natural setting.

Transportation Improvements

Issues and Objectives

The key issue considered in developing plans for the South Island Highway is what the function of the road will be. Should it be a through route for traffic, or should it be a destination unto itself? Should traffic be given priority or should people be given priority?

Feedback from residents, businesspeople and other members of the community was almost unanimously in favour of the South Island Highway becoming a "people place" rather than a "traffic route." One resident described it well by saying that it would be a "go to" place rather than a "go through" road.

Based on this feedback, the following transportation objectives were established for the South Island Highway:

- Accommodate all modes of travel — pedestrians, cyclists, in-line skaters, skateboarders, persons in wheelchairs, automobiles, buses and delivery vehicles.
- Maximize road safety and personal security for all users, particularly pedestrians and cyclists.
- Accommodate traffic travelling to and from locations along the South Island Highway.

Vehicle Lanes and Capacity

The South Island Highway is currently a two-lane road — one travel lane in each direction. Left turn lanes are provided in only a very small number of locations at key intersections.

The proposed cross-section is also a two-lane road, but with the addition of left turn lanes/bays at driveways and intersections. Based on traffic forecasts from the City's *Master Transportation Plan,* design hour traffic volumes are 1,000 vehicles/hour southbound and 500 vehicles/hour northbound during the Year 2023 PM peak hour. If adequate left turn provisions were provided, these traffic volumes are well within the capacity of a two-lane road given appropriate intersection treatments.

Figure 3 illustrates the proposed road cross-section. Key features of this cross-section include:

- Travel lanes 3.3 m wide. This width is an adequate lane width to accommodate forecast traffic volumes, and is consistent with Transportation Association of Canada (TAC) guidelines (*Geometric Design Guide for Canadian Roads*). Typical travel lane widths in B.C. communities vary from 3.0 m to 3.6 m.
- Bicycle lanes 1.4 m wide plus a 0.3 m gutter, for a total width of 1.7 m to the curb face. This is 0.2 m more than the 1.5 m minimum dimension indicated by TAC guidelines.
- A center median island 4.0 m wide. The median island would be discontinued at low-volume residential driveways to provide short left turn bays, and at intersections and higher-volume commercial and multi-family residential driveways to provide longer left turn lanes.
- The total pavement width either side of the median is 5.0 m, which will provide sufficient width for emergency vehicles to pass stopped vehicles.

Image Credit: Lanarc Consultants Ltd.

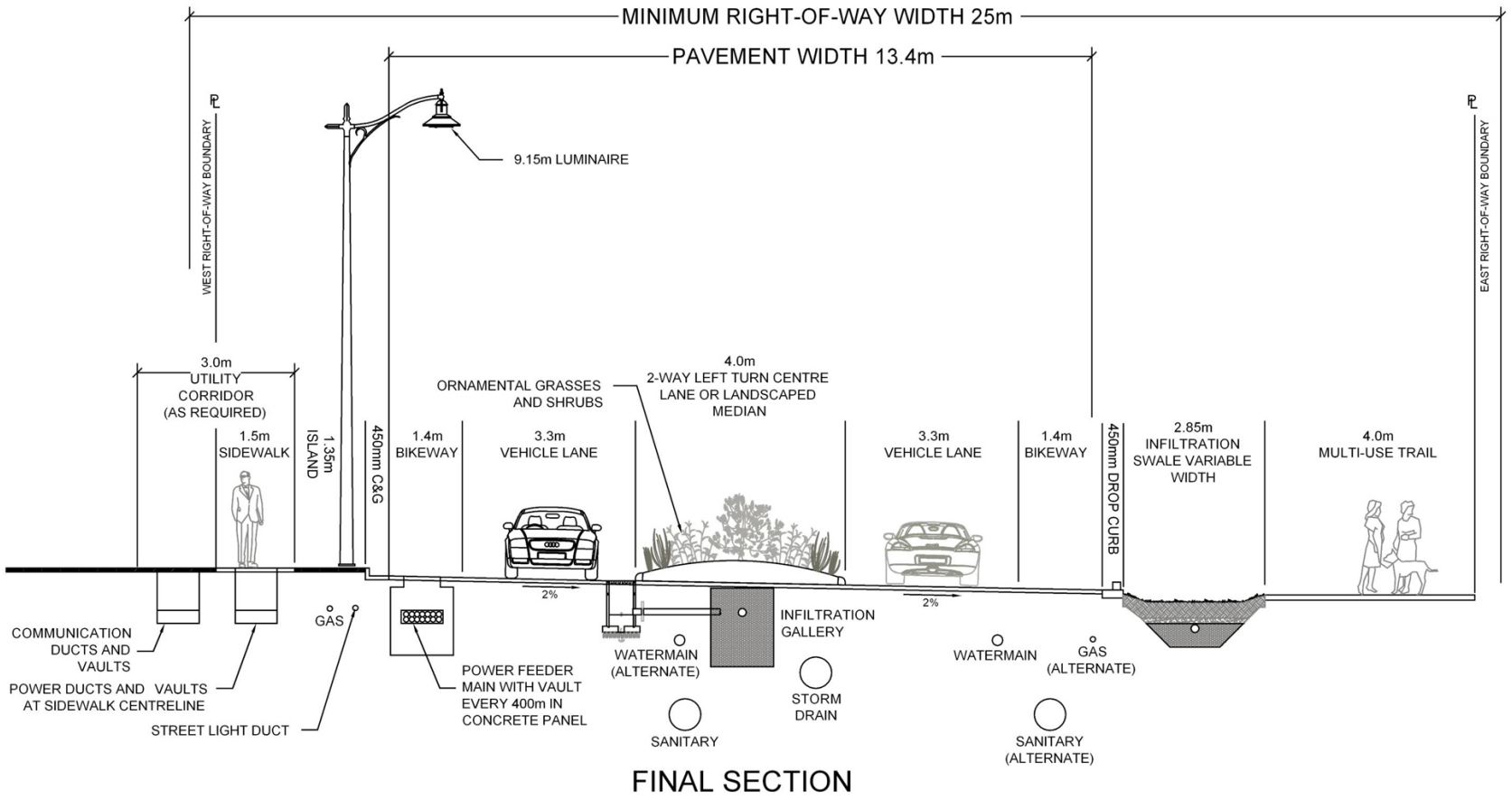


Figure 3: Proposed Section: South Island Highway in Campbell River .

Image Credit: Richard Drdul

Figure 4 — Roundabout

Intersections

The majority of intersections along the South Island Highway will remain unsignalized intersections with stop sign control on the side street. At major intersections with higher side street volumes, stop sign control will not provide adequate intersection capacity, and consequently alternatives must be considered. The preferred form of traffic control for these intersections is roundabouts.

As described in detail in Appendix A, safety is the primary reason why roundabouts are the preferred form of traffic control for major intersections. Roundabouts result in fewer crashes and less sever crashes than traffic signals or unsignalized intersections —crashes are 50% less, injury crashes are 75% less, and fatalities are 90% less. In addition to the significant safety benefits, roundabouts also reduce delays to traffic and pedestrians, provide increased intersection capacity, reduce traffic noise and vehicle emissions, and enhance the appearance of the road.

Roundabouts are proposed at two major intersections — Rockland Road and Hilchey Road — as an alternative to traffic signals. Analysis of forecast traffic conditions (based on forecasts from the City's *Master Transportation Plan)* indicates that roundabouts at these intersections would operate at acceptable levels of service, with maximum volume/capacity ratios of less than 0.80 and 0.70 respectively. A roundabout could also be implemented at the Jubilee Parkway intersection, where the maximum volume/capacity ratio would be 0.61.

Roundabouts can be implemented at these intersections at any time. Given that the Hilchey Road and Jubilee Parkway intersections are already signalized, it would be best to implement a roundabout at Rockland Road first. When the Hilchey Road intersection (and optionally Jubilee Parkway) is converted to a roundabout, the traffic signal system from the Hilchey Road intersection could be re-used at a new signalized intersection elsewhere in the City.

Roundabouts are also proposed at Rotary Park and at the Pinecrest Road right-of-way. Roundabouts in these locations would provide safety and speed reduction benefits, as well as provide U-turn opportunities for motorists on the South Island Highway.

The only location not suitable for a roundabout would be at Second Avenue, where the traffic volumes would be too high to be accommodated with a single-lane roundabout. Although a larger roundabout could be used, development adjacent to the intersection would likely preclude a roundabout option. Consequently, the appropriate long-term option for the Second Avenue intersection is traffic signals.

Speed Limit

Currently, the posted speed limit on the South Island Highway is 60 km/h. This speed limit reflects the previous function of the road as the primary highway connection to the South Island. In response to the objective of maximizing safety, it is proposed that the speed limit be reduced to 50 km/h — the same speed limit as on other urban roads in Campbell River.

Although this speed limit reduction could be implemented at any time, the most appropriate time to reduce the speed limit would be in conjunction with changes to the roadway. Otherwise, if the speed limit is reduced without any changes to the character or dimensions of the roadway, it would likely have little effect on traffic speeds and might only create an enforcement problem.

Left Turns

An important design feature of the plans for the South Island Highway is the provision of left turn lanes and bays at intersections and driveways.

At side street intersections and major commercial and multi-family driveways with significant volumes of left-turning vehicles, full left turn lanes are required to avoid left-turning vehicles obstructing the single lane of through traffic.

At most driveways along the South Island Highway, long left turn lanes are not required as the numbers of left-turning vehicles are relatively low. These are typically driveways for single-family homes. At these driveways, left-turning vehicles will be accommodated in left turn bays created with gaps in the median island, as illustrated in Figure 5. The gaps are offset from the driveway so as to enable a vehicle turning into the driveway to stop in the center of the road without obstructing the single lane of through traffic, as illustrated in Figure 6.

Driveway Access Management

The plans for the South Island Highway maintain right turn access to/from all driveways, and left turn access to/from most driveways. Only in cases where there are two or more driveways to a single-family property would left turn access be limited to one driveway only. As properties are redeveloped, the City should work with property owners to consolidate and reduce the number of driveways. Not only will this improve safety, it will also mean that some gaps in the median can be eliminated, thereby increasing the amount of median and landscaping.

In some locations, single-family driveways are accessed via a one-way frontage road adjacent the South Island Highway. A

Image Credit: Richard Drdul

Figure 5 — Example left turn bay at gap in median.

Image Credit: Lanarc Consultants Ltd.

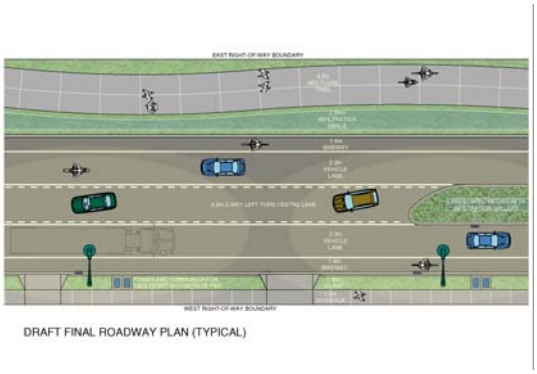


Figure 6: Plan of gap in median for left turns.

left turn bay provides for northbound access to each frontage road.

Photo Credit: Lanarc Consultants Ltd.

Figure 7: Existing Rotary Seawalk in Campbell River .

On-Street Bicycle Provisions

Currently, cyclists on the South Island Highway are accommodated on paved shoulders, which are in effect bicycle lanes without curbs. The South Island Highway is an important route for commuter cyclists as well as recreational cyclists, and consequently the plans for the South Island Highway maintain on-street bicycle facilities in the form of bicycle lanes in each direction.

Although cyclists can also use the Rotary Seawalk, it is important that cyclists continue to be accommodated on the road. For many cyclists — particularly commuter cyclists and experienced recreational cyclists — the road is a more attractive facility and the preferred place to ride. Cycling on the road is faster, and during times when the Seawalk is well-used, it is safer. A study in the U.S. found that cyclists riding on a pathway adjacent to a road are 2.6 times more likely to incur an injury requiring hospitalization than if they were riding on the road.

Bicycle lanes have been designed in accordance with Transportation Association of Canada (TAC) guidelines. Bicycle lanes are 1.4 m wide plus a 0.3 m gutter, for a total width of 1.7 m to the curb face. Although this exceeds TAC's minimum 1.5 m dimension, because cyclists do not ride in the gutter, it is necessary to ensure that cyclists have at least 1.4 m of clear roadway within the bicycle lane. Catchbasins and utility covers are located within the gutter or in the roadside — not in the bicycle lane. The only exception to this is potential manhole covers for widely-spaced BC Hydro manholes. If these fall within the bicycle lane, they should be placed flush, and surrounded with cast in place concrete to ensure an easy roll-over by bicycle traffic.

Rotary Seawalk

The Rotary Seawalk is an important feature of the South Island Highway corridor. The Seawalk is a multi-use pathway which connects Willow Point and Hidden Harbour, and also extends south of Willow Point to Maryland Road. The plans for the South Island Highway include improvements to the existing Seawalk, as well as extending the Seawalk to Jubilee Parkway.

The existing Seawalk is characterized by several significant design deficiencies, which have been addressed in the plans for the South Island Highway:

- **Width.** Although the Seawalk varies in width, in many locations the existing width is approximately 2.5 to 3.0 m.

This is a narrow width which increases the potential for conflicts between pathway users during times when the pathway is well-used. Consistent with Transportation Association of Canada (TAC) guidelines, recent practice in Campbell River (South Dogwood Multi-Use Pathway) and practice in other municipalities, the Seawalk will be improved by widening it to a width of 4.0 m.

- **Alignment.** The existing Seawalk meanders — sometimes arbitrarily — with the result that there are numerous sharp horizontal curves along the pathway. Sharp curves create the potential for conflicts as a result of cyclists and in-line skaters who are not able to negotiate the curves at higher speeds. The Seawalk will be re-aligned to incorporate larger horizontal radii which meet or exceed TAC guidelines of a minimum 33 m radius.
- **Clearance.** There are currently numerous objects immediately adjacent the Seawalk, where they are a hazard to pathway users. These include utility poles, rocks, benches and other objects more than 150 mm in height. The Seawalk will be realigned and objects relocated to maintain a minimum horizontal clearance of 0.6 m, consistent with TAC guidelines.
- **Sight distances** are obstructed by walls and other objects adjacent the pathway, such as at Rotary Beach Park and Hidden Harbour. Obstructed sight distances can cause conflicts between pathway users who do not see each other far enough in advance to avoid each other. Options to address these sight distance issues include realignment of the Seawalk, removal or modification of the obstruction, and warning signs.

Image Credit: Richard Drdul

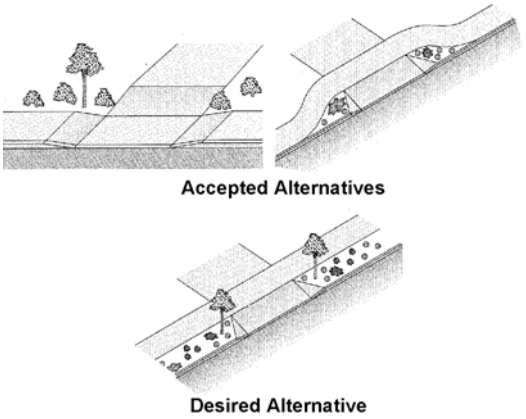


Figure 8 — Driveway configurations.

Image Credit: Richard Drdul

Figure 9 — Tactile treatment at curb drop .

Sidewalks

A continuous sidewalk will be provided on the west (upland) side of the South Island Highway. The sidewalk will be 1.5 m wide, and will be separated from the road by a 1.35 m boulevard, assuming no tree planting in this boulevard.

Persons with disabilities and persons with strollers and other wheeled devices will be accommodated with curb drops at all intersections. Driveways will be configured so that the crossfall on the sidewalk does not exceed 2%, to avoid creating problems for persons in wheelchairs and persons with wheeled devices, as illustrated in Figure 6. To accommodate persons with visual impairments, curb drops and driveways will be identified with ridges in the sidewalk parallel with the direction of travel of pedestrians, as illustrated in Figure 7.

Crosswalks

Pedestrian safety will be enhanced with marked crosswalks located at major intersections and several "mid-block" along the South Island Highway. These mid-block locations are where there is or where there is expected to be a significant number of pedestrians crossing the road, and are generally located at parks, parking lots and other key destinations.

Appropriate treatments for crosswalks on the South Island Highway will be determined by City staff on a location-specific basis. It is anticipated that as numbers of pedestrians increase, crosswalks will be enhanced incrementally with various treatments. These include:

- **Median islands.** Most crosswalks along the South Island Highway will incorporate median islands, which increase pedestrian safety by reducing the exposure of pedestrians to traffic, and by providing a refuge area in the center of the road where pedestrians can stop and wait to cross the remainder of the road.
- **Flashing lights** can be used at crosswalks with higher numbers of pedestrians, to alert motorists to the presence of pedestrians in the crosswalk. Flashing lights are located at roadside and/or overhead, as illustrated in Figure 8. The flashing lights are activated by pedestrians when they begin crossing the road, either by pushbuttons or by automatic detection.
- **Raised crosswalks** should not be used along the South Island Highway, to avoid creating congestion during peak periods of traffic.

It is important to note that no additional crosswalk treatments are required at roundabouts, where marked crosswalks are the most appropriate treatment due to the slow speeds of traffic at roundabouts.

Connecting Stairs at Upland Ridge

Pedestrian connections will be pursued between the South Island Highway and the upland ridge in three locations along public rights-of-way:

- Pinecrest Road right-of-way
- Merecroft Road right-of-way
- Right-of-way at 844 South Island Highway

Because of the steep terrain in these locations, the pedestrian connections will be stairs, with landings at regular intervals to provide an opportunity for people to rest while climbing the stairs.

Provision for adequate privacy and security of adjacent private properties should be part of the detail design and operations planning prior to these existing public right of ways being improved.

Image Credit: Richard Drdul

Figure 10 — Flashing lights at crosswalk, Nanaimo .

Image Credit: Richard Drdul

Figure 11 — Reduced-width pull-out, Gainesville FL

Transit Facilities

The South Island Highway is used by three transit routes providing service as far south as Oyster Point. Existing bus stops along the South island Highway will be upgraded to incorporate the following features:

- **Designated pull-outs.** Where sufficient right-of-way is available, pull-outs will be 3.0 m wide, which will permit buses to pull off the road without obstructing the bicycle lane. Where there is not sufficient right-of-way, pull-outs will be 1.3 m wide, which means that buses will fully obstruct the bicycle lane. Although not the preferred pull-out configuration, this is an acceptable interim condition until such time as redevelopment permits the pull-out to be widened to 3.0 m. Figure 9 provides an example of a reduced-width pull-out where buses obstruct the bicycle lane.
- **Hard surface.** To accommodate persons with disabilities and to avoid discomfort for all passengers, hard surfaces will be provided where passengers board and alight from buses.
- **Amenities**, such as shelters, seating, illumination and passenger information.

The locations of some bus stops will be adjusted to improve pedestrian access and safety. Generally, bus stops are located on the far sides of intersections, close to crosswalks.

Parking

Currently there is a considerable amount of "informal" parking available along the east (water) side of the South Island Highway, on the shoulder of the road. Plans for the South island Highway will eliminate much of this parking, and consequently the plans include replacement off-street parking in several locations:

- Small off-street parking lots within public right-of-ways on the west (upland) side of the road. These include the Pinecrest Road right-of-way and existing parking on the Merecroft Road right-of-way.
- A larger off-street lot on land owned by the City on the northwest corner of the Rockland Road intersection.
- Off-street parking lots within park areas on the east (water) side of the road. These include McCallum Park, the Ken Forde boat ramp, and north of Simms Creek.
- Angle parking along the east side of the road or in off-street parking lots in several locations. Angle parking on the water side will be configured as 'drive-in' parking, so that passengers face the view, and can enjoy it even in poor weather. Some parking on the upland side may be configured as "back-in" parking to also allow passenger access to the water view, and also to reduce the safety problems associated with conventional angle parking. As illustrated in Figures 12 and 13, back-in angle parking enables a motorist in a parking space to see approaching vehicles and cyclists before pulling out onto to roadway. Back-in angle parking is used in many cities in Canada and the U.S.

Image Credit: Richard Drdul

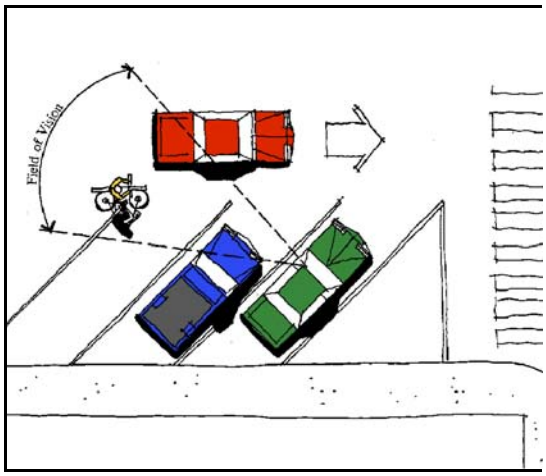


Figure 12 — Back-in angle parking

Image Credit: Richard Drdul

Figure 13— Back-in angle parking, Salt Lake City UT

Utilities and Lighting Improvements

Issues & Objectives

The project area is serviced with municipally supplied water and sanitary sewer. These were installed around 1970 and in many areas are too small in size for existing and proposed developments in the corridor or have reached the end of their service life.

Along the project corridor, storm drainage is collected and removed through ditches that parallel the roadway and discharge to the ocean through intersecting culverts. This system is a legacy of the highway when originally constructed and managed by the Provincial Government through The Ministry of Transportation. The roadway is also intersected in a number of places with pipes carrying storm drainage from the urbanized upland areas to the west. All these drainage pipes discharge to the ocean with out any provision for the removal of deleterious materials contained within the water.

There are also overhead power, telephone and cablevision distribution systems. These are generally located on the west side of the existing roadway on poles. For parts of the project length an existing natural gas system is located immediately adjacent to the west property line.

The construction of the new roadway and streetscape will necessitate the reconstruction of most of these utilities. They will each require a corridor for their placement that will not interfere with other underground utilities as well the surface works. Consideration has to be given for the locations of the utility access points that will not interfere with the safe passage of traffic. This all has to fit within a corridor with a width of 20-25 meters.

Undergrounding of Overhead Lines

The undergrounding of the overhead power, telephone and cablevision lines will require the construction of a complex system of duct banks, concrete vaults and concrete and fiberglass reinforced plastic service boxes. For the power service there is required to be space set aside on adjoining property corners for transformer pads.

Photo Credit: Lanarc Consultants Ltd.

Figure 14: Visualization of Undergrounding of Overhead Power Lines .

The project corridor has also to carry the high voltage transmission power conductors that support the lower voltage distribution system. A tentative location for the high voltage transmission ducts is under the west bicycle lane. This facility would have concrete vaults spaced about every 400 m. To

make these passable to cycling traffic, the vault lid (manhole cover) should be placed in a panel of cast in place concrete the width of the bicycle lane. It may be desirable, as an option, to locate this duct bank under or beside the local power distribution system.

A separate line of power duct banks is required for power distribution. These must be separated by a minimum of 900mm from the street lighting duct. For this reason it is proposed that power distribution duct banks and pull boxes be centered in the sidewalk alignment on the west side of the right of way.

Between the power utility and the property uses is located the telephone and cablevision service. Their space requirements are less stringent than that for the power service but they require 1.0-1.5 meters width. Where adequate width in the existing right of way is not provided, a utility easement of 1.5 to 3 meters should be negotiated with property owners to the west of the existing road right of way. Tel/Cable Utility location in this easement should allow for replacement of existing hedges, fencing or other privacy treatments. Utilities in this area should also ensure that their surface boxes are set appropriately with respect to landscape grades and feathering in this roadside zone. Disturbed landscape in this area will require replacement.

All the duct systems will have spare conduits installed with them to provide for future service requirements and for replacement of damaged conduits.

Priority is given to the location of the power and communication utilities due to their size, complexity, lack of flexibility for location and cost. The cost for this group of utilities is by far the most expensive of all the utilities.

South of the Willow Creek Bridge the telephone communication utility is currently installed underground along the west side of the project corridor. No local distribution service is installed.

Transformer Locations and Pull Box Locations

Transformer Pads are typically located at a 1.5 meter offset from a property line on the street side. For the large transformers that service a multifamily or apartment complex their space requirements are a 4m by 4m square. These can be on public or on private property but contained within a utility right of way. There may be some opportunities that arise during the detail design phase to put these on in utility rights of way on private property.

Pull boxes or vaults need to be provided for both telephone and power utilities at about 300 meter intervals. These can be

located in a paved area but they do require access on occasion. Preferred locations are in a boulevard or in sidewalks but not in driveways. Conduits are laid between the pull boxes and from the pull boxes to service boxes and to transformer pads

The service boxes for the three power and communication utilities are usually clustered at adjoining property lines.

Power/Communications Services on Private Property

All of the existing homes and most of the multifamily homes fronting the roadway receive power and communication services through overhead services from the existing pole line in the right of way. The connection to the building is usually to a mast located on the side of the building. The conversion process for the single-family home can be through the reconstruction of the meter entrance to the building or simply by extending the service ducts up the side of the building to the mast and reconnecting the conductors. The route for the underground conductors across the property is often through landscaped areas and driveways that will require restoration. Each connection is unique and it is recommended that during the design process for the service conversion an experienced licensed electrician is retained to provide advice for this work. Connections to multifamily units will require extensive reworking of the service entrance due to the large number of conductors. Commercial establishments will need higher voltage power service connections that may require the use of more expensive and larger transformers than what are required for residential use.

Sanitary Utility Upgrade

The sanitary sewage collection system south of the Willow Creek Bridge is undersized to carry the proposed flow from the anticipated growth of the city and from the Area D of the Regional District of Comox Strathcona should it choose to discharge to the City of Campbell River sewer system. All service connections should be transferred to the new sewer main and the old sewer main abandoned.

The sanitary sewage collection system north of Hilchey Road is also undersized up to Lift Station No. 7 located at 1550 S. Island Highway. From this point north the gravity system according to McElhanney Consulting Services Ltd. is adequate in size but Lift Station No. 7and the forcemain is severely inadequate in capacity. The sewer forcemain and the lift station will be replaced as soon as funding is obtained. This will most likely happen before the reconstruction of the project corridor.

It is recommended that the vertical and horizontal alignment of the forcemain be reviewed with respect to the requirements of the proposed utilities particularly where the forcemain is crossed with water and storm drainage utility mains and services.

The alignment of the existing sanitary sewer system parallels the west property line at about a 3-5 meter offset. The alignment for the replacement sewers should be parallel to the existing roadway but east of the current alignment to permit the future utilization of the western part of the roadway alignment for power and communication utilities and services. The forcemain should be located in the eastern side of the roadway cross-section to reduce the number of conflicts with the service connections.

Water Utility Upgrade

The existing water distribution system in the project corridor is at the end of its service lifetime and will require replacement. The existing watermain is generally located 2-3 meters off the west property line and will interfere with the location of future power and communication mains and services. It is recommended that the replacement water main is located at the east side of the proposed roadway unless this location is occupied by the sewer forcemain. It is desirable that the watermain is located 3 meters horizontally from and 0.45 meters vertically above any sewer or drain main. The relationship between water and sewer alignments should be reviewed at the time of detail design.

The water services to many of the adjacent properties will require upgrading in size to serve the domestic and sprinkling demands of any lands that could be redeveloped in the future.

Gas Upgrade

Terasen Gas is the utility that supplies natural gas to the properties in the project corridor. The gas line is located at an offset of about 1 meter from the west property line. Gas is not currently available south of the Willow Creek Bridge between the bridge and Barlow Road. Two options should be considered at the time of service extensions or highway detail design:

Option 1) gas is located or relocated to the east side of the project corridor to provide space for the more expensive and less flexible power and communication service to be located on the west side.

Option 2) As an alternate to the east side location, the detail design should consider the feasibility of locating the gas main in the boulevard between the west side curb and sidewalk. This location may be suitable since no trees are proposed for this grass strip, and if proper setbacks from hydro utilities can be maintained.

Photo Credit: Lanarc Consultants Ltd.

Figure 15: Infiltration Swale (deeper than proposed at Campbell River), Maple Ridge, BC .

Drainage Utility Upgrade

The project corridor is currently serviced for the collection and removal of storm drainage with ditches and culverts. Cross culverts carry the flow from the west side of the roadway for discharge to the ocean. In addition there are storm drainage pipes crossing the roadway carrying the flow from the urbanized area to the west. These culvert systems, in many cases, are constructed of galvanized metal and are at the end of their service life. In addition there is no treatment of the storm water to remove sediments and deleterious materials - such as oils and grease generated from vehicle use - prior to discharge to the ocean. Discharge of storm water from the private lands fronting the highway on the west side is also directly to the ditch and thereby untreated to the sea.

The replacement storm drainage system should address all these issues. It is proposed the roadway drainage system is upgraded to one that takes advantage of the ability of the underlying soils to accept storm water through the use of infiltration swales. In addition it is proposed that all development within the project corridor on private lands be required to submit a storm water management plan that integrates on site drainage disposal solutions with treatment of runoff from impervious surfaces. It is also recommended that storm water prior to discharge to the natural environment be managed for the removal of coarse sediments and oil and grease.

The design of the drainage system is severely constrained by the depth by which it can be installed unless the drainage discharge pipes are installed below the intertidal area to discharge below the low tide level. Installation of these outfalls will involve the disruption of the marine environment and will be subject to an approval under the Canadian Environmental Assessment Act.

It is recommended that prior to the installation of any underground utility service in the project corridor that the design be reviewed to ensure that it can be crossed with the storm drainage pipes to enable the discharge of stormwater at upper beach levels.

Highway Lighting Concept

Two options for lighting of the roadway were considered:

1. Medium height lighting in a staggered spacing on both sides of the highway; or
2. Higher lighting in a single row on the upland (west) side of the highway, except at intersections, where lighting on both sides would be required.

Public preference was strongly stated for the second option, with the primary reason being concern about excessive lighting that would interfere with the twilight view of the ocean, passing ships, and the natural setting.

The highway lighting concept is based on this public preference. Detailed lighting designs should investigate the performance and economics of either tall (10m height) lighting, or lower (5-6m height) decorative lighting. The lower the height, the greater the number of light fixtures for the same lighting performance. Budget figures at this time allow for the more expensive low and decorative lighting scheme. The majority of light fixtures would be placed on the west side of the highway, in the boulevard. Additional lighting would occur at all sides of intersections.

To meet public expectations, it is important that the lighting fixture chosen is of the reduced glare (sharp cut-off) type.

The public was also wary of excess lighting of the Seawalk. Therefore the parks concept allows for only localized low-level lighting along the Seawalk, restricted to areas that do not have light spill from the highway.

Park & Environmental Improvements

Issues & Objectives

Photo Credit: Lanarc Consultants Ltd.

Figure 16: View to the water – the most valuable asset of the South Island Highway .

Photo Credit: Lanarc Consultants Ltd.

Figure 17: Will visual clutter expand until it obscures the view?

The South Island Highway project is not just a road project – it is also a waterfront design project. The key to success is the effective integration of roadway and park – both in design and function.

Of paramount importance to both local residents and travellers is the opportunity for views to the water. The design of the roadway and parks must always consider how they influence the view. That is not to say that all vertical elements should be removed to create an unobstructed panoramic view of the sea – it is the mix of framed views and open views that give the waterfront its interest and character.

Visual clutter is an issue that is occurring along this waterfront. The popularity of the area is leading to a plethora of signs, furniture, art and memorials. While all of these are well-intentioned, if left unorganized, these ad-hoc additions may overwhelm the park and natural values that are so important to this corridor. The waterfront is not the place for all amenities in Campbell River – it is the place for only the best.

Waterfront improvements should have a consistent and well-designed visual identity. If a waterfront signage and site furniture 'system' is put in place, the resulting unified appearance will reduce clutter, and allow a limited number of 'showpiece' public artworks and amenities to add, not detract, from the view.

The waterfront design must find balance among competing uses for space – vehicles, parking, bicyclists and other wheeled uses, pedestrians, picnicking, informal games, public art, utilities, stormwater treatment. This is precious land, and the best design solution will organize uses so that conflicts are minimized, and a general feeling of spaciousness remains. What people come to this waterfront for is a 'feeling of space'.

To maximize public enjoyment of the waterfront, the City should expeditiously convert purchased buildings to parkland.

The Campbell River waterfront improvements should create a design character on two themes – 'Marine' and 'Gateway to the Wild', as described in the Vision section at the beginning of this report.

Habitat values along the foreshore are also high, and the waterfront design should respect existing habitat such as eagle nest and roost trees and shoreline shrub / dunegrass thickets and woody debris. The design should also enhance or replace these amenities where they are lost, or as they are over time.

Not all habitat values are on the surface. The design should also incorporate stormwater quality and quantity treatment measures to reduce erosion and pollution in receiving waters.

As Campbell River beautifies, it also must consider the practicalities and cost of maintaining its public parks and landscapes. The South Island Waterfront should be a high priority for reasonable levels of maintenance. Existing complaints of inadequate frequency of emptying litter receptables should be addressed. The design should also include maintenance-saving features.

As for any public space, designs must strive for public safety and vandalism resistance. Provision of passive surveillance of public areas, curbing against vehicle intrusion into parks, and choice for fixtures for resistance to weather and abuse are important.

The South Island Highway Waterfront project is over 6.5 kilometers in length. Capital and maintenance costs are significant. So too are benefits. It will be necessary to phase the project to meet funding realities. At the same time, it is important to take a life-cycle cost view in funding the project. The results of this project will establish the quality and character of Campbell River's 'front yard' for the next 100 years.

The sections that follow describe the park and street landscape elements of the Design Concept, starting from the upland (west) side of the South Island Highway, and moving east towards the sea.

Image Credit: Lanarc Consultants Ltd.

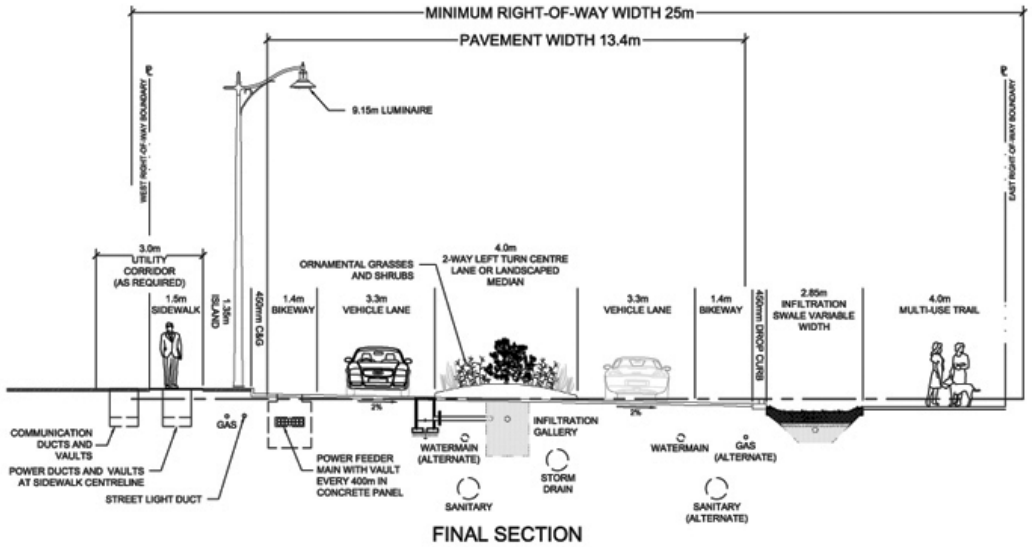


Figure 18: Proposed Section: South Island Highway in Campbell River .

West Boulevard and Roadside

The west side of the improved roadway will have a 1.35 m wide grass boulevard between upright curb and sidewalk.

In accordance with input from the public, this boulevard is designed without street trees. This design avoids impacting existing views, and also allows the inclusion of underground utilities under the grass boulevard.

It is recommended that a minimum distance of 0.5 m is provided between the west side of sidewalk and the property line, to take up grades and provide clearance at obstructions.

A 1.5 m utility easement is also recommended west of the property line for telephone and cable (communication) ducts. Design of these utilities and this easement should allow for the replacement of fence, hedge, or other landscape privacy treatment that is impacted by construction.

The landscape areas on this west side should be separated from the roadway by upright curb. Catch basins in gutter should also be provided to catch runoff from driveways west of the street.

Highway Median Landscape

Landscape medians should be provided for as much of the length of the corridor as can be accomplished while allowing for left turn slots. The median islands should be protected with upright curb. A 5% slope to the center of the median would provide a gentle mounded effect.

Shrub and groundcover planting should be provided for short, isolated islands where access by mowers is not convenient. Grass surface should be installed for longer islands (probably by sodding), with limited shrub and groundcover planting as affordable.

The single pitch of the highway towards the seaside may create a need for catch basins above long medians. These catch basins could outfall to infiltration trench under the median, so that drainage from associated vehicular areas is treated for water quality.

Infiltration Swale

To meet fisheries and environmental concerns, it is necessary for the runoff from the improved highway to be treated for water quality before it enters receiving waters.

To meet the water quality treatment target, an infiltration swale is proposed between driveways, located on the east side of the pavement.

As shown in Figure 19, an infiltration swale is a shallow planted depression that collects runoff and allows it to soak into sandy loam soils. The surface is a gentle dish shape – not at all like a steep sloped ditch, and is finished in mown grass or shrub/groundcover planting. This planting should not exceed 450mm height for sight distance at driveways and to maintain the water view. Beneath the planting are layers of absorbent sandy loam soil, a sand layer over filter cloth, a drain rock reservoir, and an overflow perforated drain. This design provides excellent water quality treatment by filtering the runoff through vegetation and soils. The drain rock reservoir stores water underground, giving it time to soak in to the native soils below. This design with a perforated subdrain also provides a landscape surface that is normally dry, except during severe rain events. Traffic lanes and bicycle lanes have a single pitch towards the infiltration swale, rather than a center crown. This single pitch may also reduce the need for grading at the west property line.

Photo Credit: Lanarc Consultants Ltd.

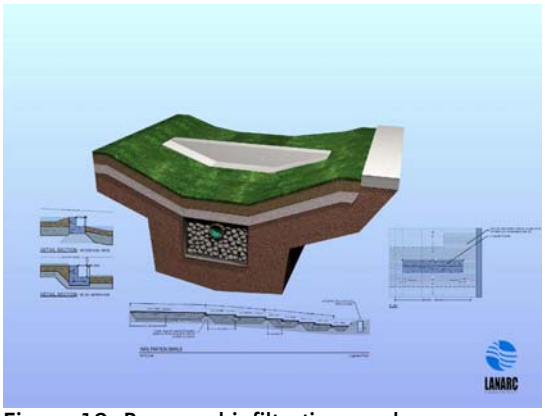


Figure 19: Proposed infiltration swale

Barrier curb is provided between the pavement and the infiltration swale. However, this barrier curb will be interrupted with drop curb inlets at regular spacing (about every 3-4m), so that runoff can flow into the swale. Sideslopes at these entry points should be sodded for erosion control.

The overflow drain is connected to the storm drain system. Catch basins upstream from driveways, and a major flow path are also provided, as in traditional stormwater drainage design. To increase infiltration area and effectiveness, the reservoir and perforated drain can extend under driveways.

Seawalk and Secondary Walks

As construction proceeds, the existing Rotary Seawalk will be displaced, in many cases, by utility crossings or road widening. As the Rotary Seawalk is replaced, it should be widened where necessary to 4m, and realigned to the design concept shown on Plans 1 through 6. The alignment of the final Seawalk is gently curvilinear where-ever possible. In tight spots it is immediately east of the infiltration swale. Where possible, the seawalk curves, gently, into the parks.

The Seawalk should have a 0.5m or greater offset from property line, to provide clearance from fences, hedges or other obstructions.

Plans 1 through 6 also show a route for a 1.5m wide secondary pathway loop for pedestrian access to passive park areas and foreshore. This minor path system should be designed for pedestrians only, not bicyclists or other wheeled vehicles. It should be soft or permeable paving surface.

Roadside Barriers, Curbs and Berms

Areas of existing parks that are not physically separated from vehicles are often driven upon. There is need to separate the proposed park improvements from vehicle encroachment. Barrier curb is anticipated between the bicycle lane and infiltration swale, with curb drops to allow drainage to enter swale.

Image Credit: Lanarc Consultants Ltd.

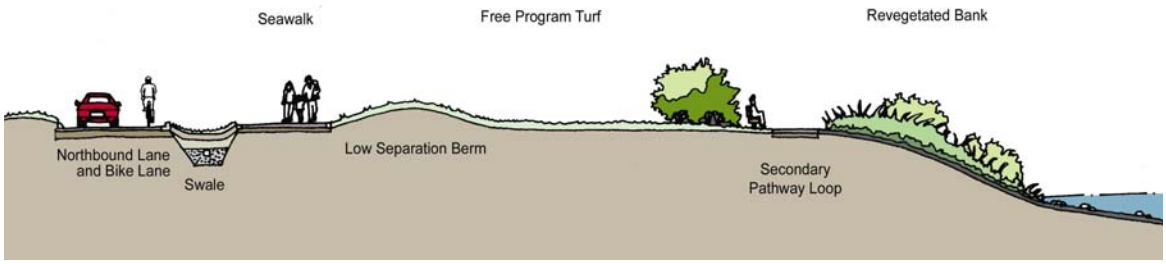


Figure 20: Typical Park Section

Also recommend is a low (0.5m) separation berm or hedge planting to separate roadway and park uses. This could be located either between the infiltration swale and the Seawalk, or between the Seawalk and parks, depending on alignment of the seawalk. The intent of this is to muffle traffic noise and views of roadway pavement, while still allowing panoramic views from motor vehicles to the sea.

Where space does not allow the separation berm or hedge, a low post and rail barrier could be installed. The amount of this barrier should be minimized, and it should be founded in a linear paved strip to minimize landscape maintenance trimming. The use of no-post barriers along this corridor should be discontinued.

Park/Road Interface Design

Litter and sand debris will occur along the roadside. It is recommended that the interface of the roadway and park be designed and maintained to a 'manicured' level, so that the area presents a neat and tidy appearance to passing residents and tourists.

Park / Foreshore Interface

In contrast to the manicured roadside, the park/foreshore interface should be as natural as possible, while still allowing access to sea views.

Much of the existing foreshore is vegetated with a combination of shrub rose, snowberry, and dunegrass, with isolated patches of sitka spruce and douglas fir trees. In the upper intertidal zone, erosion control and habitat is provided by a

combination of large woody debris, native cobble, and placed riprap. Wherever possible, this native vegetation and shoreline should be retained. Limited maintenance activity will still be required to remove litter, control invasive plants like broom and Himalayan blackberry, trim shrubbery for height, and repair localized erosion.

A habitat restoration program is recommended to restore a seaside vegetated zone where gaps exist, or where new disturbance is unavoidable.

Tree Retention and Replacement, Eagle Trees

The South Island Highway study area stretches along 6.5 km of shoreline. Although it is a developed urban area, it is unique in that it still supports both extensive native vegetation and trees, as well as abundant nesting and foraging eagles and other wildlife.

To keep the local eagle and other bird population stable, it is critical to maintain both nest and roost trees, and to replace them over time.

Policies are recommended to retain all existing eagle nest and roost trees for as long as they do not become a hazard, and to maintain a program of allowing natural revegetation or planting of replacement native coniferous trees (sitka spruce, douglas fir) so that there is continuity in provision of habitat trees in the corridor.

Beach Access Points

Beach access at present is informal – and varies between boat ramps and concrete infill on rock riprap.

Plans 1 through 6 identify and show locations for three types of beach access:

- Major Beach Access / Ramp: which should be designed with both steps and ramp to allow all users access to the upper foreshore. These are recommended at Hidden Harbour Park, Rotary Beach Park, McCallum Park Boat Launch, Ken Forde Boat Ramp, and fronting Barlow Road
- Minor Beach Access: to provide rustic step access to the upper foreshore. These are recommended at 12 locations, generally at parks or points of interest along the foreshore.
- Kayak Launch: to provide reasonable access for kayakers. Three locations are recommended: Hidden Harbour Park, McCallum Park Boat Launch, and Ken Forde Boat Ramp.

Park Lighting Concept

Respondents to the public process have had a variety of opinions about lighting along the Seawalk. Those who use the facility for winter running had indicated an interest in lighting. Others that look across the seawalk to the sea view have expressed strong conviction that the parks should not be over-lit.

It is recommended that park lighting be restricted to 'spill' lighting from the street lighting system, except in cases where the street lighting does not reach the walk due to distance or barriers to light. In these exceptional cases, a seawalk lighting system should be installed that is low glare, low level, and extremely vandal resistant.

Public Washrooms

New or improved public washrooms are encouraged, at the following locations:

- Rotary Beach Park
- McCallum Park Boat Launch
- Simms Creek area (near Pump Station)
- Ken Forde Boat Ramp

These locations are chosen to be distributed over the 6.5 km length, and to serve both pedestrians and those landing off small boats.

The washrooms are envisioned as fully serviced flush facilities.

Pump Stations and Other Surface Utilities

Pump Station No. 7 will be rebuilt as a part of the upgrading of the sewer force main. The utility should be sited and its building enclosure designed architecturally, with careful attention to aesthetics in this high profile location.

Similarly, other surface utilities like vents and utility access boxes should be designed in concert with detailed parks and landscape site and grading plans. The final product should ensure that surface utilities are located in ways that are functional but unobtrusive. Surface utilities that cross pathway edges, or that create grading 'humps and hollows' are not acceptable in this high profile waterfront location.

Signage and Public Art Program

Signage and public art along the Campbell River Waterfront is starting to proliferate as the use and popularity of the area and the Seawalk increase.

This proliferation is a positive 'sign' of the value that Campbell River places on its waterfront. However, left unbridled, the signage and art will move over the line from 'interest' to 'clutter'.

While each sign piece should be a careful and beautiful piece of design – a work of art with unique qualities - there also should be a common visual 'design theme' and 'signage system' that limits the number and variety of signage on the waterfront.

This section provides guidelines for signage along the waterfront. If all new signs meet these guidelines as existing signs are replaced, in due course there will be a more unified and managed signage system.

Photo Credit: Lanarc Consultants Ltd.

Figure 21: Signage clutter is beginning to appear on Campbell River's waterfront.

General Signage Character Guidelines

1. 'gateway to the wild' design references.
2. within the theme the signage should be exceptionally sophisticated in design – each sign should be a work of graphic art. Selected signs should be 'sculpture'. Selected signs should be integrated with landscape grading and planting.
3. earth colours – muted browns, greens, warm greys, taupe, driftwood, beach cobble
4. natural appearance – wood grain, stone, materials that reflect setting (e.g. glass/lexan).
5. textured finish – 'rough' – e.g. rough sawn wood, natural driftwood, natural stone, sandblasted or exposed aggregate concrete.
6. scale as small as legible for the purpose.
7. bright colour as small scale accent only.
8. no backlit signs – front lighting only when warranted.
9. as vandal resistant as possible. Low cost replacement and change.
10. as few signs as possible. Wherever possible, sign messages should be combined onto one carefully designed and integrated panel.

Table 1

Specific Signage Character Guidelines

Sign Type	Existing	Proposed Guidelines
Main Entrance Sign Campbell River Sign	Dark bronze aluminum, angular shape	When replaced due to wear, consider a design character that matches 'Gateway to Wilderness'
Primary Gateway pavilion North and South Trailhead landmark for vehicles and pedestrians	Not existing	Heavy Timber Entrance gateway – included trail map, regulations and user tips signage.
Secondary Gateway Car-focused orientation signs	Not existing	Adjacent to car/RV pullout. Combined with one of the Sea walk-focus signage groups. Near each end of the seashore.
Tertiary Gateway Sea walk-focused orientation signs for pedestrians	Varies	At major pedestrian and upland trail connections.
Heritage or Nature Signage *Interpretative Panels*		Limited number, key locations. Consistent graphic theme and mounting, except for 'sculptural' pieces. Include interpretation of user tips.

Sign Type	Existing	Proposed Guidelines
Directional signs *Walkway Orientation*		Timber post with integrated lettering and arrows
Public art permanent		Juried competition to populate a limited number of key locations.
Public art temporary		One or two locations where seasonal temporary art is displayed.
Information and Events Kiosk *Also Trail Map kiosks*		Bulletin and/or Trail Map kiosks at max three locations.
Park Identification Signs *Facility Dedication marker*	Varies	For all named Parks, dedicated boat ramps and major beach access. Limited number, main entrances only or at facility. Integrate with interpretive signage or facility where-ever possible.
Banner pole arms *Street light- mounted on Upland Side*		Seasonal and festive flare.
Site Furniture or Art Dedication		Plaque on site furniture or art
Private memorials		As adjacent properties are assembled, relocated to a permanent off-waterfront location.
Roadway safety signage		Highways standard on telespar posts
Commercial Signage *Future Development*		Signage for future developments should conform to the design concept of the waterfront 'gateway to the wild' theme. Design proposals should be approved by the relevant authority or community Design Panel

Photo Credit: Lanarc Consultants Ltd.

Figure 22: Proposed permanent public art collection.

Public Art Program

The existing wood cut art along the waterfront is an asset to Campbell River, and is in keeping with the 'gateway to the wild' theme. However, as the woodcut collection continues over time, the number of pieces produced will overwhelm the waterfront space and setting. To avoid this risk, the following public art program is recommended:

- public art of this waterfront corridor should be subject to a juried art competition (likely annual). Art pieces produced would be judged by a respected panel. Recognition of quality may be made in several categories.
- One winning piece would be chosen each year to form part of the 'permanent' collection for the waterfront. Each year, this permanent piece would be placed and honoured in a permanent location at the park.
- Other pieces would be displayed as 'temporary' in designated locations along the waterfront. These pieces would be removed from the waterfront at the end of the season, making room for a new competition.

Using this approach, a total of 25 permanent pieces may be established over a 25 year period. Given that these are wood pieces that will decay, we envision a 'replacement' program continuing after 25 years.

To maintain interest, there is merit in considering a 'theme' for the public art competition in each year. Themes should be generated locally, but ideas include:

- Cultural traditions of First Nations.
- Historical and Modern Salmon Fisheries (the Tyee Club est. 1924), Cultural Fish Tales. (71 lb. Salmon caught by Texan Walter Shutts).
- Historical and Modern Timber practices.
- Historical Visit of Captain Vancouver and his botanist Archibald Menzies
- Historical Namesake Dr. Samuel Campbell, the surgeon on the HMS Plumper.
- Geographical position near the 50th Parallel (e.g. same latitude as Prague, Czech Republic).
- Legend of Big Rock. A boastful Grizzly Bear turned to stone after not heeding the great spirits advice.
- Climatic Works describing the Coastal Rainforest.

- Environmental Works describing coastal ecology and processes.
- Environmental Works describing local wildlife and the edge condition.

Site Furniture Systems

The existing waterfront shows an evolution in standards for site furniture like benches, picnic tables, and litter receptacles.

A program is recommended to standardize the type of site furniture used for this corridor. To do this in an economical way, we propose for formalize the use of the following in all future park and roadside installations:

- Benches: coloured concrete bench and support, as currently used in the waterfront parks, with provision for memorial plaque.
- Picnic Tables: coloured concrete table and seating, as currently used in the waterfront parks, with provisions for memorial plaque.
- Litter receptacles: exposed aggregate finish litter receptacles with low profile metal lid, with logo to meet current Campbell River standard.

All site furniture should be placed on a pad of paving so as to provide simple mowing around the furniture.

It is recommended that advertising on benches and bus shelters, and other private advertising in the waterfront parks, be avoided or phased out to reduce visual clutter.

View Management

Respondents to the public process placed the highest possible value on the sea and island views offered by this corridor. Design of the corridor improvements should respect these values, by:

- Generally, keeping new non-native plant materials and hedges in the corridor below a 0.45m height.
- Being very judicious in tree planting, with a general intent of tree planting to replace existing trees or break up large expanses of pavement or space.

Having said that, it is not the intent that expansive tree clearing be undertaken to open up new views. Rather, the recommendation is that the existing balance remain between open views, framed vistas, and stands of trees.

Landscape Maintenance

Several public respondents expressed concern that the landscape improvements will not be properly maintained by the municipality. To address this concern, we recommend:

- The grass boulevard on the west side of the roadway should be maintained by adjacent land owners, as should the narrow strips immediately beside property lines.
- Grass areas should be designed to minimize the need for edge trimming. Mow edge strips should be provided between vertical obstructions and lawn.
- Lawn slopes should be designed to allow easy mowing.
- Small, isolated areas of lawn should be avoided. Where mowing access is difficult, low shrub or groundcover should be provided rather than lawn.
- Shrub/groundcover between parks and the foreshore should be naturalized, with maintenance limited to removal of litter and invasives.
- Manicured shrub and flower areas should be utilized judiciously, and only in high profile locations such as at park entrances, major signs or landmarks, or isolated small median areas.

Implementation Program

The South Island Highway – Phase 2 project is a major, long-term undertaking. With a study area length of approximately 6.5 km, the project costs are significant.

Without significant senior government funding, the full implementation of the plan may take 30 years or more. Required utility upgrades and senior government co-funding may also drive a faster timeline for key phases.

In the meantime, the plan is needed to guide frontage works at private redevelopment in the corridor.

Project Phases and Priorities

Alternative Phasing Approaches

Two approaches were considered:

Phasing Option A: One area at a time is opened up and completed, including both underground and surface works, both in highway and parks. For example, a first phase might be the area near Rockland Road, from Simms Creek to Big Rock.

Phasing Option B: One item is completed for the length of the study area. For example, all powerlines are undergrounded, or all sewer forcemain work is completed.

Typical Phasing Boundaries

In general, a limited number of larger phases is more economical for construction. However, phases must be within the financial capability of both funding agencies and contractors.

In general, phases of approximately 1 Km in length are envisioned as the smallest practical phasing for these public works projects.

Logical Phasing Priorities

Phasing priorities will change as circumstances change. However, there are situations at time of writing that provide a logical basis for phasing priorities:

1. A high priority for City investment is the sewer forcemain – in particular from the Simms Creek area north to Hidden Harbour. A new pump station is proposed, and public washrooms are proposed in tandem. The proposed sewer alignment would follow the paved shoulder of the existing roadway. This is likely to be installed in advance of the other road improvements, but it would be preferable to complete

both the sewer and the road improvements in one phase, or separated by limited time. Funding for the sewer forcemain is not included in estimates for this project.

2. Investment in redevelopment is accelerating, in particular in the higher density areas from Simms Creek north to Hidden Harbour.
3. In the same area from Simms Creek north to Hidden Harbour, there are sections of waterfront homes that are subject to the Campbell River Waterfront Acquisition Bylaw, which is gathering DCC funding for purchase on a willing seller basis. Since a major cost of the proposed improvements is the undergrounding of overhead lines, and the early completion of this undergrounding would involve servicing these homes, and then later tearing them down for open space, there is a logic to leaving this area until late in the phasing.
4. Rockland Road is the next logical priority for intersection improvements.
5. Single family areas south of Simms Creek are more stable as far as land use and building, with slightly less concern about turning movements off the road. However, interest in roadway improvements and especially undergrounding of overhead lines appears strong in these areas as well.

We therefore suggest the following 'Management Areas' – areas that are logical phasing boundaries. We also list a tentative phasing order, that may change as circumstances change. The following Management Areas are shown on Figure 23:

Management Area (Phase)1: Rockland Road Area (Street Adress 1680 to 1154 South Island Highway (including Big Rock and Ellis Park)

Management Area (Phase) 2: Rotary Park to 1st Ave

Management Area (Phase) 3: Street Address 1680 South Island Highway to Hilchey Road

Management Area (Phase) 4: Ken Forde Park to 3490 South Island Highway

Management Area (Phase) 5: 3490 South Island Highway to Jubilee Parkway

Management Area (Phase) 6: Rotary Park to 1154 South Island Highway (including Daybreak and McCallum Park)

Figure 23: Proposed Management Areas.

Project Cost Estimates

Notes on Highway Estimating Constraints

The unit prices used for cost estimating at time of writing were derived from average costs for projects in other municipalities and then adjusted to reflect local contractor prices. The estimate was prepared from the concept design and could change somewhat at the final design phase. The impacts of traffic management in particular are difficult to predict.

Notes on Utility Cost Estimating Constraints

The utility cost estimates are affected by a number of factors that can cause the actual costs to be different than those contained in these estimates. The detail design work for the utilities is not part of this assignment and the costs are based on a reasonable assumption the pipe sizes, depths and location are comparable to that chosen for the highway upgrade constructed in 2005 through Willow Point. Market forces for the cost of material, labour and equipment at the time of construction will also be a factor in the final cost for the project.

The costs given for streetlights are for a decorative style of light. The costs to supply and install these are about 40% higher than for the standard davit style of light.

The cost of relocating and reconstructing the non city owned utilities such as gas, power, telephone and cablevision are also based on the cost estimates given by the respective utility companies for the 2005 Willow Point construction project adjusted for the amount of civil work estimated separately. No adjustment was made for the provision of credits sometime given by the utility companies for upgrading of their physical plant or for beautification purposes.

The power, communication and cablevision cost estimates consist of three components. These are the civil works (vaults, conduits and service boxes), the conductors that are placed by the respective utility company, and the connection to each home or building unit. Each of these components is affected by a number of factors that can change the costs estimated as part of this assignment. The costs should be reviewed again at the time when the work is scheduled for construction.

Roadway Upgrade Estimates

It was assumed for this estimate that excavation of the existing roadway to a depth of 0.3 meters would be required and new gravels placed. If the existing roadbase is acceptable to a geotechnical engineer new gravels may not be necessary. Also the amount for pavement removal could offset the gravel

cost if it was milled and recycled. Recently construction prices have been rising sharply for items such as asphalt, concrete and labour due to supply and demand and will likely continue to rise. Asphalt prices in particular are dependant on the price of oil which has recently risen sharply.

Land or Easement Requirement Allowance

The typical cross section for the works triggers a right of way requirement of 25m minimum, for the public access components of the street. It is recommended that the existing highway right of way be widened where necessary to at least 25m as opportunities arise. In general, increases in right of way width should be to the west side of the existing. A 25m right of way already exists for the majority of the highway alignment. Local right of way widening should be pursued as a part of land use change along this corridor. No allowance for land acquisition costs are made in the capital estimates provided.

For the purpose of accommodating the undergrounding of overhead utility lines, and for feathering of grades, a utility and grading easement of approximately 1.5m width over and above the 25m ROW width should be gained on the west side of the highway right of way. Existing landscape on this easement may be disturbed during construction, and restitution of the landscape will be necessary.

Using experience in the Willow Point section of the highway improvements as a precedent, it is likely that the required utility easement can be gained at a low cost – the estimates allow for negotiation and registration costs.

Notes on Park Upgrade Estimates

The project estimates allow for a substantial rebuild of the existing parks system. Much of this parks systems will be disturbed by the road widening, or by associated utilities and stormwater works, as well as by parking and construction staging.

Planting

The West Boulevard, center median island and East boulevard swale have been budgeted to include a sod surface application. Additional shrub planting would occur at the direction of the City of Campbell River Parks department should additional maintenance funds become available over the life of the project.

Sodded areas are limited to roadside situations defined by the West edge of the proposed 4m Multi-use trail. Areas East of the extent of trail surfacing extending out to the present natural boundary would be re-vegetated. Proposed re-vegetation is

limited to native coastal species as approved by the Department of Fisheries and Oceans. Existing native species are to be retained wherever possible during corridor improvement implementation. Existing trees are to be retained. No additional tree planting is budgeted.

Park Furnishings and Lighting

Benches and picnic tables have been allowed for within the current project budget, and proposed locations are shown on the concept plans. Washroom buildings are also proposed and budgeted at the locations shown on the concept plan.

Park Lighting is intended to occur as low-level pedestrian oriented fixtures to occur at select locations. A budget allowance has been made for a typical light spacing of 25m on center along the walkway where light spill from the roadway lighting is not present.

Waterfront Accesses

The estimates allow for two types of proposed access improvements. Major beach access points would be large-scale formal features to include accessible ramps and landing to provide experience matching for those less able. Minor beach access points would be developed as simple identified preferred routes of travel through re-established native vegetation.

Signage

As shown on the concept plans, signage installations are budgeted for.

Project Cost Summary

Management Area 1	
Capital Costs	$ 6,626,164
Design and Contingencies	$ 2,087,242
TOTAL	$ 9,044,714
Management Area 2	
Capital Costs	$ 9,126,833
Design and Contingencies	$ 3,331,294
TOTAL	$12,458,127
Management Area 3	
Capital Costs	$ 5,221,189
Design and Contingencies	$ 1,905,734
TOTAL	$ 7,126,923
Management Area 4	
Capital Costs	$ 9,629,109
Design and Contingencies	$ 3,514,624
TOTAL	$13,143,734
Management Area 5	
Capital Costs	$ 3,354,173
Design and Contingencies	$ 1,224,273
TOTAL	$ 4,578,445
MA6	
Capital Costs	$ 5,805,800
Design and Contingences	$ 2,119,117
TOTAL	$ 7,924,916
PROJECT TOTAL	$54,276,859

More detailed cost estimates are provided in Appendix B

Issues that Affect Financing and Phasing

Application and approval of funding from Federal and/or Provincial programs will have the most impact on this project. Rising costs due to inflation, land values, labour and material costs could greatly increase the cost of this project if it is phased over an extended timeframe. Also decisions made by council regarding allocation of funds would affect the project's timeframe.

We are recommending an overall project budget of $60M.

Project Timeline Options

Options Considered

Four Options have been put forward for public review:

- Timeline Option A: 30 year project (one phase every five years)
- Timeline Option B: 18 year project (one phase every three years)
- Timeline Option C: 12 year project (one phase every two years).
- Timeline Option D: The South Island Highway Improvement Project should not be a DCR priority for the foreseeable future.

Respondents Stated Wishes

The great majority of respondents to the public process were in favor of Option C – with the objective of getting the project done as soon as practical.

Adaptive Management Approach

However, given the need for lead time for the City to raise its funding portion, and also the needs of businesses and residents along the corridor to recover between construction operations, we are recommending the pursuit of a variant of Option B – on phase every three years. We envision that the City funding for the project would be spread over 20 years.

In reality, however, the timeline will be driven by the availability of funding, both locally and by outside partners. The project timeline will be determined as the funding evolves.

Project Funding Strategy

Introduction to Funding Strategy

There are four key components to the Funding Strategy:

1. Senior Government and Agency Grants: an increasing number of infrastructure and environmental programs are targeting funds at this type of project. It is a key to this project that at least two-thirds of the funding comes from these outside programs.
2. Development Cost Charges: proposed improvements in this project to road capacity, sanitary and water utilities and parks will benefit development in a significant part of Campbell River. Development Cost Charge systems should be reviewed to ensure that attributable costs are apportioned to development.
3. Neighbouring Properties: undergrounding of overhead lines is a key objective of the project, and this benefits neighbouring properties disproportionately to the overall community benefit. It is important that neighbouring properties provide both land for utility undergrounding, as well as cover costs of connections on private land.
4. General Revenue: Campbell River will need to raise the balance of the project costs from general revenue. In addition, the City will need to provide for on-going operation and maintenance costs.

The City of Campbell River has not, as yet, allocated funds for this project. The City has an ongoing capital program for road improvements of approximately $2M per year, with projects committed over the next 5 years.

A key tenet in this funding strategy is that the City of Campbell River should set aside reserve funds for its portion, allowing the reserve funds and development cost charge revenue to build to finance the City's portion of the project.

However, there is a weakness to this 'save to build' strategy. Senior government programs may come forward with offers of funding in advance of the Campbell River portion being saved. In these cases, the City would have to either rely on tax base to fund its portion, or borrow its portion to allow the project to proceed, with payback from the tax base over time.

Presently Campbell River is approaching its debt ceiling, due to high capital costs in recent years associated with sewage system upgrades. Application can be made by Council to the Provincial Government to increase Campbell River's borrowing power.

If the City wishes to proceed more quickly with these improvements, it can consider increases to property taxes, as well as the current growth in the tax base. Current property tax rates are relatively low by comparison to other municipalities, despite a concern that taxes are high from respondents to the public process. A program could be implemented to educate residents as to property tax rates in other municipalities and what can be achieved by increased taxes.

Potential Senior Government Funding

It is likely that this project will be driven in large part by offers of 2/3 outside funding. Such funding is not always available, and it is important for Campbell River's longterm well-being and competitiveness to take advantage of these programs when they are active.

At the same time, it is unlikely that this project can be feasible for Campbell River unless the 2/3 outside funding is made available.

Other Outside Funding (e.g. BC Hydro / Tel)

BC Hydro and Telus Grants are candidates for the Willow Point section currently under construction within this project area. Since such granting is limited across the Province, that is one more reason to 'pace' the South Island Highway Implementation – so that utility grantors may look more favorably on this project over time.

Sources of Local Funding Component e.g. $1M/ year

If outside funding were approved and the project were funded over 20 years with a phase being constructed every 3 years approximately $1M per year would be the remaining 1/3 the City would need.

Subject to finances at the time, a conceptual approach to this funding is:

- Reserve Funds $700K / year
- Development Cost Charges: $150K / year average (these are to be reviewed this fall, and may have part of these costs added).
- Neighbourhood Property Owner or Specified Area Funding e.g. for on-site hydro/tel/cable or equivalent – equivalent to $150K / year. This funding could be established gradually through multi-year specified area charges, up until construction.

The Reserve Funds could come from the yearly roadworks budget of $2M per year. These funds have been allocated for the next five years and would be available for this project at

that time. Allocations could be made sooner if priorities of Council change.

The 'New Deal for Cities' may also provide a new source of funds for the City. At time of writing, the New Deal was proposed to provide a per-capita direct grant to the City for Community Works, as well as pooled funding for special projects and for innovation. The South Island Highway project should be a candidate for all three of these funding pools, especially given the green infrastructure components.

The City could consider short-term borrowing (3-5 years) to 'average out' funding requirements between large and small phases. Funds to pay off the short term loan would have to budgeted for in the coming years.

The impact of the project on a typical residential taxpayer is difficult to predict, given the number of variables at play. For instance, if the annual 'reserve fund' allocation is made as a part of the on-going $2M for year that is dedicated to road improvements, or out of New Deal grants, then the increase in taxes to support the project construction is nil.

Taxpayer impact would be more easily calculated when a specific financing proposal for a specific project or phase is in place.

Short Term Implementation Actions

It is important for the City of Campbell River to take advantage of upcoming senior government funding program. Short term actions that will allow the City to respond to opportunities are:

1. Proceeding to detail design of early phases – e.g. Management Areas No. 1, No. 2 and No. 3 – to increase chances of senior government funding success.
2. Early allocation of a significant portion of New Deal for Cities funding to this project, and related applications to the New Deal for Cities Special Project and Innovation Funds.
3. Integration of the relevant aspects of this project into upcoming review of Development Cost Charges.
4. Establishment of a Specified Area to allow gradual collection of the local landowner portion of costs associated with undergrounding of overhead utility lines.

Potential Funding Programs

Appendix C provides a brief introduction to outside funding programs as of the time of writing.

Alternatives Considered

Many alternatives were considered as the project moved through issue analysis and development. For example, eight different prospective cross sections were considered for the roadway improvements, ranging from 5 lane cross sections to several variants on 3 lane arrangements.

Two options were studied in depth.

The alternatives had several qualities in common:

- 4m wide seawalk on east side
- 1.5m sidewalk on west side
- Thru vehicle lane each direction
- Centre two-way left turn lane with landscape islands (extent varies)
- Boulevard condition varies
- Lighting varies
- Both fit within a +/-24m right of wayAs well as highway configurations, the two options included variations on treatment of parks and trails systems.

Image Credit: Lanarc Consultants Ltd.

Figure 24: Visualization of Options

Option A

The focus of Option A was to provide as much green space as possible along the new roadway.

Option A: (see Figure 25)

- features long medians, impairs left turn access to some single family driveways that have lane or alternate access.
- provides roundabouts at 4 locations, allowing U turns to access driveways, and for tourists.
- includes stormwater infiltration swales both sides.
- Includes low glare lighting upland side only and at crosswalks and key intersections.

Image Credit: Lanarc Consultants Ltd.

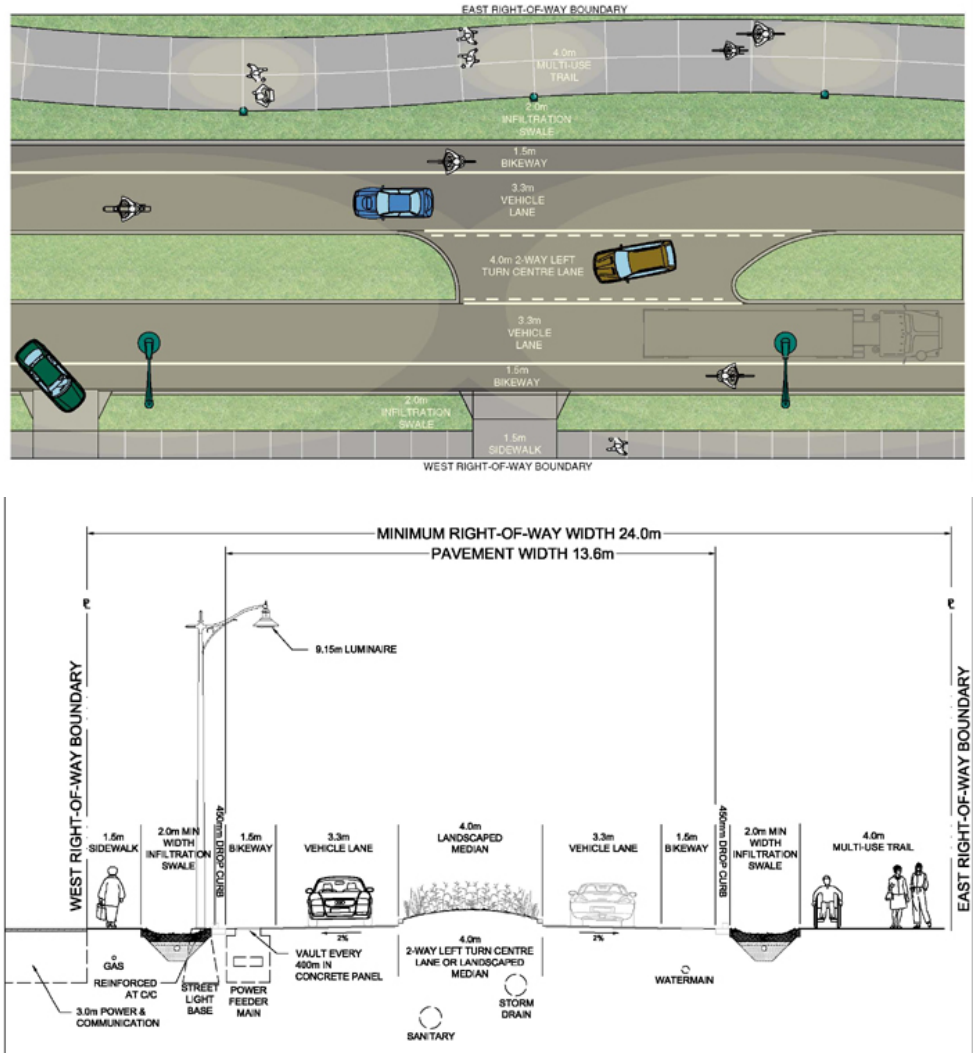


Figure 25: Option A Typical Plan and Section

Option B

The focus of Option B as to provide unimpeded access to one driveway per residential parcel.

Option B: (see Figure 26)

- reduces green median – increases two way left turn lane
- provides no roundabouts, but standard intersections instead
- includes stormwater infiltration swales on east side, and a 1.35m grass boulevard west side.
- Recommends lighting from both sides of the highway.

Image Credit: Lanarc Consultants Ltd.

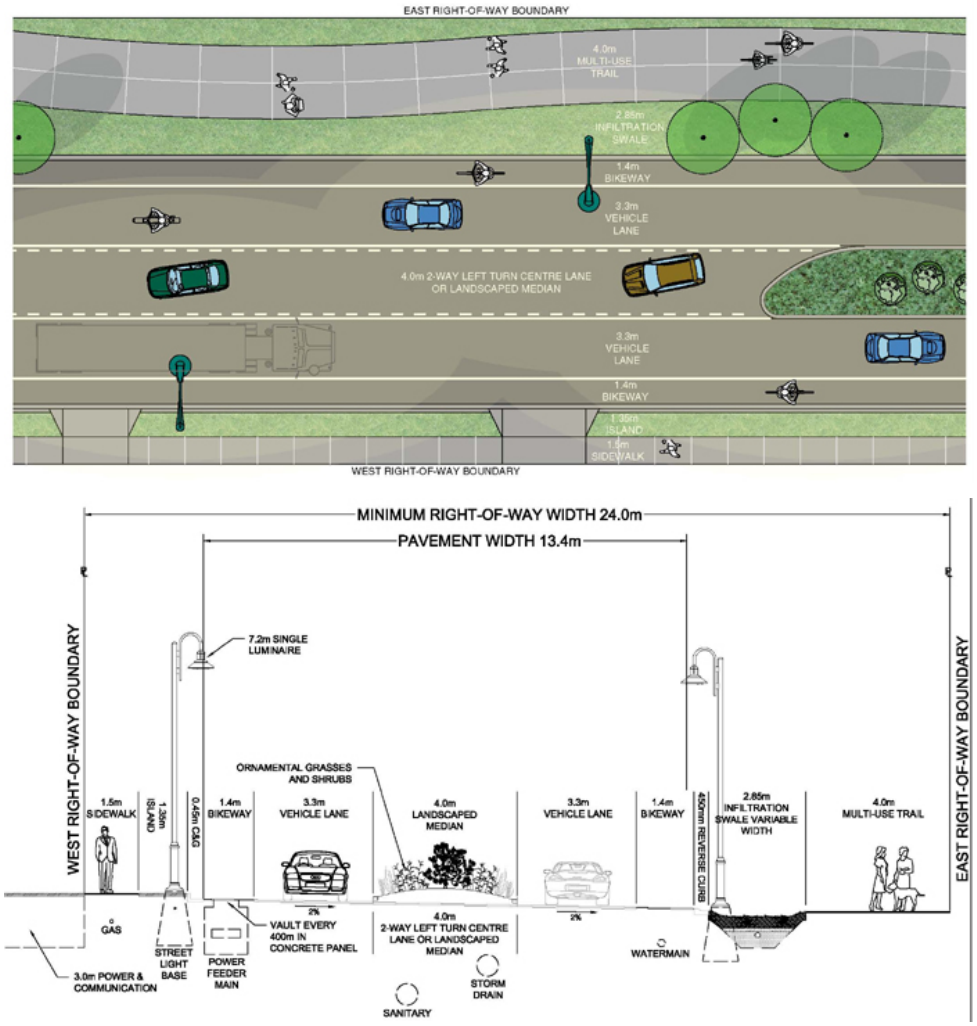


Figure 26: Option B Typical Plan and Section

Public Process and Comparison of Options

The two options were taken through a committee and public process of reviews.

The public appears to support an option that blends components from both Option A and B. In general, solutions that optimize both turning mobility and green space provision are favored.

The Design Recommendations in this report attempt to find a balance between green space and road space.

The Design Recommendations were taken in draft form before a second committee and public review process. The great majority of respondents were in favour of the draft recommendations. Where public opinion was split, the design team has attempted to refine the recommendations in response to the public concern.

Readers of this report are encouraged to review the detailed public input received.

Appendix E includes the public input received, and this will be forwarded for the attention of Council.

Conclusion

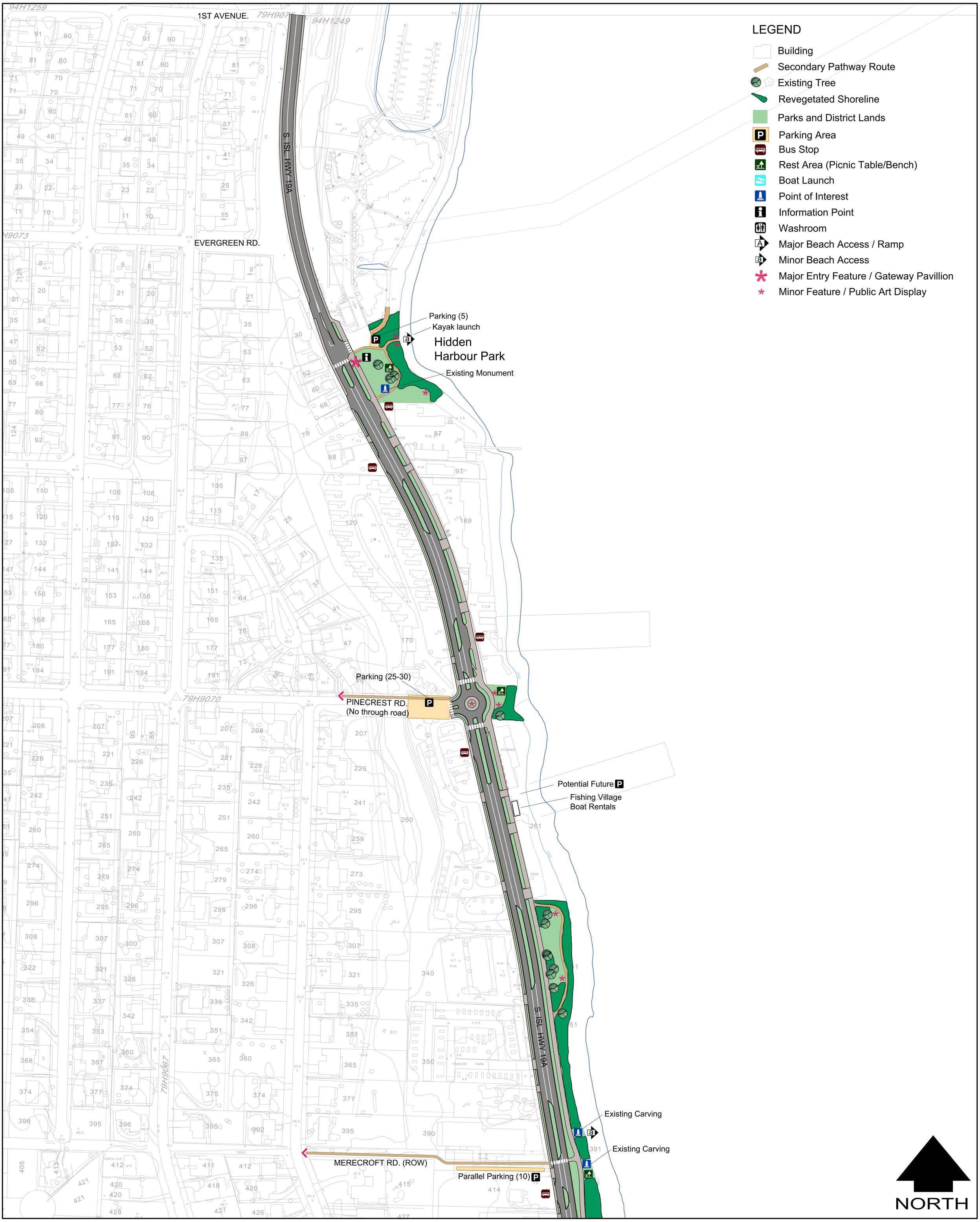
The South Island Highway (19A) Concept Plan establishes a vision for public lands along Campbell River's Waterfront. The plan creates improvements for:

- Traffic, pedestrian and cyclist safety;
- Driveway access and left turns;
- Parks and Seawalk users;
- Transit users;
- Tourist enjoyment, orientation, economics;
- Aesthetics and views from both adjacent residents and along the route;
- Water quality and the foreshore environment.

The realization of this plan will be a significant challenge to the people of Campbell River. However, the benefits of implementing the plan will exceed the challenges.

The plan will create a waterfront corridor where the quality of the constructed improvements is on par with the spectacular natural setting.

Appendix A: Plan Drawings



South Island Highway Corridor (19A)

City of Campbell River

Campbell River, British Columbia

FINAL CONCEPT PLAN

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Scale
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City of Campbell River
Engineering Services

MERECROFT RD. (ROW)

Parallel Parking (10)

Existing Monument

Parallel Parking (17)

Rotary
Beach Park

Existing Memorial Garden

S. ISL. HWY 19A

Public R.O.W. Upland Connection

Potential Future

LEGEND

- Building
- Secondary Pathway Route
- Existing Tree
- Revegetated Shoreline
- Parks and District Lands
- Parking Area
- Bus Stop
- Rest Area (Picnic Table/Bench)
- Boat Launch
- Point of Interest
- Information Point
- Washroom
- Major Beach Access / Ramp
- Minor Beach Access
- Major Entry Feature / Gateway Pavillion
- Minor Feature / Public Art Display

NORTH

South Island Highway Corridor (19A)

City of Campbell River

Campbell River, British Columbia

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Engineering Services

Daybreak Park

Existing Monument

S. ISL. HWY 19A

Boat Ramp Parking (30)

McCallum Park

Big Rock (Boastful Bear)

Ellis Park

Parking (40-50)

Information Kiosk

ROCKLAND RD.

LEGEND

- Building
- Secondary Pathway Route
- Existing Tree
- Revegetated Shoreline
- Parks and District Lands
- Parking Area
- Bus Stop
- Rest Area (Picnic Table/Bench)
- Boat Launch
- Point of Interest
- Information Point
- Washroom
- Major Beach Access / Ramp
- Minor Beach Access
- Major Entry Feature / Gateway Pavillion
- Minor Feature / Public Art Display

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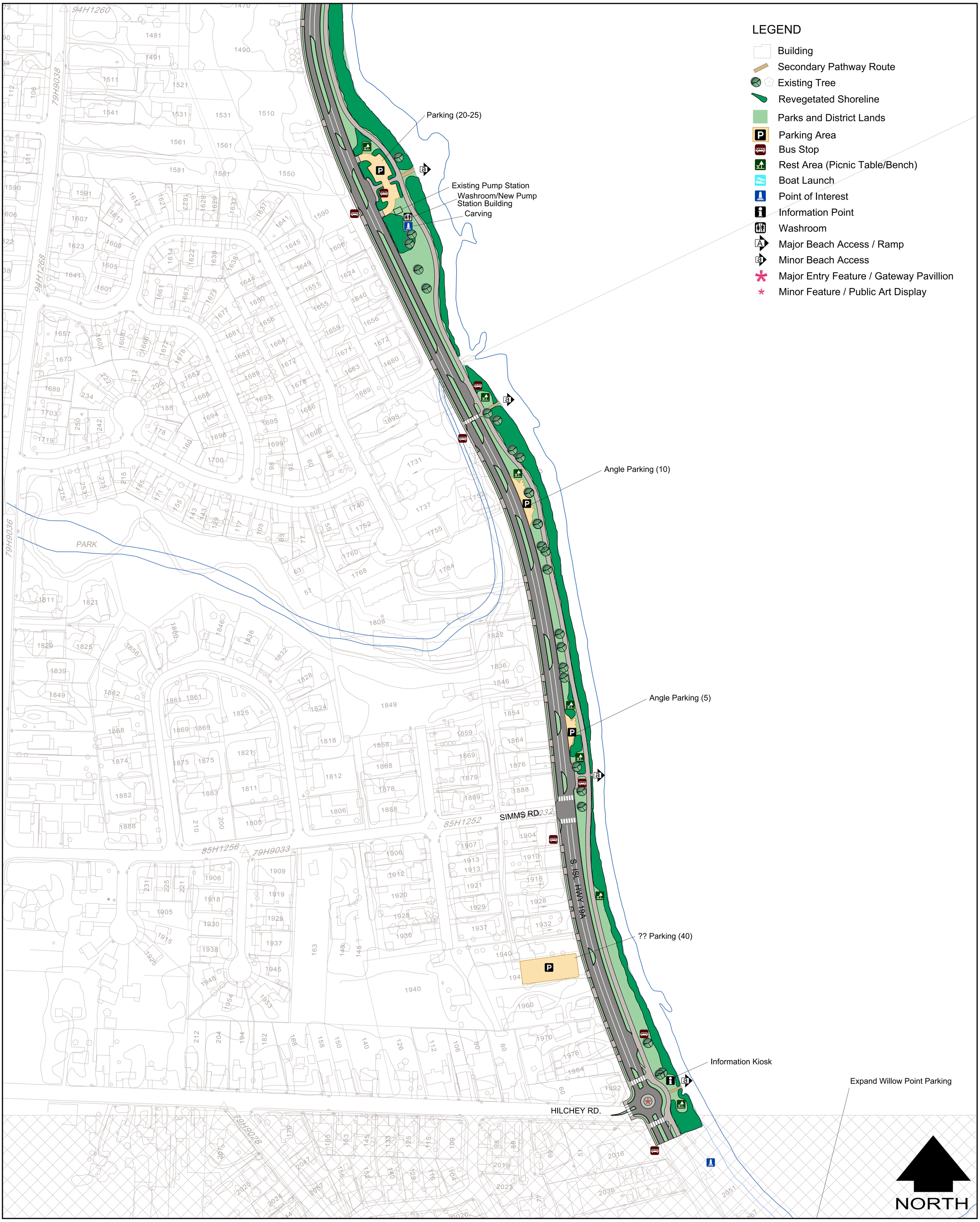

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City of Campbell River Engineering Services

Ken Ford
Boat Ramp

Rotary Monument

Boat / Kayak Launch
and Public Parking (50)

Information Kiosk

Interpretive Centre

Parking (10-15)

Existing Monument

S. ISL. HWY 19A

BARLOW ROAD

DAHL ROAD

CHERRY TREE LANE

TWILLINGATE RD.

79H9005

79H9002

94H1270

79H9001

LEGEND

- Building
- Secondary Pathway Route
- Existing Tree
- Revegetated Shoreline
- Parks and District Lands
- Parking Area
- Bus Stop
- Rest Area (Picnic Table/Bench)
- Boat Launch
- Point of Interest
- Information Point
- Washroom
- Major Beach Access / Ramp
- Minor Beach Access
- Major Entry Feature / Gateway Pavillion
- Minor Feature / Public Art Display

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Campbell River, British Columbia

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City of Campbell River
Engineering Services

LINGATE RD.

MARYLAND RD.

WASHINGTON DR.

COLORADO DR.

S. ISL. HWY 19A

Information Kiosk

Parking (15)

Information Sign

Campbell River Sign

Greenway Connection

JUBILEE PARKWAY

SOUTH ISLAND HIGHWAY 19A

COLORADO DRIVE

ICT OF CAMPBELL RIVER
(PHASE 1)

MAP SCALE: 1:200

CONTOUR INTERV

SHEET 4 OF 4

NORTH

LEGEND

- Building
- Secondary Pathway Route
- Existing Tree
- Revegetated Shoreline
- Parks and District Lands
- Parking Area
- Bus Stop
- Rest Area (Picnic Table/Bench)
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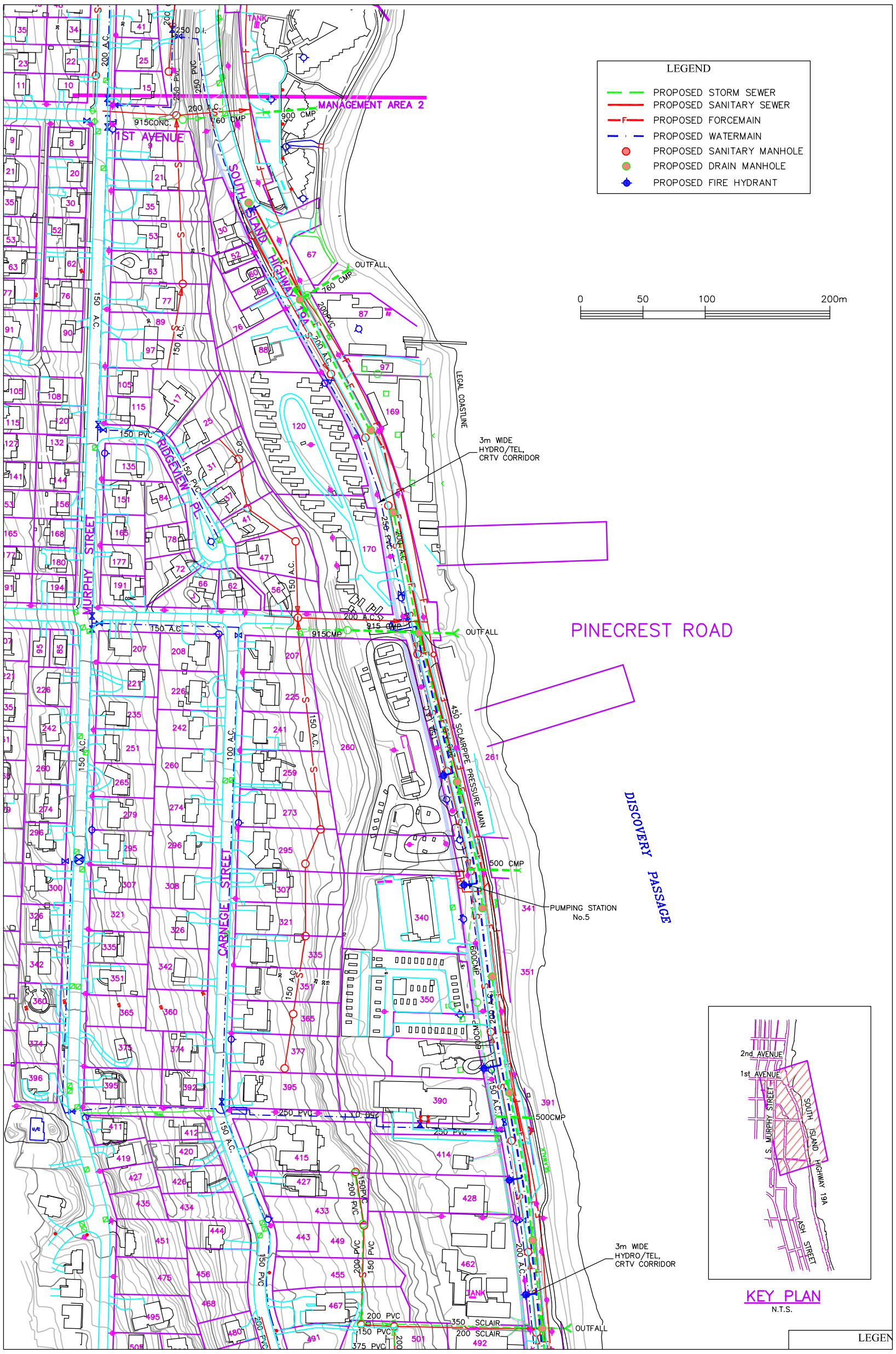

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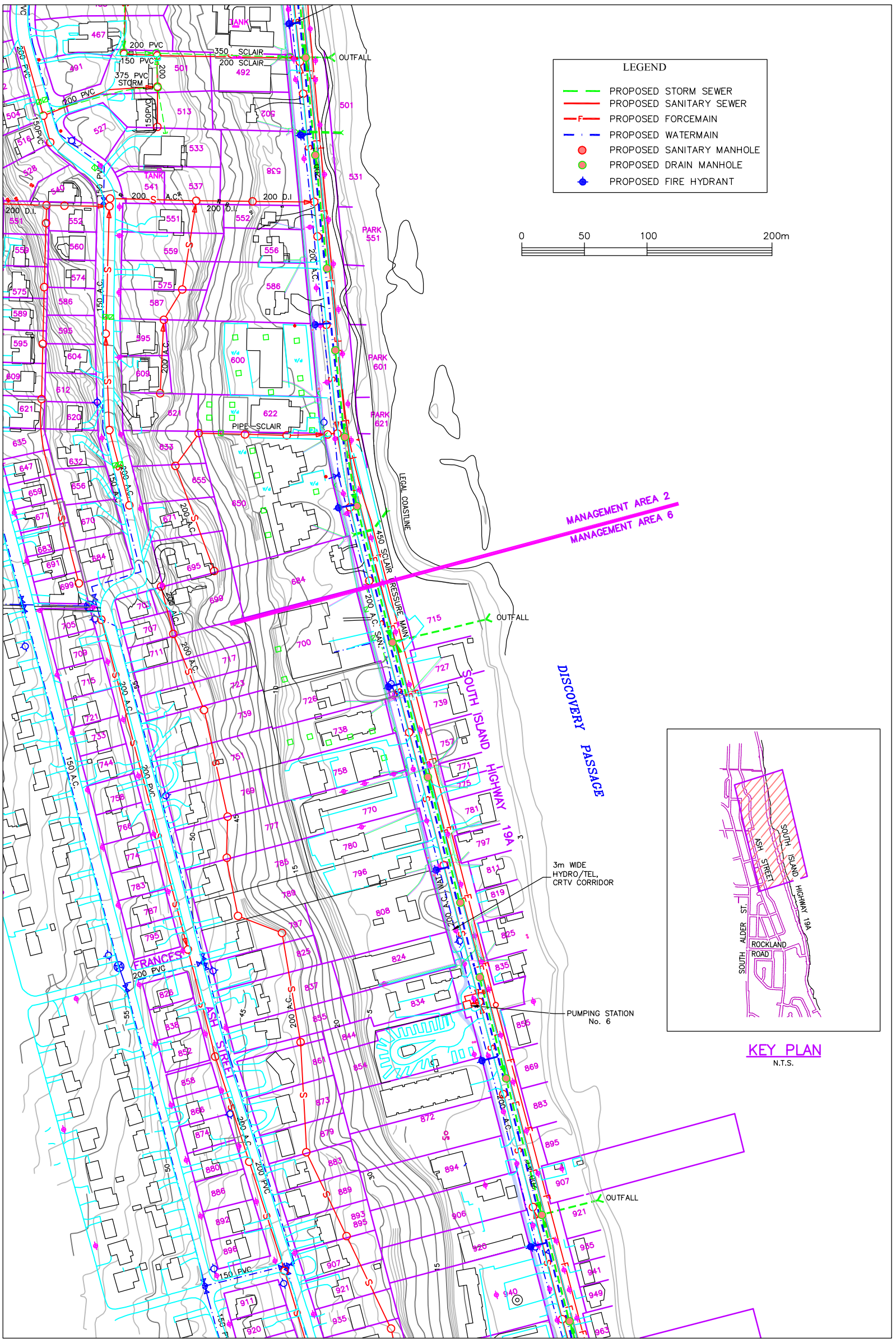

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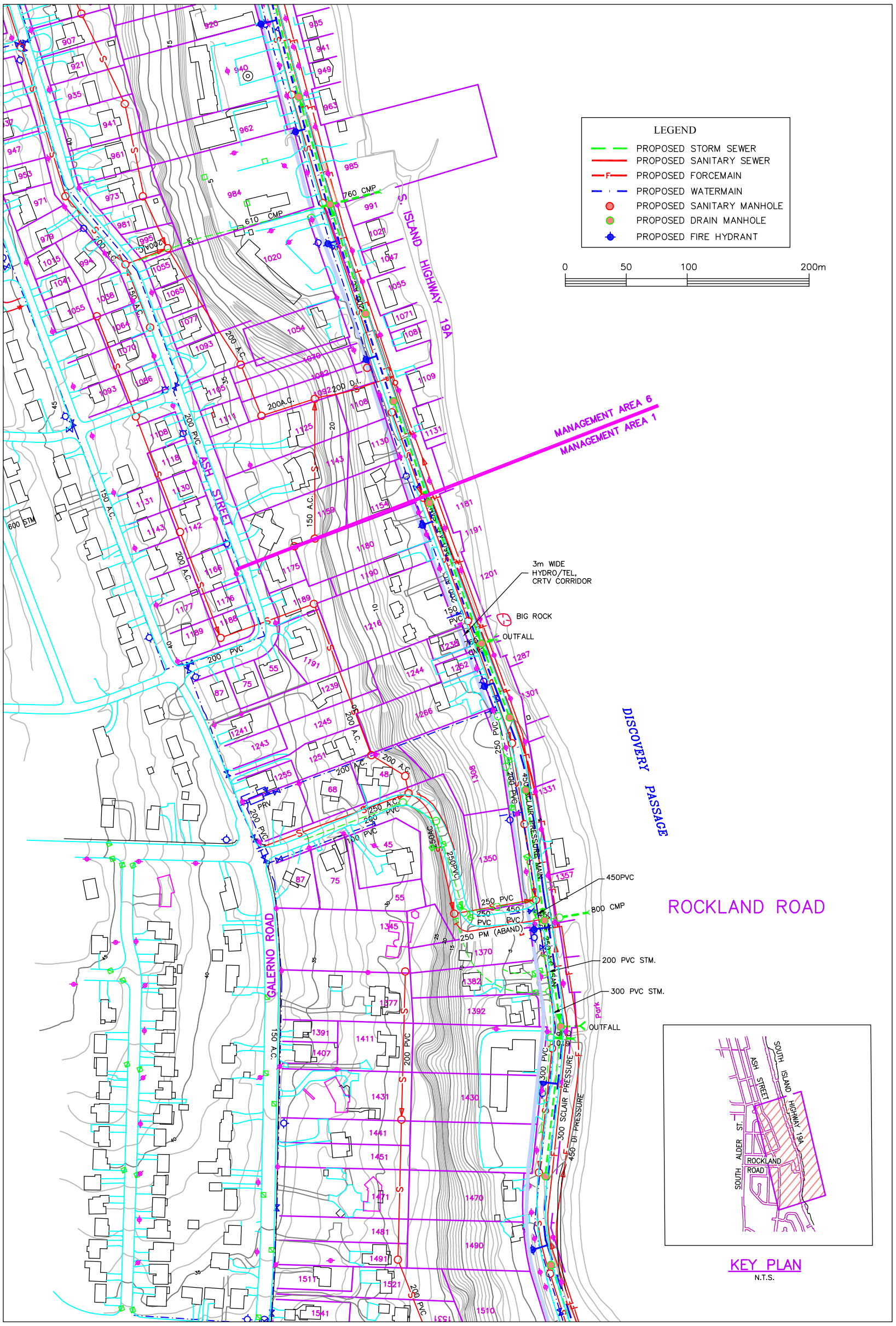

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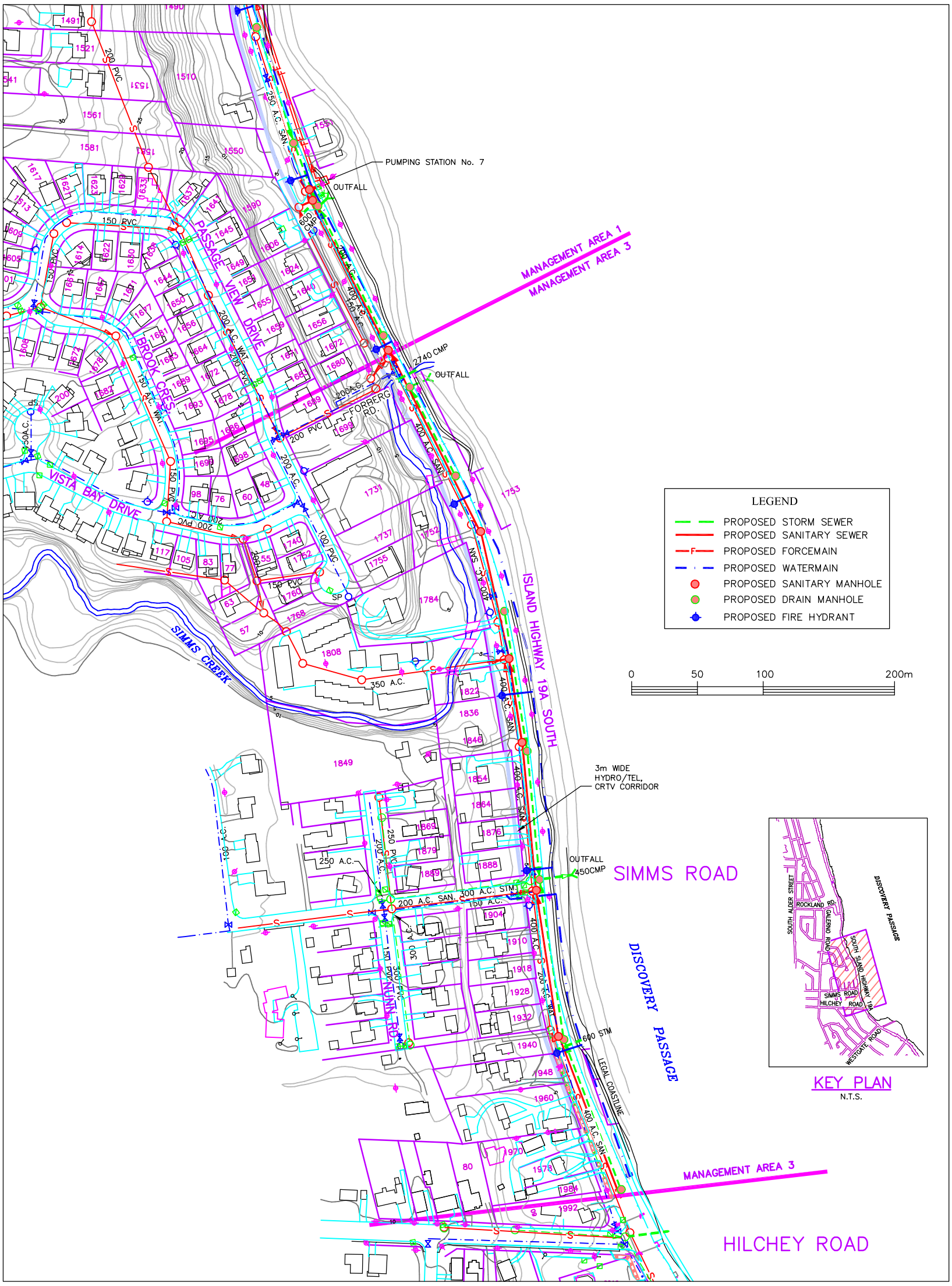

South Island Highway Corridor (19A)

City of Campbell River

Campbell River, British Columbia

UTILITY PLAN

Scale NTS

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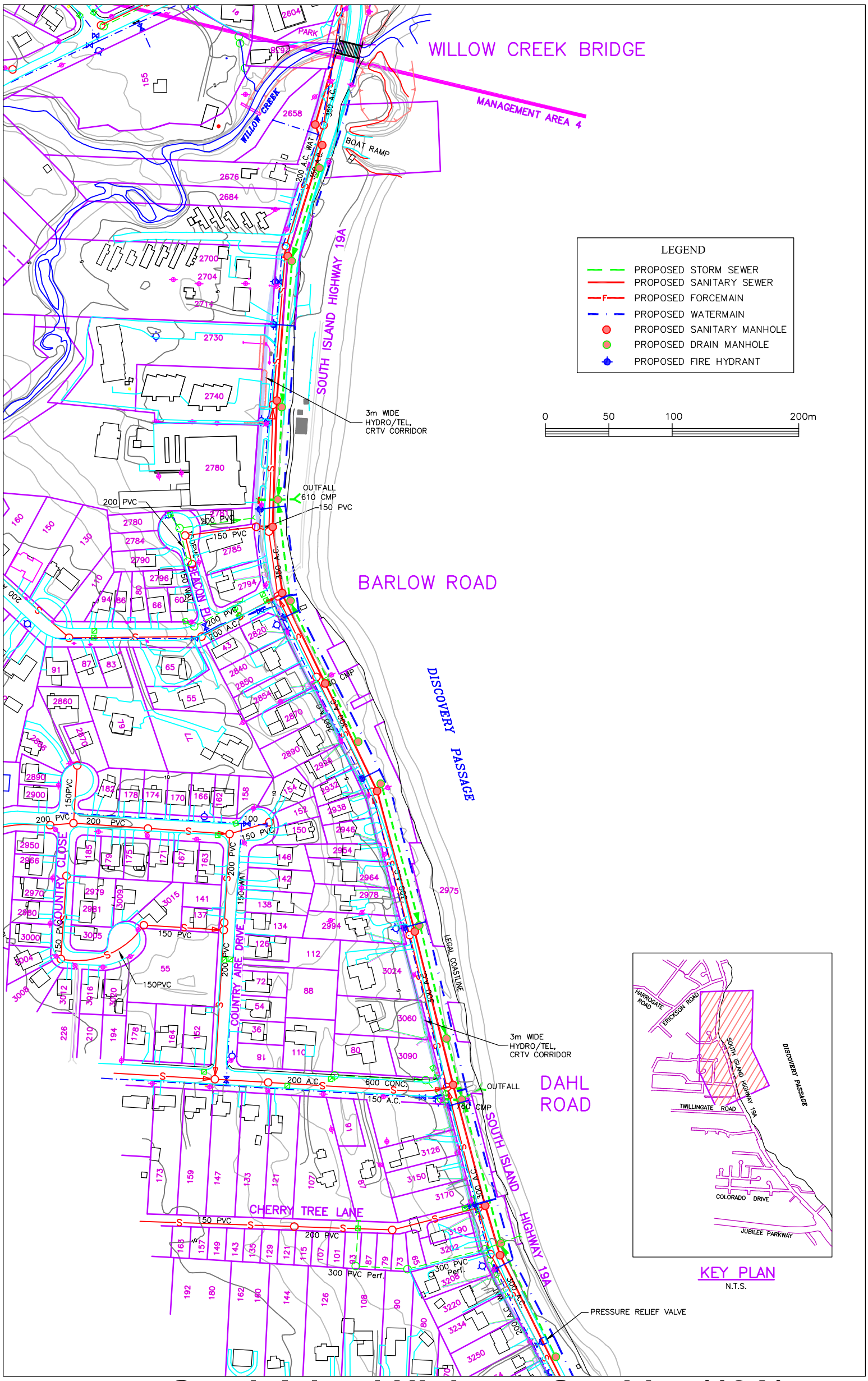
City of Campbell River Engineering Services



South Island Highway Corridor (19A)

City of Campbell River

Campbell River, British Columbia

UTILITY PLAN

LANARC CONSULTANTS LTD.
LANDSCAPE ARCHITECTURE
COMMUNITY PLANNING
ENVIRONMENTAL DESIGN
INFORMATION ARCHITECTURE
375 Franklyn Street, Nanaimo, B.C. V9R 2X5
Tel (250) 754-5651 Fax (250) 754-1990
Toll free: 1-888-754-5651
www.lanarc.ca lanarc@lanarc.ca
189 Cardiff Way, Port Moody, BC,V3H 3W4
Tel (604) 618-4718 Fax (604) 939-0741

HIGHLAND Engineering and Surveying
Professional Engineers and Land Surveyors
#104-950 Alder Street, (250) 287-2825
Campbell River, B.C., V9W 2P8 highland@highland-eng.ca
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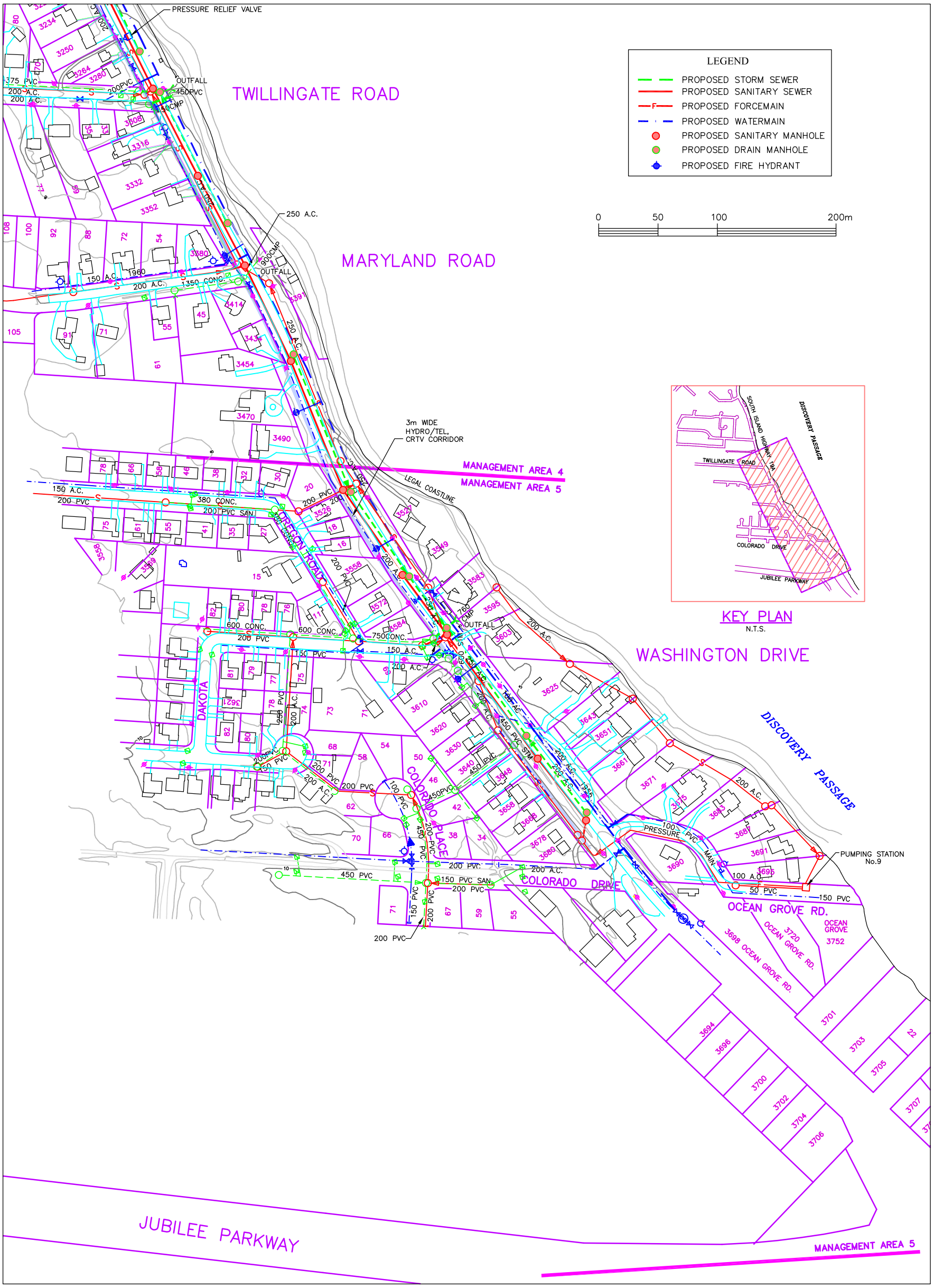
Scale NTS

Plan 11 of 12

City of Campbell River Engineering Services



South Island Highway Corridor (19A)

City of Campbell River

Campbell River, British Columbia

UTILITY PLAN

Scale NTS

Plan 12 of 12

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City of Campbell River Engineering Services

Appendix B: Cost Estimate

South Island Highway (19) **14-Jun-05**

Final Plan - Order of Magnitude Cost Estimate Lanarc Consultants Ltd.

ITEM	UNIT	QUANTITY	UNIT-COST	TOTALS
MA 1 - Street address 1680 to 1154 South Island Highway (Incl. Big Rock and Ellis Park)				
East Boulevard Infiltration Swale (turf /soil)	sq.m.	8360	10	83,600
West Boulevard and Center Median Island (turf /soil)	sq.m.	2890	10	28,900
Linear Park Native Revegetation Planting	sq.m.	9600	35	336,000
Paved Roadway (100mm)	sq.m.	13100	28	366,800
Concrete Curb	l.m.	1970	50	98,500
Paved Parking (Pervious Paving)	sq.m.	2630	40	105,200
West Concrete Sidewalks - 1.5m Width	sq.m.	1440	50	72,000
Asphalt Multi -Use Seaside Trail (50mm) - 4m Width	sq.m.	4240	20	84,800
Quarry Fines Secondary Pathways - 2m Width	sq.m.	70	8	525
Excavation	cu.m.	6,739	17	114,563
25mm Crushed Base Course	cu.m.	2200	48	105,600
75mm Crushed Base Course	cu.m.	2200	48	105,600
Roundabout at Rockland	lump sum	1	27,000	27,000
Removals				
Existing Asphalt (road)	sq.m	10296	4	41,184
Existing Asphalt (seaside trail)	sq.m	2808	5	14,040
Utilities (Note: The estimated cost to replace the sewer forcemain north from Rockland Road is not included in this estimate)				
Watermain				427,500
Sanitary Sewer				198,000
Storm Drain (includes infiltration underground portion)				1,045,000
Rights of Way				166,250
Decorative Street Lights				351,852
Power & Telephone				712,500
Utility Charges Estimate				2,042,500
Park Features and Furniture				
Secondary Gateway Sign - intersecting roadway	each	1	2,000	2,000
Tertiary Gateway Sign - intersecting pedestrain access	each	1	1,000	1,000
Heritage or Nature Sign - interpretive panels	each	1	750	750
Directional Signs - walkway orientation	each	10	250	2,500
Public Art Sign - permanent works	each	1	1,000	1,000
Public Art Sign - temporary works	each	2	500	1,000
Information / Events Kiosk	each	1	3,000	3,000
Park / Parking Identification Sign - facility marker	each	2	3,000	6,000
Minor Interpretive / Public Art Feature Area	allow	3	3,000	9,000

South Island Highway (19) **14-Jun-05**

Final Plan - Order of Magnitude Cost Estimate Lanarc Consultants Ltd.

ITEM	UNIT	QUANTITY	UNIT-COST	TOTALS
Minor Beach Access	allow	3	3,000	9,000
Major beach Access - Accessible Ramp	allow	1	8,000	8,000
Picnic Tables and Benches	each	4	1,500	6,000
Washroom Building	each	1	25,000	25,000
Park Lighting	each	16	1,500	24,000

Management Area 1 - Subtotal	**6,626,164**
Traffic Management & Disturbance Allowance (5%)	331,308
Design and Contingency Allowance (30%)	2,087,242
Total, Management Area 1	**9,044,714**

South Island Highway (19) **14-Jun-05**

Final Plan - Order of Magnitude Cost Estimate Lanarc Consultants Ltd.

ITEM	UNIT	QUANTITY	UNIT-COST	TOTALS
MA 2 - Rotary Park to 1st Ave.				
East Boulevard Infiltration Swale (turf /soil)	sq.m.	5760	10	57,600
West Boulevard and Center Median Island (turf /soil)	sq.m.	3560	10	35,600
Linear Park Native Revegetation Planting	sq.m.	8490	35	297,150
Paved Roadway (100mm)	sq.m.	19250	28	539,000
Concrete Curb	l.m.	3490	50	174,500
Paved Parking (50mm)	sq.m.	1610	40	64,400
West Concrete Sidewalks - 1.5m Width	sq.m.	2600	50	130,000
Asphalt Multi -Use Seaside Trail - 4m Width	sq.m.	5950	20	119,000
Quarry Fines Secondary Pathways - 2m Width	sq.m.	1320	8	9,900
Excavation	cu.m.	12,240	17	208,080
25mm Crushed Base Course	cu.m.	3570	48	171,360
75mm Crushed Base Course	cu.m.	3570	48	171,360
Roundabout at Pinecrest and Rotary Park	lump sum	2	27,000	54,000
Removals				
Existing Asphalt (road)	sq.m	18700	4	74,800
Existing Asphalt (seaside trail)	sq.m	5100	5	25,500
Utilities				
Watermain				812,250
Sanitary Sewer				100,000
Storm Drain				$1,881.000.00
Rights of Way				299,250
Decorative Street Lights				633,333
Power & Telephone				1,282,500
Utility Charges Estimate				3,676,500
Park Features and Furniture				
Primary Gateway Pavillion - walkway extents	each	1	15,000	15,000
Tertiary Gateway Sign - intersecting pedestrain access	each	5	1,000	5,000
Heritage or Nature Sign - interpretive panels	each	2	750	2,000
Directional Signs - walkway orientation	each	18	250	13,500
Public Art Sign - permanent works	each	5	1,000	1,250
Public Art Sign - temporary works	each	10	500	10,000
Information / Events Kiosk	each	1	3,000	500
Park / Parking Identification Sign - facility marker	each	2	3,000	6,000
Minor Interpretive / Public Art Feature Area	allow	14	3,000	42,000
Minor Beach Access	allow	3	3,000	9,000
Major beach Access - Accessible Ramp	allow	1	8,000	8,000

South Island Highway (19) **14-Jun-05**

Final Plan - Order of Magnitude Cost Estimate Lanarc Consultants Ltd.

ITEM	UNIT	QUANTITY	UNIT-COST	TOTALS
Picnic Tables and Benches	each	8	1,500	12,000
Washroom Building	each	2	25,000	50,000
Park Lighting	each	11	1,500	16,500

Management Area 2 - Subtotal	**9,126,833**
Traffic Management & Disturbance Allowance (5%)	456,342
Design and Contingency Allowance (30%)	2,874,952
Total, Management Area 2	**12,458,127**

South Island Highway (19) **14-Jun-05**

Final Plan - Order of Magnitude Cost Estimate Lanarc Consultants Ltd.

ITEM	UNIT	QUANTITY	UNIT-COST	TOTALS
MA 3 - Street address 1680 South Island Highway to Hilchet Road				
East Boulevard Infiltration Swale (turf /soil)	sq.m.	3870	10	38,700
West Boulevard and Center Median Island (turf /soil)	sq.m.	1720	10	17,200
Linear Park Native Revegetation Planting	sq.m.	5200	35	182,000
Paved Roadway	sq.m.	10100	28	282,800
Concrete Curb	l.m.	1500	50	75,000
Parking (pervious)	sq.m.	2630	40	105,200
West Concrete Sidewalks - 1.5m Width	sq.m.	1210	50	60,500
Asphalt Multi -Use Seaside Trail - 4m Width	sq.m.	3030	35	106,050
Quarry Fines Secondary Pathways - 2m Width	sq.m.	60	8	450
Excavation	cu.m.	4,954	17	84,218
25mm Crushed Base Course	cu.m.	1445	48	69,360
75mm Crushed Base Course	cu.m.	1445	48	69,360
Roundabout at Hilchey	lump sum	1	27,000	27,000
Removals				
Existing Asphalt (road)	sq.m	7568	4	30,272
Existing Asphalt (seaside trail)	sq.m	2064	5	10,320
Utilities				
Watermain				294,000
Sanitary Sewer				630,000
Storm Drain				770,000
Rights of Way				122,500
Decorative Street Lights				259,259
Power & Telephone				420,000
Utility Charges Estimate				1,505,000
Park Features and Furniture				
Secondary Gateway Sign - intersecting roadway	each	2	2,000	4,000
Tertiary Gateway Sign - intersecting pedestrain access	each	1	1,000	1,000
Directional Signs - walkway orientation	each	8	250	2,000
Public Art Sign - permanent works	each	1	1,000	1,000
Information / Events Kiosk	each	1	3,000	3,000
Park / Parking Identification Sign - facility marker	each	3	3,000	9,000
Minor Interpretive / Public Art Feature Area	allow	1	3,000	3,000
Minor Beach Access	allow	3	3,000	9,000

South Island Highway (19) **14-Jun-05**

Final Plan - Order of Magnitude Cost Estimate Lanarc Consultants Ltd.

ITEM	UNIT	QUANTITY	UNIT-COST	TOTALS
Picnic Tables and Benches	each	6	1,500	9,000
Park Lighting	each	14	1,500	21,000
Management Area 3 - Subtotal				**5,221,189**
Traffic Management & Disturbance Allowance (5%)				261,059
Design and Contingency Allowance (30%)				1,644,675
Total, Management Area 3				**7,126,923**

South Island Highway (19) **14-Jun-05**

Final Plan - Order of Magnitude Cost Estimate Lanarc Consultants Ltd.

ITEM	UNIT	QUANTITY	UNIT-COST	TOTALS
MA 4 - Ken Forde Park to 3490 South Island Highway				
East Boulevard Infiltration Swale (turf /soil)	sq.m.	9250	10	92,500
West Boulevard and Center Median Island (turf /soil)	sq.m.	2660	10	26,600
Linear Park Native Revegetation Planting	sq.m.	19860	35	695,100
Paved Roadway	sq.m.	19050	28	533,400
Concrete Curb	l.m.	2820	50	141,000
Parking (pervious)	sq.m.	4710	40	188,400
West Concrete Sidewalks - 1.5m Width	sq.m.	1750	50	87,500
Asphalt Multi -Use Seaside Trail - 4m Width	sq.m.	5780	35	202,300
Quarry Fines Secondary Pathways - 2m Width	sq.m.	230	8	1,725
Excavation	cu.m.	9,994	17	169,898
25mm Crushed Base Course	cu.m.	2915	48	139,920
75mm Crushed Base Course	cu.m.	2915	48	139,920
Removals				
Existing Asphalt (road)	sq.m	15268	4	61,072
Existing Asphalt (seaside trail)	sq.m	4164	5	20,820
Utilities				
Watermain				612,000
Sanitary Sewer				884,000
Storm Drain				1,496,000
Rights of Way				238,000
Decorative Street Lights				503,704
Power & Telephone				884,000
Utility Charges Estimate				2,380,000
Park Features and Furniture				
Primary Gateway Pavillion - walkway extents	each	1	15,000	15,000
Secondary Gateway Sign - intersecting roadway	each	3	2,000	6,000
Heritage or Nature Sign - interpretive panels	each	1	750	750
Directional Signs - walkway orientation	each	14	250	3,500
Public Art Sign - permanent works	each	1	1,000	1,000
Public Art Sign - temporary works	each	3	500	1,500
Information / Events Kiosk	each	2	3,000	6,000
Park / Parking Identification Sign - facility marker	each	2	3,000	6,000
Minor Interpretive / Public Art Feature Area	allow	6	3,000	18,000
Minor Beach Access	allow	1	3,000	3,000

South Island Highway (19) **14-Jun-05**

Final Plan - Order of Magnitude Cost Estimate Lanarc Consultants Ltd.

ITEM	UNIT	QUANTITY	UNIT-COST	TOTALS
Major beach Access - Accessible Ramp	allow	1	8,000	8,000
Picnic Tables and Benches	each	9	1,500	13,500
Washroom Building	each	1	25,000	25,000
Park Lighting	each	16	1,500	24,000

Management Area 4 - Subtotal	**9,629,109**
Traffic Management & Disturbance Allowance (5%)	481,455
Design and Contingency Allowance (30%)	3,033,169
Total, Management Area 4	**13,143,734**

South Island Highway (19) **14-Jun-05**

Final Plan - Order of Magnitude Cost Estimate Lanarc Consultants Ltd.

ITEM	UNIT	QUANTITY	UNIT-COST	TOTALS
MA 5 - 3490 South Island Highway to Jubilee Parkway				
East Boulevard Infiltration Swale (turf /soil)	sq.m.	2479	10	24,790
West Boulevard and Center Median Island (turf /soil)	sq.m.	271	10	2,710
Linear Park Native Revegetation Planting	sq.m.	473	35	16,555
Paved Roadway	sq.m.	9536	28	267,008
Concrete Curb	l.m.	1663	50	83,150
Asphalt Multi -Use Seaside Trail - 4m Width	sq.m.	3162	20	63,240
Quarry Fines Secondary Pathways - 2m Width	sq.m.	8487	8	63,653
Excavation	cu.m.	5,760	17	97,920
25mm Crushed Base Course	cu.m.	1680	48	80,640
75mm Crushed Base Course	cu.m.	1680	48	80,640
Removals				
Existing Asphalt (road)	sq.m	8800	4	35,200
Existing Asphalt (seaside trail)	sq.m	2400	5	12,000
Utilities				
Watermain				225,000
Sanitary Sewer				315,000
Storm Drain				540,000
Rights of Way				78,750
Decorative Street Lights				166,667
Power & Telephone				382,500
Utility Charges Estimate				787,500
Park Features and Furniture				
Main Entrance Sign - re-design and replace	each	1	25,000	25,000
Secondary Gateway Sign - intersecting roadway	each	1	2,000	2,000
Tertiary Gateway Sign - intersecting pedestrain access	each	2	1,000	2,000
Directional Signs - walkway orientation	each	9	250	2,250
Management Area 5 - Subtotal				**3,354,173**
Traffic Management & Disturbance Allowance (5%)				167,709
Design and Contingency Allowance (30%)				1,056,564
Total, Management Area 5				**4,578,445**

South Island Highway (19) **14-Jun-05**

Final Plan - Order of Magnitude Cost Estimate Lanarc Consultants Ltd.

ITEM	UNIT	QUANTITY	UNIT-COST	TOTALS
MA 6 - Rotary Park to 1154 South Island Highway (Incl. Daybreak and McCallum Park)				
East Boulevard Infiltration Swale (turf /soil)	sq.m.	2419	10	24,190
West Boulevard and Center Median Island (turf /soil)	sq.m.	1398	10	13,980
Linear Park Native Revegetation Planting	sq.m.	1694	35	59,290
Paved Roadway	sq.m.	15377	28	430,556
Concrete Curb	l.m.	2391	50	119,550
Parking (pervious)	sq.m.	2393	40	95,720
West Concrete Sidewalks - 1.5m Width	sq.m.	1344	50	67,200
Asphalt Multi -Use Seaside Trail - 4m Width	sq.m.	3600	20	72,000
Quarry Fines Secondary Pathways - 2m Width	sq.m.	637	8	4,778
Excavation	cu.m.	6,451	17	109,667
25mm Crushed Base Course	cu.m.	1882	48	90,336
75mm Crushed Base Course	cu.m.	1882	48	90,336
Removals				
Existing Asphalt (road)	sq.m	9856	4	39,424
Existing Asphalt (seaside trail)	sq.m	2688	5	13,440
Utilities				
Watermain				427,500
Sanitary Sewer				75,000
Storm Drain				990,000
Rights of Way				157,500
Decorative Street Lights				333,333
Power & Telephone				585,000
Utility Charges Estimate				1,935,000

South Island Highway (19) **14-Jun-05**

Final Plan - Order of Magnitude Cost Estimate Lanarc Consultants Ltd.

ITEM	UNIT	QUANTITY	UNIT-COST	TOTALS
Park Features and Furniture				
Tertiary Gateway Sign - intersecting pedestrain access	each	2	1,000	2,000
Heritage or Nature Sign - interpretive panels	each	2	750	1,500
Directional Signs - walkway orientation	each	12	250	3,000
Public Art Sign - temporary works	each	2	500	1,000
Park / Parking Identification Sign - facility marker	each	2	3,000	6,000
Minor Interpretive / Public Art Feature Area	allow	4	3,000	12,000
Minor Beach Access	allow	3	3,000	9,000
Major beach Access - Accessible Ramp	allow	1	8,000	8,000
Picnic Tables and Benches	each	3	1,500	4,500
Washroom Building	each	1	25,000	25,000

Management Area 6 - Subtotal	**5,805,800**
Traffic Management & Disturbance Allowance (5%)	290,290
Design and Contingency Allowance (30%)	1,828,827
Total, Management Area 6	**7,924,916**

ORDER of MAGNITUDE ESTIMATE (Note: Accuracy is +/-15%) GST not included **54,276,859**

Note: This cost estimate is based on historical cost data.
Actual costs can vary widely depending on industry labour and material availability
Note: Figures represent 2005 dollars.
Quantities are based on Concept plans prepared by Lanarc Consultants Ltd. in March, 2005.

SUMMARY

Total Siteworks	9,433,119
Total Utilities	29,744,648
Total Sign / Furniture Features	585,500
Total Management, Design & Contingencies	14,513,592
Grand Total	**54,276,859**

Appendix C: Outside Funding Opportunities

Funding and Partnership Sources

LAST UPDATE April 11, 2005

NAME	SPONSORING AGENCIES	DETAILS	WEBSITE
Federal and/or Provincial – infrastructure programs			
Canada/British Columbia Infrastructure Program	Western Economic Diversification Canada BC Ministry of Competition, Science and Enterprise BC Ministry of Community, Aboriginal and Women's Services Union of B.C. Municipalities	The program's purpose is to improve urban and rural local government infrastructure. "Green" infrastructure projects are a priority, such as: • water and waste-water systems; • water management; and • improving energy efficiency of buildings and facilities owned by local governments. Other investment priorities include: • cultural and recreational facilities; • infrastructure to support tourism; • rural and remote telecommunications; • high speed Internet access for local public institutions; • local transportation infrastructure; and • affordable housing projects and related infrastructure. Projects can be approved until June 30, 2005 and must be completed no later than March 31, 2006.	http://www.cse.gov.bc.ca/ProgramsAndServices/Canada-BCInfrastructureProgram/default.htm or http://www.mcaws.gov.bc.ca/lgd/pol_research/grants.html#infrastructure For projects recently funded: http://www2.news.gov.bc.ca/nrm_news_releases/2003CSE0066-001000-Attachment1.htm
Green Municipal Enabling Fund (GMEF)	Government of Canada Federation of Canadian Municipalities	Operating from 2000 to 2007, the GMEF is a $50 million Fund that provides grants to support feasibility studies to assess the technical, environmental and/or economic feasibility of innovative municipal projects. Grants cover up to 50 per cent of eligible costs to a maximum grant of $350,000. GMEF is open to Canadian municipalities and their public- or private-sector partners. Applications are accepted year round. Applications can be made in the following categories: • Energy • Water • Solid waste management • Sustainable transportation services and technologies • Sustainable community planning (GMEF)	http://kn.fcm.ca/ev.php?URL_ID=2891&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1065471090 Recent projects funded on Vancouver Island - http://www.fcm.ca/english/communications/nov102003.htm http://www.fcm.ca/english/communications/nov102003bac.htm
Green Municipal Investment Fund (GMIF)	Government of Canada	The GMIF is a $200 million permanent revolving fund that supports the implementation of highly innovative environmental projects. A municipal government can borrow at the preferred interest rate of 1.5% below the Government of Canada	http://kn.fcm.ca/ev.php?URL_ID=2892&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1065471480

NAME	SPONSORING AGENCIES	DETAILS	WEBSITE
	Federation of Canadian Municipalities	bond rate. GMIF finances up to 15% (25% in exceptional circumstances) of the capital costs of a qualifying project. GMIF can also provide loan guarantees. Loan payback periods may range from four to ten years. GMIF is open to Canadian municipalities and their public sector or private-sector partners. Applications are accepted year-round.	
New Deal for Cities	Infrastructure Canada	Budget 2004 provided all municipalities wit a 100 per cent GST rebate for municipalities that will provide them with $7 billion in funding over the next ten years and also accelerated the flow of $1 billion, to smaller communities, underthe Municipal-Rural Infrastructure-Funds (MRIF). In February, 2005 $5 billion was allocated in gas tax funding over the next five years. each province and territory was allocated a share of the federal gas tax. B.C. 's share over the next five years is $635.6 million or 12.71% of the total.	http://www.infrastructure.gc.ca/ndcc/funding_e.shtml
New Green Municipal Funds	Infrastructure Canada	In the 2005 Budget, the Government of Canada demonstrated its confidence and support for the Green Municipal Funds by contributing an additional $300 million to the endowment. New applications will be accepted in autumn of 2005.	http:/kn.fcm.ca
Climate Change Impacts and Adaptation Program	Government of Canada	The Climate Change Impacts & Adaptation Program provides funding for targeted research and activities that will contribute to a better understanding of Canada's vulnerabilities to climate change and provide information necessary for the development of adaptation strategies. The selection of projects to be funded is done in a two-stage process. Stage One: Calls for Letters of Interest and Stage Two: Full Proposals	http://www.adaptation.nrcan.gc.ca/proposal_e.asp
Municipal Rural Infrastructure Program (MRIF)	Infrastructure Canada	The $1 billion MRIF, established in August 2003, is aimed at improving the stock of core public infrastructure in areas in small and rural communities. It is intended to support federal objectives for sustainable development by targeting at least 60% of the Fund on "green infrastructure", including water, wastewater, solid waste, energy improvements and transit. It will also support projects to imporve local roads, cultural/recreational/tourism infrastructure and broadband connectivity. Projects are to be cost-shared with provincial and municipal governments; to this end, the federal government is completing negotiations with each province and territory. The application process is proposed to be administered through Infrastructure Canada once agreements are reached.	http://www.infrastructurecanada.gc.ca/mrif/index_e.shtml Latest news release: http://www.infrastructure.gc.ca/mrif/publication/newsreleases/2004/20040212ottawa_e.shtml
Energy Innovators Initiative (EII); Commercial Building Incentive Program	Natural Resources Canada – Office of Energy Efficiency	EII offers assistance to commercial and institutional building energy retrofit activities. CBIP offers assistance for new commercial and institutional building design.	http://oee.nrcan.gc.ca/ici/english/home.cfm

NAME	SPONSORING AGENCIES	DETAILS	WEBSITE
(CBIP)			
Infrastructure Planning (Study) Grants	BC Ministry of Community, Aboriginal and Women's Services	The grants are provided for projects that study the feasibility, costs, technology and location of proposed sewer, water, drainage or transportation facilities. The maximum grant for approved studies is $10,000. Applications for projects proposed under the Canada-British Columbia Infrastructure Program "green" local government infrastructure, announced in October 2000, may benefit from the successful completion of an infrastructure planning study.	http://www.mcaws.gov.bc.ca/lgd/infra/cir/cir0306a.html
Federal and/or Provincial – planning, conservation, outreach or other programs			
Softwood Industry Community Economic Adjustment Initiative (SICEAI)	Western Economic Diversification Canada	SICEAI will provide funding for projects in B.C.'s forest-dependent communities that address local adjustment priorities and which have demonstrable community support. The national SICEAI program is funded with $110 million for 2003/2004 and current estimates are that BC will receive at least half of the total national funding. To be considered for funding, projects should meet the following criteria: • Be consistent with the overall objectives of the program; • Have potential to further the economic development of a community or a group of communities and should not benefit one community or community group at the expense of another; • Have strong community support such as financial contributions, written support or endorsements by a municipal or band council; • Demonstrate economic benefits such as increased jobs or use of a new technology; and • Demonstrate adequate managerial, financial and technical capability to conduct the proposed activity.	http://www.wd.gc.ca/siceai/default_e.asp#b
EcoAction Community Funding Program	Environment Canada	This program provides financial support to non-profit community groups for projects that will achieve positive results in the following areas: Clean Air & Climate Change - help improve air quality by, e.g., reducing emissions that contribute to smog, climate change and ozone depletion. Clean Water - reduce and divert the use of toxic substances such as pesticides and hazardous household products, that affect water quality. Nature - protect wild animals and plants, and protect and improve the places where they live, with priority on migratory birds and habitat. With ratification of the Kyoto Protocol, emphasis in 2003 and onward is on climate change initiatives, such as: • Sustainable transportation planning , implementation and promotion	http://www.ec.gc.ca/ecoaction/note2_e.html

NAME	SPONSORING AGENCIES	DETAILS	WEBSITE
		• anti-idling initiatives • waste reduction/diversion projects which result in reduced greenhouse gases from incineration or landfill gases • capacity-building projects linked to a subsequent action such as the development of sustainable transportation or smog management plans Local governments are not eligible to apply directly to this program, but non-government partners can apply.	
Georgia Basin Action Plan (GBAP)	Environment Canada (lead) Fisheries & Oceans Canada Parks Canada Ministry of Water, Land & Air Protect. Ministry of Sustain-able Resource Management	The GBAP is a 5-year program (2003-2008) aimed at building on the progress of the Georgia Basin Ecosystem Initiative (GBEI). A partnership of 3 federal and 2 provincial agencies, the GBAP continues the GBEI's focus on clean air, clean water, habitats and species, and sustainable communities. Emphasis is placed on cooperation and collaboration with local decision-makers. While no funding programs are explicitly associated with GBAP, DCR partnered with the GBEI in 1999 to apply an oxidation treatment process to its sewage treatment plant. Similar partnerships are likely available for projects that fit into one of GBAP's four project areas.	http://www.pyr.ec.gc.ca/georgiabasin/index_e.htm
Climate Change Action Fund- Public Education and Outreach (CCAF - PEO)	Environment Canada	The objectives of this program are: • to promote awareness of climate change among Canadians, allowing them to understand the phenomenon, including the underlying scientific dimensions and recent scientific developments, the regional nature of expected changes and when they are supposed to take place, the need to adapt and to understand related environmental, economic and social issues; • to establish a support base for the adoption of policy measures in the future; • to encourage and motivate Canadians to act individually or collectively (communities/groups) to reduce greenhouse gas emissions. The CCAF-PEO will invest funds, together with resources from partners, to support education and outreach efforts targeting communities, youth and educators, business and industry and the general public.	http://www.climatechange.gc.ca
Habitat Stewardship Program (HSP) for Species at Risk	Environment Canada, Fisheries and Oceans Canada, Parks Canada	The HSP became operational in 2000-2001 and allocates up to $10 million per year ($45 million over five years) to projects that conserve and protect species at risk and their habitats. The HSP provides funding to "stewards" for implementing activities that protect or conserve habitats for species designated as nationally "at risk"	http://www.cws-scf.ec.gc.ca/hsp-pih/default_e.cfm

NAME	SPONSORING AGENCIES	DETAILS	WEBSITE
	Canada	protect or conserve habitats for species designated as nationally "at risk" (endangered, threatened or of special concern). Stewards may be Aboriginal organizations, landowners, resource users, nature trusts, provinces, local governments, the natural resource sector, community-based wildlife societies, educational institutions, and conservation organizations.	
Habitat Conservation Trust Fund (HCTF)	Province of BC	The HCTF funds the acquisition of land and water rights, and supports projects not eligible for support from existing research funds or not within routine government responsibilities. HCTF expenditures may be allocated to applied research and development proposals (proposals should help design or test a technique or application of a technique); continuing costs of operation and maintenance of habitats, works or facilities; and planning for habitat protection.	http://www.hctf.ca/contact/contact.htm http://www.hctf.ca/app/application.htm
Public Conservation Assistance Fund	HCTF and Province of BC	Grants are available to organizations and individuals to assist in conservation projects. Grants are modest, averaging about $2,500 each and not exceeding $10, 000. A major part of contribution must be in volunteer labour.	http://www.hctf.ca/pubcon/index.html
Private Funding Programs			
BC Heritage Legacy Fund	The Land Conservancy of BC (TLC)	Newly created under a partnership of TLC and the Heritage Society of BC, the BCHL Fund was established in March 2003 with a $5 million initial contribution from the Province of BC. While focused on heritage buildings or sites, there may be opportunity for heritage landscapes.	http://tlc.bounceme.net/sectioncontent.php?sectionid=96&pageid=308
Recreational Stewardship Inventory Project	British Columbia Conservation Foundation (BCCF)	$800,000 is available to fund inventory projects related to maintaining, creating or expanding existing recreational opportunities associated with fish & wildlife. In general, any individual or group can propose a project for BCCF funding (ministry staff, first nations, universities, private sector, crown corporations, local governments, etc.)	http://www.bccf.com/new_bccf_web/bccf_opportunities.htm
BC Real Estate Foundation Environment and Land Use program	BC Real Estate Foundation	The BCREF provides both project funding and endowment grants to non-profit organizations. Endowment grants are available only to organizations with charitable status. “Environment and land use” is 1 of 4 priority funding themes. The Foundation may fund initiatives that address society's collective responsibility for natural and settlement assets in British Columbia through education, research, and/or law reform activities. The Foundation places a priority on projects that emphasize the	http://www.landcentre.ca/foundation/howtoapply/fundingcriteria/criteria.html

NAME	SPONSORING AGENCIES	DETAILS	WEBSITE
		governance aspects of sustainable land use practices. Applicants must define the conservation values that their projects address in the context of relevant land use planning, policy, and regulation. The decision-making context might include official community plans, regional district plans, watershed management plans, or planning activities of senior government agencies.	
Land for Wildlife Fund	BCCF	The fund designed to preserve natural habitats by pooling resources towards the purchase of land for conservation. Through partnerships with organizations, companies and government entities, The BCCF is able to actively work towards the preservation of natural habitats for fish and wildlife.	http://www.bccf.com/lfwf/index.htm
	Vancouver Foundation	Vancouver Foundation, a non-governmental community foundation, was founded in 1943 as a collection of funds that form a permanent endowment for charitable purposes. Today, the Foundation administers over 600 funds, the capital of which comes from bequests, living donors, endowments of non-profit organizations and other gifts. Grants are made from income generated from the investment of the funds. While originating and located in Vancouver, the Foundation helps with projects throughout British Columbia. "Environment" is one of 6 topic areas supported by the Vancouver Foundation.	http://www.vancouverfoundation.bc.ca/GrantInformation/FundingGuidelines.shtml
Funding Directories and Guides			
(directory)	Canadian Environmental Grantmakers Network	CEGN is a national Canadian funders' organization of private, community, public and corporate foundations, and government and corporate funding programs that give grants in support of the Canadian environment. CEGN works to develop an effective network of environmental grantmakers in Canada by facilitating information-sharing, collaboration, training and professional development, research, and communications. CEGN's members together provide over $50 million in environmental grants in Canada. The website provides access to a database where users can search by province, topic, etc. Also provides summary statistics of grants provided where and for what for 2001 and 2002.	http://www.cegn.org/main.html
Green Source	Environment Canada	A database of funding sources searchable by region, keyword, organization, amount, type of funder.	http://www.ec.gc.ca/ecoaction/grnsrc/index_e.cfm
Environmental Funding Sources Directory	BC Environmental Network	An online directory available to BCEN members; requires a user name and password.	http://www.bcen.bc.ca/

NAME	SPONSORING AGENCIES	DETAILS	WEBSITE
Funders Guide	Stewardship Centre for BC	An online directory searchable by geographical focus, funding organization (or level of government), funding program, funding deadline. Information, however, may be out of date.	http://www.stewardshipcentre.bc.ca/sc_bc/sc_funders/funderSearch.asp
(guidance)	BC Ministry of Communities, Aboriginal and Women's Services	Public Private Partnership *A Guide for Local Government*	http://www.mcaws.gov.bc.ca/lgd/pol_research/mar/PPP/
(guidance)	Partnership BC	Partnerships British Columbia is a company responsible for bringing together ministries, agencies and the private sector to develop projects through public-private partnerships (P3s). As a company registered under the Company Act, Partnerships BC is wholly owned by the Province of British Columbia and reports to its shareholder the Minister of Finance.	http://www.partnershipsbc.ca/about/au_index.htm

Appendix D: Roundabout Discussion

Appendix D - Roundabouts

What is a Roundabout?

A roundabout is a circular intersection around which vehicles travel in a counter-clockwise direction. Roundabouts are not the same as traffic circles used for traffic calming purposes on local streets, as seen in Vancouver and other communities. Roundabouts are not the same as rotaries, which are high-speed circular junctions as seen in Edmonton and Halifax.

Roundabouts are distinguished by four key characteristics, illustrated in Figure 1 and described below.

Yield on entry. Yield control is used on all entries to a roundabout. No traffic control is used on the circulatory roadway, and circulating traffic has the right-of-way.

Splitter Islands. Splitter Islands are raised islands located on each approach, between opposing directions of traffic. Splitter islands are used to create an appropriate angle of entry, which is a critical element of a roundabout design. Too shallow an angle of entry enables motorists to enter the roundabout at high speeds. Too sharp an angle of entry requires motorists to come to a near stop, even when there is no other traffic in the roundabout. Splitter islands also provide a median area at the pedestrian crossing, enabling pedestrians to cross one direction of traffic at a time.

Deflection. Vehicles travelling through a roundabout intersection are deflected around the centre island. This deflection reduces vehicle speeds and reinforces the yield on entry.

Counter-clockwise circulation. All vehicles circulate around a roundabout in a counter-clockwise direction — even large trucks. On smaller roundabouts, a sloped concrete apron around the perimeter of the central island can be used by large trucks in order to negotiate the roundabout.

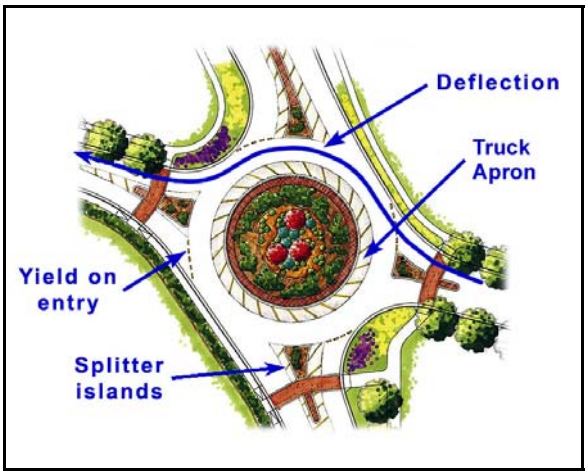


Figure 1 — Roundabout features

The roundabouts proposed for the South Island Highway are single-lane roundabouts, which is the most common type of roundabout. As illustrated in Figure 2, a single-lane roundabout incorporates a single circulatory lane in the roundabout, as well as one lane in each direction on the approach roads. Some single-lane roundabouts incorporate flared entries which widen to two lanes to provide additional storage capacity at the yield line, and additional intersection capacity. Single-lane roundabouts range in diameter from 30 m to 40 m. Typical speeds within a single-lane roundabout are 25 km/h to 35 km/h. Figures 3 and 4 provide examples of single-lane roundabouts.

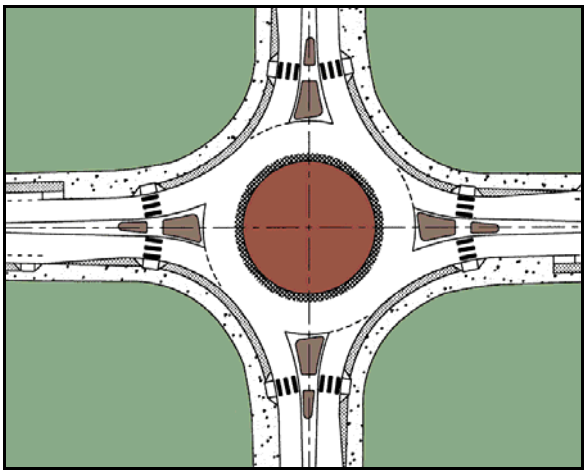


Figure 2 — Single-lane roundabout

Figure 3 — Single-lane roundabout, Hamilton ON

Figure 4 — Single-lane roundabout, Portland OR

Benefits

Roundabouts offer numerous benefits. The primary benefit is safety. Roundabouts reduce vehicle speeds through an intersection, and as a result improve safety for all road users — pedestrians, cyclists and motorists. Key safety benefits include:

Reduced speeds. Speeds through a single-lane roundabout range from 25 km/h to 35 km/h, depending on the size of the roundabout. In all cases, speeds are lower than through conventional intersections, where there are effectively no restrictions on vehicle speeds.

Reduced number of crashes. As a result of lower speeds, the number of crashes at roundabouts is lower than at conventional intersections. The Insurance Institute for Highway

Safety conducted a study of 24 intersections in the U.S. where stop control and traffic signals were replaced with roundabouts. Overall, there was a 39% reduction in crashes following conversion to roundabouts. A study of five intersections in Maryland converted to roundabouts found that the total number of crashes declined from 85 in the three years prior to conversion to 40 afterwards — a reduction of 53%. Numerous European studies have found similar reductions in accidents and lower accident rates at roundabout intersections. Accident rates for roundabouts calculated from European studies are 50% to 60% of the rates for signalized intersections.

Crashes are reduced for pedestrians and cyclists as well as for motorists. A Dutch study of 181 intersections converted to roundabouts found an average reduction in all pedestrian crashes of 73%, and an average reduction in pedestrian injury crashes of 89%. At nine multilane roundabouts in Colorado, there were no pedestrian crashes during the analysis period following conversion to roundabouts (19 to 47 months), compared with two pedestrian crashes during the analysis period before (22 to 36 months). A French study of bicycle crashes at more than 1,200 signalized intersections and almost 200 roundabouts found twice as many injury crashes per year at signalized intersections than at roundabouts.

Reduced severity of crashes. The Insurance Institute for Highway Safety's study of 24 intersections in the U.S. where roundabouts replaced stop control and traffic signals found a significant reduction in the severity of crashes. After converting the intersections to roundabouts, there were 76% fewer crashes involving injuries, and 90% fewer crashes involving fatalities. A study of five intersections in Maryland converted to roundabouts found that the average claim cost per accident decrease from US $117,000 before conversion to US $79,000 after conversion. What these findings mean is that in general, most crashes which occur at roundabouts are low-speed crashes involving property damage only. As well, low-speed collisions with pedestrians are far less likely to result in serious injury or death — in a collision at 30 km/h, there is a 5% chance that the pedestrian will be killed, whereas at 55 km/h the chance of being killed is 50%.

Other benefits of roundabouts include:

Reduced delays to pedestrians. As compared with signalized intersections or actuated pedestrian crossings. Pedestrians crossing a roundabout incur no delay waiting for a signal to walk. By eliminating delays to pedestrians, roundabouts avoid problems associated with signalized intersections, including jaywalking, pedestrians entering the road at the end of the pedestrian clearance interval just before

the signals change, and pedestrians who press the signal pushbutton and then cross before the signals change.

Reduced delays for traffic. The Center for Transportation Research and Training at Kansas State University conducted an analysis of intersection delays for various types of intersection control. The conclusion was that with traffic volumes of more than 800 vehicles per hour, delays would be lower at a roundabout than at stop-controlled or signalized intersections. With traffic volumes of 800 vehicles per hour or less, only two-way stop control offers slightly lower delays than a roundabout — all-way stop control and signalized intersections still involve more delay than a roundabout. At higher traffic volumes, average delays at a roundabout would be half the delays at a signalized intersection.

Reduced queue lengths. The Center for Transportation Research and Training also conducted an analysis of queue lengths for various types of intersection control. The conclusion of the analysis was that 95th percentile queue lengths for roundabouts would be less than queue lengths for two-way and all-way stop controlled intersections and signalized intersections, for traffic volumes ranging from 400 vehicles per hour to 1,800 vehicles per hour. At higher traffic volumes, queue lengths at a roundabout would be half the queue lengths at a signalized intersection.

Increased capacity. The Center for Transportation Research and Training also conducted an analysis of the capacity of various types of intersection control, and concluded that roundabouts offer the greatest capacity. Under similar traffic conditions, a roundabout would reach a degree of saturation of 0.85 at 1,900 vehicles per hour. In comparison, a signalized intersection would reach the same degree of saturation at 1,550 vehicles per hour, all-way stop control at 1,200 vehicles per hour, and two-way stop control at 1,000 vehicles per hour.

Reduced traffic noise. Because many vehicles do not stop at a roundabout, do not idle waiting to enter the intersection, and do not accelerate from a stop, traffic noise at a roundabout is typically less than at a conventional intersection. In addition, landscaping and other features of a roundabout also help to deflect and reduce traffic noise.

Reduced vehicle emissions. As with traffic noise, vehicle emissions at roundabouts are reduced because many vehicles do not stop at a roundabout, do not idle waiting to enter the intersection, and do not accelerate from a stop. On average, vehicles spend less time travelling through a roundabout than through a signalized intersection, and as a result emit less pollutants during the time spent travelling though the intersection.

Simplify complex, awkward intersections. Roundabouts are well-suited to intersections which differ from the conventional four-leg, 90-dgree configuration. A roundabout can incorporate five or more legs. A roundabout can accommodate roads at angles far from perpendicular.

Minimum number of road lanes. The capacity of a road network is determined by the capacity of the intersections. The capacity of the roads is typically far higher than the capacity of the intersections. What this means is that in many cases, although four lanes may be needed on a road at a conventional intersection, only two lanes are needed to accommodate the traffic travelling along the road between intersections. Roundabouts provide an opportunity to construct roads with fewer lanes, and increase road capacity at the intersection by flaring the approach into two lanes and/or constructing a dual-lane roundabout. The result is narrower roads, less pavement, less impermeable surface area, and reduced costs.

Enhanced appearance. Roundabouts typically incorporate landscaping, particularly in the centre island, which enhances the overall appearance of the intersection and adjacent roadways.

Appendix E: Public Comments Received

Response Summary (note * = repeated answer)

The study area is the South Island Highway (19A) between Hilchey and 1st Ave., and Willow Creek and Jubilee Parkway (excluding the Willow Point area now under construction). This workshop encourages your response to alternative concepts for improvements to the road and public lands along the corridor.

1. Do you support the 'Elements in Common' that are proposed?

The improvements listed below are common to all options being presented. Please check whether you don't support, support as proposed, or support with refinements the proposed improvements listed below. If you don't support the improvement, please note your reasons or provide other ideas. If you are supportive, please feel free to suggest refinements or write comments:

	Don't Support	Support as proposed	Support with refinements	No Answer	Comments
Adding a centre two-way left turn lane (north of Maryland Rd., amount varies) plus a travel lane in each direction	9%	74%	13%	4%	Keep traffic moving, concerns about expropriation *, need to slow traffic – center lane allows extra speed, if it doesn't stop access to beach properties.
Continuous bicycle lane, on both sides of the road	31%	54%	13%	2%	One side adequate **, one side but wider on water side, south – one lane on resident side, north – lane on sea walk, essential to have separate lane, one bike lane each way and ½ the sea walk is more than what is needed, If the sea walk side has an excellent one from 1st to Maryland/Jubilee…why? (I do not accept the "legal" reason), 1 side only, encourage bide riding, leave as is, want less hard surface between 2 sides of street.
Bus stop improvements, including:					
- sidewalks/wheelchair access at stops	2%	80%	11%	7%	Handicap need assistance if possible, can be done in existing bays.
- more and better bus shelters	22%	67%	2%	9%	Better pull-offs for buses, is shatterproof glass available, prone to vandalism **.
- more and better benches	13%	74%	4%	9%	where room, can't have too many.
- more and better litter facilities	7%	77%	7%	9%	helps to keep in good shape, people don't use them now.
- improved lighting	16%	70%	7%	7%	Short unobstructed lighting, at cross walks and driveways (Merecroft), needed for the sake of safety, dim lighting only *, anyone walking at night should be carrying a flashlight.
Retaining and improving the Rotary Sea walk, including widening, where possible, to 4.0 m	16%	66%	11%	7%	Adequate ***, wider bike lane, yes for bike lane, the longer, wider the sea walk the better! The less commercialized the better, great for walking, excellent idea, make continuous, needs much improved landscaping, sea walk is wide enough – get a walk-way on the upside.
Pedestrian improvements, including:					
- continuous sidewalk on upland side	22%	58%	9%	11%	Stop at Maryland & Ticin west, A minimal sidewalk is probably needed, only if budget allows.
- additional crosswalks (amount varies)	7%	71%	11%	11%	More walkways to provide sea walk access, as defined by engineering dept, pedestrian controlled traffic lights, crosswalks high priority. It's dangerous to cross the hwy – especially for slower seniors.
- no loose gravel on main walks	4%	81%	4%	11%	Loose gravel can cause accidents.
Driveway access management, by consolidation of driveways into					
one per residential parcel	4%	78%	11%	7%	Left and right access, one for condos, where existing residential has 2 to be allowed *, access currently dangerous with heavy traffic & 60 km speed limit – lower speed limit.
max. 2 per commercial parcel	9%	62%	9%	20%	One for commercial.
More and better public washrooms	11%	78%	9%	2%	Lock at night *, locked after 10 pm, think about the vandalism, kept clean & with night lighting.
Park lighting is sparse and decorative only, thereby limiting park / trail use in dark hours	33%	49%	11%	7%	Need good lighting for dark, rainy nights, more low lights *, shorter, want more lighting along sea walk & park, need dark-hour use of trail, for safety reasons I think lighting should be improved – Rockland trail is dark and isolated and frankly scary. Leave lighting as is * – if you want bright light, go to a mall, if park is to be used at night – more light *, waste money on vandals.

Vehicular and Pedestrian Circulation

2. What configuration of median islands and driveway access do you support?

Both options presented include central two-way left turn lanes, alternating with a central landscaped median. The options vary in the amount of median landscape and the amount of turning lane. Which pattern do you prefer? Please check one, and explain your reasoning:

Option A, with landscaped central median where-ever possible, and
short sections of two-way left turn lane for access to driveways 40%

Reasons for your choice:
Stop racing and vehicles using center lane as a passing lane, safety *****, pleasanter * appearance **, landscaped median does not have to be grass, However – commercial and condo properties must have access from both directions due to large numbers of cars using entrances, plants and trees to ensure better air quality and for esthetic appeal, minimize number of turn onto/off highway, Not all areas require 2 left turn lanes, do not have landscaped median in any area, Area is limited for vehicles as large trucks use hwy, this is Campbell River's entry. It should be attractive – gray pavement is not. Allows for increased traffic flow in a safe & attractive manner, people friendly, slows the traffic down, "welcomes" public to the beach.

Option B, with short sections of landscaped median, and
two way left turn lane almost continuous 53%

Reasons for your choice:
Cost of upkeep for landscaped median *******, left turn access to residential property *, turn lanes needed for years, median is attractive but can be annoying if you have to drive long distances to turn around or lane access, the medians presently in Campbell River are not for the most part properly maintained by the District or property owners (boulevards), Everyone should have left turn access ****, garage carport access, more consistent traffic flow *, roundabouts will be irritating, garages at front of property, safer *, I live in the area which would eventually have left turns eliminated, safety, more left turns the better, interfere with view from properties on high side of road, easier re-access to road flow from driveways *, Island in crosswalk areas would help pedestrians, as adding a center lane will make the hwy even wider to cross, especially for our aging population in the condos along the hwy. Don't want center lane, this should come off the upside, as these properties are the one's putting in large condos and have multi-cars. Left turn areas not needed along the whole section.

Other comments:
Before commenting, I would like to see the plans (I could not attend this) but I feel a continuous or nearly turning lane would be used by many as a passing lane and would be unsafe, also it has a "traffic efficient" over beauty feel i.e. By keeping the traffic flowing fast a barrier to the ocean is set-up, plus the noise increases. I do realize the Island Highway is a corridor though. Don't support either. Highway can be upgraded within 66' road allowance to include sidewalk and enough room to turn left without adding 4 m to roadway. Under no circumstances landscaping in center – too costly to maintain. Do not want a center lane *.

3. What configurations at major intersections do you support?

Each of the two options has a different mix of intersection improvements. Which of these do you prefer? Please check one, and explain your reasoning:

Option A: Roundabouts at Rockland, Rotary Park, Pinecrest Right of Way, Hilchey and Jubilee. Traffic signals at 2nd, and no traffic signals at other intersections. 69%

Reasons for your choice:
Must have a place to do "U" turns, safety ****, efficiency ***, Should be a combination of traffic lights and roundabouts, Roundabouts work well from our experiences in Europe, slow traffic down ***, visual pleasing *, don't like stop/traffic lights (too many) **, Roundabout at Rockland and Rotary Park, Roundabouts will keep traffic moving *, make it much easier on making left hand turns off side roads, benefit large trucks on highway making turns, environmental benefits with no waiting at lights, maintenance doesn't have to be excessive if original construction is basic in nature, opportunity to turn around in a stretch that has no side streets, previous experience with roundabouts convinced me of their benefits, Erickson is a commercial intersection and its difficult to see traffic around the corner to the south. Why do we need a light at 2nd? Would use 3 way stop first, put one roundabout in – to see how it works.

Option B: No Roundabouts. Traffic signals at Jubilee Parkway and Hilchey (as exists), Rockland and 2nd. No traffic signals at other intersections. 27%

Reasons for your choice:
Unnecessary – funds needed, roundabouts would be very irritation, too many slow downs on the way to work, How many people know the rules of roundabouts? How many tourists? New traffic signals at Rockland & 2nd allow access to the Hwy – they are the main streets, with these new lights and a good noticeable crosswalk (perhaps pedestrian operated) traffic would also be slowed, traffic signals can be installed at future time when required, traffic flow should be adequate with this improvement, Allowances have to be made for people who live and work in area i.e. Thru traffic to local stores and gas stations, absolutely no roundabouts, Roundabout when you are turning left – can the traffic behind your vehicle continue unobstructed, or will your vehicle have to stop until the oncoming traffic is clear which creates a huge line-up behind your vehicle. The roundabout would have to be well lit (light pollution). I would approve left turn lanes (no obstruction of traffic behind you). A roundabout at Rotary Park would create tremendous congestion of traffic for vehicles traveling south and wanting to turn left onto the beach area. The other intersections do not have beach access so there would not be the same concern.

4. What location for pedestrian stairs to above the upland ridge do you support?

Both options show potential locations for pedestrian trails and stairs on public lands to connect the residential area above the upland ridge to the waterfront. Which of these do you prefer? Please select, and explain your reasoning:

Stair and pedestrian path in the Pinecrest Right of Way 44%

AND/OR Stair and pedestrian path in the Merecroft Right of Way 49%

Reasons for your choice:
These choices provide easy access to open beach *, nice for folks above to have access, if only one is possible, this once should be chosen *, provides conditioning climbs for the fitness oriented.

AND/OR Stair and pedestrian path in the 844 South Island Highway Right of Way 49%

Reasons for your choice:
Try one in the middle and monitor its use, provide another if needed and monitor its use etc., Pedestrian access *** – encourage walking, Easy access for residents, parking for seawall use, could reduce cars parking along highway, should have pedestrian access to reduce parking pressure along the road, with some question as to how will these be maintained i.e. snow, lighting? Alternative for access to many people so they do not have to drive, don't think these would be used much, limits number of cars coming to beach area, less traffic on existing roads.

Other comments:
I simply do not think these are needed (or would be used). We have deer and other wildlife (bears) using the ridge-side (a walkway would cut this defacto reserve up) Also there is an active eagle tree looking over the Merecroft Right of Way, Merecroft – 390 – has received many hundreds of dollars in repairs from rocks being thrown by vandals using hill trail, creates too much vandalism *, stairs need to be well lighted, safety, too steep, None – Cost, If someone should fall on these steps who is responsible and how are the paramedics, police, fire department going to be able to access this area. What about cost and maintenance, criminal access from both ways.

5. What location for crosswalks do you support?

The Options show a different spacing of crosswalks. Which of these do you prefer? Please check one, and explain your reasoning:

Option A, crosswalks spaced no further apart than a 5 minute walk (450m) 47%

Reasons for your choice:
Safety *****, convenience **, less jay walking *****, pedestrian access *, if it is a 10 minute walk pedestrians will be inclined to jay walk *, I feel most people would jaywalk before walking 900 m, many older people need quicker access to the sea walk *****, mothers with children, carriages etc will find it easier with crosswalks closer together, assist in slowing traffic **, many drivers would like to stop for walkers wanting to cross but with no crosswalk are afraid of leading crossers into danger from opposing traffic.

Option B, crosswalks spaced no further apart than a 10 minute walk (900m) 51%

Reasons for your choice:
Encourage exercise, support traffic flow **, too much interference to car travel *, too many will slow traffic too much **, good signage would be necessary, too many stops for traffic *, cost, no fancy brickwork – but must be safe, simple yet safe.

Landscape, Lighting, Parks and Environment

6. What undergrounding of overhead utility lines do you support?

Hydro, telephone and communications lines are presently above ground on poles throughout the corridor. How much undergrounding of these wires do you support? Please check one, and explain your reasoning:

Underground all overhead lines throughout the corridor, from Jubilee Parkway to 1st Ave. 53%

Reasons for your choice:
I live in the 3200 block, looks **, safety *, tourist appeal, improves views but also decreases maintenance costs for hydro, covers everyone in this corridor – not just a part, has to be done sometime – do it now **, less storm outages *, better snow removal & fewer obstructions for cars to hit, this work will be required sooner or later as areas are developed, esthetic looking *, views are most important in this area, potential development of Condo living is greatest here – therefore taxes will support the improvements. Views in the treed area north of 1st are not as restricted because views are already limited by trees, too expensive to do both areas.

Underground all overhead lines throughout the corridor, north of Maryland Road only to 1st Ave. 47%

Reasons for your choice:
Eyesore, cuts view of ocean *, cost **, lines are more of a visual obstruction in this area, from the 2nd floor condos – no clean view, visual, Jubilee to Parkway no visual requirement, From Maryland to 1st Ave. is when the ocean view starts, no overhead lines would mean we are serious about the plans, money saver if done along with sewer installation, makes the scenic route much more attractive for tourists, improve view for residents. The all over look to our waterfront is essential, personally, every picture I take shows those terrible lines, when the construction is being done it seems logical to bury all utilities. It will only cost us a lot more somewhere down the line, when no doubt it will be requested and needed. Bury on upside of road, looks neater and less problems with wind storms, there are more trees south of Maryland so overhead lines not so important, will give more room for turn lane, sidewalks, bike paths and swales. Underground utilities will add millions of dollars of value to the real estate in this area. City will get the money back by increased taxes.

Do not underground overhead lines in the corridor. 0%

7. What roadside landscape and stormwater treatment do you prefer?

Drainage from the existing highway generally goes to roadside ditches on the upland side, and soaks into existing gravel on the water side. The soils in the areas are generally permeable, capable of soaking up road drainage, which improves water quality for the beaches and foreshore. Both options show grass-surface infiltration swales, but vary in their location and size. Which alternative do you prefer? Please check one, and explain your reasoning:

Option A: Infiltration swales (2m wide, more shallow) on both sides of the roadway,
protected by barrier curb with 'let-downs' for drainage 36%

Reasons for your choice:
Doesn't sound like a wider swale is necessary, need to deal with drainage from bank between highway and Upland, better handling of bank drainage needed, narrower, concern about maintenance (lawn mowing, weeds) along people's property fronts – short distance for run-off to get to infiltration swale, will work better, will be more attractive *.

Option B: Infiltration swale (2.8m wide, deeper) on the sea side of the roadway, with continuous flush curb; 1.35m grass boulevard on upland side, protected by standard upright curb. 42%

Reasons for your choice:
Keep bigger separation from sea walk to traffic, cost *, more room between sea walk & road *, if you do it on both sides you probably will want to use some of my property, this should be decided by the engineering dept *, as long as swale is not too high, should handle the run off, could be very wet on the upland side after and furring a heavy rain if no longer a ditch. Griat puddles and squishy grasses happen now on the sea side.

Other comments:
Which ever leaves the most area for the seaside i.e. The least infrastructures on the seaside – the better, neither option, not needed, the water runs off fine as it is now, no swales unless you can drive over them.

8. What roadway lighting treatment do you prefer?

Existing lighting of the corridor is from wide-spread lights on hydro poles. Both options show new lighting, but vary in treatment. Which alternative do you prefer? Please check one, and explain your reasoning:

Option A: Low-glare lighting on medium height standards, upland side of the highway only. The waterfront side is designed with a reduced level of lighting, except at crosswalks and major intersections 53%

Reasons for your choice:
Wildlife should be as undisturbed as possible, bright lighting is not needed now for people to use the sea walk at night – why would this change, lighting 1 side of road will give more light than alternating, keep below view height, keep the waterfront as uncluttered as possible *, please consider low lighting perhaps on both sides of road, low lighting standards like those in town tend to distort the view of surroundings close by – prefer overhead lighting, those who prefer lighting can walk on well lit side *, safer, easier, those who want to travel closer to shore can use flashlights, cheaper.

Option B: Low-glare lighting on medium height standards, alternating on both sides of the highway. 38%

Reasons for your choice:
I prefer center lighting in the median, low level lighting on beach side, low glare – low light alternating both sides *, safety **, less intrusive *, At present some areas of the sea walk are in nearly complete darkness *, night walker protection, at driveway area locations, great for a night walk on the sea walk.

9. What parking arrangement do you prefer?

Existing parking varies from designated parking areas to informal parking on the roadside. How do you think parking should be accommodated? Please check one, and explain your reasoning:

Reduce parking supply numbers on the waterfront compared to existing, to encourage walking / cycling to waterfront. To do this, restrict parking to designated off-road areas. 44%

Reasons for your choice:
Encourage people to walk to sea walk, add some separated angle parking, safer, improve appearance of highway, centralized parking areas should work for most people *, allow residential parking only in front of residences *, keeps shoreline attractive, encourages health, District has to acquire more parking on west side of highway, on-road parking creates hazards, reduced on-road parking enhances “people place” aspect, more green provided.

Maintain parking supply on the waterfront about the same as existing. To do this, provide roadside parking by widening the asphalt and reducing roadway green space, as well as providing parking in designated off-road areas. 47%

Reasons for your choice:
Population and tourist increase to be accommodated, improving road will increase traffic, sight seeing variety, beach access *, sight seeing *, concentrate parking in select locations, back-in parallel park, I think options should exist for people to do whatever they want, I want to be able to accommodate my own visitors, it is more respectful to people of all physical abilities, Several parking areas are needed, many people drive down for an outing or exercise and then assemble their baby buggies or skate blades or wheelchairs/walkers and without lots of parking they will be forced to “cruise” for a sport. Also, this is C.R. – lets keep the informal parking and “small city feel” for as long as possible, there are a number of areas to develop for parking, increase parking in areas only where there is available space, do not increase road width where there are private residences, angle parking such as Qualicum Beach. The parking available now is one of the great attractions of C/R so easy to stop almost anywhere to enjoy the views and beach access. Important for tourism and locals. As a new comer to C/R this feature and your sea walk impressed us the most.

10. Do you support the 'Park Improvements' that are proposed?

The park improvements listed below are common to all options. Please check whether you don't support, support as proposed, or support with refinements the improvements listed below. If you don't support the improvement, please note your reasons or provide other ideas. If you are supportive, please feel free to suggest refinements or write comments:

Potential Park Improvements	Don't Support	Support as proposed	Support with refinements	No Answer	Comments
- separate highway from park by knee-high berms, low planting or rail, but maintain view of seascape from travelling cars	18%	71%	2%	9%	There should be no potential obstruction of view *, OK not a high priority, allowing some parking, lower floor condos require clear view, where applicable, have concerns with berm due to people with trucks going after firewood.
- replace existing 'no-post' concrete traffic barrier and boulder barriers with curb or other more aesthetic barrier	9%	78%	2%	11%	Boulders are unsightly, yes, leave as is.
- avoid gravel areas, replace with finish lawn or planted area	13%	67%	2%	18%	Could be hard surface not grass, not grass – indigenous species, replace with blacktop, gravel areas dangerous for bikes & skates, this is a must, don't maintain the areas we have now.
- plant and/or maintain sea-grass and native shrub border (remove invasives) at edge of foreshore (width varies)	11%	78%	2%	9%	Yes, black berries are not a good view, remove all prickly bushes – hazardous, maintenance must be done on landscaping, leave as is, right away – low cost = big benefit.
- maintain manicured appearance at park interface with roadway (width varies)	7%	75%	2%	16%	naturalized, do not want landscaping *, use natural look.
- create a defined program for public art – including temporary display of wood					
- sculpture competition, followed by selection of permanent art	13%	72%	2%	13%	Let's not fill the area with "art" – nature is art too, wood sculpture is OK, great tourist attraction, vandalism.
- retain most existing trees (replant for long-term)	16%	71%	4%	9%	Some trees need to be removed, tree view & condos do not mix, low shrub type, reduces view, in parks only, trim or replace some trees that restrict view of ocean excessively, waterfront views should be enhanced don't support retaining trees.
- improve site furniture systems	16%	69%	2%	13%	More picnic tables, in parks only, remove "shrine" at Rotary Beach Park do not approve of public parks being used for memorial parks.
- design co-ordinated signage program	0%	83%	4%	13%	Only if done by Campbell River residents, important especially for crosswalks.
- formalize / improve beach access points	7%	75%	9%	9%	strongly support to protect beach front, encourage beach accesses where houses aren't , do not get too structured, older people require stair ways more accessible for them, in designated public areas only – do not interfere with residents access.

11. What tree planting approach do you support?

Significant existing trees will remain on public lands in the corridor. Input from the South Island Highway Liaison Committee has indicated concern about over-planting of trees which might affect the view from adjacent residents. Which approach to tree planting do you prefer? Please check one, and explain your reasoning:

Option A: No street trees are added to the highway median. Park tree planting is generally limited to replacement of existing conifers 62%

Reasons for your choice:
Beautification, safety, maintain natural overlook of corridor, obstruct view ****, cost of maintenance ***, fire hazards, high maintenance, go with lower profile trees & shrubs * (low maintenance varieties) wherever possible, no median, replace trees in parks only, wind makes for more maintenance problems in C/R, distraction to drivers - limiting vision.

Option B: Narrow or small street trees are placed in the limited amount of highway median, in locations that may frame but do not block the view of the sea from neighboring residents. Park tree planting is generally limited to replacement of existing conifers 31%

Reasons for your choice:
To improve air quality large trees needed, what about some flowering deciduous shrubs, some beautiful autumn colored shrubs, trees and view do not mix – small trees grow into big trees, must be very low, do not destroy existing ones, small trees will enhance the beauty of the entrance w/o obscuring view, increases manicured appearance, provides viewing barrier into opposing lane of traffic.

12. On reflection, which of the two options do you prefer?

Referring to the two options, please mark which one you prefer, in general, below. Please feel free to suggest better ideas, refinements or write comments:

	First Choice
Option A:	44%

Reasons for your choice:
Green areas more appealing than 3 lanes of paving, low height lighting on beach walk, like the visual appeal **, safety ***, plans & photos showing 97 * 87 S. Island Hwy are out of date, new buildings exist on both of these properties from those shown in photo & on plans used for demonstration purposes, add large trees in median, greener – better for everyone, my bias is toward the greenest, most-pedestrian, cyclist friendly option – However I do not agree with expropriation of private property, don't like 3 lanes thru town – fine for south of town, like the idea of longer green medians, roundabouts are good, crosswalks necessary, left turn continuous lane necessary to all who live on S. Island Highway, sea walk is a gem, no more parking spaces required, cost,

Option B: 24%

Reasons for your choice:
I like the 3 lanes clear – no grass, we all need turning lanes, with more median green space, Access to everyone's property **, cost of maintenance to median *, traffic flow, hopefully the sea walk will continue from Hidden Harbour to Piek, fairer to residents and high municipal tax payers, I think it will make the area more accessible, lower maintenance costs, safety,

Comments or Other Suggestions:
Generally this seems a great, meaningful process. The sea walk has been a huge success. It has given all Riverites access to the ocean. Campbell River has a jewel with its seashore – lets keep it (maybe buff it up a bit) None of these proposals seem to want to change it completely and that is a relief, another meeting / workshop date would be great. Please clean up Big Rock, It is a cultural and historic site that at present makes the entrance to Campbell River look like a border town between Mexico & U.S. Tacky. Enforce vandalism and graffiti laws. Don't want center lane – expropriation, no center lane, fix the sewer – put electrical services under ground and leave it as it is,
Any improvements that must be made should be done within the 66' highway right of way. It appears that neither option takes into account the people who live and work on the Island Highway. All homeowners here have invested time and money to live here and deserve to be able to enjoy their property. Prior to Planning Department embarking on these expensive plans, property owners should have been consulted. There are no property owners on the waterside on the committee, nor any business owners. Prior to any planning, Engineering staff should have come and visited property owners and asked them what they wanted, if anything, to be done to the highway. If the City is serious about spending $40,000,000 to do this, then they must also be prepared to spend much more than that to buy everyone out!
The 30-year time frame is too long. The construction will be so spread out, that the entrance to C/R will always be a construction zone. By the time both ends of the renovation are done, you will have to start again. If funding is obtained, compress the time frame and make C/R more beautiful now. Although C/R has probably the most natural beauty, most other Island communities (Courtenay / Parksville / Qualicum) have done more to enhance the entries to their Cities than C/R.
Reduce speed limit for safety in crosswalks and to encourage speeders and commercial vehicles/trucks to use the Inland Hwy. Keep waterside free of parking for safety reasons and to reduce late-night parties and beach fires left unattended. Improve access to sea walk by walkways on right of way. More public washrooms not necessary (unsightly, odors, vandalism).
Both nice, well thought out. Because we have watched the traffic, we find left turn access to all properties most important and speed limit is fine at 60. The view is too nice in this stretch to worry about more speed.
More concrete (hardtop) islands instead of high maintenance green landscaped ones. Islands at every crosswalk & roundabout intersection and turning point to create a safer place for pedestrians to retreat from drivers.
As a new resident to C/R I have been very impressed with your city, especially the sea walk and waterfront parks and the numerous natural areas. Access is so good to the waterfront, but I do not like crossing the highway from our condominium to walk the sea walk or seashore. There are no crosswalks close and vehicles never stop. Access from driveways is dangerous too. I'm glad to see planning taking place to solve this negative impression of the town. Are there any good ways to divert some traffic to upper roads? Presentation and workshop excellent!
World class views needs a world-class plan. District needs to develop a financial plan right away. I suggest a large increase in DCC's but money must go to immediate improvements so community sees the benefits. Get rid of rental houses now.
The properties on the up-side should put in left turn lanes so these properties are the one's putting in condo's larger apartments. Take the land from them, we should not be punished for owing water front property. The homes we have built or purchased are our investments and our retirement homes. Fires on beach should be in certain areas only and confined pits as to often the fire department is called out to put out these fires on the beaches. These people who abuse it should be fined as there is no reason why they have to have half the beach on fire and smash bottles and leave garbage. Too often they have no means of putting out these fires. Some groups that come down respect the residents and cleanup after themselves.
District is always trying to encourage tourism, but it only inconveniences our family and costs us money in taxation. You say C/R is a good place to retire but you do not respect the rights of the people who live by the ocean now. All the people that support expansion of the sea walk live upland. The District should buy all of our ocean front properties and increase everyone's taxes. They we can take our money and businesses out of C/R and relocate to some other community that appreciates our contributions to the real economy.

Response Form – Results (* - repeated answer)

1. Do you support the recommended Traffic Lane, Median and Driveway provisions?

	Don't Support	Support as proposed	Support with refinements	No Answer	Comments
Adding a center two-way left turn lane (north of Maryland Rd., amount varies) plus a travel lane in each direction	0%	83%	10%	7%	For work to Jubilee, provision for emergency vehicle access, not the whole route – mostly in commercial areas.
Landscaped median wherever possible, but not where driveway access is approved	20%	53%	23%	4%	A (2) cut riding mower width decreases maintenance costs, with small shrubs *, No trees, For work to 1st, very limited sections, I like the 2-way left turn lane, keep taxpayers cost down, too expensive to maintain *, could impact visibility, must be maintained afterwards **, low maintenance.
Driveway access management, by consolidation of driveways into one per residential parcel	8%	75%	10%	7%	
max. 2 per commercial parcel	3%	65%	18%	14%	One if possible, If the commercial property has the capacity for high density housing then further entrance/access may be required & necessary, I want both my driveways, when people buy their property they should have the say how many driveways – how do you know what their needs are? For new properties only *, Max 1 per commercial parcel (2 lane). It seems to me that we already have 1 – 2 driveways each already.

2. Do you support proposed configurations at major intersections?

	Don't Support	Support as proposed	Support with refinements	No Answer	Comments
Roundabouts at Rockland, and if well received, also at Hilchey, Rotary Park, and Pinecrest Right of Way.	23%	40%	33%	4%	Only Rockland *****, take out the proposed crosswalks at the roundabouts, Not at Pinecrest *****, Too much traffic at Hilchey for one *, Do all three, Only put them in where there are at least 3 roads converging, Do we need both Rotary Park and Pinecrest? Fine as is, leave light at Hilchey *.
Traffic signals at Jubilee Pkwy (as exists) and at 2nd St.. No traffic signals at other intersections.	5%	55%	30%	10%	Roundabout @ Jubilee Parkway – check RCMP accident stats – traffic signal @ 2nd Ave. *, no traffic lights at 2nd ****, Delay traffic lights at 2nd Ave until revised traffic flows indicate a need *, only at Jubilee, left hand at 2nd, need Hilchey signal light.

3. Do you agree with recommendations for cyclists?

	Don't Support	Support as proposed	Support with refinements	No Answer	Comments
Continuous bicycle lane for high speed cyclists and emergency stops, on both sides of the road	5%	88%	3%	4%	$ for cars in that lane – driving or parking, where are pull offs for cars? I don't think you need to widen seawalk & put sidewalks on upland side – one or the other, with "rumble" strips at fog line to reduce vehicle/cyclist conflicts, one side
Retaining and improving the Rotary Seawalk, including accommodation of slow speed (recreational) cyclists by widening, where possible, to 4.0 m	18%	58%	18%	6%	With a sidewalk and bicycle lane on each side – the walk is wide enough *, wider is safer, 3.0 m wide ***, with a center line, with more use 4.0 will be needed, is widening really necessary? A little narrower on cyclist side – need to ensure cyclists ride single file.

4. Are pedestrian needs reflected in the recommendations?

	Don't Support	Support as proposed	Support with refinements	No Answer	Comments
Retaining and improving the Rotary Seawalk, including more gentle curves, and widening, where possible, to 4.0 m	15%	60%	20%	5%	Not widen the seawalk, with some lighting for safety, take out loops, 3.0 m wide ***, is widening necessary? Eliminate blind corners to prevent pedestrian/cyclist collisions. A little narrower – more gentle curves – people are short cutting them anyway.
Pedestrian improvements along the highway, including:					
- continuous sidewalk on upland side	5%	80%	10%	5%	Definitely a must, no – keep it green, very necessary, only in high density sections **.
- additional crosswalks (+/- 7 min apart)	0%	58%	33%	9%	5 min – re: seniors *, at appropriate distances with lower speeds, with adequate signals for pedestrians, not so close together ****, 12 min a part, where needed, place them where most needed, 10 min apart where possible.
Stair & pedestrian path to connect people from above upland ridge to the waterfront					Don't support it at all, the cost in building walkways, the upkeep of keeping it clear of leaves and ice in winter – careless smokers flipping their butts in the dried grass, never mind the problem of a slide when you tamper with the very steep bank – most normal people will not be able to climb.
At:					
Pinecrest Right of Way	33%	58%	5%	4%	Pathways lit, On a trial basis? Concern over landslides *, well lighted, Awesome idea! Perhaps it will help to reduce traffic driving to walkway due to limited pedestrian access.
Merecroft Right of Way	43%	48%	5%	4%	By solar *, Because of vandalism, Concern over landslides, cause too many problems, switchbacks would be needed because of steepness.
844 South Island Highway Right of Way	40%	45%	5%	10%	Lighting for safety, Concern over landslides.

General Comments: Liability for City i.e. maintenance – cleanup – weather (snow-leaves) policing re: drug use/trafficking. I don't support – parks have minimal maintenance as it stands – this invites many problems – with no financial ability provided to create consistent solutions by the city – absolutely not. I don't feel that we need 3 access ways – how often will those people walk down?

5. Transit Improvements are proposed. Are they adequate?

	Don't Support	Support as proposed	Support with refinements	No Answer	Comments
Bus stop improvements, including pullouts for buses with curb, sidewalk and wheelchair access at stops	0%	90%	5%	5%	Do not go overboard, keep it simple, reduce land use.
Other bus stop improvements, including:					
- more and better bus shelters	13%	68%	10%	9%	There are enough stops now, vandalism is too high for glass shelters *.
- better benches and litter facilities	10%	65%	13%	12%	Not unless vandalism can be brought under control first *, more dog poop stations & water stations, donated benches in memorium, more

6. Do you agree with recommendations for overhead utilities and lighting?

	Don't Support	Support as proposed	Support with refinements	No Answer	Comments
Underground all overhead lines throughout the corridor, from Jubilee Parkway to 1st Ave.	10%	75%	8%	7%	All or nothing *, very important to do it now Campbell River is growing up, Erickson to 1st only *, too costly, I support as proposed but cost must be a factor **.
Underground overhead lines except for hydro feeder mains, which would remain overhead,	68%	8%	5%	19%	Jubilee to Erickson, Why not do all of them? Too costly.
Would you still support the undergrounding of overhead lines if it only could be accomplished through a direct 1/3 recovery of costs from adjacent property owners	38%	40%	10%	12%	Tax the whole community ***, Property owners to pay for their individual power connection from highway, have no idea of the cost? Have you looked at the huge amount our taxes are now? Upland side pay more as it improves their views and property values more, Although I feel that property owners should pay a portion (much like the LIP) I would still like the project to go forward even if the property owners did not pay.
Install low-glare lighting on medium height standards, Upland side of the highway only..	5%	70%	18%	7%	Both sides should have lights **, a few, solar lighting *, I support as proposed but cost must be a factor, selective lighting on ocean side.

7. Are parking provisions adequate?

	Don't Support	Support as proposed	Support with refinements	No Answer	Comments
Maintain as much parking supply on the waterfront as can be achieved without reducing existing green space	13%	63%	23%	1%	Not to allow semi-parking and R.V.'s, with no over-night parking signs, provide adequate parking for future usage, one or the other, we don't want too many parking lots – eyesore, Like Frank James Park where green is preserved, less parking of large R.V.'s.
Increase public parking on upland side of the highway, with related crosswalk Access across the road to the waterfront	15%	65%	15%	5%	Make parking available for R.V.'s to keep off water side, create parking on waterfront in defined areas (paved), one or the other, yes to crosswalks here, only if it doesn't block views of local residents, propose purchasing property for parking on upland side for larger vehicles such as R.V's.

8. Park and Environmental Improvements are proposed. Do you agree?

	Don't Support	Support as proposed	Support with refinements	No Answer	Comments
Infiltration swale (2.8m wide), keeping most green space on the sea side of the roadway, upright curb with drainage drops;	0%	90%	5%	5%	Small planting (low) for noise control & safety, please include paved parking on seaside.
1.35m grass boulevard on upland side, protected by standard upright curb	15%	63%	3%	19%	must be maintained for years to come, concern about compensation for expropriation of private properties.
More and better public washrooms	5%	78%	10%	7%	At least 4 *, washrooms need to be well maintained & staffed. Fewer cleaner ones would be better than more dirty unstaffed ones, essential, locked at dusk.
Separate highway from park by knee-high berms, low planting or rail, but maintain view of seascape from travelling cars	5%	83%	8%	4%	No rail, berms – not plants – have to keep money in budget to maintain no rail either, low planting especially where highway is close to seawalk.
Replace existing 'no-post' concrete traffic barrier and boulder barriers with curb or other more aesthetic barrier	8%	80%	3%	9%	More aesthetic barrier.
Avoid gravel areas, replace with finish lawn or planted area	5%	78%	8%	9%	In areas that are gravel (on the roadside / not on the beach) put in paved parking, I like gravel areas too – worn down grass is worse – people can't walk on plants, if it's kept up – what we have now is not maintained.
Plant and/or maintain sea-grass and native shrub border (remove invasives) at edge of foreshore (width varies)	3%	90%	3%	4%	Good luck, if it's kept up – what we have now is not maintained.
Maintain manicured appearance at park interface with roadway (width varies)	0%	88%	0%	12%	Optional.
Design a low level accent lighting in waterfront parks, only in selected dark locations where street lighting coverage is insufficient.	0%	80%	15%	5%	Use solar lighting **, standard light post *, As long as it doesn't interfere.
Create a defined program for public art – including temporary display of wood sculpture competition, followed by selection of permanent art	0%	80%	15%	5%	Remove old wood sculptures, As long as good input i.e. The shoreline carvings, Don't take away from existing program.
Retain most existing trees in the parks (replant for long-term)	3%	75%	10%	12%	Remove "non-indigenous" trees & shrubs, yes and plant more in parks, shrubs only, in parks, Keep branches trimmed to keep views clear.
Highway medians are planted with a mix of lawn and low maintenance groundcover, With limited small tree planting to respect views	5%	68%	20%	7%	And small shrubs, No trees *****, consider Adopt-a-hwy type program to help with maintaining of manicured areas, keep cost down, low maintenance, no medians.
Improve site furniture systems	8%	65%	10%	17%	With more garbage containers to prevent litter, fine as is *, Improve but reduce numbers.
Design co-ordinated signage program	0%	70%	13%	17%	Specifications – same signage but leave room for creativity, aesthetic & simple.
Formalize / improve beach access points	3%	68%	18%	11%	With solar lighting, keep it to "pedestrian" traffic only on the beaches – no camping/no vehicles, just at strategic points near parking, within reason, not necessary.

9. How Should the Project be phased? Which areas are completed first?

	First Choice	Reasons for your choice
Phasing Option A: One area at a time is opened up and completed, including both underground and surface works, both in highway and parks e.g. a first phase might be the area near Rockland Road, from Simms Creek to Big Rock:	48%	When the road is torn up – everything should be completed then put back together *, section at a time shows visitors and local people things are being completed and improved in a timely manner *, less disruptive ****** consider longer sections to minimize temporary connection costs, more cost effective ****.
OR		
Phasing Option B: One item is completed for the length of the study area, e.g. all powerlines are undergrounded, or all sewer forcemain work is completed	43%	More cost effective **********, Should be tendered out with cost restrictions, the main thing is to get sewer system first, in case of change in local government, less inconvenience/less disruptive *, look better, save time, prioritize by necessity, put out for tender to contractors that specialize in the appropriate work.
No Answer	9%	

0%

10. What timeline and investment in the overall project is warranted?

This is a large, long-term project. It is expected that at least 2/3 of the funding will need to come from senior governments or other partnerships. For the 1/3 local funding (+/- $15M), there are four funding options introduced below. Please mark which one you prefer, in general, below. Please feel free to suggest better ideas, refinements or write comments:

	First Choice	Reasons for your choice
Timeline Option A: 30 year project (one phase every five years),	8%	I can't see a future for this project if any less than this time period.
OR		
Timeline Option B: 18 year project (one phase every three years),	3%	Sooner the better.
OR		
Timeline Option C: 12 year project (one phase every two years),	60%	Cost effective *******, Benefit Tourism ***, Less disruptive **, The longer it takes the more expensive it will be ***, Lets get it done **, In 30 years the whole thing may be redundant ****, or faster – CR needs to "grow up" faster 2117 is too long a time frame, Able to attract newcomers/visitors to CR sooner ***, Do it in even less time, should be put out on bids – hire the experts.
OR		
Timeline Option D: The South Island Highway Improvement Project should not be a DCR priority for the foreseeable future	8%	Taxes are too high now *, too much for tourists, not enough for residents, district can't maintain existing parks now.
No Answer	21%	

Comments

It doesn't really matter how long or when the work is done, it really depends on how much it costs and how much the city can afford **. If grants are available and you are not passing a large increase onto the taxpayers. Do what ever is less expensive.

Comments or Other Suggestions

Leave walkway and parks as is with a few improvements, replace sewer, require condo developers to underground services and pay for turning lane improvements to hwy at their developments, fill in ditch's and build upland sidewalk, all work to be contracted out, district should get current spending under control before any work is started, only residents that live on waterfront to have say on what is to happen to seawalk because we are the ones most affected.
In my opinion, I strongly suggest a "Dangerous Goods Route" now that this route is now city controlled.
Overall – this presentation was very impressive. Suggest that dogs not be allowed to run free or disallow dogs altogether – more signs needed. This is too narrow a walkway for dogs, larger ones especially running into people. Or provide for a dog pooh dispenser & reminders for owners to keep animals under control. Only have certain areas for R.V. parking. Have property owners pay for individual hook-up for underground service and point out to them that this would be an opportunity to upgrade their services (especially for older homes). Work should be tendered out with over-run restrictions. Work should not be done by city work crews for the major project i.e. Sewer and underground services.
The Island Highway is for tourist/commercial use – please keep this in mind. Reduce speed from 1st Ave to Hilchey to 50 km "maximum." Lights at Jubilee, Hilchey & 2nd Ave and one roundabout at Rockland is all that is required to maintain proper traffic flow. Other roundabouts would only slow traffic flow and not enhance or improve the highway if function ability. Keep parking in the open – on the seaside. Make it easier for police to patrol. License plates face out to the road for visual access. Do not have areas around parking lots with large trees or shrubs where drug use/deals can easily take place. Parking time restrictions must be posted so that no overnight parking is allowed. Parking lots on the upland side would encourage partying/criminal activity as they can be obscured by properties on both sides. No upland parking. Keep that for the businesses that are on this hwy. Liability & maintenance are 2 important issues when contemplating stair/walkways. Who will police them? Who will maintain them? What will they be built of? (rot?) Why create the environment for a serious problem when it has just now been removed? (druggies). No overnight parking of any vehicles on the Island hwy. Eliminate trucks from using this route – use Jubilee & Island hwy or Dogwood. Please in regard to signage – remove the "stealth" like military sign that welcomes people to Campbell River. Is it not possible to have a sign more conducive to our beautiful environment? It looks as though a person is entering a military hazardous zone. There should be a better way to announce this beautiful place – take a look at Nanaimo – celebrate its seaside environment. Better landscaping would help too.
Tell CR Official Community Plan folks that workshops in December tell us that they don't really want our input. We are busy with school concerts and such in December.
Include replacement of Hilchey intersection/lights with roundabout first. That would be a great kick-off to the project, starting there and extending to the big rock, for example.
I am interested with the proposed plan. Very forward thinking.
I believe it is a great idea. What is the purpose? If it is for all of CR residents then I do support this, if it is intended to collect the monies from the property owners that have chosen to live along this area, then I do not agree, as I believe that all of the community that chooses to use the seawalk should also contribute to the beauty of it. As a property owner coming out of my property at times – an accident is waiting to happen with the bicycles and roller bladders going flat out on the seawalk.
All power and service lines underground. Have Walmart cover portion of costs in exchange for building on estuary. Courtenay got $5 million from them.
Great process! Money is an issue – always is. Consider community sponsorship of furniture. Plaques paid privately on benches, features sponsored such as memorial wall in Nanaimo. Could community groups contribute to costs by "sponsoring" a section or by maintaining a section like Washington State Highways? Concerns about parking – want to maintain easy access but also maintain green, view, and hide cars.
"Rumble" strips selectively placed along fog-line could help reduce conflicts between commuter cyclist and vehicles esp. in low light and poor weather conditions. Pedestrians on the seawalk are frequently 3 abreast. I support widening of the walkway for pedestrians and maintaining existing cyclist path width; i.e. 1/3 of walkway for cyclist and 2/3 width for pedestrians. I also support selective straightening of the seawalk and removing of visual obstructions. Good Work!
Great Idea – what is planned. Traffic will be slower and safer. Get going & keep on budget & on time.
The posted speeds for vehicles should be reduced from 50 (reality 60) to 30 (reality 40)
Liked suggestion at meeting of doing seawalk use count, suggest do 1 winter day count and 2 summer day counts. Make washroom stalls small enough to discourage drug use, but ensure 1 or 2 large enough to accommodate wheelchair/scooter access. Consider handicap key for these users like handicap parking stalls, could be coded swipe card & ask community to fundraise to pay for these. We are a kind & generous community and should make this our point of community pride. It's a well-thought out, sensitive plan that brings our focus back to our major assets. Our waterfront and out people. Can only heighten our desirability to work and live here at the northern hub. When done, we should promote it like crazy. Thank you for your sensitive presentation and respect you gave to people at the workshop.
I suspect that putting power lines and telephone lines underground is too expensive. The majority of the lines are on the upland side and therefore not interfering with the seascape. The major benefit would be to the property owners – they should pay for the improvement. With regard to timing of the project: the rationale for this concept at this time was given to be the fact that sewer lines had to be upgraded soon and therefore the roadway would be dug up. If this is really a valid argument would not the lines have to be replaced in a short time period and not spread out over many years? This suggests that the sewer lines be replace now and improvements be done concurrently –i.e. crosswalk improvements and some more left turn lanes.

Appendix F: Slide Show

South Island Highway

South Island Highway Liaison Committee

Councillor Laird Ruehlen
Alternate Councillor Mary Ashley
Ken Barth
Steve Januszewski
John Clark
Theo Piercy
Bill Cosulich
Keith Price
Phil Skognes (staff)
Ron Neufeld (staff)
Sean Roy (staff)
Anneke Young (support staff)

South Island Highway

South Island Highway Consultants

Lanarc Consultants Ltd.
Richard Drdul Community Transportation Planning
Highland Engineering Services Ltd.
AMEC Americas Ltd.

South Island Highway

Purpose of the Plan

- to produce a CONCEPTUAL Design
- address transportation and safety issues
- identify parks improvements
- improve aesthetics and character of the area
- provide cost estimates and potential phasing

The plan should be visionary, while identifying a realistic and affordable phasing strategy.

South Island Highway

Why Now?

- to guide frontage works and driveway access during redevelopment.
- in preparation for upgrading of underground utilities (sewer forcemain, water) required to support south end growth.
- to support applications for current and upcoming senior government cost sharing e.g. Infrastructure Program, New Deal for Cities, new Cycle Program.
- to ensure incremental improvements - e.g. signage, site furniture – build towards a vision.

South Island Highway

Major Recommendations

South Island Highway
Conceptual Design — Phase 2

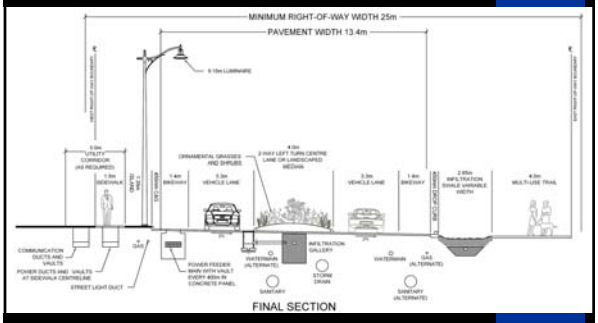
Function of Corridor

- Slow speed people place
- Local / tourist vehicle access given more priority, slow speed through movement accommodated
- Equal priority to pedestrians, cyclists and transit
- Reduce speed limit from 60km to 50km/hr.

Proposed Road Cross-Section

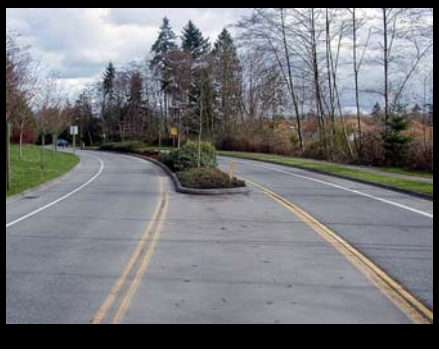
Proposed Bicycle Lanes

Final Plan



Final Section

Proposed Landscape Median



Existing Conditions

Focus: provide as much median as possible.

Option A: Proposed Conditions

Focus: provide unimpeded access to one driveway per residential parcel

Option B: Proposed Conditions

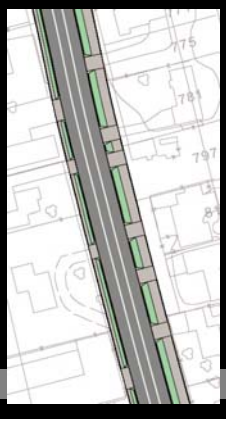
Recommendation is closer to Option B - Landscape median will be installed between driveways.

South Island Highway

Final Plan

But amount of landscape median will vary – with no median at areas of closely spaced driveways.

If possible during redevelopment, number of driveways will be reduced, and median increased.



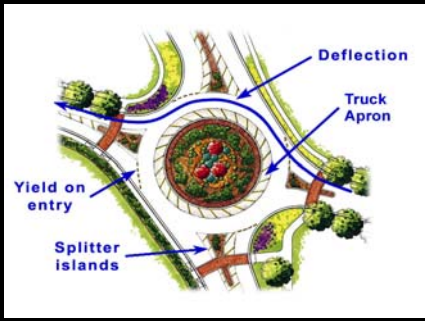
South Island Highway

Final Plan

Proposed Intersections

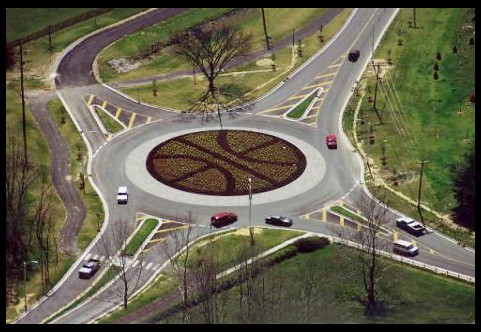
- Roundabout should be installed at Rockland.
- If roundabouts are publicly accepted, additional roundabouts should be installed at Rotary Park and Pinecrest ROW, to allow local turnarounds.
- Eventually, signals at Hilchey could be converted to a roundabout.
- Second Ave. should be a signalized intersection.

Roundabouts



Roundabouts

Roundabouts



Roundabouts

- **Safety Benefits:**
  - *Reduced speeds:*
    - 20 km/h to 35 km/h
  - *Reduced numbers of crashes:*
    - 40% to 50% fewer crashes
  - *Reduced severity of crashes:*
    - 50% to 80% fewer injury crashes
    - 90% fewer fatal crashes

Roundabouts

- Other Benefits:
  - Pedestrian safety
  - Cyclist safety
  - Reduced delays, queues for traffic
  - Increased capacity vs. stop control
  - Reduced traffic noise
  - Reduced vehicle emissions
  - Minimum number of road lanes

South Island Highway

Final Plan

South Island Highway

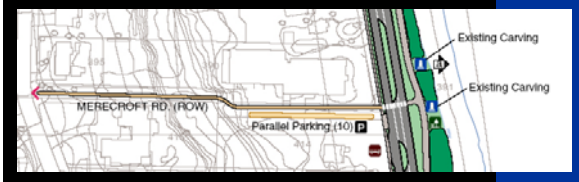
Final Plan

South Island Highway

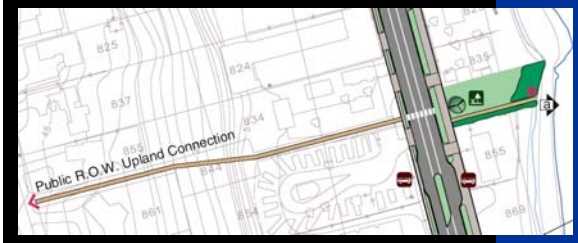
Final Plan

Upland Ridge Stairways

844 South Island Hwy



Final Plan

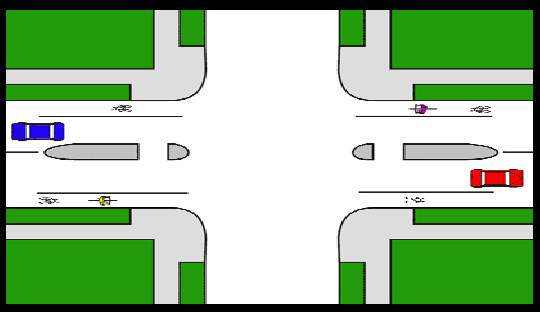


Final Plan

Pedestrian Crossings

Recommendation:
A +/-7.5 minute walk between, installed and improved based on need.

Pedestrian Crossings

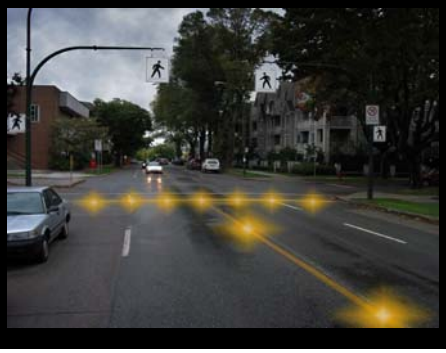


Pedestrian Crossings

Pedestrian Crossings

Pedestrian Crossings

Pedestrian Crossings



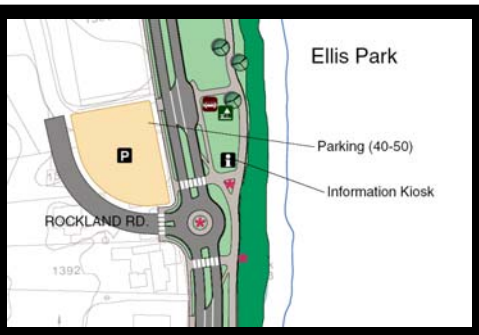
Pedestrian Crossings

Bus Stops

Bus Stop Improvements

Bus Stops

Proposed Parking



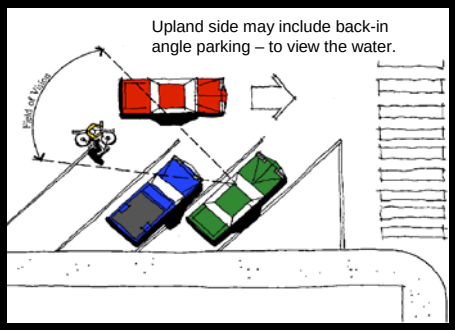
South Island Highway

New larger parking areas on the upland (west side) will replace lost parking on the water side.

Final Plan

Back in Angle Parking

Upland side may include back-in angle parking – to view the water.



South Island Highway

Small parking areas on the water side will have front-in angle parking – allowing views to water.

Final Plan

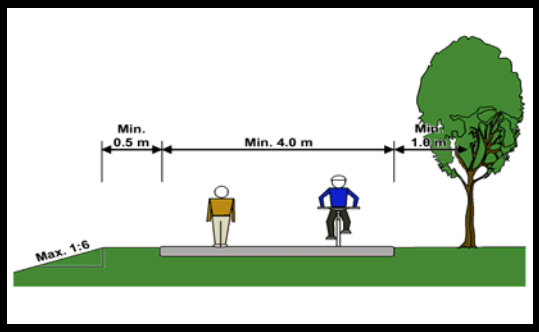
South Island Highway

Where space permits on the water side, parks will include two-sided parking areas and new washrooms.

Final Plan

Rotary Seawalk

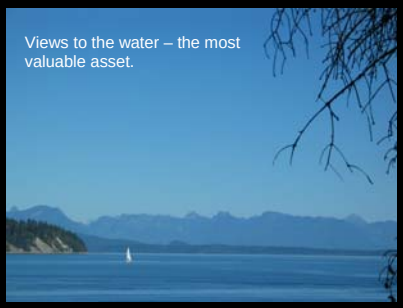
Rotary Seawalk



Rotary Seawalk

Rotary Seawalk

Park Improvements



Avoid a ‘cluttered waterfront’

Typical Park Character

Gateway to the Wild?

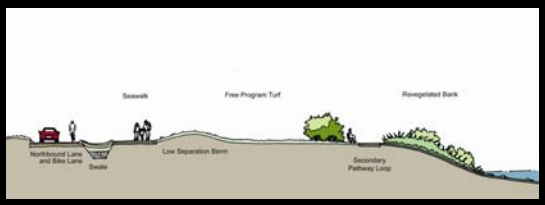
South Island Highway

Final Plan – Seawalk (Major) and Minor Trail systems

South Island Highway

Final Plan – Seawalk (Major) and Minor Trail systems

Typical Park Section



Low Separation Berm (cut and fill)
Free Program Turf (off-leash dog park, Kite flying, informal picnicking)
Secondary Pathway Loops (Minimum width, soft surfacing)
Refuge Seating and Picnic Table Locations
Coastal Foreshore Re-vegetation (from visible high water mark)

Knee-high Berm Separation

Public Art Program

A limited number of permanent public art locations will be established along the waterfront. An annual Juried Competition (on a chosen theme each year) would select one or two works per year for the permanent collection. Other submitted works would be displayed only temporarily.

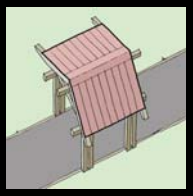
Public Art Themes e.g.

- Cultural traditions of local First Nations.
- Historical and Modern Salmon Fisheries (the Tyee Club est. 1924), Cultural Fish Tales. (71 lb. Salmon caught by Texan Walter Shutts).
- Historical and Modern Timber practices.
- Historical Visit of Captain Vancouver and his botanist Archibald Menzies
- Historical Namesake Dr. Samuel Campbell, the surgeon on the HMS Plumper.
- Geographical position near the 50th Parallel (Prague).
- Legend of Big Rock. A boastful Grizzly Bear turned to stone after not heeding the great spirits advice.
- Climatic Works describing the Coastal Rainforest.
- Environmental Works describing coastal ecology and processes.
- Environmental Works describing local wildlife and the edge condition.

Site Furnishing System

Select a single system and avoid other types.

Gateway Pavilions



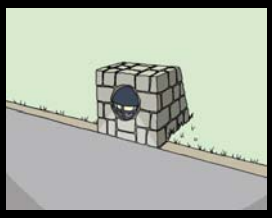
Marking key entrances to the Seawalk

Low Level Park Lighting

Installed on Seawalk only where there is not light spill from the highway.

May include more ‘rustic’ designs.

Must be highly vandal resistant.



Waterfront Access

Major Waterfront Access

Waterfront Habitat

Site Signage System

Create a theme – and limit the amount of new signage.

South Island Highway

Final Plan – Signage

Overhead Utilities

Existing Condition – with Overhead Utilities

South Island Highway

Recommended – without Overhead Utilities

South Island Highway

Utilities Cost

- New Sanitary Main
- Upgraded Water Mains
- Upgraded Storm Sewers

$17 M approx.

Approximate Costs

South Island Highway

Utilities Cost

- New Sanitary Force Main
- Upgraded Water Mains
- Upgraded Storm Sewers
- Underground Overhead Utilities

$30 M approx.

Approximate Costs

South Island Highway

Surface Works

- Roadworks
- Seawalk
- Parks
- Site Features

$10 M approx.

Approximate Costs

South Island Highway

Design and Contingencies

- Traffic management
- Disturbance allowance
- Design
- Contingency

$14 M approx.

Approximate Costs

South Island Highway

Summary: Cost Estimate

$54 M approx.

South Island Highway

Approximate Costs

Potential Funding

- Federal / Provincial Infrastructure Program
- Green Municipal Funds
- Hydro / Tel Grants
- Cycling Infrastructure Partnership Program
- Traffic Fines
- Development Cost Charges
- New Deal for Cities
- Direct Municipal Finance – reserve funds

South Island Highway

Approximate Costs

Potential Phasing Options

6 phases of $9M avg.

- 6 phases over 30 years – one / 5 years?
- 6 phases over 18 years – one / 3 years?
- 6 phases over 12 years – one / 2 years?
- not a priority for foreseeable future?

Public respondents want this done ASAP - Driven by 2/3 funding from senior governments?

Recommendation: 6 phases over 20 years

South Island Highway

Implementation Strategy

6 Management Areas

Each management area could be a phase.

-each about 1 Km in length.

- projects spaced to allow business recovery (one project / 3 years)

-actual phasing may adapt to circumstances.

Implementation Strategy

Funding Targets

For each phase (averages)

- City of Campbell River $3 M
- Senior Governments $6 M

South Island Highway

Implementation Strategy

Local Funding Concept

Annual for City of Campbell River:

- Reserve Funds $700 K
- Development Cost Charges $150 K
- Neighbourhood Owners $150 K

South Island Highway

Implementation Strategy

Local Funding Concept

Source of Funds:

- Reserve Funds $700 K
  - **New Deal for Cities, or on-going roadworks budget**
- Development Cost Charges $150 K
  - **Review of current DCCs related to project**
- Neighbourhood Owners $150 K
  - **Specified area or direct payment, both related to portion of costs of undergrounding overhead electrical**

South Island Highway

Implementation Strategy

Local Funding Concept

Likely Timeline

- Start setting aside Reserve and other Funds in 2006.
- Anticipate first project when local and senior government funds are raised – approximately 5 years from now.
- Timing may be driven by senior government programs (e.g. New Deal for Cities and new Infrastructure Programs).

South Island Highway

Implementation Strategy

Short Term Implementation Actions

1. Proceeding to detail design of early phases - to increase chances of senior government funding success.
2. Early allocation of a significant portion of New Deal for Cities Community Works funding to this project, and applications to other New Deal for Cities Funds.
3. Integration of the relevant aspects of this project into upcoming review of Development Cost Charges.
4. Establishment of a Specified Area to allow gradual collection of the local landowner portion of costs associated with undergrounding of overhead utility lines.

South Island Highway

Implementation Strategy

Public Process

Three parts

- Public Workshop on Alternatives
- Public Workshop on Draft Recommendations
- South Island Highway Liaison Committee

South Island Highway

Public Input

Public Process Results

Full responses are listed in Appendix E

Topic	% support
• Traffic lane, median and driveway provisions	83 – 93%
• Intersection recommendations	73 – 85%
• Cyclist provisions	76 – 91%
• Pedestrian facilities (waterfront)	80 – 90%
• Pedestrian facilities (up ridges)	50 – 63%
• Transit improvements	78 – 95%
• Underground O/H Utilities	50 – 83%
• Parking provisions	80 – 86%
• Park and environmental improvements	66 – 95%

South Island Highway

Public Input

South Island Highway Liaison Committee

Motion passed unanimously on April 12, 2005

"The South Island Highway Liaison Committee endorses the plan as amended and requests that it be put forward to Council for their review and consideration."

South Island Highway

Public Input

Existing Conditions

Final Plan - Proposed

Existing Conditions

Final Plan - Proposed

Conclusion

The realization of this plan will be a significant challenge to the people of Campbell River. However, the benefits of implementing the plan will exceed the challenges.

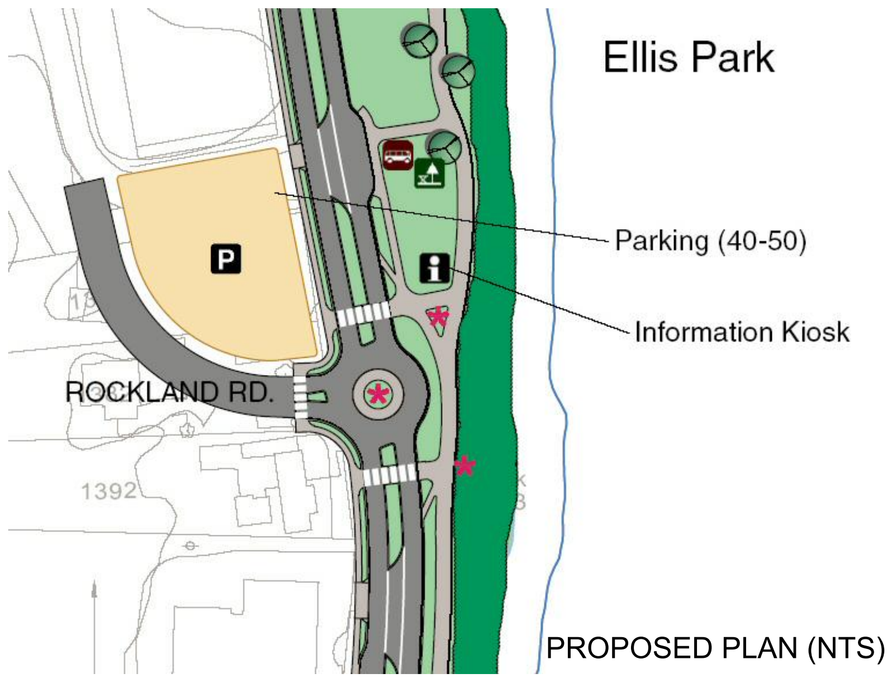
The plan will create a waterfront corridor where the quality of the constructed improvements is on par with the spectacular natural setting.

South Island Highway

Final Plan

Appendix G: Visualizations

EXISTING CONDITION



PROPOSED PLAN (NTS)

PROPOSED IMPROVEMENTS

VISUALIZATION LOOKING NORTH TOWARD ROCKLAND RD. INTERSECTION

South Island Highway Corridor (19A)

City of Campbell River
Campbell River, British Columbia

LANARC
CONSULTANTS LTD.

LANDSCAPE ARCHITECTURE
COMMUNITY PLANNING
ENVIRONMENTAL DESIGN
INFORMATION ARCHITECTURE

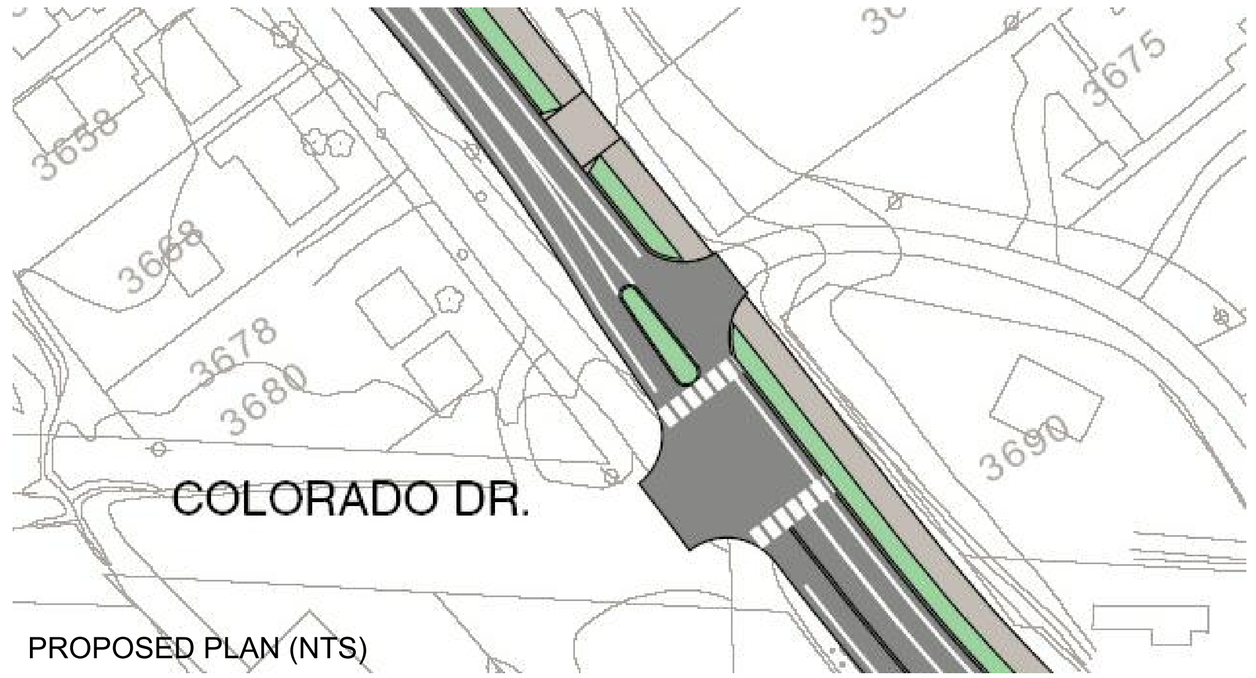
375 Franklyn Street, Nanaimo, B.C. V9R 2X5
Tel (250) 754-5651 Fax (250) 754-1990
Toll free: 1-888-754-5651
www.lanarc.ca lanarc@lanarc.ca

189 Cardiff Way, Port Moody, BC,V3H 3W4
Tel (604) 618-4718 Fax (604) 939-0741

City of Campbell River
Engineering Services

EXISTING CONDITION

PROPOSED IMPROVEMENTS



PROPOSED PLAN (NTS)

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VISUALIZATION SOUTH ENTRANCE LOOKING NORTH TOWARD COLORADO DR. INTERSECTION

South Island Highway Corridor (19A)

City of Campbell River
Campbell River, British Columbia

City of Campbell River
Engineering Services