

---

**Proposed Bunbury Subdivision – Whistler, B.C.**

**District Lot 2291 Plan 19602**

**Preliminary Servicing Design Brief**

---

---

Submitted to: Drew Meredith

Prepared By: Gilbey Engineering Services  
P.O. Box 1735  
9674 Pemberton Portage Road  
D'Arcy, B.C. V0N 1L0

September 11, 2017

# Proposed Bunbury Subdivision – Preliminary Servicing Design Brief

---

## 1. Introduction

The development that is the subject of this document is the proposed Bunbury strata subdivision of District Lot 2291 Plan 19602 within the Resort Municipality of Whistler (RMOW). The site is approximately 4-hectares in area, and is located on the hillside above Bear Creek Estates and below Kadenwood. The development is proposed to provide 5 single-family dwelling properties and will dedicate significant Park lands. Figure 1 illustrates the proposed subdivision and adjacent lands.

This development will connect to existing municipal services adjacent to the property. All proposed works and services will conform to RMOW requirements and the requirements of any other authorities with jurisdiction. This document is the Preliminary Design Brief that generally describes the servicing concept for connection to these municipal services. A more detailed and comprehensive Design Brief will be prepared at time of detailed site servicing design.

## 2. General

The property is approximately 408-m x 103-m in overall dimension and has an area of 4.22-hectares. The property slopes generally from east to north-west, with a total fall across the site of 130-m. Figure 1 illustrates site contours at 1-m intervals. Trees are the predominant vegetation on the site except where access roads and dwellings have been constructed.

There are currently 3 residential dwellings on the site. Some or all of these dwellings may be removed or relocated during redevelopment of the property.

The development proposes to create 5 single-family residential properties. The main access road will be on common strata property. The balance of the site will be dedicated as Park land. The residential properties will be serviced and accessed from the west and north sides of the site through Bayshores and Bear Creek Estates.

A Title Search is attached as Appendix 1. The Title indicates no encumbrances or notations registered on title that conflict with the proposed subdivision. The notation concerning Easement J8416 pertains to utility service rights granted to DL 2291 over VR 811 (Bayshores). Easement document BB196901 is for an access trail below proposed Lots 1 and 2. Undersurface Rights document L11840 appears to be an inconsequential document pertaining to subsisting mineral and water rights associated with the original purchase of the property.

## 3. Proposed Site Services

Figure 2 illustrates the proposed servicing concept for proposed Lots 1 through 5.

### 3.1. Access and Roadworks

Access is proposed to be from Gondola Way as indicated in Figure 2. The existing 5.8-m wide paved access road on the common property south of Gondola Way will be extended to the site at 6% grade and without curb and gutter to match the existing road. Onsite, it will be paved with a 6-m width, and curbs and gutters will be utilized to manage surface drainage. The onsite road grade will not exceed 6%. The gutters are proposed to end at the property boundary so that the corresponding catchbasin drainage structures are not located off-site.

## **Proposed Bunbury Subdivision – Preliminary Servicing Design Brief**

---

A specific legal document permitting access through the Bear Creek Strata was not located. It is assumed that the same public access rights that currently apply to DL 2291, and to the existing public road right-of-way through DL 2291 (including trail/ski-out privileges), will continue to apply to access for the proposed subdivision.

### **3.2. Water Services and Fire Protection**

Water services to the proposed lots will be from the existing 400-mm diameter watermain in the road right-of-way that bisects DL 2291. A fire hydrant will be provided at the end of the watermain extension to enable flushing of the watermain. Individual water services will be 50-mm diameter consistent with other services in the area, and will be able to supply residential sprinkler system demands as well as domestic demands.

Static water pressure within the proposed development site is governed by the top water level of 763.5-m in the adjacent Baxter water storage reservoir. The resulting available water pressure for the proposed lots will range from 83-psi at the bottom of proposed Lot 2 to 14-psi at the top of proposed Lot 5. The desired minimum water pressure of 40-psi occurs at the 735-m contour which is noted in Figure 2. Building construction above this elevation will require a water booster pump in order to achieve the required 40-psi service pressure. However, given that the driveway elevation will start at approximately elevation 722-m, there is adequate opportunity for residential construction below the 735-m contour on Lots 4 and 5.

The fire hydrant will have a static water pressure of approximately 60-psi and is located such that it is within 75-m of the proposed lots. The on-site watermain to the fire hydrant should be 200-mm diameter to minimize friction losses during a fire event and to maximize available flow and pressure.

### **3.3. Sanitary Sewer Services**

Gravity sanitary sewer service will be provided by 150-mm diameter sewer mains and 100-mm diameter individual service connections located as indicated in Figure 2. These sewers will connect to the existing sanitary sewer system that flows to the sewer system on Brandywine Way. LTSA document J 8416 provides for sanitary sewer services for DL 2291 over the common property of VR 811 (Bayshores) and over the easements on Strata Lots 17 and 18. On-site sanitary sewer services will be abandoned.

The existing offsite sewer main that flows to Brandywine Way is reported to be 150-mm diameter, and is located in a narrow corridor between existing dwellings on Strata Lots 17 and 18. This existing sewer main has an average grade of 29%, and its hydraulic capacity far exceeds what is required for the proposed development. The sewer main on Brandywine Way is 200-mm diameter with a 14% grade, and also has adequate capacity for the proposed additional development. It is therefore proposed to utilize the offsite section of this existing sewer main for servicing of the proposed development.

### **3.4. Storm Drainage Services**

The design of this subdivision assumes that individual storm sewer services will not be provided to each property, and that on-lot infiltration systems will be installed by the future lot owners at the time of building construction. The on-lot infiltration systems are intended to mitigate the increased stormwater run-off resulting from the development, and are discussed in greater detail in Section 4 of this Report.

# Proposed Bunbury Subdivision – Preliminary Servicing Design Brief

---

Catchbasins will be provided for the proposed roadworks at the north property boundary. The catchbasins will discharge into the existing adjacent watercourse through connection to the existing 900-mm diameter culvert.

## **3.5. Power, Telephone and Cablevision Services**

Individual power, telephone and cablevision services will be provided to the proposed properties from the existing overhead services within the public road right-of-way east of the proposed lots. An underground distribution system will be constructed from the existing pole identified in Figure 2, and individual underground services connections will be extended to each proposed lot.

Gas services will be extended to each proposed lot from the existing gas distribution system in Gondola Way, north of the site.

## **4. Stormwater Management Plan**

### **4.1. Introduction**

The objective of a Stormwater Management Plan is to address three attributes potentially impacted by land development:

- Drainage – (erosion, capacity and flooding concerns)
- Stream Protection (stream health, aquatic habitat)
- Water Quality (quality of stormwater runoff)

The Plan should investigate the proposed development with respect to the above attributes, and provide a means to mitigate any adverse hydrological impacts on these attributes arising from the proposed land development or land use changes.

This development proposal creates 5 residential properties from the original parcel, and dedicates significant area as Park. Since the area to be dedicated as Park will not be developed in any way, it does not need to be considered in the stormwater management analysis. Further, since the property initially had 3 permitted detached residential dwellings, the incremental development is considered to be the creation of 2 additional residential properties. The stormwater management analysis will be undertaken in this context, and limited to the proposed residential development area.

### **4.2. Existing Drainage Conditions**

The area proposed for residential development is a north-facing, moderately sloping hillside with average ground-slope of 25-30%. The existing dwellings are situated on benches in various locations throughout the development area. The undeveloped areas are covered in mature second growth forest. A watercourse flows through an existing 900-mm concrete culvert under the existing driveway. The existing driveway has a compacted gravel surface.

The pre-development drainage patterns are governed by the existing contours of the land. Surface water that is not absorbed into the ground generally flows overland in a northerly direction and eventually flows into the watercourse north of the site.

## **Proposed Bunbury Subdivision – Preliminary Servicing Design Brief**

---

### **4.3. Proposed Drainage Conditions**

Drainage conditions for the proposed development generally will not change. The proposed road will be located generally where the existing driveway is. No re-grading of individual properties is proposed.

Surface run-off flow will increase due to the increase in impermeable surfaces such as roofs of houses, driveways and roads. To mitigate the increased runoff flow so that post-development stormwater run-off does not exceed pre-development levels, it is proposed to not provide individual storm sewer services to each residential property, and that on-lot infiltration systems be installed by the future lot owners at the time of building construction. The on-lot infiltration systems are intended to mitigate the increased stormwater run-off resulting from the development, and will promote infiltration at the individual lot level, controlling run-off at its source, and enhancing recharge of the groundwater table.

The on-lot infiltration systems proposed for the residential lots include directing roof leaders and perimeter drains to soak-away pits, rain barrels, or vegetated areas such as rain gardens. Building perimeter drains and basement drains would be directed to soak-away pits with appropriate overflow provisions. Implementation of these measures would be after development of the subdivision, and would therefore be required by the Municipality as a condition of building permit. Since this is a preliminary Stormwater Management Plan, it is proposed that details will be refined and additional information will be provided during detailed design of the subdivision.

Roadway drainage within the proposed development will be collected in the concrete gutters and will flow into catchbasins at the north property boundary. The catchbasins will be connected to the existing 900-mm diameter concrete culvert.

North of the property boundary, it is proposed to maintain existing drainage conditions. The 14-m section of offsite road will therefore not have curb and gutter to match the existing paved road. The gutters are proposed to end at the property boundary so that the corresponding catchbasin drainage structures are not located off-site.

The watercourse and culvert cross the north-east corner of proposed Lot 1. An easement will be registered on the title of Lot 1 to enable operation and maintenance of this public drainage structure.

### **4.4. Siltation Control**

It is important to ensure that the quality of stormwater run-off from the site is properly controlled during servicing construction such that it is not detrimental to the environment. During site servicing construction, surface water run-off should be controlled using the following methods:

- provide distinct drainage channels for surface water run-off
- rough-grade road and drainage swales as temporary routes for drainage channels
- use temporary culverts where drainage channels cross traveled routes
- discharge surface water into the existing culvert or watercourse only after sediment is removed

- utilize the following Stormwater Best Management Practices:

### **Construction Sequencing**

In order to reduce on-site erosion and off-site sedimentation, the servicing construction work schedule should coordinate the sequence of land-disturbing activities, and ensure the implementation of erosion and sedimentation control practices. Sediment basins and traps should be utilized to minimize the quantity of sediment that enters existing ditches, watercourses and culverts.

### **Silt Fences**

A silt fence is a temporary barrier designed to retain sediment on the construction site. It is intended to intercept and detain small amounts of sediment from disturbed areas. These should be used as required on the site during construction to control sediment. Straw wattles should be used in areas of concentrated flow such as ditches.

### **Vehicle Tracking Pad**

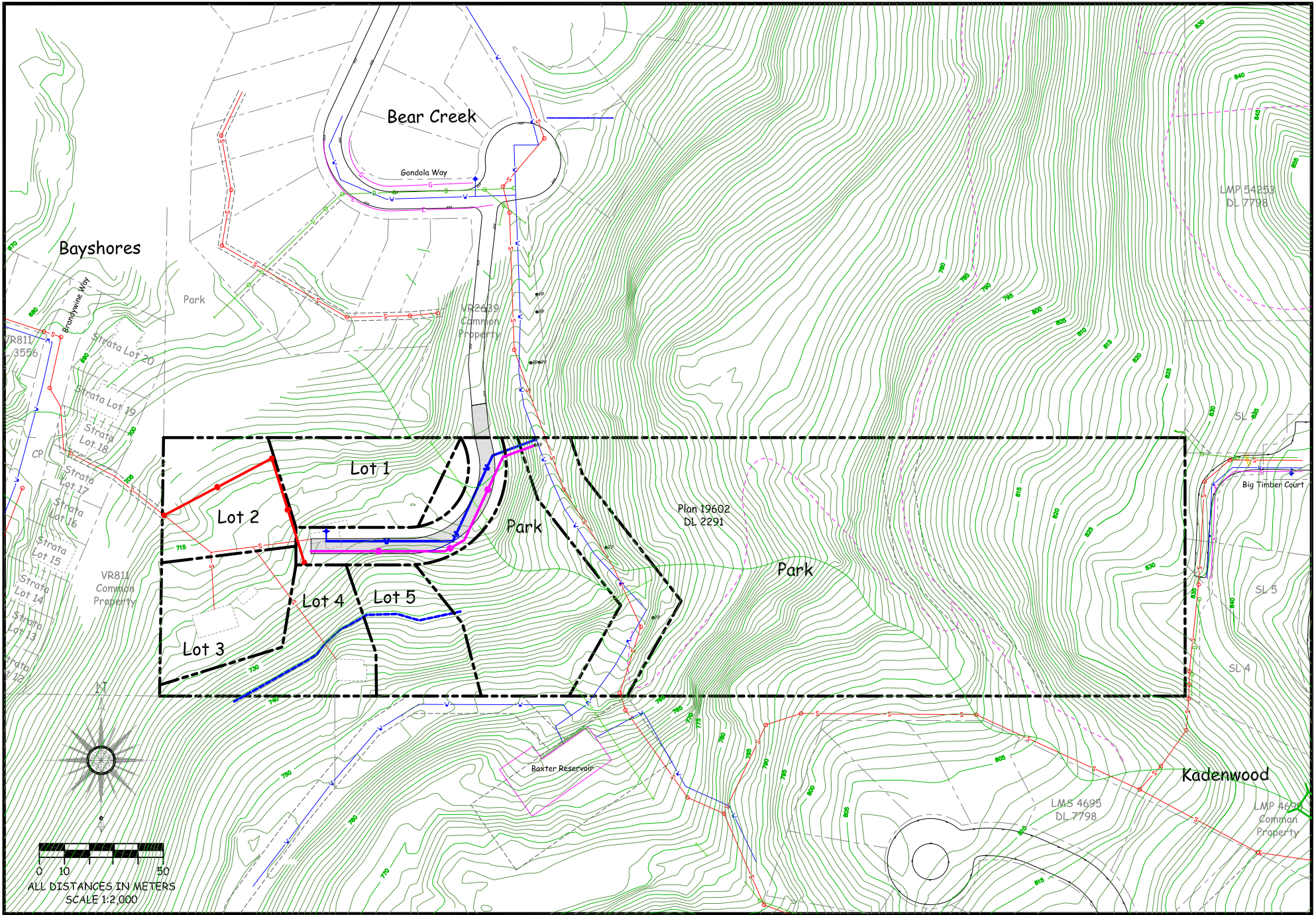
Construction activities can track mud and soil onto paved roads, resulting in offsite sedimentation. A rock pad should be utilized during servicing construction at the site entrance to reduce the amount of mud or soil transported onto paved roads by construction vehicles.

### **Mulches, Blankets and Mats**

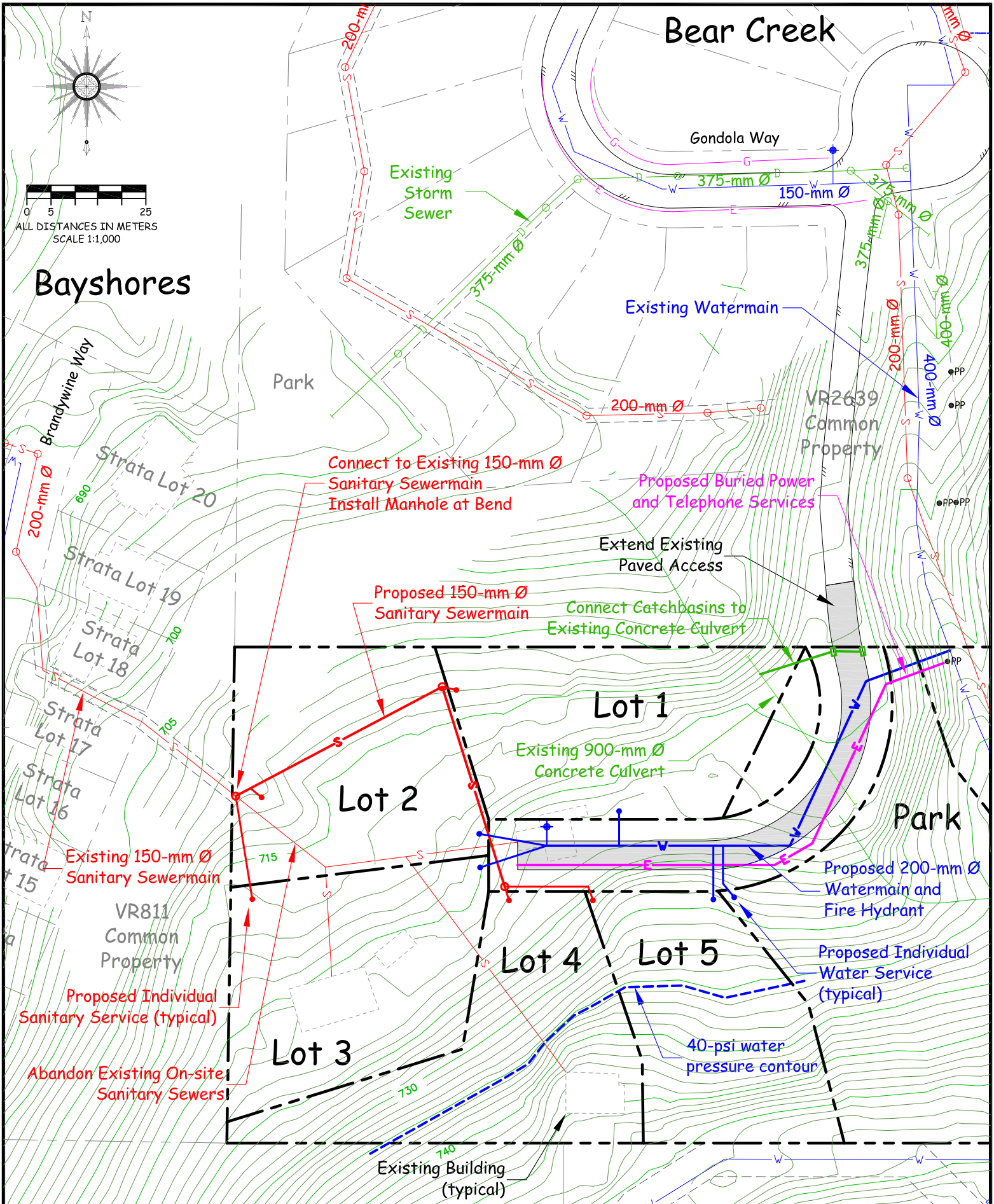
Application of organic materials to form a temporary protective soil cover are an effective and practical means of controlling runoff and erosion on disturbed land prior to vegetation establishment. Straw mulch should be utilized in this regard within boulevards and public areas during construction of site services. The mulch will also foster the growth of new vegetation.

### **Vegetative Methods**

Vegetative stabilization should be utilized for soil erosion control. Construction should be sequenced to enable re-vegetation to occur at the earliest opportunity.



**Figure 1 - Overall Site Services with 1-m Contours  
Rezoning / Subdivision of DL 2291 Plan 19602**



**Figure 2 - Site Services with 1-m Contours  
Rezoning / Subdivision of DL 2291 Plan 19602**



**Appendix A – Property Title Search**

**TITLE SEARCH PRINT**

2013-10-21, 14:47:31

Requestor: PJ58091

Folio/File Reference:

**\*\*CURRENT INFORMATION ONLY - NO CANCELLED INFORMATION SHOWN\*\***

<b>Land Title District</b>	VANCOUVER
Land Title Office	VANCOUVER
<b>Title Number</b>	CA2582561
From Title Number	R50286
<b>Application Received</b>	2012-06-05
<b>Application Entered</b>	2012-06-11
<b>Registered Owner in Fee Simple</b>	
Registered Owner/Mailing Address:	ALEXANDER CURVE BUNBURY, BUSINESSMAN 0926904 B.C. LTD., INC.NO. BC0926904 40169 GARIBALDI WAY PO BOX 2071 GARIBALDI HIGHLANDS, BC V0N 1T0 AS JOINT TENANTS
<b>Taxation Authority</b>	RESORT MUNICIPALITY OF WHISTLER
<b>Description of Land</b>	
Parcel Identifier:	006-984-801
Legal Description:	DISTRICT LOT 2291 PLAN 19602
<b>Legal Notations</b>	
	HERETO IS ANNEXED EASEMENT J8416 OVER THOSE PORTIONS OF: FIRST: STRATA LOTS 17 AND 18, STRATA PLAN VR. 811 SECONDLY: THE COMMON PROPERTY OF STRATA PLAN VR. 811 INCLUDED IN EXPLANATORY PLAN 15473
	SUBJECT TO PROVISOS, SEE CROWN GRANT L11839
<b>Charges, Liens and Interests</b>	
Nature:	UNDERSURFACE AND OTHER EXC & RES
Registration Number:	L11840
Registration Date and Time:	1983-02-02 13:29
Remarks:	SECTION 47 LAND ACT SEE CROWN GRANT L11839 INTER ALIA

**TITLE SEARCH PRINT**

2013-10-21, 14:47:31

Requestor: PJ58091

Folio/File Reference:

Nature:	EASEMENT
Registration Number:	BB196901
Registration Date and Time:	2008-02-12 14:31
Remarks:	PART IN PLAN BCP34869 APPURTENANT TO LOT 2 PLAN LMP54253 EXCEPT STRATA PLAN LMS4695

**Duplicate Indefeasible Title** NONE OUTSTANDING

**Transfers** NONE

**Pending Applications** NONE