

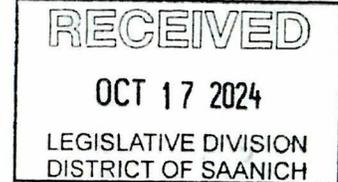


The Corporation of the District of Saanich

C-November-18-2024

# Report

**To:** Mayor and Council  
**From:** Lindsay Chase, Director of Planning  
**Date:** October 11, 2024  
**Subject:** Subdivision, Rezoning and Development Variance Permit Application  
File: SUB00878; REZ00681; DVP00472 • 5070 Catalina Terrace



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## RECOMMENDATION

1. That the application to rezone 5070 Catalina Terrace from the RS-18 (Single-Family Dwelling) Zone to the RS-12 (Single-Family Dwelling) Zone be approved.
2. That Development Variance Permit DVP00472 be approved.

## PURPOSE

The purpose of this Report is to seek Council's decision on an application to rezone 5070 Catalina Terrace from the RS-18 (Single-Family Dwelling) Zone to the RS-12 (Single-Family Dwelling) Zone to subdivide to create two additional lots (three lots total) for Single-Family dwelling use. The applicant is also seeking a Development Variance Permit for setback and building height components and to waive the Subdivision Bylaw, 1995, requirement for on-site Stormwater Management. The applicant is Ryan Hoyt Designs Inc. (Ryan Hoyt).

## DISCUSSION

### Background

Council has previously considered a Rezoning, Subdivision, and Development Variance permit application for the site to create two additional lots for a total of three lots for Single-Family dwelling use. The applications were considered by Council at the March 27, 2023, Council meeting and subsequently at the April 24, 2023, Council meeting where the motion on the floor was "That a Public Hearing be called to further consider the Rezoning Application on 5070 Catalina Terrace."

A subsequent motion was ultimately carried "That the item be referred to staff to work with the applicant to amend the application to a smaller project that is sensitive to the concerns expressed by Council and members of the public." It is understood that the wording of a "smaller project" was chosen to provide flexibility for the applicant to amend the project with consideration for Council's discussion regarding tree loss, building height, and number of homes.

While the motion to call a Public Hearing remains from the April 24, 2023, Council meeting, legislation has since changed and as per section 464(3) of the *Local Government Act*, a public hearing must not be held as the proposed zoning bylaw amendment is consistent with the Official Community Plan.

The applicant has now submitted revised plans for Council’s consideration.

**Land Use and Neighbourhood Context**

The property is designated Neighbourhood within the Official Community Plan (2024) and is within the Ridge Slope Sub-Area of the Cordova Bay Local Area Plan. The 3,760 m<sup>2</sup> property is located on Catalina Terrace and has frontage on the cul-de-sac at the north end of Wesley Road. The property is currently zoned RS-18 (Single-Family Dwelling) (see Figure 1).

The site contains a circa 1965 Single-Family dwelling that would be retained. Land use in the neighbourhood is a mixture of RS-18, RS-12, RS-10 and RS-8A zoned Single-Family dwellings. Catalina Terrace connects through Catalina Park to the Lochside Trail.

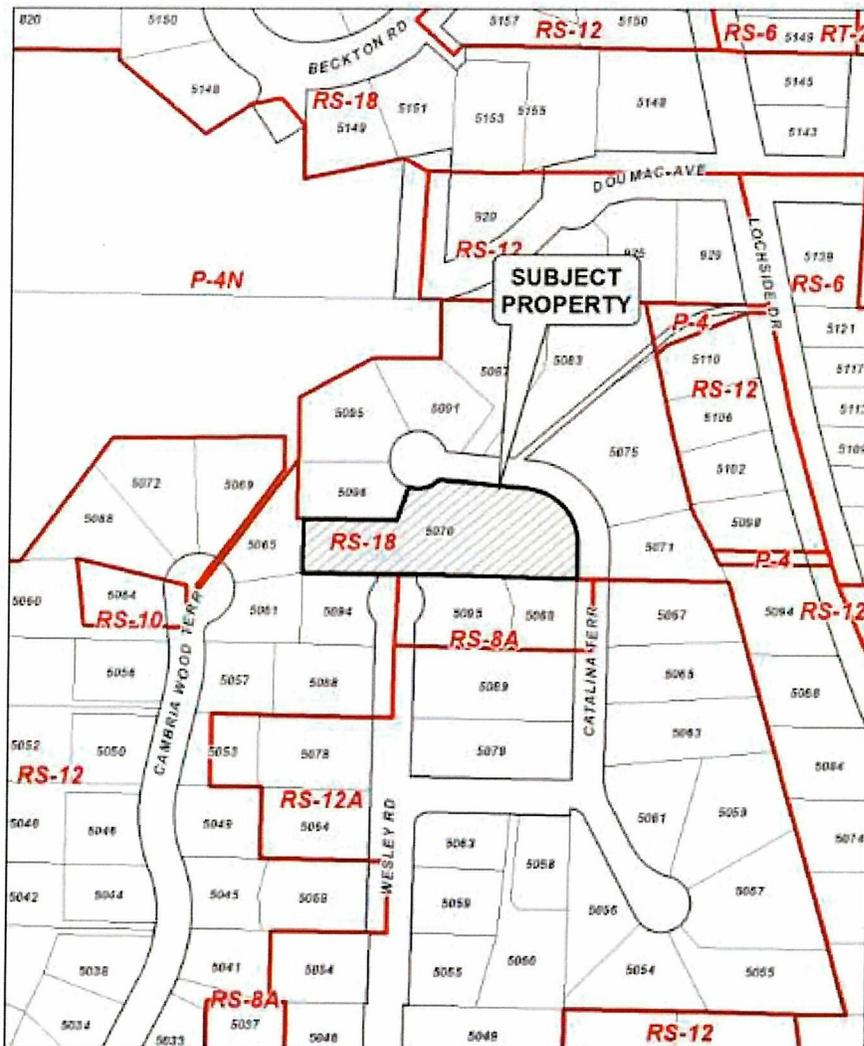


Figure 1: Neighbourhood Context

### Proposed Development

The applicant is proposing to rezone from RS-18 (Single Family Dwelling) Zone to RS-12 (Single Family Dwelling) Zone to enable subdivision to create two additional lots for a total of three RS-12 (Single Family Dwelling) Zone lots to support single detached dwellings. Proposed Lot A, Lot B and Lot C would have areas of 952 m<sup>2</sup>, 1,010 m<sup>2</sup> and 1,470 m<sup>2</sup> respectively (see Figure 2).



**Figure 2: Proposed Subdivision Plan** (by Wes Mayenburg Land Surveying Inc.)

The site is steeply sloping with over 20 m of grade change from Wesley Road on the high side of the property to Catalina Terrace below. Access to proposed Lot A and Lot B would be from Wesley Road. The driveways have been made level with Wesley Road to address safety concerns related to the slopes of the driveways. Access to proposed Lot C would be via the existing driveway from Catalina Terrace.

The existing house will be retained on proposed Lot C. The applicant has submitted building plans for single detached dwellings on proposed Lot A and Lot B. The proposed houses would have gross floor areas consistent with the RS-12 (Single Family Dwelling) Zone (i.e., 327 m<sup>2</sup> for Lot A and 377 m<sup>2</sup> for Lot B) (See Figure 3). These building plans would be included in the Development Variance Permit. Variances have been requested for building height for Lot A and Lot B and for setbacks on all three Lots. The required variances are discussed in detail in the Variances section of this Report.

The applicant has revised the proposal to assist in the retention of trees on-site and has designed the proposed homes to be stepped to match the existing grades of the site. The majority of the trees on proposed Lot A and Lot B are located on the northern half, within the sloped area. Should the application be supported, a Natural State Covenant and Geotechnical Covenant will be included as Conditions of Approval at the subdivision stage. The intention of the Natural State Covenant is to protect as much of the Old Forest on the downward slope of the property mapped as Coastal Douglas-fir ecosystem as possible. The Geotechnical Covenant relates to maintaining slope stability.

The proposed new residences would be required to comply with Step 3 of the BC Energy Step Code and EV charging capabilities would be provided in each garage as per the Zoning Bylaw, 2003, requirements.

To address Council's 2023 direction and respond to public feedback, the applicant has made the following changes in their revised concept:

- Sited houses on Lot A and Lot B to support tree retention and improve privacy between Lot A and the adjacent existing lot to the west;
- Oriented houses on Lot A and Lot B to give the appearance of a more significant setback from the street;
- Reduced the slope of the driveway to address safety concerns; and,
- Slightly reduced the overall building height for the houses on Lot A and Lot B.

The previously proposed house footprint (pink dashed lines) and current house footprints (blue) are shown in Figure 3.

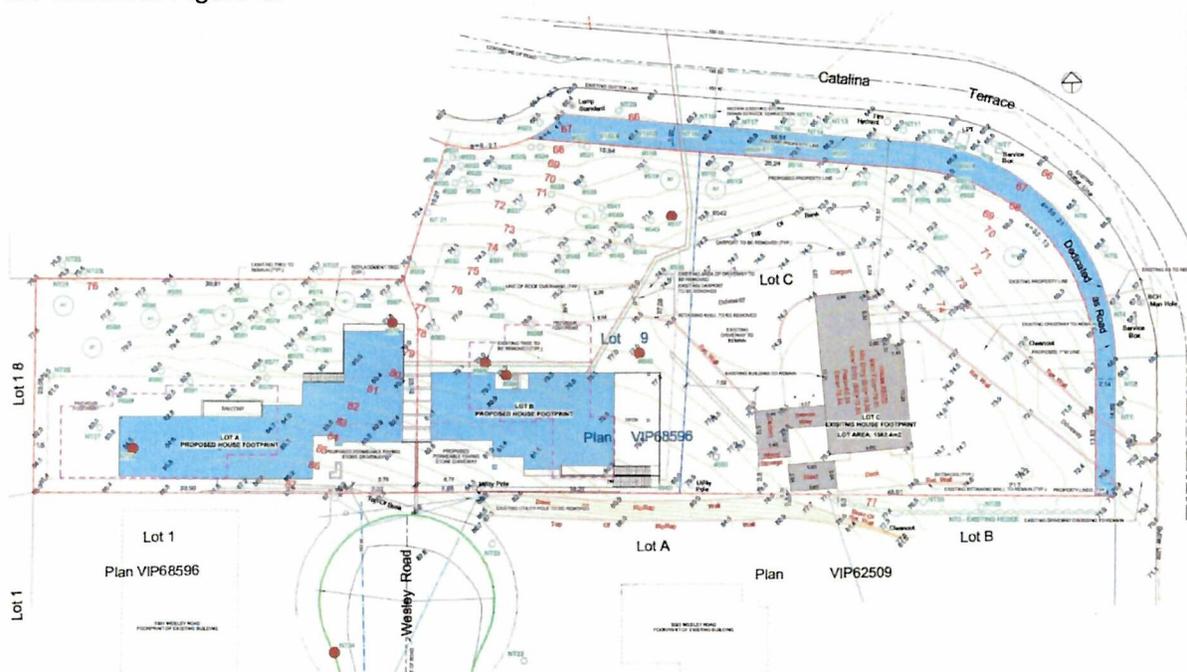


Figure 3: Proposed Site Plan (by Ryan Hoyt Designs Inc.)

Elevations for the revised concept are showing in Figure 4 and Figure 5.

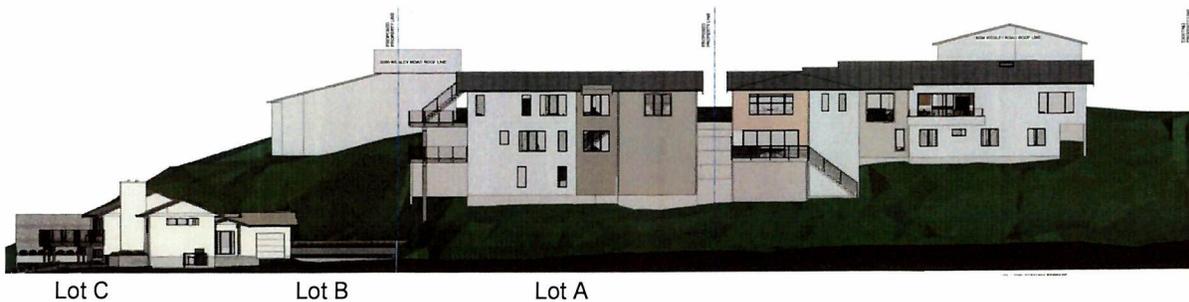
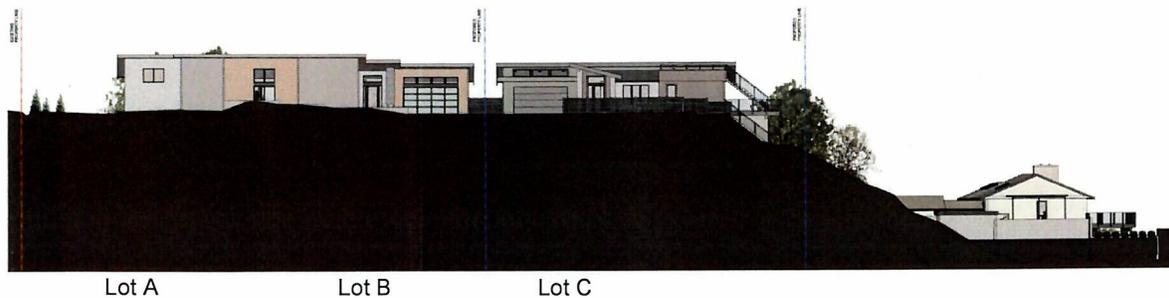


Figure 4: North Development Elevation (from plans by Ryan Hoyt Designs Inc.)



**Figure 5: South Development Elevation** (from plans by Ryan Hoyt Designs Inc.)

### Consultation

Planning sent a referral for the revised concept to the Cordova Bay Association for Community Affairs (CBACA). A response was received from CBACA indicating “no objections.”

As part of the 2023 Council process, notification letters were sent by the District of Saanich to all property owners/residents within 90 m of the subject property. Numerous responses were received from area residents indicating concerns related to tree loss, building heights, traffic, and parking. The applicant has worked to address this feedback in the revised concept plan that is presented in this Report.

### PLANNING IMPLICATIONS

#### Policy

The following District of Saanich Planning Policies are most applicable to the subject proposal:

#### Official Community Plan (2024)

- 7.4.1 “Within Neighbourhoods, support a mix of housing types, unit sizes, and tenures including non-market, rental, ownership, and co-operative housing.”
- 7.4.2 Support the following uses in Neighbourhoods:
  - a. Residential...
- 7.4.3 Support the following building forms in Neighbourhoods:
  - a. Single detached dwellings and secondary suites/garden suites...
- 7.8.10 Incorporate and promote sustainable building and site design practices that:
  - a. Work with local topography and incorporate and retain high value trees and natural habitat.

#### Cordova Bay Local Area Plan (2021)

- 4.2.2 “Provide steep slope stability by maintaining the treed slope area of the ridge through continued application and strengthening of the District’s Tree Protection Bylaw, maintaining, and planting trees and shrubs, maintaining larger lot sizes, and limiting infill development opportunities.”

5.2.3 Sensitively increase housing options consistent with neighbourhood character by maintaining larger lot sizes and supporting low-density infill that resembles a single detached housing form in areas designated Neighbourhood Residential (Figure 5.2, Figure 5.3, and Map 5.2).

5.9.1 Maintain a minimum lot size of 930 m<sup>2</sup> in the Ridge Slope sub-area.

The proposal is consistent with the Official Community Plan (2024) which contemplates limited infill in Neighbourhood areas and the Cordova Bay Local Area Plan which supports low density infill in Neighbourhood Residential areas. The proposed lots also exceed the minimum lot size for the Ridge Slope sub-area as stated in policy 5.9.1 of the LAP. Challenges related to slope stabilization and tree retention were considered as part of the revised concept and will be addressed through the Natural State and Geotechnical covenants as part of the Subdivision application.

While single-detached dwellings are proposed on each lot, under the Small Scale Multi Unit Housing (SSMUH) regulations, each of these lots would qualify for up to four dwelling units.

**Variations**

This application would require variations as detailed in Table 1, to the District of Saanich Zoning Bylaw, 2003, and Subdivision Bylaw, 1995.

The column titled “previous” in Table 1 lists the previously proposed setbacks, building height and on-site Stormwater Management that required variations in the previous iteration of the project.

Table 1: Requested Variations				
Zoning Bylaw - RS-12 Zone	PREVIOUS (2023 Plans)	PROPOSED (2024 Plans)	REQUIRED	VARIANCE (2024 plans)
Setbacks:				
Lot A				
Front	-	2.5 m	7.5 m	5.0 m
Rear	-	5.6 m	10.5 m	4.9 m
Combined Interior Side	-	3.0 m	4.5 m	1.5 m
Lot B				
Front	-	2.7 m	7.5 m	4.8 m
Combined Interior Side	-	3.9 m	4.5 m	0.6 m
Lot C				
Interior Side (south)	0.3 m	0.3 m	1.5 m	1.2 m
Building Height:				
Lot A				
Sloped Roof Height	8.1 m	-	7.5 m	-
Flat Roof Height	9.6 m	-	6.5 m	-
Sloped Roof Single Face Height	7.3 m	-	7.5 m	-
Flat Roof Single Face Height	8.8 m	6.9 m	6.5 m	0.4 m
Lot B				
Sloped Roof Height	8.6 m	9.8 m	7.5 m	2.3 m

Flat Roof Height	8.8 m	10.1 m	6.5 m	3.6 m
Sloped Roof Single Face Height	11.2 m	12.1 m	7.5 m	4.6 m
Flat Roof Single Face Height	11.9 m	9.6 m	6.5 m	3.1 m
<b>Subdivision Bylaw</b>				
On-Site Stormwater Management	No	No	Yes	Yes

### Setbacks

Lot line setback variances are required for all three lots. The variance to the interior side setback on Lot C is to accommodate the location of an existing shed and deck. Variances to the front, rear, and combined interior side lot line are requested for Lot A. Variances to the front and combined interior side setback are requested for Lot B.

Proposed Lots A and B will be accessed via a cul-de-sac off Wesley Road and the location of the homes within the front setback will not impact sightlines for traffic. Further, the design of the homes is such that the driveway area will give the appearance of a greater setback from the cul-de-sac than the 2.5 m and 2.7 m proposed as the garage and entryway are set back from top of the cul-de-sac. Further, the footprint of the homes has been adjusted to retain more trees and to add additional separation between the neighbouring home to the west and the home on Lot A. Overall, the requested Variances are supportable.

### Building Height and Single Face Height

Due to the significant slope of the land, the average natural grade around the perimeter of the homes on proposed Lots A and B is relatively low, and as a result, the height of the homes exceeds the Zoning Bylaw, 2003, limit. The houses have been designed to minimize these heights by providing a single storey appearance from Wesley Road. The roof peak of the house on both Lots are below the adjacent neighbours at 5094 and 5095 Wesley Road.

For Lot B, the flat roof height of 10.1 m is measured to the top of the rooftop deck railing. The roof itself measures 9.1 m. Similarly, the flat roof single face height is measure to the top of the third-floor balcony railing (9.6 m). The railings on Lot B are designed using glass which will reduce the visual appearance of the height. On Lot A the flat roof single face height is measured to the top of a privacy screen. While the privacy screen is wood, the requested variance (6.5 m to 6.9 m) is considered minor. It should also be noted that under the new SSMUH regulations governing houseplexes, the allowable height for houseplexes is 11 m (and 8 m in rear yards). For these reasons, the requested variances for height are supportable.

### Waiver of the Requirement to Provide On-site Stormwater Management

A waiver of the Subdivision Bylaw, 1995, requirement for on-site Stormwater Management is requested based on the recommendations of the Ryzuk Geotechnical report. The report states that "Stormwater Management will need to be assessed on site, and it would be preferential for stormwater discharges to be directed into the municipal storm system. The Engineering Department has reviewed the geotechnical report and supports the Variance request. For these reasons, the Variance can be supported.

### **Urban Forest**

The applicant has revised the plans since the previous submission that was considered by Council in 2023 to assist in the retention of trees. The revised arborist report anticipates the removal of five on-site trees (versus 36 trees removed in the previous iteration). However, staff anticipate there will be additional tree removals required at building permit stage to

accommodate slope stabilization, and grading requirements. These requirements will be determined at the appropriate stage of the project should it be approved.

### **Summary**

Staff are supportive of the Rezoning, Subdivision, and Development Variance Permit application for the following reasons:

- The proposed development is consistent with Official Community Plan and the Cordova Bay Local Area Plan.
- Infill housing as proposed would provide a desired housing form within the District of Saanich that people would otherwise have to commute further distances for from elsewhere in the region.

### **PROCEDURES**

As this application is consistent with the Official Community Plan, notice of this application was provided pursuant to section 464(3) of the *Local Government Act* in advance of the Report being placed on a Council agenda.

Should Council decide to approve the recommendations, the following procedures will occur:

1. At the initial meeting, approval of the application, first three readings of the Zoning Bylaw Amendment and approval of the Development Variance Permit.
2. After all conditions have been met, the application will come before Council for Final Reading of the Zoning Bylaw Amendment and ratification of the Development Variance Permit.

### **ALTERNATIVES**

1. That Council support the application to rezone 5070 Catalina Terrace and development permit DVP00472. Staff recommend this option.
2. That Council reject the recommendations as outlined in the staff Report.
3. That Council provide alternate direction to staff.

### **FINANCIAL IMPLICATIONS**

There are no immediate implications related to the District of Saanich 2024-2028 Financial Plan.

### **STRATEGIC PLAN IMPLICATIONS**

The subject proposal aligns with the Housing theme in the District of Saanich's 2023-2027 Strategic Plan by improving the supply of diverse forms of housing in the community.

### **CONCLUSION**

The proposed rezoning and subdivision to create two additional lots is consistent with the Official Community Plan (2024) which supports a range of residential infill types in Neighbourhoods inside the Urban Containment Boundary and with the Cordova Bay Local Area Plan (LAP) which supports increasing housing options in neighbourhoods. The Development

Variance Permit seeks variances for height, setbacks, and on-site Stormwater Management. These Variances are not considered to negatively impact neighbouring properties and can be supported.

Should the application be supported, a Natural State Covenant and Geotechnical Covenant will be secured at the time of subdivision to protect a portion of the downslope wooded area and support slope stability. For the above noted reasons, staff support the Rezoning, Subdivision, and Development Variance Permit applications.

Prepared by:   
\_\_\_\_\_  
Fiona Titley  
Planner

Reviewed by:   
\_\_\_\_\_  
Amber Walker  
Acting Manager of Current Planning

Approved by:   
\_\_\_\_\_  
Lindsay Chase  
Director of Planning

FT/kb

**ADMINISTRATOR'S COMMENTS:**

I endorse the recommendation from the Director of Planning.

  
\_\_\_\_\_

Brent Reems, Chief Administrative Officer

COPY

**DISTRICT OF SAANICH**

**DVP00472**

**DEVELOPMENT VARIANCE PERMIT**

**To: Troy Thomas Restell  
Dagmar Lilleby Restell  
5070 Catalina Terrace  
Victoria BC V8Y 2A5**

*(herein called "the Owner")*

1. This Development Variance Permit is issued subject to compliance with all of the Bylaws of the Municipality applicable thereto, except as specifically varied or supplemented by this Permit.
2. This Development Variance Permit applies to the lands known and described as:

**Lot 9, Section 31, Lake District, Plan VIP68596**

**5070 Catalina Terrace**

*(herein called "the lands")*

3. This owner has submitted to the Approving Officer a tentative plan of subdivision to subdivide the lands into two additional lots, for a total of three lots as shown on the plan of subdivision prepared by Wey Mayenburg Land Surveying Inc. date stamped April 24, 2024, a copy of which is attached hereto.
4. The Development Variance Permit varies the provisions of the Zoning Bylaw, 2003, as follows:
  - a) By varying the provisions of Zoning Bylaw, 2003, Section 250.4(a)(i) to permit the Single Family Dwelling on proposed Lot A to have a front setback of 2.5 m (7.5 m required).
  - b) By varying the provisions of Zoning Bylaw, 2003, Section 250.4(a)(ii) to permit the Single Family Dwelling on proposed Lot A to have a rear setback of 5.6 m (10.5 m required).
  - c) By varying the provisions of Zoning Bylaw, 2003, Section 250.4(a)(iii) to permit the Single Family Dwelling on proposed Lot A to have combined interior side setback of 3.0 m (4.5 m required).
  - d) By varying the provisions of Zoning Bylaw, 2003, Section 250.4(a)(ii) to permit the Single Family Dwelling on proposed Lot B to have a front setback of 2.7 m (7.5 m required).
  - e) By varying the provisions of Zoning Bylaw, 2003, Section 250.4(a)(iii) to permit the Single Family Dwelling on proposed Lot B to have a combined interior side setback of 3.9 m (4.5 m required).

- f) By varying the provisions of Zoning Bylaw, 2003, Section 250.4(a)(iii) to permit the Single Family Dwelling on proposed Lot C to have an interior side setback of 0.3 m (1.5 m required).
  - g) By varying the provisions of Zoning Bylaw, 2003, Section 250.4(b)(ii) to permit proposed Lot A to have the Lowest Outermost Wall of the Flat Roof to have a height of 6.92 m (6.5 m required).
  - h) By varying the provisions of Zoning Bylaw, 2003, Section 250.4(b)(i) to permit proposed Lot B to have a building height of 9.77 m for a Sloped Roof (7.5 m required) and 10.11 m for a Flat Roof (6.5 m required).
  - i) By varying the provisions of Zoning Bylaw, 2003, Section 250.4(b)(ii) to permit proposed Lot B to have the Lowest Outermost Wall of the Sloped Roof to have a height of 12.12 m (7.5 m required) and the Lowest Outermost Wall of the Flat Roof to have a height of 9.58 m (6.5 m required).
  - j) By requiring the buildings and lands to be constructed and developed in accordance with the plans prepared by Ryan Hoyt Designs Inc., date stamped received on April 24, 2024, copies of which are attached to and form part of this permit
5. The Development Variance Permit varies the provisions of the Subdivision Bylaw, 1995, No. 7452, Schedule H, Section 3.5.16 to waive the requirement for on-site Stormwater Management.
6. This Permit is not a Building Permit.

AUTHORIZING RESOLUTION PASSED BY THE MUNICIPAL COUNCIL ON THE

\_\_\_\_\_ DAY OF \_\_\_\_\_ 20 \_\_\_\_\_  
 ISSUED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 20 \_\_\_\_\_

\_\_\_\_\_  
 Corporate Officer

COPY

THE CORPORATION OF THE DISTRICT OF SAANICH

BYLAW NO. 10101

TO AMEND BYLAW NO. 8200,  
BEING THE "ZONING BYLAW, 2003"

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The Municipal Council of The Corporation of the District of Saanich, in open meeting assembled, enacts as follows:

1. Bylaw No. 8200, being the "Zoning Bylaw, 2003" is hereby amended as follows:
  - a) By deleting from the RS-18 (Single-Family Dwelling) Zone and adding to the RS-12 (Single Family Dwelling) Zone the following lands:

Lot 9, Section 31, Lake District, Plan VIP68596  
(5070 Catalina Terrace)
2. This Bylaw may be cited for all purposes as the "**ZONING BYLAW, 2003, AMENDMENT BYLAW, 2024, NO. 10101.**"

Read a first time this \_\_\_\_ day of \_\_\_\_\_, 2024.

Read a second time this \_\_\_\_ day of \_\_\_\_\_, 2024.

Read a third time this \_\_\_\_ day of \_\_\_\_\_, 2024.

Adopted by Council, signed by the Mayor and Corporate Officer and sealed with the Seal of the Corporation on the \_\_\_\_ day of \_\_\_\_\_, 2024.

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Corporate Officer

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Mayor



# Memo

**To:** Subdivision Office  
**From:** Jagtar Bains – Development Coordinator  
**Date:** May 17, 2024  
**Subject:** Servicing Requirements for Development - REVISED

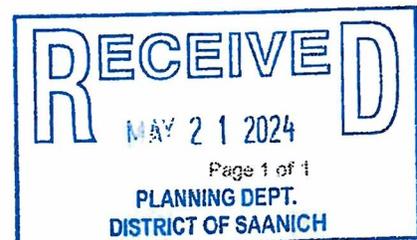
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**PROJECT: TO REZONE FROM RS-18 TO RS-12 TO CREATE 2 ADDITIONAL LOTS FOR SINGLE FAMILY DWELLINGS RESULTING IN A TOTAL OF 3 LOTS.**

**SITE ADDRESS: 5070 CATALINA TERR  
PID: 024-424-382  
LEGAL: LOT 9 SECTION 31 LAKE DISTRICT PLAN VIP68596  
DEV. SERVICING FILE: SVS02326  
PROJECT NO: PRJ2020-00337**

The intent of this application is to subdivide the above referenced parcel into three lots for single family use. Some of the more apparent Development Servicing requirements are as listed on the following pages(s).

No action is required by the applicant prior to the issuance of Conditional Approval.



# Development Servicing Requirements

Development File: SVS02326  
Civic Address: 5070 CATALINA TERR  
Page: 1

Date: May 17, 2024

## Drain

1. Subsequent drain connections will be required for lots A and B.
2. The existing drain connection is to be provided with an inspection chamber to serve proposed Lot C.
3. The geotechnical report is recommending that no infiltration system be installed on site for storm water management and all storm water discharges be connected directly to the municipal storm drain system, therefore, a Development Variance Permit is required to waive the requirement of section 3.5.16 of Schedule H to the Subdivision Bylaw for on-site storm water management.
4. An easement will be required across Lot B in favour of Lot A for storm water servicing.

## General

1. This proposal is subject to the prevailing municipal development cost charges.
2. A driveway conforming to the Driveway Access Bylaw and parking area capable of parking 2 cars on site is required for all proposed lots.
3. This property is located in a "steep slope area" as identified by Schedule 'A' of the Tree Protection Bylaw, 2014, No. 9272. Tree removals in this area must be completed under the supervision of an arborist and a geotechnical engineer.
4. All servicing works adjacent to tree protection areas must be completed under the supervision of an arborist.
5. The existing non-conforming carport and retaining wall structure must be removed prior to subdivision approval.
6. Excavation activities must be carried out in accordance with Stage 14 Amendments to the Contaminated Sites Regulation (CSR) under the Environmental Management Act. As the District of Saanich is subject to the CSR, any testing and disposal fees incurred from works installed by District of Saanich Forces will be at the expense of the developer.

## Hydro/tel

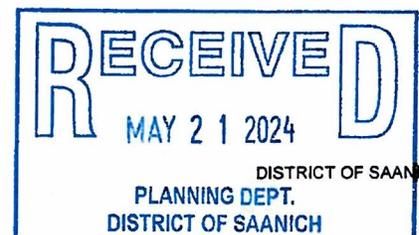
1. Underground wiring is required to serve all proposed lots.
2. The utility pole in the area of the driveway for proposed Lot B must be relocated.

## Road

1. Property dedication required along the entire frontage of the subdivision on Catalina Terrace as shown on a plan prepared by Wey Mayenburg Surveying Inc. and received by Saanich Planning on April 24, 2024.
2. Street lighting is required on Wesley Road.
3. The existing street lights on Catalina Terrace must be upgraded to LED.
4. The turnaround on Wesley Road, fronting this development, must be improved to conform the Saanich detail drawing DES30 including drainage and concrete curb and gutter.

## Sewer

1. Subsequent sewer connections will be required for lots A and B.
2. An easement will be required across Lot B in favour of Lot A for sewer servicing.



## Development Servicing Requirements

Development File: SVS02326  
Civic Address: 5070 CATALINA TERR  
Page: 2

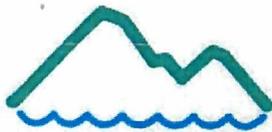
Date: May 17, 2024

3. The existing sewer connection is to be provided with an inspection chamber to serve proposed Lot C.

### Water

1. A fire hydrant will be required on Wesley Road to provide coverage to proposed lots A and B in accordance with the BC Building Code. The portion of the water main on Wesley Road providing flow to the hydrant must be upgraded to 150mm.
2. The existing 100 mm main, near the southeast corner of 5094 Wesley Road, must be extended to provide provisional water connections for proposed Lots A and B.
3. The existing 13 mm water service on Wesley Road must be disconnected.
4. The existing house must be reconnected to new water service on Catalina Terrace.





# WESTBROOK Consulting Ltd.

May 11, 2022

3530-02

District of Saanich  
770 Vernon Avenue  
Victoria, BC  
V8X 2W7

Attn: Jagtar Bains

**Re: 5070 Catalina Terrace – Concept Storm Water Management**

Dear Sir:

## Introduction

The above development will create two new lots through the subdivision of one existing lot. The existing house will be removed and servicing to the development will be installed or upgraded with new water, sewer, and storm drain service connections and storm water management systems. The proposed storm water management systems for Lot A and B operate and consist of the following:

- Roof water and driveway runoff will be directed to underground storm water retention galleries. The intention is drainage will collect in a basin, which will be connected to the retention galleries, and be released at a rate specified by the District. When the runoff rate entering the basin is greater than it can be released, the storm water will collect in the basin and will enter the retention galleries, where it will be absorbed into the existing ground to the extent which the natural ground is able to absorb the drainage.
- As the existing ground reaches its absorptive capacity, excess storm water will be allowed to accumulate within the retention galleries where it will be released to the adjacent storm drain through a restricted outlet in an adjacent concrete basin. The restricted outlet will consist of a 100 mm diameter tee fitting with a submerged cap and a high level overflow.

As the site falls within the Type 2 watershed, the following criteria are required:

Item	Criteria
Storage	100 m <sup>3</sup> per ha of impervious area
Release Rate	10 l/s per ha of total contributory area

Drainage quality and sediment control must be provided by an oil/grit separator or sediment basin.



### Storm Water Detention Calculations

The impervious and total contributory area for the new lots has been calculated as follows:

Lot A – Impervious Area = 400 sq.m      Contributory Area = 400 sq.m

Lot B – Impervious Area = 330 sq.m      Contributory Area = 330 sq.m

The storage required and the maximum release rate, as per Schedule H of the District of Saanich Engineering Specifications, is as follows:

Lot A – 4.00 m<sup>3</sup> and 0.400 L/s.

Lot B – 3.30 m<sup>3</sup> and 0.330 L/s.

Based on a release rate of 10 L/s per Ha of contributing area and using  $A = Q / 0.6 \cdot (2gh)^{0.5}$ , with  $h = 1.0$  m, the orifice required is **one 13 mm diameter hole** for Lot A, B, and C.

### Storm Water Quality

Rain water entering the storm water management system will first pass through a 1050 mm diameter silt/grit trap/flow control basin, which will be constructed with a 500 mm sump. The sump will collect all debris that is able to settle prior to being discharged.

Prior to entering the municipal drainage system and after being discharged from the flow control basin, runoff will pass through an oil interceptor. The oil interceptor will settle out any fines and contaminants that are not able to settle out in the silt/grit trap.

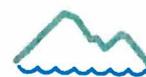
If you have any questions regarding the calculations, please contact our office.

Yours truly,  
**WESTBROOK CONSULTING LTD.**

Kyle Stubbs, P. Eng.  
Project Engineer



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