ALUC AGENDA

ADVISORY LAND USE PLANNING COMMISSION

Agenda for the Advisory Land Use Planning Commission Meeting of the Village of Pemberton to be held Monday, October 28th, 2019 at 6:00 pm at 7400 Prospect Street.

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1. CALL TO ORDER	
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• Minutes of the ALUC Meeting of September 23, 2019	
5. OFFICIAL COMMUNITY PLAN AMENDMENT AND REZONING – PEMBERTON SECONDARY SCHOOL, 1400 Oak Street – Joanna Rees	5 - 12
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ADVISORY LAND USE PLANNING COMMISSION

ADVISORY LAND USE PLANNING COMMISSION MINUTES

Minutes for the Advisory Land Use Planning Commission of the Village of Pemberton held Monday, September 23, 2019 at 6:00 pm at 7400 Prospect Street.

IN ATTENDANCE:	Sarah Allen (Chair) Kristina Salin Allison Twiss
BY TELEPHONE:	Richard Nott
REGRETS:	Bob Adams Kevin Clark
STAFF IN ATTENDENCE:	Lisa Pedrini, Manager of Development Services Joanna Rees, Planner Gwendolyn Kennedy, Building & Planning Clerk (minutes)
PUBLIC IN ATTENDENCE:	Cam McIvor (Agent); Tammy McIvor

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1. CALL TO ORDER

At 6:00 p.m. the meeting was called to order.

2. APPROVAL OF AGENDA

Moved/Seconded
THAT the agenda be approved as circulated.
CARRIED

3. ADOPTION OF MINUTES

Moved/Seconded
THAT the minutes of Advisory Land Use Planning Commission meeting held May 3, 2019 be adopted as circulated.
CARRIED

4. OFFICIAL COMMUNTY PLAN AND REZONING – LOT 1 SUNSTONE

Lisa Pedrini, Manager of Development Services, presented the application for Official Community Plan amendment and rezoning for Lot 1 at Sunstone. The purpose is generate recommendations to Council regarding this application; a subdivision application has not been submitted and no comment is being sought regarding future subdivision.

Ms. Pedrini noted that surplus capacity of the reservoir that serves Phases 1 and 2 would permit development of these additional estate lots that were not included in the original Sunstone zoning. Details regarding lot size and configuration are yet to be determined; the focus of the application presented to the ALUC is the request to change from the current Rural Residential zone (RR-1) to a new Sunstone Amenity Residential zone and to amend the Official Community plan designation from Hillside Study Area to Residential.

The developer, Sunstone Ridge Developments Ltd., has been required by Council to hold a public information meeting to meet their requirements for early and ongoing consultation and meeting this has been scheduled for Wednesday, September 25, at the Meadows at Pemberton.

Cam McIvor, agent for Sunstone Ridge Developments Ltd., provided further details on the background of the development since 2003 and on the current application. Mr. McIvor noted that the purpose of the application is to enlarge four lots in Phase 2 to facilitate building and to improve site access, and to create nine additional estate lots that can be serviced by the existing reservoir.

Ms. Pedrini confirmed that the addition of these lots conforms with the Regional Growth Strategy and is consistent with the goals and objectives of the Official Community Plan and Pemberton's Urban Growth Boundary.

Mr. McIvor and Ms. Pedrini answered questions regarding the following issues:

- consultation with First Nations;
- community amenity contributions;
- proposed lot sizes;
- parks and green space;
- conformity with the Village's Regional Context Statement; and
- density of future phases.

Moved/Seconded
THAT the Advisory Land Use Planning Commission recommend to Council that the application for Official Community Plan amendment and rezoning for Lot 1 Sunstone be supported.

CARRIED

5. HILLSIDE DESIGN GUIDELINES

Joanna Rees, Planner, introduced the draft Hillside Design Guidelines that will be presented to the Commission for review and comment at the next meeting.

6. NEXT MEETING

The next meeting will be scheduled in October to review an application for Official Community Plan amendment and rezoning by School District No. 48 to permit Pemberton Secondary School students to design, build, market and sell a house on the empty lot on Poplar Street that is part of the school property. Staff will pursue a date of either the third (October 21) or fourth Monday of October (October 28), depending on members' availability. A Doodle Poll will be forthcoming.

7. ADJOURNMENT

At 6:53 p.m. the meeting was adjourned.

_____
Sarah Allen, Chair

Village of PEMBERTON

MEMO
TO ALUC

Date: **October 28, 2019**

To: **Advisory Land Use Commission**

From: **Joanna Rees, Planner**

Subject: **Official Community Plan Amendment and Rezoning – Pemberton Secondary School, 1400 Oak Street**

PURPOSE

The purpose of this report is for the Advisory Land Use Commission to consider and make recommendations to Council regarding a minor OCP amendment and rezoning proposed for the Pemberton Secondary School (PSS) property located at 1400 Oak Street.

BACKGROUND

Sea to Sky School District No. 48 made application on August 2, 2019 to the Village of Pemberton for an amendment to the Official Community Plan (OCP) and Zoning Bylaw to facilitate the creation of additional residential land. Specifically, the application's intent is to designate additional lands in the OCP Bylaw No. 654, 2011 for residential use and to amend the Zoning Bylaw No. 832, 2018 to accommodate the creation of one (1) new residential lot. The proposed lot, located at the corner of Poplar and Aspen, is currently designated 'Civic and Institutional' and zoned Public (P-1).

The amendments together would enable the applicant to apply for subdivision and would result in the creation of a new single-family residential lot that PSS would develop. A new program run out of PSS would give students the opportunity to gain hands-on learning experience in multiple trades such as design, construction and landscaping before being involved in the sales, marketing and staging of the new home as valuable real-life skill development. The School District has proposed that the new home will either be sold on the private market or serve as staff housing for teachers (a teacherage).

SITE DESCRIPTION

The subject lands are depicted in **Appendix A**. The subject land is flat and currently naturally vegetated, as shown in Figure 1 below.

Figure 1: Subject lands located at the corner of Poplar and Aspen Street.

Surrounding land uses are characterized by residential uses. Institutional uses including Pemberton Health Centre and Pemberton Lions Villa are located further south of the subject lands.

BRIEF DESCRIPTION OF THE PROPOSAL

The proposal is to amend the OCP Bylaw No. 654, 2011 by re-designating a 1,001 m^2 portion of the Pemberton Secondary School District property, legally described as Lot 1, DL 165 & 203, LLD, Plan KAP56732 from 'Civic and Institutional' to 'Residential' and to amend Zoning Bylaw No. 832, 2018, Schedule A – Zoning Map to rezone the subject property from 'Public (P-1)' to 'Residential -1 (R-1)'.

The purpose of the proposal is to permit the creation of one (1) new residential lot for the development of a single detached dwelling. A proposed draft OCP amendment and Zoning Bylaw amendment are attached as **Appendix B** and **Appendix C**, respectively. If the OCP Amendment and Rezoning applications are approved, a subdivision application is required to create the new residential lot.

COMPLIANCE WITH GENERAL POLICY DIRECTIONS

The proposal is generally consistent with the goals and objectives of the Official Community Plan. Accordingly, the proposed redesignation and rezoning aligns with the general OCP directives. Specifically, Section 5.1.1 Growth Policies, states that growth should *make efficient use of land that is deemed appropriate for development through embracing applicable smart growth policies*, this includes the encouragement of growth within existing communities. Additionally, Section 4.0 Greenhouse Gas Emissions Reduction Targets states that *85% of all residences shall be within 1,000 metres of the downtown core*. This proposal will provide one (1) additional single family home that will be located in close proximity to the downtown core and public institutions

encouraging active transportation and therefore contributing to reduced greenhouse gas emissions. Furthermore, the addition of a residential lot at the corner of Poplar and Aspen Street will be in character with the surrounding residential neighborhood.

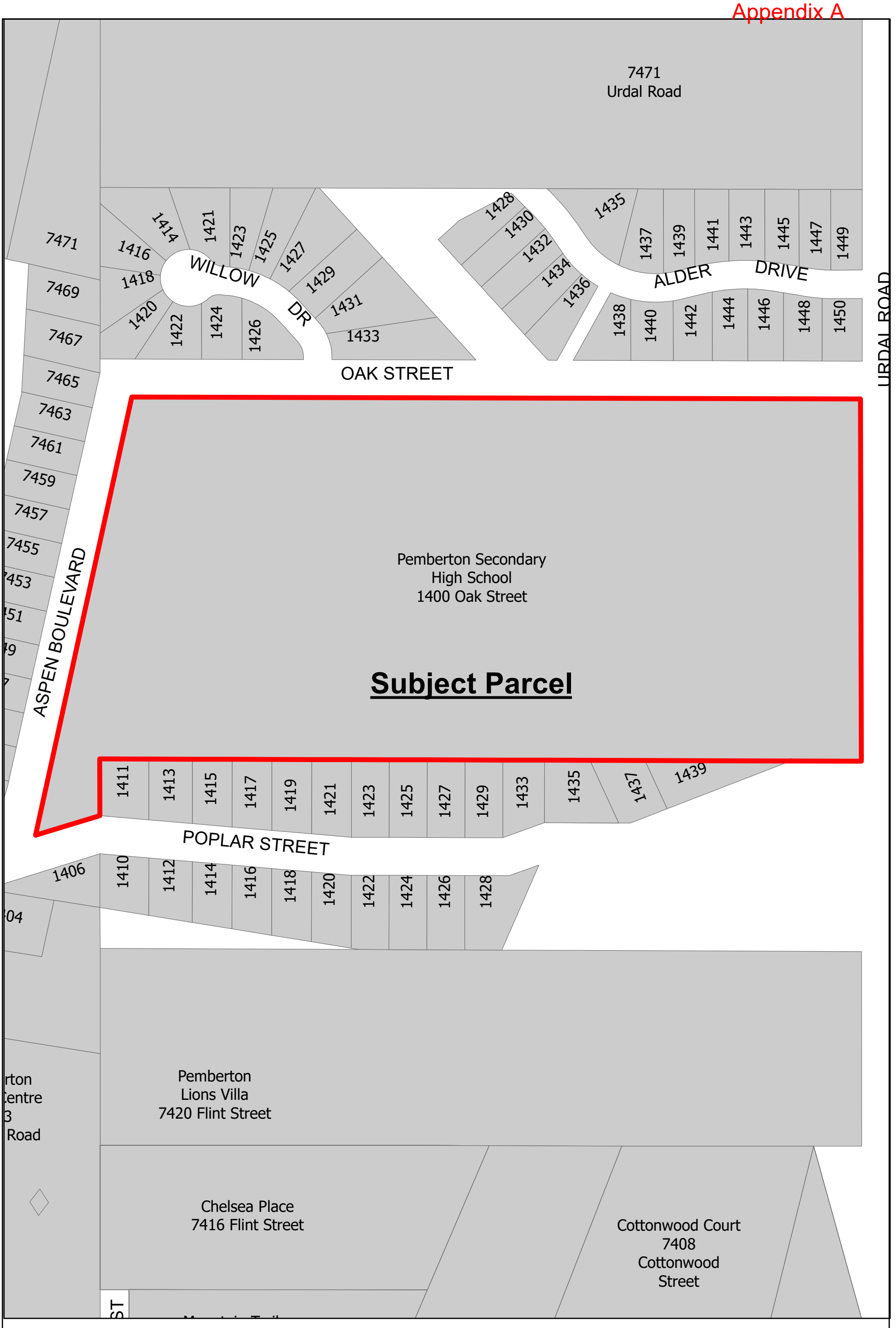
The proposed zoning of the severed lot is Residential 1 (R-1), which allows for a minimum parcel size of 700 m^2 and a minimum lot width of 18 m. The proposed new lot, Lot 1, will measure 1,001 m^2 and the lot width is 25.3 m and therefore meets the minimum parcel size and minimum lot width requirements.

COMMUNICATIONS

Staff have prepared a separate report for Council's consideration of early and ongoing consultation on the OCP amendment in accordance with section 475 of the *Local Government Act*. Council considered this report on October 8, 2019 and directed Staff to undertake a referral of the submission to the standard list of referral agencies for comment and to have the applicants hold a public information meeting at their cost before the consideration of First and Second Reading.

Attachments:

- *A. Location Map*
- *B. Draft OCP Bylaw Amendment*
- *C. Draft Zoning Bylaw Amendment*



Location Map

Pemberton Secondary High School 1400 Oak Street

Not for legal reference.
Revised: August, 26 2019

VILLAGE OF PEMBERTON

BYLAW No. XXX, 20XX

Being a bylaw to amend the Village of Pemberton Official Community Plan Bylaw No. 654, 2011

WHEREAS the Council may amend its Official Community Plan from time to time;

AND WHEREAS the Council of the Village of Pemberton deems it desirable to amend the Official Community Plan Bylaw to accommodate residential development;

NOW THEREFORE the Council of the Village of Pemberton in open meeting assembled **ENACTS AS FOLLOWS**:

1. **CITATION**
   This Bylaw may be cited for all purposes as "Official Community Plan Bylaw 654, 2011, Amendment (Pemberton Secondary School) Bylaw No. XXX, 20XX."

2. **Map B – Land Use Designations of the Village of Pemberton Official Community Plan Bylaw No 654, 2011 is amended by re-designating the subject lands shown shaded on Schedule 1 of this Bylaw from "Civic and Institutional" to "Residential".**

READ A FIRST TIME this day of , 20XX.

READ A SECOND TIME this day of , 20XX.

NOTICE OF PUBLIC HEARING for Village of Pemberton Official Community Plan Bylaw No. 654, 2011, Amendment Bylaw No. XXX, 20XX was published in the Pique Newsmagazine on **, 20XX** and **, 20XX.**

PUBLIC HEARING HELD this day of , 20XX.

READ A THIRD TIME this day of , 20XX.

ADOPTED this day of , 20XX.

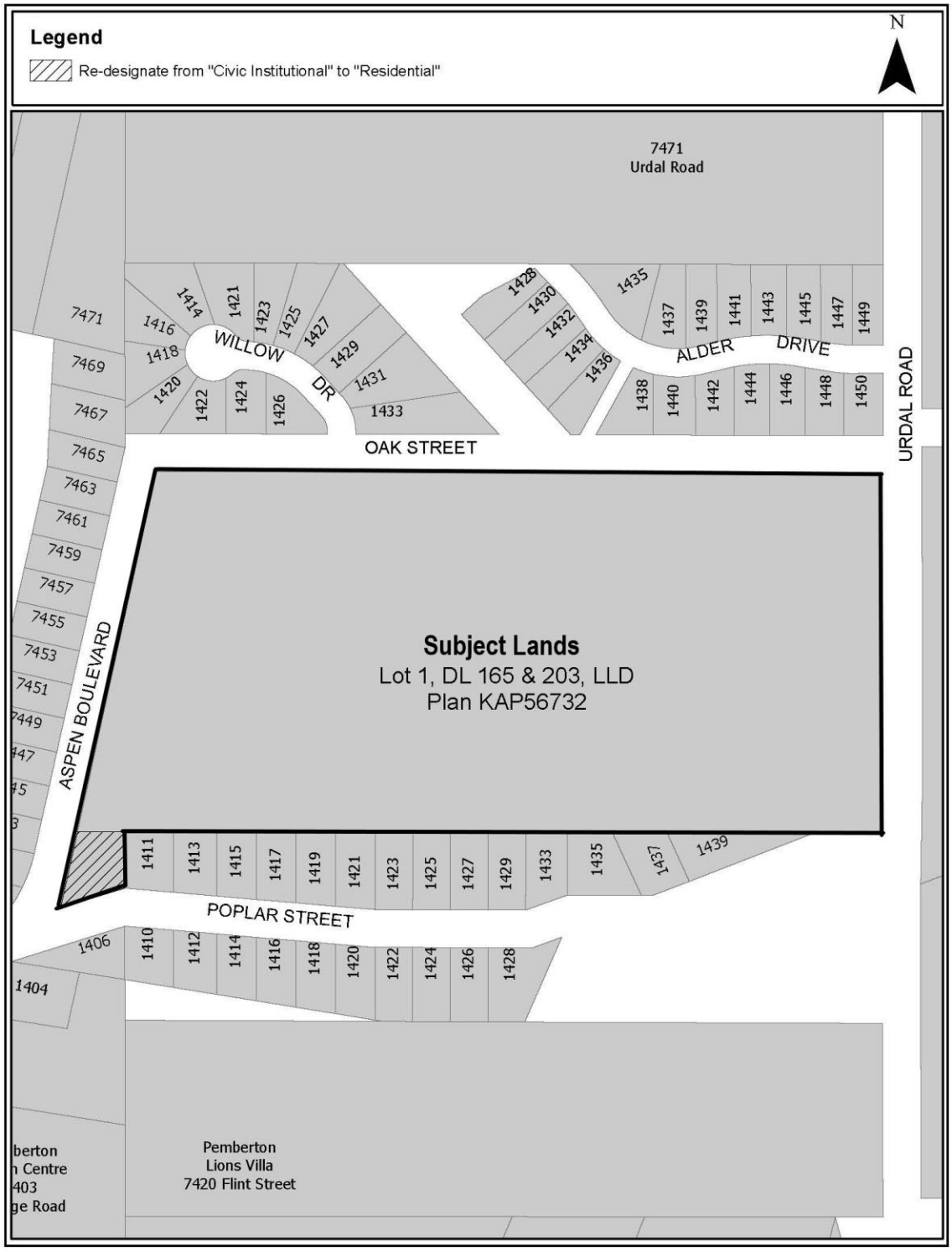
_____
Mike Richman
Mayor

_____
Sheena Fraser
Corporate Officer

Schedule 1

Village of Pemberton OCP Bylaw No. 654, 2011,
Amendment (Pemberton Secondary School) Bylaw No. XXX, 20XX

"Subject Lands"



THE VILLAGE OF PEMBERTON

BYLAW NO. XXX, 2019

Being a bylaw to amend the Village of Pemberton Zoning Bylaw No. 832, 2018

WHEREAS the Council may amend its Zoning Bylaw from time to time;

AND WHEREAS the Council of the Village of Pemberton deems it desirable to zone lands for Residential Uses;

NOW THEREFORE the Council of the Corporation of the Village of Pemberton in open meeting assembled **ENACTS AS FOLLOWS**:

1. **CITATION**
   This Bylaw may be cited for all purposes as "Zoning Bylaw 832, 2018, Amendment (Pemberton Secondary School) Bylaw No. XXX, 2019."

2. **Schedule A – Zoning Map of Zoning Bylaw 832, 2018 is amended by zoning the lands shown shaded on Schedule 1 of this Bylaw from Public (P-1) to Residential 1 (R-1).**

READ A FIRST TIME this day of , 20XX.

READ A SECOND TIME this day of , 20XX.

NOTICE OF PUBLIC HEARING for Village of Pemberton Zoning Bylaw No. 832, 2018, Amendment (Pemberton Secondary School) Bylaw No. XXX, 20XX was published in the Pique Newsmagazine on **, 20XX** and **, 20XX.**

PUBLIC HEARING HELD this day of , 20XX.

READ A THIRD TIME this day of , 20XX.

APPROVED BY THE MINISTER OF TRANSPORTATION AND INFRASTRUCTURE PURSUANT TO SECTION 52 of the *Transportation Act* this _____day of _____, 201X.

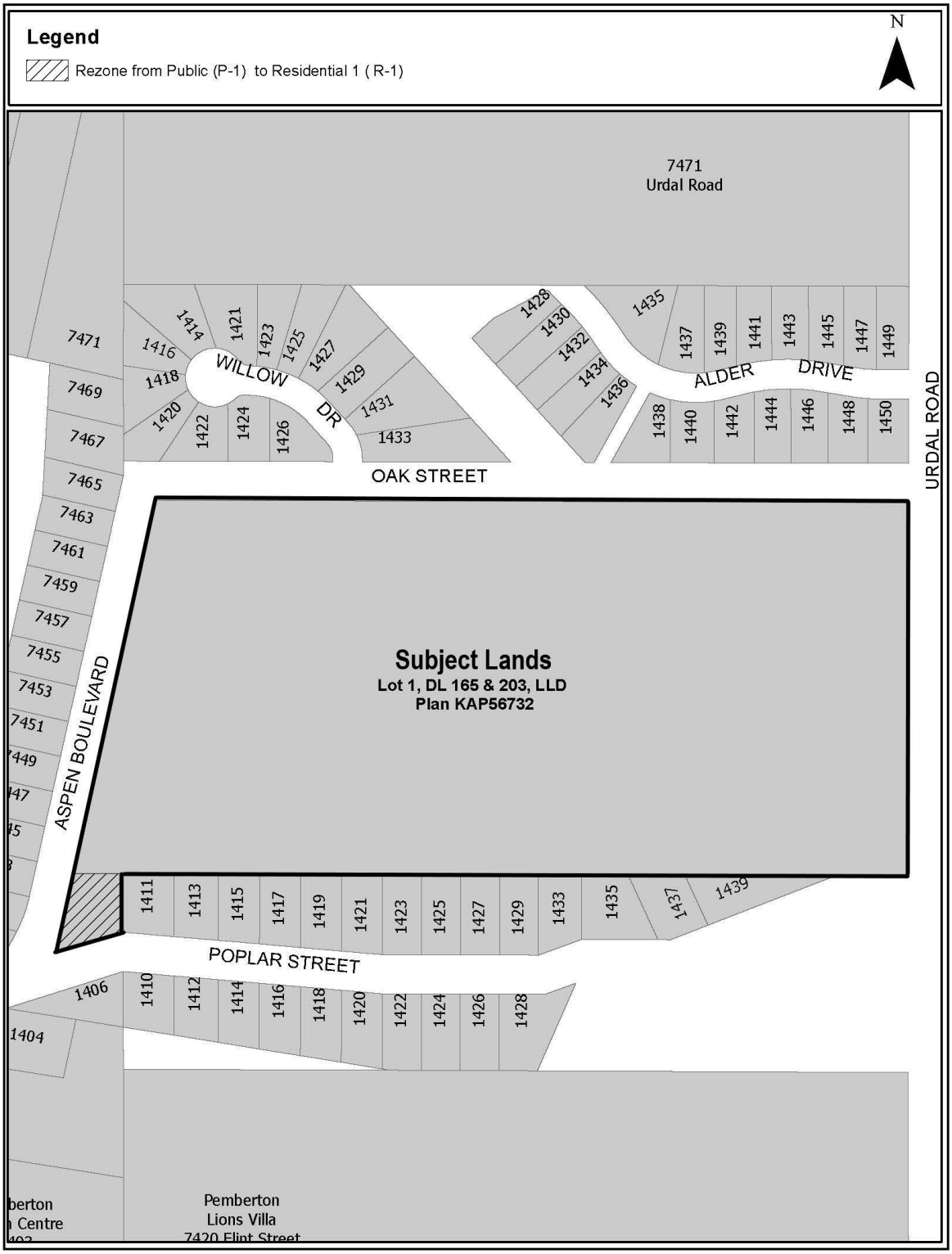
ADOPTED this day of , 20XX.

_____	_____
Mike Richman	Sheena Fraser
Mayor	Corporate Officer

Schedule 1

Village of Pemberton Zoning Bylaw No. 832, 2018,
Amendment (Pemberton Secondary School) Bylaw No. XXX, 20XX

"Subject Lands"



Draft Hillside Development Design Guidelines

Photo Credit: David Ward

Village of PEMBERTON

September 2019

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Introduction

Pemberton's hillside neighbourhoods are characterized by prominent rocky knolls and dramatic valley views afforded from stepped terraces. While hillside development may offer opportunities for residential development with stunning, panoramic views and unrivalled access to nature, it also presents unique design challenges for the creation of safe, aesthetically pleasing and environmentally sensitive neighbourhoods. Hillside developments are significantly more complex than those occurring on the valley floor. The following Hillside Development Design Guidelines aim to sensitively integrate the built form in a manner that protects the integrity of the surrounding landscape.

Vision

Hillside developments will be environmentally sensitive, functionally appropriate, aesthetically pleasing, and economically feasible.

Goals

Development applications within hillside areas should work to achieve the vision for hillside development by focusing on achieving the following goals:

- **Complement the scenic hillside character of Pemberton;**
- **Screen visual impact and minimize unsightly cut and fill;**
- **Integrate unique natural features such as landforms, rock outcroppings, viable existing stands of trees and vegetation, ravines, water features, hilltops and ridgelines into new neighbourhoods;**
- **Avoid development on unstable or hazardous sites and prevent potential rockfall hazards;**
- **Protect environmentally sensitive ecosystems and habitats**
- **Preserve and enhance access to trails and outdoor recreation;**
- **Protect wildlife habitat, wildlife corridors and other environmental values; and**
- **Manage storm run-off and limit erosion hydrology.**

Applicability

Within the Village of Pemberton, hillside areas are defined as all lands with slopes of 10% or greater for a minimum horizontal distance of 10 metres. The following Hillside Development Design Guidelines shall be considered with development applications in hillside areas to the extent determined at the pre-application meeting – not all guidelines apply in every instance. Hillside Development Design Guidelines have been structured to encourage innovation and

flexibility; designers are encouraged to prepare the most appropriate design given the characteristics of the site.

Development Approval Application Requirements

The Hillside Development Design Guidelines compliment but do not replace existing Village policies. This document will work with information required by other Village bylaws including but not limited to: The Village's **Official Community Plan** (including Development Permit Guidelines), **Zoning By-law No. 832 (2018)** and, **Subdivision and Development Control By-law No. 677 (2011)**. It is the applicants' responsibility to ensure they have met and obtained all necessary requirements and permits related to their associated subdivision and development applications.

Wildfire Mitigation

Wildfires are an inherent natural hazard of hillside development in Pemberton. In 2017, the Village updated the Community Wildfire Protection Plan which recommends several measures to reduce the community's interface fire risk. Wildland Fire Interface Hazard Areas are designated in 'Map L' of the Official Community Plan. Hillside Developments should find a balance to incorporate the following design objectives and achieve wild fire protection measures.

Objectives and Design Guidelines

How To Read This Document

The following Hillside Development Design Guidelines are divided into three major sections:

- Site and Subdivision Design,
- Natural Environment, and
- Works and Services.

Objectives identified in each section shall be considered as goals for the designer to work towards. Each Objective requires careful consideration and must be addressed with each submission. Design Guidelines offer suggestions how to achieve those Objectives. It is recognized that not all Objectives cannot be equally or simultaneously attained.

Site and Subdivision Design

Subdivision and site design on steep slopes are expected to respond to the unique characteristics of each site, avoiding significant disruption of the natural terrain as much as possible and reducing visual impacts.

Visual Objectives

The impact of development on views should be mitigated to ensure:

- Pemberton's scenic beauty and hillside character are not compromised, and trees are retained, where possible;
- Structures and building faces do not dominate the landscape;
- Structures are screened through effective use of landscape materials;
- Significant natural features and landforms, including ridgelines, are retained or enhanced;
- Street and building lighting is not overpowering to protect nighttime views; and
- View corridors from within the development are maintained.

Visual Design Guidelines

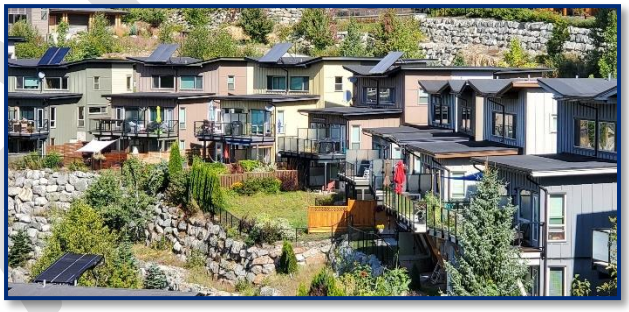
- Buildings should be sensitive to the visual impacts associated with development along ridgelines and edges of cliffs. Sensitivity can be achieved through extensive screening with mature landscape materials, providing greater rear yard setbacks, stepping back second and third stories, limiting building heights, and eliminating fences.
- Unavoidable interruptions along ridgelines should be re-vegetated with natural landscaping.
- Scenic natural features should be incorporated into the subdivision design as natural open space.
- Warm coloured street lighting and limited ambient light is encouraged
- Buildings, retaining walls and fences should be set back from the edge of a natural feature, such as a cliff, rock knoll or outcrop.
- Linear roads, utility cuts, retaining walls and uniform building rooflines should be avoided, or mitigated with mature landscaping.
- Building and retaining design, color and finish can complement natural features and terrain.
- Consider using local, site-specific natural building and retaining materials, where practical.
- Landscaping is capable of hiding views of imposing building facades, reflective glass, retaining walls, roadways and utility corridors, while protecting views from the site.
- Timely landscape restoration can mitigate impacts; consider using mature vegetation.
- View potential can be optimized through strategic placement of roads, parks and vacant land, staggered lot configuration, sensitive lot grading, transparent fencing, etc.
- View corridors can be created by designing lower rooflines, stepped rooflines and staggered lots.
- Stagger buildings to provide views between units that would otherwise limit the field of view.
- Building ground floor elevations and heights should consider up-slope views.
- Views from the street should not be blocked with solid fences.
- Steeper roof pitches can increase view potential between structures and align with natural slopes.

Examples of how siting can maximize view corridors.

Unattractive visually dominant retaining wall.

Retaining wall is made with natural building materials and visual impact minimized with natural landscaping.

House orientation offers views from the street.



Housing colours blend with the natural landscape.

Natural Feature within lot is left in tact.

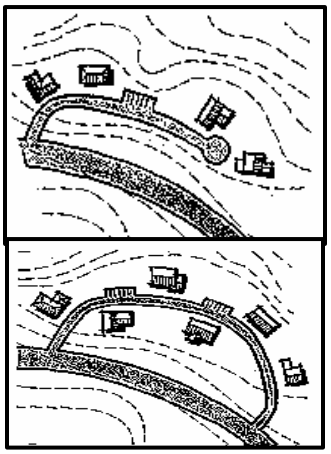
Blasted rock wall leaves stark and negative mark on the landscape.

Housing Diversity and Design Objectives

- Visual dominance of development on the hillside is reduced.
- Cluster housing is used to retain significant natural areas or avoid/mitigate development impacts.
- Colours blend into the natural landscape for all structures, including retaining walls and fences; reflective roof materials are discouraged.
- Multiple-unit housing becomes an acceptable housing type on hillsides.
- Flexibility for the size and layout of single family lots is encouraged.
- Density is influenced by visual impacts, slope, natural features and vegetation.
- Building design increases the conservation of energy and reduces greenhouse gas emissions in accordance with **Building Bylaw No. 867, 2019,** as amended and The BC Energy Step Code.

Housing Diversity and Design Guidelines

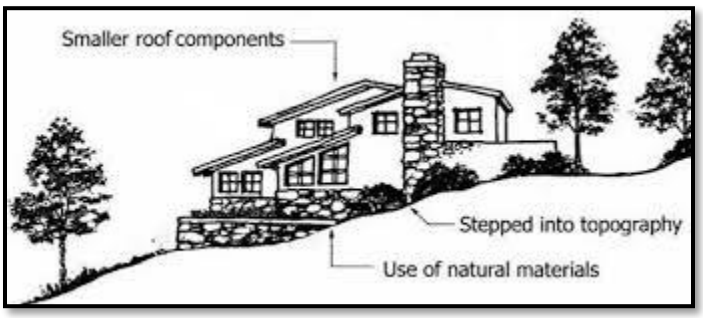
- Consider a variety of housing types.
- Cluster development is strongly encouraged for the purpose of maintaining natural open space and protecting steep slopes and ridgelines, otherwise larger lot sizes should be considered.
- Consider reduced setbacks to minimize the extent of grading.
- Orient buildings to run parallel to the natural slope.
- Articulate buildings to reduce mass, vary rooflines.
- Terrace back yards to reduce grading/retaining.
- Dispose excess excavated material offsite or re-use on adjacent sites where possible.
- Buildings, retaining walls and fences should be appropriately set back from the edge of a natural feature, such as a cliff, rock knoll or outcrop.
- Building ground floor elevations and heights should be sensitive to up-slope views.
- Consider multiple lots with shared access/driveways.



Examples of shared driveways.

Buildings and Structures Massing and Setbacks Objectives

- Allow greater flexibility in locating a building on a steep slope lot.
- Avoid over height buildings and minimize the visual impact of new buildings on steep slopes.

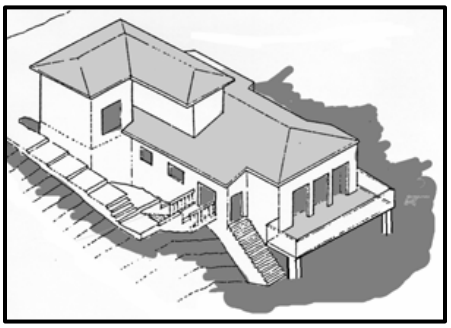


Example of house stepped into topography with smaller roof components.

- Respond to the natural slope of the hillside by using a stepped foundation and setting the building into the hillside to help integrate it with the natural landform.

Buildings Structures Massing and Setbacks Design Guidelines

- Where demonstrated that it will reduce excessive cut/fill, help to avoid hazardous slopes or sensitive areas, and enhance the neighbourhood, a front yard setback can be reduced.
- Overall height should be reduced for flat-roof buildings due to the wider size of the upper floor relative to that of peaked roofs.
- On downhill elevations, avoid the use of single plane walls that exceed one storey. Rather, step upper storeys back from the level below.
- Avoid large, unbroken expanses of wall and long building masses. Rather, design buildings with smaller or less massive building components which reflect the sloped character of the site.
- Show proposed setbacks, driveways and building pads on grading and subdivision development plans.



Building with smaller building components with upper storeys stepped back from the level below.

Streetscape Design Objectives

- Neighborhood streets are narrow, designed for a low speed
- Automobiles are tolerated; resident, pedestrian and cyclist needs dominate
- Low-impact design standards are utilized
- Road aesthetics are valued as a significant contributor to the character and quality of neighbourhood.

Flat roof and low-profile house designs integrated into the natural topography minimize visual impacts and optimize views.

Streetscape Design Guidelines

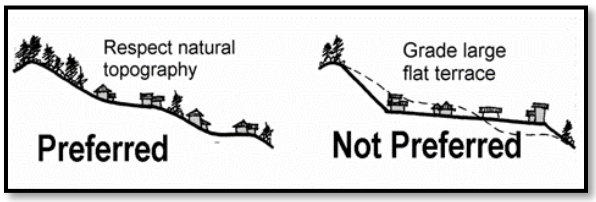
- Consider 3-D computer modeling to create an attractive streetscape design, one which favours pedestrian and neighbourhood activities and creates amenity space. capable of accommodating all users, including children.
- Consider adopting a 20-40 km/h design speed for selected local streets, where appropriate.
- Use open drainage systems, where appropriate, and xeriscape boulevard landscaping, lower ambient lighting levels, streets without curbs or flat curbs, pervious parking bays, street furniture, fewer or no sidewalks, etc.
- Reduce impervious surfaces to the greatest extent possible, incorporate bio-swales where appropriate, consider alternate surface treatments.
- Consider mature street trees and heavily landscaped boulevards on all roads, including local streets.
- Reduce right of way requirements and conflicts with outside utility providers by sharing utility corridors while maintaining adequate ditch lines.

Streets are pedestrian oriented.

Grassed parking bay integrated into the landscape.

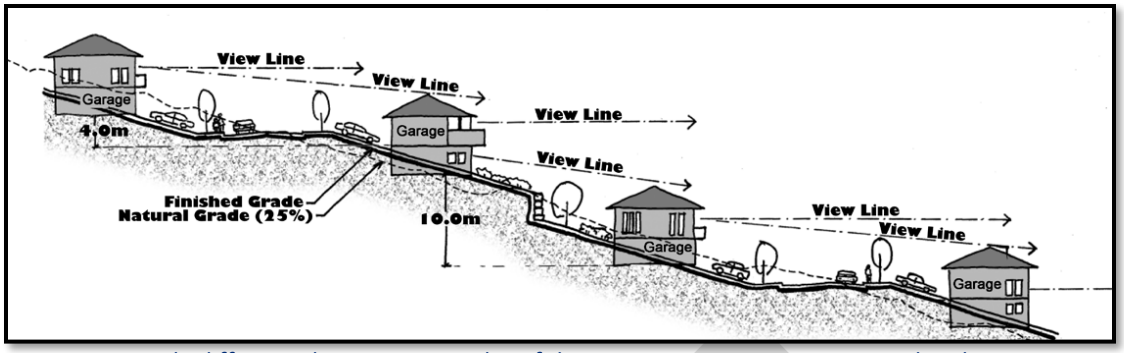
Grading and Retaining Objectives

- Site grading and retaining walls respect existing terrain; that is, large cuts/fills are not used to create 'build-able lots' or flat yards. Driveway grades follow the natural terrain, large single level building platforms are avoided, final lot grades mimic the natural slope and slopes are promptly re-vegetated.
- Lot grading/disturbance should occur at the stage of development where it best accommodates existing terrain and vegetation around the perimeter of the building envelope.



- Road, driveway, retaining wall and fence layout and design conforms to the natural terrain, where possible.
- Significant natural scenic features, such as gullies, rock outcrops and knolls are at a minimum retained and preferably enhanced.
- Manufactured grades mimic natural slopes.
- Site and lot grading do not compromise visual objectives.
- Retaining structures integrate well with the onsite architectural character and natural environment.

- Visual dominance as a result of development is reduced by sensitive grading.



Increasing grade differential on opposite sides of the street improves view potential and mitigates grading impacts.

Low profile houses follow the natural ridgeline, mature trees are retained.

Small well-landscaped retaining walls used to maintain the natural topography and reduce grading.

Grading and Retaining Design Guidelines

- Consider grade difference on opposite sides of the street; opposing slab elevations should be set at a higher grade than the natural slope.
- Manufactured slopes can be placed behind buildings.
- Avoid retaining walls within the front yard.
- Retaining walls can be used to reduce slope disturbance, rather than modify natural terrain – lot sizes should increase as the natural slope increases.
- Use single loaded streets or split lanes and narrow roads to avoid removing scenic features, such as knolls, and reduce grading.
- Avoid side-casting fill excess material along road frontages and attempt to balance earthworks

Sloped driveway reduces grading.

where impacts to hillside objectives are not compromised.

- Boulevards and driveways can be graded from the curb to match existing terrain.
- Consider terraced building foundations, where the bottom slab elevation matches existing terrain, multiple lots with shared access/driveways, detached garages, pan-handle lots, etc.
- Extreme grades may necessitate detached garages.
- Position driveways to minimize lot grading requirements and reduce the impact on adjoining properties.
- Where necessary combine service connections, utilities and utility cuts in a single trench, in accordance with **Subdivision and Development Control By-law No. 677 (2011),** as amended.

Geotechnical and Hydro-geological Objectives

- Risks are appropriately identified and quantified prior to site disturbance.
- Changes to natural slopes are structurally sound and avoid or mitigate hydro-geologically sensitive areas.
- Mitigation strategies/recommendations are implemented during subdivision development and building construction.
- Where appropriate, geotechnical recommendations are filed at the Land Title Office.
- Mitigation strategies are prepared to reduce impacts to surface run-off for both minor and major storm events, while retaining natural features, vegetation, and trees, where possible.
- Impervious surfaces are minimized, and irrigation needs are addressed.

Geotechnical and Hydro-geological Design Guidelines

- Geotechnical/hydro-geological issues, including down-slope potential impacts, shall be considered prior to subdivision design in order to avoid development in unsuitable areas.
- Regular monitoring and test results should be provided for all construction, including that on private property.
- Quality assurance systems should be employed by professional consultants.
- Sign-off from the geotechnical engineer(s) should be provided at appropriate stages of construction, such as pre-clearing, pre-site grading, post-site grading, upon substantial completion, before foundation pour, and prior to occupancy.
- Covenants may be registered upon subdivision approval.
- Plans for all development on hillsides must indicate current drainage routing for minor and major storm events and indicate how development proposes to alter these patterns.

Natural Environment

This section of the guidelines addresses how to minimize the impact of development on the natural environment of the site and how to make residential development more compatible with the hillside environment.

Landscape Vegetation Objectives

- Development takes advantage of natural environment features; natural vegetation and landforms are retained to extent practical – landscape is a key determinant of where development should and should not go
- Identify and protect significant stands of trees and vegetative communities.
- Plant native vegetation that helps mitigate the impacts of development, enhances visual quality and address the needs of residents.
- Wildland fire risk is mitigated in a way sensitive to the ecosystem.

Landscape Vegetation Design Guidelines

- Use open space development, and varied lot size and configuration, to retain tree stands and other vegetation communities to preserve environmental value (e.g., habitat, biodiversity, heritage trees, etc.), maintain soil stability, provide a buffer between development cells, and define neighbourhood character.
- Make strategic use of existing vegetation to retain the site's natural character and to break up views of building facades, roadways (e.g., cut and fill slopes), and other site works.
- The alignments and profiles of roadways and utilities should avoid disruption of significant and unique stands of vegetation and critical environmentally sensitive areas. Provide sufficient clearance between roads, services and vegetation root zones to ensure viability of the vegetation.
- On forested slopes, retain trees and tree stands that represent a range of ages, to provide for natural succession and the long-term sustainability of the forest ecosystem.
- Phase land clearing to minimize the area exposed to soil loss and erosion at any one time. Phasing may be service related (e.g., clear initially only enough to install roads and main service lines), or spatially related (i.e., clearing only one portion of the parcel at a time, completing development and revegetation to control erosion before starting the next portion).
- On individual large lots, limit clearing to what is required for services and the building footprint. Any additional clearing should be immediately revegetated.
- For areas of the site where vegetation must be removed but no construction will occur, leave soil intact (i.e., avoid compaction, excavation, filling, etc.) to allow for more successful replanting in these areas.
- Restore disturbed areas of the site that are not part of a roadway or formal yard landscaping, to a natural condition as soon as possible after disturbance.
- Employ restoration practices specifically tailored to address the type and degree of disturbance and the specific conditions of the site.

- Replace trees in a manner that helps to restore the natural character of the hillside site. Specifically, plant trees to screen undesirable views and to buffer incompatible uses. Arrange trees in natural groupings or clusters rather than in lines or formal arrangements.
- When choosing plant species, native plant species must be prioritized and The Village of Pemberton Landscape Plant List (January 2011) shall be consulted. Invasive species are not permitted. Where the use of native plant material is not desirable given site or view constraints, select plant material that is similar in appearance, growth habit, colour and texture to native plants, and that will not act as a "weed" in the natural environment (i.e., it will not out-compete native plants, provide habitat for undesirable wildlife, or act as a host for insect pests).
- Utilize plant material for site restoration and residential landscaping that is native to the region as much as possible.
- Plant shrubs and trees in masses and patterns characteristic of a natural setting and with the intent of encouraging biodiversity.
- Do not encroach on viewscapes of others. Consider the location, height and "bushy-ness" of tree species planted.
- Employ water-conserving principles and practices in the choice of plant material ("xeriscaping"), and in the irrigation design and watering of residential and public landscapes on hillside sites.
- Conduct wildfire hazard reduction through accepted practices, such as thinning and removal of fuel sources, which are also designed to improve forest health.
- When preparing a land clearing and tree preservation plan, the following criteria can be applied to existing vegetation to determine whether it is to be retained or removed:

Tree Retention Criteria	Tree Removal Criteria
To retain special features and the character of the site	To accommodate site development /improvements
To retain slope stability	To ensure public safety
To prevent erosion	To reduce fire hazard
To keep special or rare trees, plants and plant communities	
To protect habitat values	
To selectively screen development or act as buffers	
To maintain vegetated open spaces	

Works and Services

This section of the guidelines addresses various means of designing and siting roads and utilities to lessen impacts on steep slopes while maintaining public and private safety, individual lot access, municipal and emergency access, and other operational needs. Reducing cost of development and minimizing maintenance costs are additional benefits.

Municipal Services and Utilities Objectives

- Provide municipal services and utilities on steep slope developments that have the least environmental and visual impact, meets service requirements, and minimizes redundancy, capital costs and ongoing maintenance costs.
- Install all services and utilities underground.
- Design roads and road rights-of-way to allow flexible offsets for utility trenches and other facilities such as transformers.
- Road design must consider winter safety stopping and sliding concerns and maintenance issues including snow clearing.
- Major infrastructure requirements such as new transmission lines, telephone switching facilities, primary gas mains or pumping stations should be identified and located early.

Municipal Services Design Guidelines

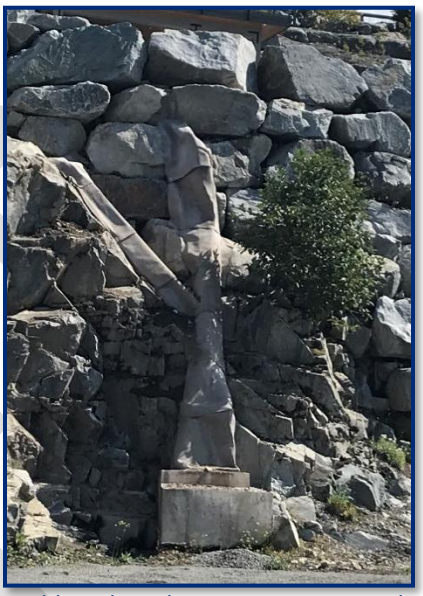
Development on steep slopes requires additional infrastructure for water systems, including booster pump stations, reservoirs, pressure reducing valves (PRV), individual pressure regulators and pipe anchors. Sanitary sewer systems require additional infrastructure such as lift stations and forcemains. If these systems are not comprehensively designed and phased, costly redundancy or insufficient capacities can result. Comprehensive design of water and sewer systems could be accomplished as part of, or in response to, neighbourhood concept plans. This approach eliminates ad hoc expansions, which can result in expensive future upgrades as services are extended. Comprehensive planning ensures appropriately sized services and logical phasing and expansion of the systems in a cost-effective manner.

- Where practical, install more than one service in a common trench to reduce the number of trench excavations and therefore the impacts on the terrain. Where the design profile permits, increase the pipe separation to obtain more than one service in a trench. The works must be constructed in accordance with Village and Provincial standards regarding separation of water and sewer lines.
- Design water service valve and meter boxes with flexible offsets to property lines to maintain ease of access and maintenance. Locate boxes where future grading or landscaping of boulevards will not make access difficult.

- Design water system pressure zone boundaries with sufficient range to ensure fire fighting pressures on the highest side of parcels.
- Address snow maintenance and include snow dumping areas in road design layout.

Utilities Design Guidelines

- Where practical, install power, telephone and cablevision in a common trench in accordance with the **Subdivision and Development Control By-law No. 677 (2011),** as amended. Installation of these services under sidewalks is encouraged where this can reduce the effective right-of-way required on a steep slope.
- Alternatively, if no sidewalks are installed on the upper side of a road right-of-way, utilities could be installed deeper than standard, allowing the slope to grade upward from the back of the curb within the road right-of-way. Utility service and transformer boxes, which need to be at road grade, would require suitable grading and retaining structures. However, the net effect can significantly decrease earthwork volumes and grading required to install a road into a steep slope.



Visible utilities have a negative visual impact.

- Locate access to utility boxes, fire hydrants and other services that require periodic inspection in areas where slopes do not exceed 15% and where they are clearly visible from the road.
- Consider providing hydrants and access behind lots that back onto forested areas where vegetation can be a potential hazard.

Acknowledgments

City of Kelowna Hillside Development Guidelines, October 2009

City of Kelowna Hillside Development Audit, UMA, 2006

City of Nanaimo, Slope Development Permit Area Guidelines, 2005

City of Vernon Hillside Guidelines, 2008

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