

## Hillside Developments

Overview of site development requirements for hillside properties

### Purpose

To inform owners, developers and designers of additional permit applications when developing hillside properties. Please contact our office at 250-490-2571 or [buildinginfo@penticton.ca](mailto:buildinginfo@penticton.ca) to arrange a free consultation meeting if you are planning any landscaping or new building projects (including driveways, pools or retaining) on sloping lots.

### Background

The City of Penticton is situated in a unique geological area with:

- High soil hazard areas (red zones) impacting slope stability and sink hole susceptibility,
- Environmentally sensitive areas, such as Riparian areas, requiring development permits, and
- Limited city storm water management.

Increasing hillside development has created unique challenges related to building heights, erosion, and storm water management. As a result the City has developed new standards to improve hillside development design and reduce negative impacts to neighbouring properties.

### References

[Building Bylaw 2018-01](#) – Parts 9, 14, 20, 21 & 27

[Official Community Plan](#) – Hillside Development



Hillside development – erosion issues

### Implementation – Effective Immediately

Building Permit applications for Hillside developments with front-to-back or side-to-side slope greater than 10% must ensure the following is incorporated into the proposed project design.

#### Site Elevations

All site elevations provided for permit application must be based on geodetic elevations. Please refer to the approved subdivision lot grading plan or obtain elevations from a registered BC Land Surveyor, see [Survey Requirements Bulletin No. 18-04](#).

#### Registered Professional Reviews

A geotechnical review will be required to review slope stability and on-site drainage control. Letters of Assurance will be required including the design and installation of drywells or rock pits.

Please note: Building Bulletins are prepared to provide convenient information for customers, and should be considered a replacement for reviewing the bylaw or associated legal documents. If there is any contradiction between this guide and relevant municipal bylaws and/or applicable codes, please refer to the bylaws and/or codes for legal authority.

In the event where the building official could have reason to believe a potential hazard may exist then a detailed site assessment report will be required along with registration of a covenant prior to permit release.

For further information regarding Geotechnical requirements, see [Geotechnical Bulletin No. 18-02](#).

### Driveways

Driveways will not be permitted to drain directly onto city property and precautions are required when reverse sloping towards the building. Consideration should be taken at transitions from the boulevard or lane and adjacent properties.

The driveway grade should be level from the curb or future curb to the property line. The remainder should not exceed 20% slope. No retaining structures or alterations to the boulevard are permitted, and no treatment may be applied to the boulevard for the purposes of parking.

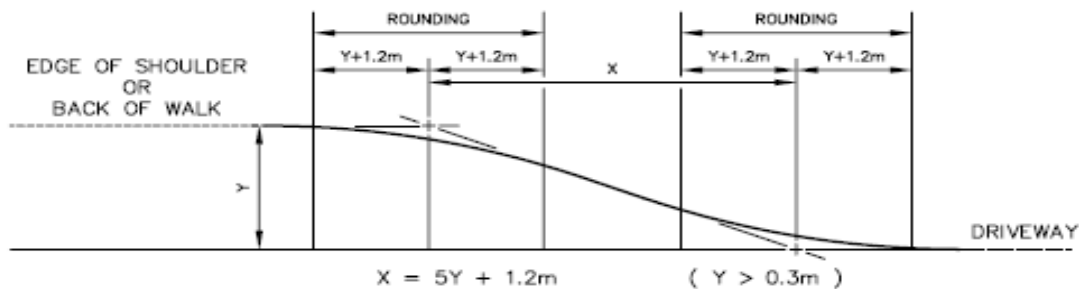
Please refer to the registered lot grading plan or site survey for maximum and minimum garage elevations and site elevations.



### Driveway Profile:

#### DRIVEWAY PROFILE

WHERE DRIVEWAYS INVOLVE AN ELEVATION DIFFERENCE IN EXCESS OF 0.3m, THE FOLLOWING PROFILE CAN BE USED TO DEFINE THE MAXIMUM GRADE AND VERTICAL CURVATURE.(NOTE THAT GRADES SHALL NOT EXCEED 20% IN ANY CASE.)



$$Y/X \times 100 = \text{driveway \%}$$

If you are planning on expanding or creating a new driveway on a City highway, then please refer contact the Development Services Engineering Department at 250-490-2501

### Storm Drainage Management

Surface and foundation storm water must be contained on site unless, otherwise approved in writing by the Development Services Engineer. In most cases foundation and roof drainage systems will be required to be designed and field reviewed by a Registered Professional with experience in Hydrological/Hydraulic design.

### Driveway Drainage

Unless approved in writing by the Development Engineering Department, all driveway drainage is to be contained on site by sloping the driveway to landscaping or providing catch basins or trench drains. Where

large paved areas are proposed, a Geotechnical engineer will be required to design and review the installation of driveway and parking lot drainage.



On-site Drainage Control

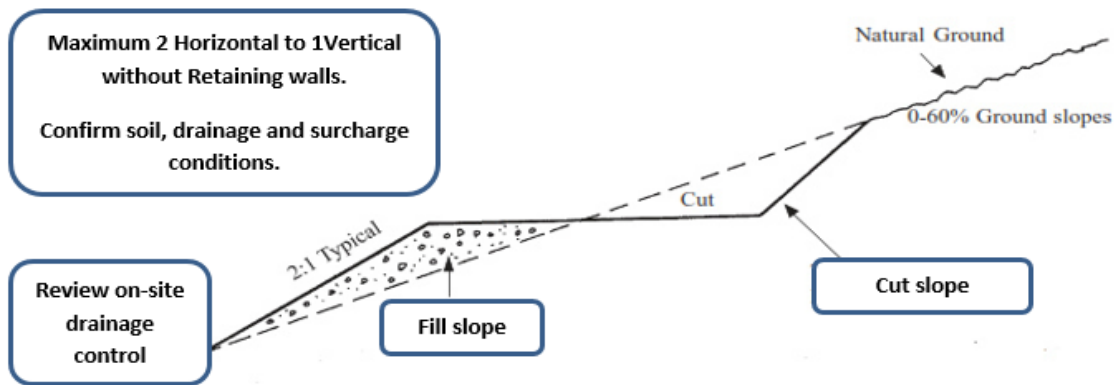


Driveway to Boulevard trench

### Retaining and Other Structures

All existing and proposed structures must be shown on the application site plan. Retaining and other structures must be planned out to not negatively affect buildings or adjacent properties.

Retaining walls are required where proposed fill or excavation exceeds 2 horizontal to 1 vertical.



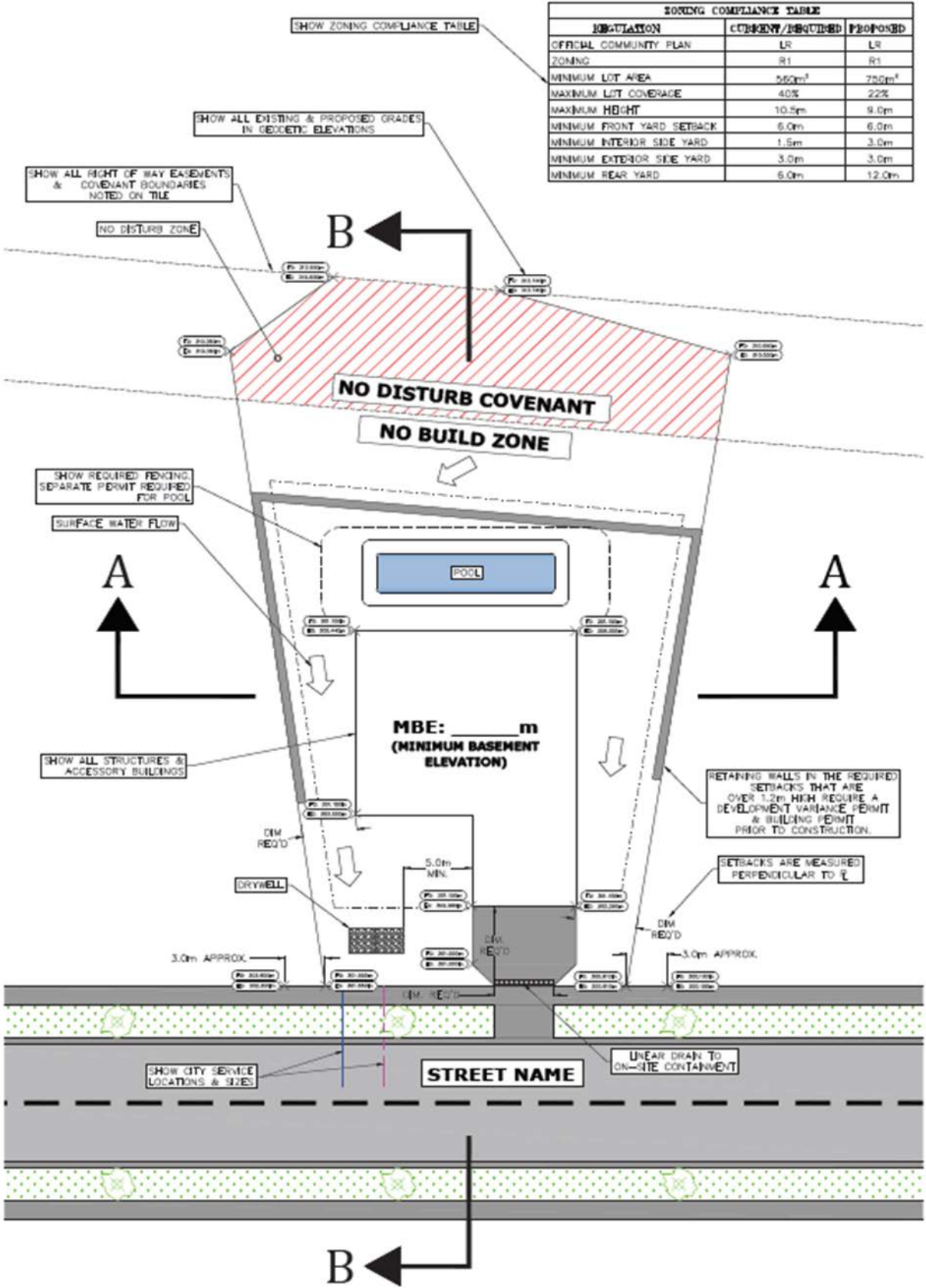
For more information regarding retaining, swimming pool or other structures, see refer to: **Landscaping & Retaining Wall requirements [Bulletin No.19-04](#)**

### Site Plan Design (please refer to Part 14 of Building Bylaw 2018-01 for full requirements)

For permit applications, drawings are to show lot cross sections and site plans are to show the following (refer to site plan example attached):

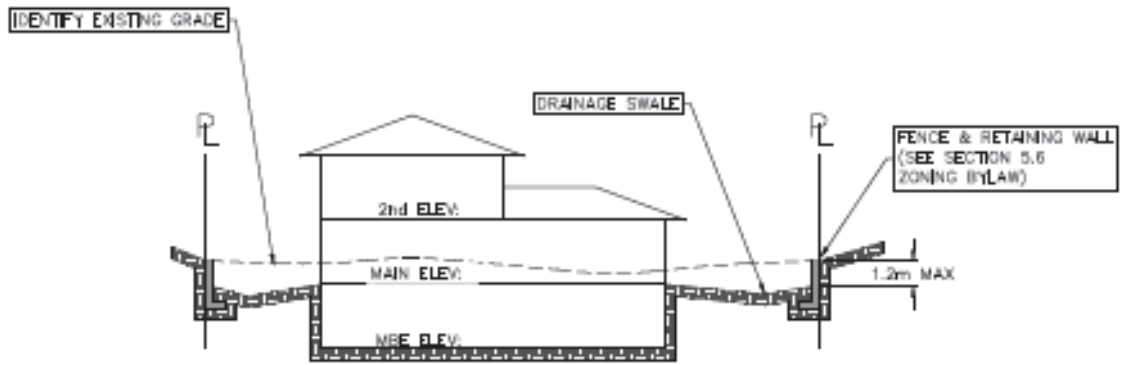
- Natural and finished grades – property corners, outside corners of the home (refer to subdivision lot grading plan or provided geodetic elevations from a registered BC Land Surveyor)
- Covenant boundaries, ROW's and easements
- Driveway slopes, drainage and retaining walls
- Pools and other structures
- Surface storm drainage control
- On-site roof and foundation drainage control (drywells or rock pits)
- Neighbouring structures that could impose a surcharge or be affected by your property development.
- The full width of neighbouring road reserves.

# Site Plan Example

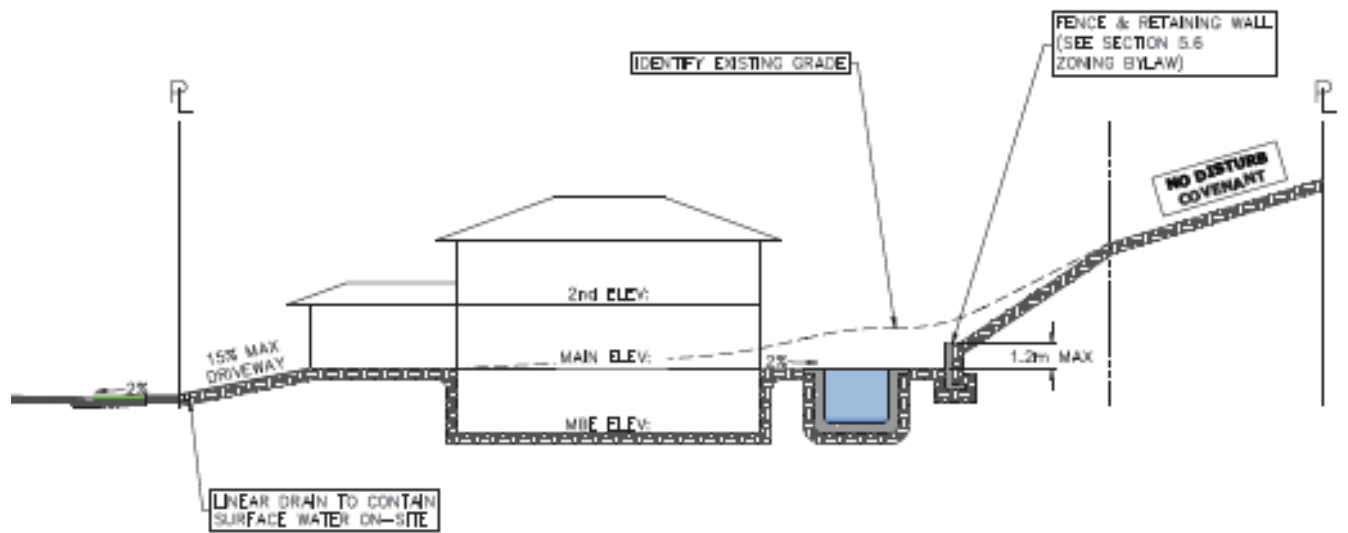


ZONING COMPLIANCE TABLE		
REGULATION	CURRENT/REQUIRED	PROPOSED
OFFICIAL COMMUNITY PLAN	LR	LR
ZONING	R1	R1
MINIMUM LOT AREA	500m <sup>2</sup>	750m <sup>2</sup>
MAXIMUM LOT COVERAGE	40%	22%
MAXIMUM HEIGHT	10.5m	9.0m
MINIMUM FRONT YARD SETBACK	6.0m	6.0m
MINIMUM INTERIOR SIDE YARD	1.5m	3.0m
MINIMUM EXTERIOR SIDE YARD	3.0m	3.0m
MINIMUM REAR YARD	6.0m	12.0m

Site Cross Sections



## SECTION A-A



## SECTION B-B