Do you need a retaining wall?

Many sloping sites on the North Shore have increased their usable space by terracing with retaining walls.

With our significant rainfall, adequate drainage is an important element of wall design and construction. Segmental masonry blocks (e.g., Allan blocks) restrained with geogrid can often be an economic retaining wall system. This wall can be installed by a contractor or home owner.



Typical Design

Call Horizon Engineering for a design and building permit documents.

Horizon Engineering provides geotechnical consulting services for new construction and renovations including:

- foundation engineering,
- road subgrade assessment and pavement design,
- excavation shoring and underpinning design,
- sediment and erosion control, and
- pre-purchase site assessments.

Other geotechnical services include:

- seismic retrofit,
- soil/structure interaction,
- seismic analysis,
- numerical analysis,
- slope stability analysis,
- design of in-ground stormwater infiltration systems, and
- retaining wall design.

Horizon emphasizes service that is tailored to a particular project. Our approach is collaborative and flexible with regard to working with clients, other consultants, and contractors in order to develop the optimal solution for a particular design challenge. We hold quality to be paramount. Horizon prides itself on providing personalized service to meet the needs of our new and many repeat clients.

Horizon Engineering was the recipient of the 2001 Consulting Engineers of British Columbia Award of Merit for Soft Engineering for the Delta Shake and Shingle Landfill Fire Emergency Earthworks Geotechnical Instrumentation and Assessment.



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Retaining Walls on the North Shore

Interpretation of Municipal Bylaws

Design Considerations

Requirements for Permits

Typical Construction Details



Consulting Geotechnical Engineers

North Vancouver City

Permit required for height greater than 4'. Total height must be less than 12'. Wall must not obstruct drivers' lines of sight (15' set back required from intersection for height greater than 3').



	Offset from
Height(H)	Property Line
H less than 4'	Not applicable
H greater than 4' less than 6'	0'
H greater than 6'	Per zoning requirements for principal structures.

Note

Municipal by-laws are subject to change and/or, interpretations other than those presented by Horizon Engineering herein.

North Vancouver District

Permit required for height greater than 4', cut height greater than 10', and slope steeper than 1 Vertical : 2 Horizontal Engineer's Letter of Assurance required for permit (Reference Bylaw 6653). Note: Stack rock walls contravene by-law.



Fill slope



West Vancouver

Permit required for height greater than 4', for stepped walls, and for grades or walls sloping greater than 1 Vertical : 2 Horizontal. Geotechnical report and Engineer's Letters of Assurance required for permit (Reference Bylaw 2200).





Cut slope

Cut slope