

Excavation Requirements for Single Family & Two Family Dwelling Construction (Including Coach Houses and Garages with Basements)

The City has experienced a number of excavation failures over the past few years. The increase of storm intensities have, in part, contributed to these failures. Unstable excavations and failures create worker safety risks and can potentially cause damage to neighbouring properties. Most of these failures have occurred during the course of construction of smaller projects such as single family homes or duplexes. Effective immediately, the construction of all new single family dwellings, duplexes, coach houses, and major residential renovations will be subject to the following excavation guidelines. Excavation work adjacent to City properties or infrastructure must include a site specific design by a professional geotechnical engineer.

Construction work with excavation

Permit submissions for construction with excavation work must include:

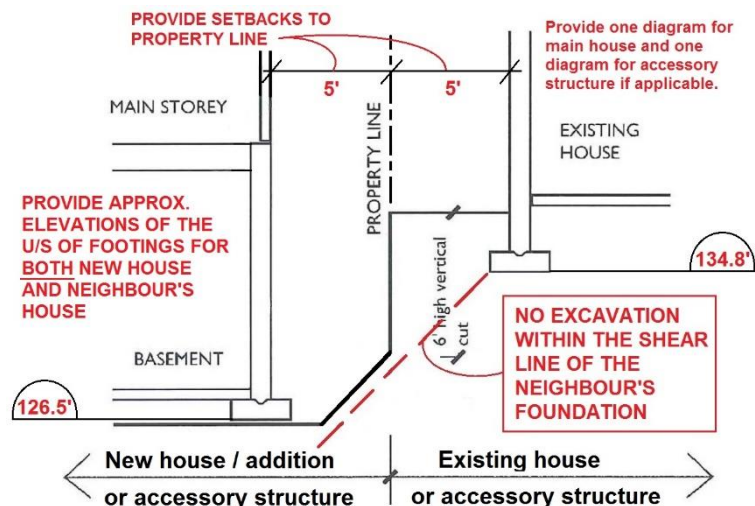
- Letters of assurance for Geotechnical – Temporary including items 7.1, 7.2 **ALL PROJECTS** and 7.3 if applicable.
- Letters of assurance for Geotechnical – Permanent items applicable to the project.
- Ink sealed drawings for all excavations with a vertical cut of more than 4' or benched at more than forty-five degrees with a vertical height more than 4', including:
 - A site plan showing existing structures, retaining walls, sidewalks, and trees on neighbouring properties that may be impacted as a result of the excavation, or that may impact the excavation;
 - Cross sections including the distance to the property line and elevations of the bottom of the footings for the neighbouring houses and any accessory structures, as well as those of the new house, demonstrating the shear line for the bearing will be maintained (please refer to diagram below). Any potential issues should be addressed in a report from the geotechnical engineer.

Construction work with excavation that does not require design by a geotechnical engineer

Some construction work such as slab-on-grade or crawl spaces may not require letters of assurance for Geotechnical – Temporary and ink sealed drawings. **Note:** Geotechnical – Permanent items applicable to the project are still required.

For those cases, the submission requirement is still a detailed site plan plus sufficient diagrams to demonstrate that the work is safe and existing neighbouring structures will not be impacted. These diagrams

might include cross sections to show that all excavation work will have vertical cuts less than 4' deep and all other cuts will be benched no steeper than forty-five degrees.



Requests for exemptions must take into account the space required for work at the foot of the excavation, sufficient space to stockpile soil at an angle of 45 degrees and sufficient space to walk around the perimeter of the site. Special features such as large trees, window and stair wells must be considered.

Excavation work on site

Consult with neighbours to determine the elevations of the footings for existing structures on neighbouring properties, and regarding other excavation-related issues. Private agreements may need to be obtained for use of shotcrete and/or anchors.

Builders must ensure that the geotechnical design is adhered to. Failure to meet the design (even by the excavation subcontractor) will result in a stop-work-order and enforcement by WorkSafeBC.

Full-time on site supervision by the registered professional of the excavation work is required unless the excavation is less than 4' deep and more than 3' from the property line, or a test pit is dug for review and confirmation of soil types by the engineer who would then provide written direction on how to proceed with the excavation. Groundwater management is also required during and after construction to avoid impact on adjacent properties. A professional field review memo for site safety must also be on site at all times. Failure to meet these requirements may result in a stop-work-order being issued by a City inspector. Copies of any geotechnical field reviews for all applicable items must be submitted to the Building Inspector on request.