



IS A PERMIT REQUIRED?

Any retaining wall that is 4 feet or greater from the bottom of the footing to the top of wall requires a permit, as well as structural design by a registered engineer.

There are many types of retaining walls, they include:

- Wood post and lagging (boards)
- Steel I Beams and Lagging
- Poured Concrete
- Concrete Block
- Stacking Block Systems
- Sheet Piling
- Shot Crete

Each of these types of wall systems has a unique way that they are constructed. As part of the permitting process there is a requirement for plans, structural, calculations and construction details for the retaining wall you are building.

WHAT IS NEEDED ON THE PLANS?

- 1.) A plot plan showing the location of the retaining wall(s) in relation to the property, structures, property lines. If located at less than 3 feet from property line a survey would be required. Survey shall be wet-signed by Licensed Surveyor.
- 2.) Cross section details of the wall.
- 3.) Drainage behind the wall. Type, location, where will it terminate.
- 4.) Written description or scope of work.
- 5.) Structural calculations for walls over 4 feet tall bottom of footing to top of wall, wet-stamped and signed by Registered Engineer.
- 6.) Material or manufacturers installation guides, recommendations.
- 7.) Soils Reports are only required when there are known soils problems, in a fault zone, or where there are weak soil conditions. The ultimate decision if a soils report is required is up to the Building Official. Public Works Engineering requires peer review of all soils reports. Contact Engineering Department at 650-259-2339 for their specific requirements.
- 8.) Three sets of plans, soils reports, calculations, guidelines/installation materials, survey of property line where applicable.
- 9.) Obtain a permit once the plans and specifications have been approved. If drainage is to the street an encroachment permit is required from Public Works Department.

WHAT INSPECTIONS ARE REQUIRED?

- 1.) Pier holes depth and steel for cason or post type footings.
- 2.) L type footings need steel and form inspection. Steel stub-ups for the wall should be part of this inspection.
- 3.) For stacking block – the first two (2) layers on the gravel base and at each level prior to cover of any geo-grid material.
- 4.) Once the footing are poured on cason or L type footings then it is time for the wall steel inspection. The rebar should be in place both vertically and horizontally. Both form boards should be in place and ready to pour. Post and lagging can continue to completion.
- 5.) Inspection of any electrical or plumbing other than drainage.
- 6.) Inspection of wall drainage and water proofing is the next step before backfilling with rock. Once the water proofing and drainage piping has been approved then the wall can be backfilled with rock or dirt depending on what the plans call for as backfill. Drainage piping shall be run to an approved storm drain – NOT the sewer line, to the curb face, V-ditch, creek, storm drain collection system or box. Drainage cannot flow across someone else's property without that property owners written permission. Written permissions are required to be recorded on the property records of both properties so that future owners will know of this agreement and use of each other property. Proof of recordation will be required before a final will be given.
- 7.) Slopes behind a retaining wall once they have been brought up to grade shall not exceed a 2 to 1 slope angle (for every foot in rise there needs to be two feet of angled slope). Slopes also need to be stabilized – or protected to prevent erosion. This could be using jute netting, hydro seeding or planting.
- 8.) Final inspection – once all work described on the plans, specifications, manufactures guidelines, etc. has been completed – is required.

LOCATION TO PROPERTY LINE

Retaining walls shall not be built over property lines without the expressed written approval of the adjoining property owner, this includes the City of Millbrae. Written permission is required to be recorded on the property records of both properties so that future owners will know of this agreement and use of each other's property. Proof of recordation will be required before a final will be given. Retaining walls build in the front yards will not be allowed to be built over utilities that may be buried in the planting strip between sidewalk and curb or behind the sidewalk. The City of Millbrae Engineering Department may allow encroachments onto city land by way of a revocable encroachment permit. A revocable encroachment permit means that we the city or any other utility can remove the retaining wall and any other improvements at the property owners expense and we/they do not have to replace the wall or other improvements.

September 2017