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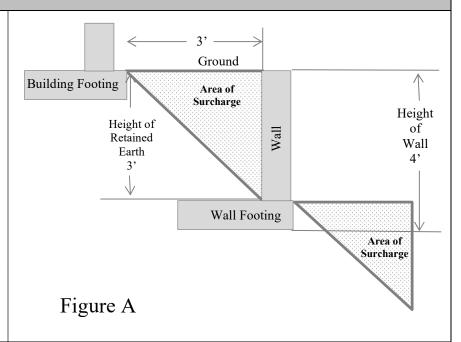
RETAINING WALLS

Purpose Statement: To provide information that will help determine whether permits are required for a retaining wall, and what type of permit is necessary.

Retaining Walls – Several questions must be asked and answered when determining whether a permit is required for a retaining wall. The building code, zoning code, and engineering code all include standards and requirements that pertain to retaining walls. The following descriptions provide general information about walls, and do not address all circumstances on all lots.

BUILDING REQUIREMENTS

- Any retaining wall that is taller than 4 feet in height, measured vertically from the bottom of the footing to the top of the wall, requires a building permit.
- Any retaining wall that retains a surcharge load behind it requires a building permit. A surcharge includes dirt, buildings, significant landscaping, other retaining walls (e.g., terracing), paving, parking, and fences. Figure A helps describe what it means to have a surcharge. There are two primary aspects to surcharge:
 - If anything, other than dirt and grass is located within the setback shown at the top of the diagram there is a surcharge.
 - Within the setback, if the ground slopes upwards from the top of the wall backwards, there may be a surcharge. If that slopes exceeds 2 feet of run over 1 foot of rise, engineering calculations & geotechnical analysis must be provided.



PLANNING REQUIREMENTS

- Walls are allowed within zoning required setbacks and near property lines, however, many walls require a tie back anchoring system. All aspects of the wall must be on your property, including footings and tie back elements, unless you have obtained an easement from the adjacent property owner that allows for construction and long-term maintenance. If you have obtained an easement, you must provide a copy of the document signed by all parties within your permit application.
- Fences that are 7 feet or less in height are typically exempt from a permit, however if a fence is installed at the top of a retaining wall, the height of the fence is measured from the toe of the wall. Additionally, because the fence creates surcharge behind the retaining wall a building permit will be required.

ENGINEERING REQUIREMENTS

- If the project will include a fill of 8 inches or more of vertical depth, and/or excavation of more than 5 feet vertical depth on any portion of the site that involves more than 500 cubic yards of earthwork, a grading permit is required.
- If the project includes clearing and grading of 7,000 square feet or more within a residential lot, a grading permit is required.
- If the project will include creation of impervious surfaces of 2,000 square feet or more, a grading permit is required.
- If the project will include 500 cubic yards of topsoil or more a grading permit is required.
- If the wall is to be installed upon an area defined as a geologic hazard area, wetland, wetland buffer, stream, or stream buffer, at a minimum, a grading permit will be required. Each of the above terms have very specific definitions in city code and many are mapped. It is important for you to have a full understanding of whether your property contains these features before you start any groundwork. Retaining walls over 4 feet in height or in areas of questionable soil stability will require an engineered design.

Questions and Answers – Is a Permit Required for a Retaining Wall I want to Build?

- 1. Is it taller than 4 feet in height? If yes, a building permit is required. (See Building Requirements, Bullet 1 on first page)
- 2. Will the wall retain a surcharge? If yes, a building permit is required. (See Figure A on the first page)
- 3. Will more than 8 inches of fill be added to my property? If yes, a grading permit is required.
- 4. Will more than 5 feet of vertical be cut? If yes, a grading permit is required.
- 5. Will more than 500 cubic yards of fill be added to my property? If yes, a grading permit is required.
- 6. Will the wall be located within a geologic hazard area, on a slope that is greater than 2 feet of run over 1 foot of rise, within a wetland, stream, or their buffers? If yes, at a minimum, a grading permit is required.

Based on how you answered the above questions you might find that your project only requires a building permit, only requires a grading permit, or requires both a building and a grading permit.

Additional Considerations on Individual Single Family Residential Lots

Check with your Homeowner's Association (HOA). If you live in a community that has a Homeowners Association there are likely additional Covenants, Conditions, and Restrictions (CC&Rs) that further regulates construction and placement of retaining walls irrespective of their size, height, or length. Additionally, some CC&Rs require the HOA to review and approve structures such as retaining walls prior to their construction.

Talk to your neighbor. If you are proposing to install a wall near a property line it is a good idea to communicate with your neighbor. Even if the wall is on your property and does not require a permit from the City you are still required to adequately control storm water runoff and to ensure that you are not causing an inadvertent adverse drainage impact on your neighbor and their property.

Landscaping and fences behind walls. Large landscaping, such as trees and large rocks, or fencing behind walls may penetrate and interfere with the necessary wall tie back anchoring systems and must be designed/installed appropriately.

Additional Considerations for Commercial Development

While a wall that is less than 4 feet in height may not require a building permit, railings may be required above the wall. Guard railings are required where there is a drop within 3 feet of a walking surface of 30 inches or more in height.

Additional Considerations for Subdivisions

Future Ownership and Maintenance. It is common for large scale grading plans to include one or many retaining walls that will span multiple future lots within part of a subdivision. Consideration should be given to who will be responsible for maintaining each wall (e.g. individual lot owners vs. an HOA), whether the walls should be located entirely upon a given lot (vs. the lot line running down the center of the wall), and how to address long term access and maintenance of wall systems that include underground tie back anchoring systems and drainage systems that are located behind the wall.

Walls as Part of Storm Ponds. Formal civil engineering plans may be designed and approved that identify retaining walls as a component of a storm pond. These types of walls require building permits.

Civil plans that include multiple walls must include unique identifiers for each wall (e.g., labeling Wall A, Wall B, etc.). This allows subsequent building permit applications to be submitted and permits issued that correspond to the unique identifier. This will help establish the correct permit fees since each wall will likely have a different construction cost and to allow contractors to arrange for inspections of the correct wall.

Other Considerations

Walls may not be placed on top of utilities or within utility easements. This includes associated anchor tie-back systems.

Walls are not allowed within public right-of-way. There must be a minimum of 2 feet of level earth that separates the right-of-way and the top or toe of a wall.

Walls may not impede sight distance view lines at road intersections, alleys, or driveways. If you are proposing any type of wall that is within 20 feet of a road edge, irrespective of whether it requires a permit, please consult the City in order to determine that sight distance view lines are not adversely impacted.

Remember that retaining wall face is not always perfectly vertical and that you need to account for any slope or angle of the wall when considering its location relative to other features (e.g., right-of-way location, surcharge area, footings of other structures, etc.).