



# DEVELOPMENT SERVICES

TO: Development Services Customers

SUBJECT: **INFORMATION BULLETIN 171**  
Retaining/Landscaping Walls – Permit/Inspection Requirements

DATE: March 19, 2010/*Revised January 6, 2022*

CREATED BY: Plan Review Division

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## **Purpose:**

As a customer service initiative, the Development Services Department (DSD) created this information bulletin (IB) to clarify the process and provide forms to obtain permits for retaining and landscaping walls and define the requirements for other walls built in within the city limits. This IB was updated to reference electronic submittal through BuildSA and clarify requirements.

## **Scope:**

A retaining wall is a wall designed to resist lateral earth and/or fluid pressures, including any surcharge, in accordance with accepted engineering practice. Retaining walls are considered structures, and permits are required prior to construction as outlined by Section 105.2 in both the International Building Code (IBC) and the International Residential Code (IRC).

### **Retaining Wall Permits**

The City of San Antonio considers retaining walls exempt from permitting if walls are 4 feet or less in height, all along its' length, measured from the grade level at the front of the wall to the top of the wall, unless the wall supports a surcharge, or impounds Class I, II or IIIA liquids. If a wall less than four feet in height supports a surcharge, a permit is still required.

A **surcharge** is a vertical load imposed on top of the wall or on top of the retained soil (imposes a lateral force on the wall in addition to the lateral earth pressure of the retained soil). Examples of surcharges are:

- Sloping retained soil steeper than 3:1 (3 horizontal to 1 vertical)
- Building foundations, parking lots, roads/driveways, footings for advertising signs and monuments or other structures that create additional forces on the wall. If these additional loads are located a distance from the wall greater than one and one-half (1 ½) times the exposed height of the wall, they are not considered surcharges.
- Solid Fences (that would contribute wind loads), that are attached or directly adjacent to a retaining wall.

### Tiered Retaining Walls

Tiered walls are two or more walls tiered together that acts as a larger wall. If the horizontal distance between upper and lower walls is less than or equal to two times the height of the lower wall, measured from the face of the bottom of the wall at grade to the top of the wall, the multiple wall system is considered a single tiered retaining wall. The total height of a tiered wall shall be measured from the grade at the front of the wall with the lowest elevation to the top of the upper wall. If the horizontal distance between walls is greater than two times the height of the lower elevation wall, then the walls are considered separate for permitting purposes.

### Landscape Walls

Landscape walls are designed by landscape architects or others strictly for landscaping purposes. Though not strictly defined, they may be large heavy boulders/limestone blocks placed for landscaping purposes only or may be walls placed in cut or fill applications strictly for the root protection of existing trees, such as a tree well in a fill condition. In these cases, the walls are not considered strictly retaining walls or require designed by a Licensed Texas Professional Engineer. These landscape walls are included in the scope of this Information Bulletin since they are stand alone walls and soil is retained. Landscaping walls will be re-categorized as retaining walls by DSD if the wall is 10-feet or higher in height, or supports a surcharge from a foundation, public/private road, driveway, parking lot or other man-made structures (i.e., the imposed load is located closer than one and one-half times the height of the exposed wall).

### Other Walls Not Included in this Information Bulletin

Development Services also require permits for other types of walls that may or may not retain soil and are generally permitted through other DSD permit applications. The department considers the following to be structures and therefore regulated under the building codes requiring permits. However, the following are not considered a retaining wall requiring a separate retaining wall/landscaping wall permit.

- Fences are covered under the Unified Development Code. A fence requires an over-the-counter fence permit. Based on height, a solid fence may resist sufficient wind loads to require a separate building permit with an engineered design. Predominately open fences, such as chain link and wrought iron that have no appreciable wind loads, only requires an over-the-counter fence permit. A fence may be designed, permitted and built within the scope of work of a larger building permit and not require a separate permit.
- Decorative facades are built to cover the face of a milled limestone wall for esthetic purposes and not intended to retain the limestone substrate. These are not retaining walls for purposes of this Information Bulletin. They may be considered structures depending on the design and require an engineered design and a separate building permit. They may be covered within the scope of work of a larger building permit and not require a separate permit. However, they may be permitted as a retaining wall if so desired.
- Detention Pond Walls designed as part of a detention pond. These are civil structures permitted separately as part of the scope of a larger building permit.
- Foundation Walls/Basement Walls/ These are designed by structural engineers as part of a foundation. They may include extensions of a building foundation outdoors that retain soil on one side – wing walls. These are permitted as part of the building foundation in a building permit.

- Wing Walls. These include walls that may retain soil as part of a standard culvert design, bridge design, or tunnel design. Generally, these are not permitted through Development Services

### Global Stability Calculation Requirements

For retaining walls that require a permit, a Global Stability Analysis (GSA) is required for the following:

- The groundwater table is above or within the wall height
- All tiered retaining walls
- The retaining wall is over expansive soils, organic soils, clays, silts, poorly graded sands and/or soils with a PI greater than 20 or a LL greater than 40.
- A surcharge includes an occupiable building or a traveled roadway/drive isle
- A retaining wall is 10-feet or higher with or without a surcharge

A GSA is not required for any wall in Tarrant and Brackett soils where the bottom of the footing sits on/within Glen Rose limestone bedrock or Edwards limestone bedrock. However, a GSA is encouraged to be submitted at the direction of the geotechnical / design engineer.

A geotechnical / design engineer may submit a stamped and sealed letter for City indicating the reasons why a GSA is not required.

### Permit and Design Requirements

Retaining walls shall be designed by a Texas Licensed Professional Engineer unless indicated in the following notes. Retaining walls may also require a global stability analysis performed by the design professional. The owner is responsible to hire the design professional to provide a final letter of inspection to DSD if required (example letter attached to this IB). The following summarizes the requirements for submittal depending on wall height and surcharge:

#### **Walls 4-Feet and Less in Height with No Surcharge**

- No Permit required
- No inspections required

#### **Walls 4-Feet and Less in Height with a Surcharge**

- Permit required
- City Building Final inspection required
- No Design Professional required

#### **Walls greater than 4-Feet in Height**

- Permit required
- Design Professional inspection letter required
- Design Professional\* design required

## Design Requirement Notes:

- \* Design Professional – Texas Licensed Professional Engineer - Landscaping walls less than 10-feet in height may be designed by a Texas Registered Landscape Architect if there is no surcharge on the wall system  
Inspection Letter – For walls over 4-feet in height - Required design professional inspection letter to clear final inspection and close the permit. Submitted by the design professional in responsible charge performing the on-site inspections during construction– See attached standard sample letter

## Submittal for Application, Issuance of Permits and Inspection Process

- **Application** – Retaining Walls for both residential and commercial applications are applied for using the Commercial Project Application. This application is an electronic submittal through the [BuildSA Customer Portal](#). The application is located under the “Building” module tab. Choose “Create an Application”, and then chose the “Commercial Project Application”. Within the online application, the applicant will choose the type of commercial project application. The retaining wall is a sub-type of “Minor Structure”, so the applicant will select Minor Structure. For a standalone retaining wall, the applicant should never check Sitework, only Minor Structure”, since the sitework associated with a retaining wall is part of the issued retaining wall permit. Checking Sitework as a type of application in addition to a retaining wall will create a second permit. Later in the application, the applicant will select “Retaining Wall” and fill out information about the wall(s) to be permitted.
- **Application Type** - A retaining wall may be standalone (applied for with no other scope of work). The goal for first reviews is as 3-days after payment of the plan review fees. However, a retaining wall may be applied for in one application as part of a larger scope of commercial work. When applied for in one application with other commercial work, the first-time review goal will be set to that of the larger scope of work. The submitted construction documents would include the design of the retaining wall as well as the design of the rest of the commercial project.
- **Electronic Design Documents** - After the application is submitted, the next step is to upload the construction plans (documents) in one or more pdf files to the Plan Room located under the application record in the BuildSA Customer Portal. It is important to remember that the City does not receive notice of the application until electronic documents are uploaded to the Plan Room.
- **Plan Review Fees** - Once the City reviews the submittal and electronic documents for completeness, the Plan Review fees are generated which may be paid through the BuildSA Customer Portal. Plan Review fees are paid on the application record.
- **Technical Reviews** – Issues (questions or requests for revised documents) are created in the Plan Room and e-mailed out. Customers respond to issues submit revised or missing documents through the Plan Room in the Customer portal.
- **Building Permit Fees** - Whether a retaining wall is applied for separately or as a part of a larger commercial project application, a retaining wall permit will be created with a retaining wall permit number for inspection purposes. After plan review is complete the permit records are created and building permit fees may be paid.

- **Payment** – Since a retaining wall is part of the Commercial project workflow, payments are made through the shopping cart in the BuildSA Customer Portal. Payments may be made on the application record or the permit record.
- **Inspections** - Retaining or landscaping walls are subject to a requirement for inspections by the design professional of record registered/licensed in the state of Texas. Inspection and certification of the construction of the retaining wall/landscaping will be provided by the design professional registered with the State of Texas as required by the Table 171 above. The design professional will be required to submit a letter indicating the construction was in general conformance to the engineered/landscape design as approved by Development Services prior to completion and closing of the permit. A sample letter is attached to this document. The letter will need to be submitted to DSD through the BuildSA Customer Portal. Multiple walls on one lot may be submitted under one permit application. The final inspection requirement from the engineer or landscape architect would cover all the walls on that lot. Alternatively multiple applications and permits for one lot may also be submitted if more appropriate because of construction phasing. In that case a final certification letter for each permit would be required. The inspection letter is uploaded to the permit record, not the application record within the BuildSA Customer Portal.
- **Permit Close Out** - The retaining wall permit(s) are considered children of the main building permit and will be required to be closed prior to obtaining a certificate of occupancy. The actual retaining wall permit will receive a Letter of Completion by e-mail once inspections are complete and all fees are paid.

#### Mechanical, Electrical, Plumbing, and Flatwork

Retaining walls are a sub-type of Minor Structures. For commercial applications and permits, all minor structure permits are NOT combination permits. In other words, all issued minor structures permits contain NO mechanical, electrical or plumbing/sewer (MEP) fees or inspections, or public sidewalk/curb driveway approach fees or inspections. Any MEP work in the scope of the project, and any flatwork in the public right-of-way associated with a retaining wall (though very rare), requires separate trade permits pulled by a registered licensed MEP contractor or flatwork contractor. Construction drawings may include MEP or civil sheets and will be reviewed, but no fees or inspections will be included on the minor structures permit record.

If you have any questions regarding this Information Bulletin or the procedure for retaining walls, please e-mail [DSDPlansManagement@sanantonio.gov](mailto:DSDPlansManagement@sanantonio.gov).

This Information Bulletin is for informational purposes only.

#### **Summary:**

**Prepared by:** Richard Chamberlin, PE, Development Services Engineer  
**Reviewed by:** Plan Review Division  
**Authorized by:** Crystal Gonzales, PE, CBO, Assistant Director

**Engineer's Registered Firm/Company's Letterhead**

*(Date)*

*(Client Name)*

*(Client Firm Name)*

*(Client Address)*

*(Client Address)*

Project: *(Project Name)*

*(Project Address)*

San Antonio, Texas 782\_\_

Property Address or Legal Description: \_\_\_\_\_

City of San Antonio Building Permit Number: \_\_\_\_\_

Dear *(Client)*:

You constructed your retaining wall referenced above using construction documents prepared by *(Design Professional Engineer)*.

Qualified individuals from this office visited the site to check the construction stated above for general conformance with our construction documents. In my opinion, based on our experience, knowledge, information and belief, the stated construction that we observed is in general conformance with our construction documents.

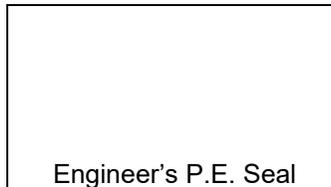
As denoted by the engineering seal on the construction documents and on this letter, we believe we have fulfilled our obligations as an engineer under the Texas Engineering Practice Act pursuant to its requirements to protect the public health, safety, and welfare in the practice of engineering. We further believe we have met those requirements insofar as our responsibility for periodic observation of the work for conformance is concerned.

If you have any questions, please call.

Respectfully,

*Engineer Signature*

*(Engineer Typed Name)*



**Notes to help correctly prepare this form letter:**

1. Fill in the specific date, client name & address, project information, permit number (A/P) and legal description where italicized.
2. For landscaping walls built to protect tree roots or to hold landscaped beds, allowed to be designed by any design professional registered/licensed with the Texas Board of Professional Engineers or the Texas Board of Architectural Examiners (except Interior Designers – See Table 171), you may substitute the word “engineer” with the appropriate term and substitute the words Texas Engineering Practice Act with the Architects or Landscape Architects statutes Chapter 1051 or Chapter 1052 respectively.
3. Sign, seal, and date before submitting to the City of San Antonio, Development Services Department.