



September 2019

Proprietary Retaining Wall System Review

The Texas Department of Transportation (TxDOT) reviews all retaining wall systems prior to their use on the Texas highway system.

Submitting a Retaining Wall System for Review

To submit a retaining wall system for TxDOT review, the supplier or manufacturer must send the TxDOT Bridge Division a package that includes the following items:

- An overview of the system including system theory and development history.
- Laboratory and field data supporting the theory.
- Detailed design procedures including sample calculations for installations with no surcharge, level surcharge, sloping surcharge, and abutment conditions.
- Durability (corrosion, construction damage, environmental) design procedure for soil reinforcement elements.
- A detailed construction manual.
- Typical erection and casting drawings including details for leveling pads, footings, copings, etc.
- Details for mounting a concrete traffic barrier on the wall adjoining both concrete and flexible pavements.
- Typical obstruction details for both vertical and horizontal obstructions.
- Full-scale test data for connection of earth reinforcement to panel or concrete block.

After resolution of any comments, the Bridge Division will approve the supplier or manufacturer to present the system at the TxDOT District level.

The Bridge Division classifies any new system as experimental, which restricts the size and location of initial installation and requires specific monitoring.

Each TxDOT District lists retaining wall systems on its individual projects. If a District is interested in including a new wall system on a project, the Bridge Division and that District will decide on the appropriateness of the system for that project.

Mailing Address:

Texas Department of Transportation
Bridge Division (Attn. Bridge Geotechnical Staff)
125 East 11th Street
Austin, Texas 78701

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OUR MISSION: *Through collaboration and leadership, we deliver a safe, reliable, and integrated transportation system that enables the movement of people and goods.*

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Restrictions on Experimental Retaining Walls

Retaining wall systems currently classified as experimental are subject to the following conditions:

- The system will not be included as an option on projects that:
 - Contain over 50,000 square feet of retaining wall.
 - Contain walls with heights exceeding 25 feet.
 - Contain walls that support or are adjacent to Interstate highways.
- On projects including experimental wall systems, the Contractor will conduct a monitoring program as outlined in the contract documents. In general, this program will call for measuring movements on three walls during and after their construction. Upon completion of the project the Contractor will submit to TxDOT an initial report detailing any problems encountered with the system, solutions to the problems, any wall movements including vertical and lateral displacement and rotational movement, and overall performance of the wall system. The wall supplier shall perform post construction monitoring of the wall(s) at least once per quarter for 12 months following completion. A final report detailing wall performance shall be submitted following this period.
- A retaining wall system will be released from experimental status on satisfactory completion of three separate TxDOT projects. At least two of the projects must have contained individual walls of a size and height consistent with grade separation structures (height > 15', size > 5000 S.F.). A project will be considered satisfactory if design and construction of the walls proceeds without serious problems, and the measured wall movement for 12 months following completion is within the overall vertical tolerance (plumbness from top to bottom) as called out in Item 423, "Retaining Walls" of TxDOT Standard Specifications. If problems require remedial work or identify a necessary change to design procedures or system components, the project will not count toward completion of the experimental program. TxDOT will be the sole judge of a project's acceptability in counting toward satisfaction of these requirements.