

SECTION 00596B - PREFABRICATED MODULAR RETAINING WALLS

(Follow all instructions and make all edits with "Track Changes" turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Comply with Section 00596B of the Standard Specifications modified as follows:

(Use the following subsection .01 and bullets when the contractor will be required to select a permanent proprietary Prefabricated Modular wall system. For "Bridge" retaining walls and "Highway" retaining walls, fill in the blank with the structure number. If the retaining wall does not have a structure number, delete the phrase ", structure no. ____ ,".)

00596B.01 Proprietary Prefabricated Modular Walls - Add the following paragraph and bullet list to the end of this subsection:

Select one of the following preapproved Prefabricated Modular proprietary retaining wall systems for the wall, structure no. ____ , as shown:

(Fill in the blanks with the proprietary retaining wall system name (including the "™" symbol), company name and telephone number from the ODOT Geotechnical Design Manual, appendix 15-D.)

- _____ Retaining Wall System, provided
by _____, telephone: _____.
- _____ Retaining Wall System, provided
by _____, telephone: _____.
- _____ Retaining Wall System, provided
by _____, telephone: _____.

00596B.03 Definitions - Add the following definition after the definition for "Manufacturer":

Minor Retaining Wall - A prefabricated modular retaining wall that meets all of the following conditions for the full length of the wall:

- Wall height (H) from the top of leveling pad to the top of wall does not exceed 4.0 feet.
- Wall fore slope and back slope are both flatter than 1V:4H within a horizontal distance of H, measured from the nearest point on the wall.
- Surcharge loading is not allowed on the retaining wall back slope within a horizontal distance of H, measured from the nearest point on the wall.

- Failure of the wall would not result in significant loss of access and performance of adjacent public or private structures.
- The wall is labeled as a Minor Retaining Wall in the Plans.

Replace the definition that begins “Nonproprietary Retaining Wall System...” with the following definition:

Nonproprietary Retaining Wall System - A Retaining Wall System that is fully designed in the bid documents.

Replace the definition that begins “Preapproved Proprietary Retaining Wall System...” with the following definition:

Preapproved Proprietary Retaining Wall System - A wall system that is listed in Appendix 16-D of the Geotechnical Design Manual (GDM).

00596B.04 Proprietary Retaining Walls - Replace the bullet that begins “Complete stamped Working...” with the following bullet:

- Complete stamped Working Drawings and design calculations according to 00150.35. Minor Retaining Walls do not require stamped Working Drawings unless prepared by a registered professional engineer. Preparation of Working Drawings and design calculations for Minor Retaining Walls does not require professional engineering registration according to ORS 672.060 (See also OAR 820-040-0005(4)(d)(A)).

(Use the following subsection .04(b) to list proprietary wall design parameters. Obtain information from the designer. Delete what does not apply. Copy and paste the structure number and bullets for each separate retaining wall.)

00596B.04(b) Design Calculations - Add the following to the end of this subsection:

The following retaining wall design parameters have been established for this Project:

Structure Number _____

- Foundation soil unit density _____ kips/cu. ft.
- Foundation soil angle of internal friction _____ degrees
- Foundation soil nominal (unfactored)
- bearing resistance _____ kips/sq. ft.
- Retained soil unit density..... _____ kips/cu. ft.
- Retained soil angle of internal friction..... _____ degrees
- Peak ground acceleration coefficient (*PGA*)..... _____
- Long period spectral acceleration coefficient (*S₁*) _____
- Site class _____

(Use the following two bullets when the Mononabe-Okabe method is required.)

- Peak seismic ground acceleration coefficient

- modified by short period site factor (A_s)..... _____
- Horizontal seismic acceleration coefficient (K_h)..... _____

(Use the following bullet and sub-bullet when the Mononabe-Okabe method is not required. Repeat as necessary for variations in wall height and backslope along the wall.)

- Between Station _____ and Station _____ (Lt.)(Rt.):
 - Total (static plus seismic) external seismic thrust (P_{AE})..... _____ kip/ft.

(Use the following bullet and sub-bullets to specify minimum base width for external and overall stability. Repeat as necessary for variations in wall height and backslope along the wall.)

- Between Station _____ and Station _____ (Lt.)(Rt.):
 - Minimum base width for overall stability _____ ft.
 - Minimum base width for external stability _____ ft.

00596B.12(d)(1) Concrete - Replace this subsection, except for the subsection number and title, with the following:

Furnish Class 4000 structural concrete meeting the requirements of Section 02001. Provide aggregate with 3/4 inch or greater maximum nominal aggregate size.

00596B.80 Measurement - Add the following to the end of this subsection:

The estimated quantities of retaining walls are:

(Provide wall area below. Copy as necessary.)

Station Limits	Area
Sta. _____ to Sta. _____ (Lt.)(Rt.)	_____ (Wall area here) _____ sq. ft.

(Use the following paragraph to list estimated quantities for nonproprietary retaining wall systems only. Ensure that the Wall (Bridge) Designer addresses quantities for excavation, shoring (if needed), and leveling pad concrete and rebar, and backfill. Copy and paste more lines to address the estimated quantities for nonproprietary retaining wall systems. For Minor Retaining Walls (walls that are not assigned a structure number), revise the Structure Number column heading to a descriptor that will match the plans identification for the wall.)

The estimated quantities, for estimating purposes only, of excavation, shoring, leveling pads, and specified backfill for nonproprietary retaining wall systems are:

Structure Number	Material	Estimated Quantities
#	_____	_____ cu. yd.
#	_____	_____ foot

#

_____ lb.