

TEXAS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL REQUIREMENTSⁱ

Introduction

The Texas Department of Transportation (TxDOT) maintains a list of approved mechanically stabilized earth (MSE) wall systems. Wall system supplier submittal requirements for requesting approval are stated in TxDOT DMS-4800, Proprietary Earth Retaining Wall System, dated October 26, 2020.

TxDOT will accept an IDEA report as part of a vendor approval request submittal. Specifically, the IDEA report will be accepted for the submittal item of a:

- technical evaluation report for the system from an independent engineer with expertise in retaining wall system. Evaluation report must address system theory, laboratory and field data, proposed design procedures, construction procedures and system components.

Their TxDOT submittal and approval process does require some additional or variation of the information listed on the IDEA protocols (available at <https://www.geoinstitute.org/special-projects/idea>). Specifically, TxDOT requires submittal of the information listed below, in addition to a technical evaluation report, on a particular MSE wall system.

This listing is based upon the TxDOT DMS-4800, effective date of October 2020, that is available at https://ftp.txdot.gov/pub/txdot-info/cst/DMS/4000_series/pdfs/4800.pdf. Note that TxDOT classifies retaining wall systems submitted and approved for use as either phase one (restricted use) or phase two (unrestricted use) according to the criteria in this specification. A retaining wall system will be reviewed for approval for phase two (unrestricted) use after satisfactory construction and monitoring of walls on three separate TxDOT projects.

TxDOT should contact the IDEA webmaster and update their report when their policies, etc. change. This supplemental requirements report is readily updateable, and a revision number and date should be noted.

Format

The TxDOT DMS-4800 list of items to provide when requesting pre-qualification is reproduced on the following pages. Items that are addressed in an IDEA protocol that can be used to supplement a Texas submittal are noted within this list. Thus, reference to the IDEA report section can be noted to fully, or partially, fulfill a specific TxDOT submittal item. References to the current IDEA protocols are noted in brackets, in the following list. The protocol number (see Table 1) followed by protocol section are listed within the brackets.

Table 1. IDEA Wall System Evaluation Protocols

PROTOCOL NUMBER	TYPE	FACING	SOIL REINFORCEMENT
C1	MSE	Concrete modular block	Extensible
C2	MSE	Concrete modular block	Inextensible
C3	MSE	Precast concrete panel	Extensible
C4	MSE	Precast concrete panel	Inextensible
C5	MSE	Steel mat	Extensible
C6	MSE	Steel mat	Inextensible
C7	Gravity	Precast modular block	n/a

IDEA Report Supplements to TxDOT DMS-4800 List of Submittal Items

List of information/items to include with request for pre-qualification evaluation:

- company name;
- physical and mailing addresses;
- contact person, phone number, and email address;
- 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; **[C1 through C7: 2.2.1 for level surcharge and sloping surcharge]**
- durability (corrosion, construction damage, environmental) design procedure for soil reinforcement elements; **[C1 and C3 :1.2.4] [C2: 1.2.4 and 1.2.6] [C4: 1.2.4, 1.2.5, 1.2.6, 1.2.11, 1.2.12, 1.2.13] [C5: 1.1.6, 1.2.4] [C6: 1.1.6, 1.2.4, 1.2.5, 1.2.6, 1.2.11, 1.2.12, 1.2.13]**
- detailed construction manual; **[C1 through C7: 3.1.2]**
- manufacturer’s Quality Control-Quality Assurance Plan for the retaining wall system and components; **[C1 through C7: Section 4.1]**
- material and construction control specifications which includes acceptance and rejection criteria;
- typical erection and casting drawings including structural analysis, 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; **[C1 through C6: 2.1.3]**
- full-scale test data for connection of earth reinforcement to panel or concrete block; **[C1, C3, and C5: 1.2.6] [C2: 1.2.8][C4 and C6: 1.2.15]**
- technical evaluation report for the system from an independent engineer with expertise in retaining wall system. Evaluation report must address system theory, laboratory and field data, proposed design procedures, construction procedures and system components.
[Complete IDEA Evaluation Report]

ⁱ Report Ver 1, December 2020.