

OPSS 940 – Construction Specification for Mechanically Stabilized Earth Systems

Date: April 2026

Comments received by TCP:

Comment ID	Organization	TCP Comment	MTO Response
482-1	Shahriar Mirmirani of Geoquest Canada	<p>940.03 Definitions</p> <p>Proposed update/modification: Foundation for MSE means the base on which the MSE, from the facing to the extent of soil reinforcements, is constructed, such as excavation to a specified elevation and construction of a granular pad.</p> <p>Comment: Clarification is needed because the base of the MSE wall is often incorrectly assumed to be only the area below the facing.</p>	Agreed, change has been made to the specification.
482-2	Shahriar Mirmirani of Geoquest Canada	<p>940.03 Definitions</p> <p>Proposed update/modification: Internal Stability means stability against failures within the reinforced soil mass and facing system of the MSE, including adequate resistance against rupture, pull-out, and excessive elongation of the reinforcing elements, as well as</p>	Agreed, change has been made to the specification.

		<p>sufficient connection strength between the reinforcement and the facing elements.</p> <p>Comment: Rewording was needed to provide a clear and accurate definition of internal stability.</p>	
482-3	Shahriar Mirmirani of Geoquest Canada	<p>940.03 Definitions</p> <p>Proposed update/modification: MSE Superintendent means the Contractor's authorized representative in charge of the installation of the MSE. The MSE Superintendent should be experienced in the construction of MSE walls.</p> <p>Comment: The qualification of the MSE Superintendent is not clarified.</p>	Agreed, change has been made to the specification.
482-4	Shahriar Mirmirani of Geoquest Canada	<p>940.04.02.04 Inspection Report</p> <p>Comment: The Contractor's Engineer is not defined.</p> <p>Define the Contractor's Engineer in Section 940.03 Definition.</p>	<p>The terms Contractor and Engineer are both defined in OPSS 100 – General Conditions of Contract.</p> <p>Contractor can choose an engineer that meets the requirements.</p> <p>OPSS 940 is part of the contract with the Contractor. MTO does not have a</p>

		The MSE wall design engineer or their site representative should not be assumed as the Contractor's Engineer.	contractual relationship with suppliers or subcontractors.
482-5	Shahriar Mirmirani of Geoquest Canada	<p>940.07.04 Certificates of Conformance – Foundation</p> <p>Proposed update/modification: MTO Form PH-CC-822, Certificate of Conformance, for the foundation of the MSE shall be submitted to the Contract Administrator prior to the construction of the MSE by the Contractor's Engineer.</p> <p>Comment: Clarification is needed regarding whose responsibility it is.</p>	The form requires signature by an Engineer, working for the Contractor.
482-6	Shahriar Mirmirani of Geoquest Canada	<p>940.07.07 Certificates of Conformance</p> <p>Proposed update/modification: MTO Form PH-CC-822, Certificate of Conformance, shall be submitted to the Contract Administrator upon completion of each MSE by the Contractor's Engineer.</p> <p>Comment: Clarification is needed regarding whose responsibility it is.</p>	Please see response to comment 482-5 above.

482-7	Shahriar Mirmirani of Geoquest Canada	<p>940.07.09 MSE Warranty</p> <p>Proposed update/modification: The warranty period shall be 36 months from the date of the Certificate of Conformance, which is submitted upon completion of each MSE wall.</p> <p>Comment: Clarification is needed. The contract may contain additional items beyond the MSE walls.</p>	<p>The specification will be revised to state:</p> <p>The warranty period shall be 36 months from the date of the Certificate of Substantial Performance.</p>
Additional changes made since TCP posting			MTO has changed the specification number to OPSS 940.

Comments received by email:

Date	Organization	Email Comment	MTO Response
October 23, 2025	Perzia Geosolutions	<p>General</p> <p>Comment: Some syntax corrections, e.g.: “an” MSE instead of “a” MSE,</p>	Noted, thank you.
October 23, 2025	Perzia Geosolutions	<p>940.03 Definitions</p> <p>Comment I understand Design Checking Engineer and Design Engineer are</p>	The term Engineer is defined in OPSS 100 – General Conditions of Contract.

		<p>defined elsewhere. Could you please direct me to these definitions.</p> <p>I understand Contractor's Engineer is defined elsewhere. Could you please direct me to this definition.</p> <ul style="list-style-type: none"> • Does this definition consider that the Contractor will likely have several different engineers fulfilling this role for different items, e.g.: <ul style="list-style-type: none"> ○ Geotechnical Engineer for foundation approval (940.07.04) , and ○ MSE Engineer for MSE Inspection Reports (940.04.02.04) and CoC (940.07.07)? <p>If not, then perhaps the role of Contractor's Engineer – MSE (or Contractor's MSE Engineer) should be added and defined</p>	
<p>October 23, 2025</p>	<p>Perzia Geosolutions</p>	<p>940.04.02.04 Inspection Report</p> <p>Comment For “Contractor’s Engineer shall have demonstrated experience and expertise”, how should this be demonstrated, e.g.:</p> <ul style="list-style-type: none"> • years of experience, • # of MSE? 	<p>The specification is not prescriptive regarding experience. Requirements of PEO cover this.</p>

		<ul style="list-style-type: none"> The manufacturer's rep is required to have >3 years experience (940.03). 	
October 23, 2025	Perzia Geosolutions	<p>940.04.02.04 Inspection Report</p> <p>Comment Should the inspection report be as straightforward as the CoC stating that the milestone has been "constructed in conformance to the requirements of the Contract Documents" or more detailed? If more detailed, then how so?</p>	<p>The specification has been updated to state:</p> <p>The inspection report shall confirm that the MSE was constructed in general conformance with the Contract Documents and Working Drawings.</p>
October 23, 2025	Perzia Geosolutions	<p>940.07.01 General</p> <p>Comment 0.3 m may be too high for:</p> <ul style="list-style-type: none"> some MSE with minimum vertical spacings of reinforcing elements <0.3 m, e.g., some have 0.20 m or even 0.15 m vertical spacings, and compaction, especially with lighter weight / walk behind equipment. 	<p>The specification only restricts construction vehicles from driving over reinforcing elements with less than 0.3 m of cover. Where < 0.3 m of cover is required for a specific MSE product, the design drawings should consider this restriction and ensure the proprietary system is constructable with this restriction.</p>
October 23, 2025	Perzia Geosolutions	<p>940.07.03 Manufacturer's Representative</p> <p>Comment</p>	<p>The specification has been updated to state:</p>

		<p>It is my understanding that the manufacturer's representative is meant to provide installation guidance/support. The words "to oversee" imply supervision which carries responsibility and liability. It is my understanding that manufacturers are not willing to take on this liability.</p> <ul style="list-style-type: none"> • How about switching the words to "to provide installation support" or "to provide installation guidance"? • What feedback are you getting from the manufacturers? • It is the responsibility of the Contractor's MSE Engineer to oversee the installation. 	<p>The manufacturer's representative shall be on site to provide installation guidance for the MSE and to advise the MSE superintendent of the procedures and placing tolerances required for the construction of the MSE according to the manufacturer's requirements as approved on the MTO's DSM.</p>
<p>October 23, 2025</p>	<p>Perzia Geosolutions</p>	<p>940.07.03 Manufacturer's Representative</p> <p>Comment 3 Working Days may be too little time for larger MSEs and too much time for smaller ones.</p> <p>It is unclear if the 3 Working Days at the commencement must be in a row or in total. If the manufacturer's representative is meant to observe the listed operations, then they will likely not be 3 Working Days in a row. Is it supposed to be one working day for</p>	<p>The specification provides the minimum amount of time required. If more time is needed to ensure proper construction of the MSE wall, the contractor should retain the manufacturer for additional time.</p>

		<p>each of the operations? Following is some suggested wording:</p> <ul style="list-style-type: none"> • “the manufacturer's representative shall be on site to observe the commencement of the following operations for a sufficient time period to provide the above installation guidance”. 	
October 23, 2025	Perzia Geosolutions	OPSS.MUNI 940 comments were provided to MTO.	<p>These comments should be submitted to the municipal OPSS committee.</p> <p>Also, please note, the specification number has been changed to OPSS.PROV 940 to match the number used in the MUNI version.</p>
December 8, 2025	WSP	<p>General</p> <p>Comment</p> <ul style="list-style-type: none"> • Draft OPSS 940 focusses mainly on MSE walls with concrete facing panels – more attention could be added to the text and Tables 1 & 2 to address MSE walls & reinforced steep slopes without concrete facing panels because there are several of these systems on DSM List 9.70.56 (e.g., Maccaferri, Tensar, Terrafix, Layfield). 	<p>These are good comments and will be considered in the next iteration of OPSS 940.</p>

<p>December 8, 2025</p>	<p>WSP</p>	<p>940.02 REFERENCES</p> <p>Comment References – could add the TAC Guide for MSE Walls (July 2017).</p>	<p>MTO specification References section is only to include documents referenced in the specification.</p>
<p>December 8, 2025</p>	<p>WSP</p>	<p>General</p> <p>Comment The MTO RSS Design Guidelines (Sept 2008) should be updated/ revised to address the many changes over the past 15-20 years (e.g., RSS to MSE).</p>	<p>The MTO RSS Design Guidelines document is being reviewed.</p>