

ADOT Specific Requirements for SINE WALL MSE Panel Wall System

ADOT Vendor	Inventure Civil, LLC. 11640 North Park Place Dr. Suite 110 Wake Forest, NC 27587
General Information	ADOT Product ID No. 15035 Approval Date: 05/10/2017 Re-evaluation due: 05/10/2022
Design Standards	More Stringent of the following: <ol style="list-style-type: none"> 1. 2008 ADOT Standard Specifications for Road and Bridge Construction 2. Latest ADOT MSE Wall LRFD Based Special Provisions [Contact ADOT for latest version at the time of the application of the system to a given project.] 3. FHWA (2009), "Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes," Publication No. FHWA-NHI-09-083; Authors: Berg, R.R., Christopher, B.R. and Samtani, N.C. 4. AASHTO (2012 or latest Specification or Interims) LRFD Bridge Design Specifications
HITEC Evaluation	Highway Innovative Technology Evaluation Center (HITEC) evaluation is not available for this system.
Facing Evaluated	<ul style="list-style-type: none"> • Precast reinforced concrete panels: 10 ft. x 5 ft. and 5 ft. x 5 ft. See sheets P1.01 thru P1.12 of the included drawings.
Facing Connector	<ul style="list-style-type: none"> • Bolted Connection between embedded connector to SINEstrip. See sheets P1.01, P1.02, P1.04 and P1.05 of included drawings.
Soil Reinforcement Evaluated	<ul style="list-style-type: none"> • SINEstrip steel strip reinforcement. See sheet S1.04 and S1.05 of the included drawings for details.
Notes/Constrains	<p>In addition to the general design requirements provided in the Design Standards listed above, the following specific requirements apply:</p> <ul style="list-style-type: none"> • For any project, use of the system evaluated herein is subject to ADOT approval based on project and site specific evaluation. • Only the system components evaluated as noted above are to be used. Tolerances shall be the more stringent of those noted in Inventure Civil's attached drawings and the Design Standards listed above. • Use of soil reinforcements not connected to the wall face is not allowed. • Reinforcement pullout shall be calculated based on the default values for steel grid reinforcement provided in the latest AASHTO specification (Design Standard 4 listed above). • Vertical and horizontal spacing of soil reinforcement as well as maximum local deformation between soil reinforcement layers shall

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	<p>not exceed the requirements in the latest ADOT MSE Wall LRFD based Special Provisions (Design standard 2 listed above). For walls that are greater than 20-feet in height, the maximum vertical spacing of the soil reinforcements shall be 18 inches for the portion of the wall more than 20-feet below the wall top at the face.</p> <ul style="list-style-type: none">• Soil reinforcements shall not be exposed to soils with resistivity less than 3,000 ohm-cm, sulfates content greater than 200 ppm, or chloride content greater than 100 ppm.• Facing connector shall be designed to have adequate life considering corrosion loss based on the design (service) life of the structure noted on the plans or specifications with a minimum of 75 years design life for permanent structures.• The minimum clear opening dimensions for the hardware cloth (filter fabric, hardware cloth or backing mats) shall not exceed the maximum particle size of the backfill soil.• All details for penetration of culvers or other objects through the wall face shall be evaluated on a project and site specific basis.• All details for penetration of vertical and horizontal obstructions through the reinforced soil zone shall be evaluated on a project and site specific basis. Examples of these obstructions include foundation elements, catch basins, slotted drains, etc.• Drainage details shall be modified as appropriate to meet project and site specific requirements.
Assumptions	<ul style="list-style-type: none">• Vendor submittals shall be in accordance with the design standards and other requirements listed herein.• Vendor will submit a copy of this Specific Requirements with its project and site specific design to ADOT and its representatives for review and approval consideration for a specific construction project.• ADOT and its design representatives will evaluate the project and site specific application of SINE WALL system and review submittals for approval consideration in strict accordance with the design standards, limitations, and requirements listed herein. Typical details in this package may not be applicable to a given project and will be modified, based on the site specific considerations, as necessary by the designer in consultation with the vendor.• During construction of the SINE WALL system, ADOT and its representatives will enforce project and site specific acceptance requirements in accordance with the plans and specifications.

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TYPICAL DETAILS

(27 pages)

Typical details submitted to ADOT as part of the product approval process are attached. These represent generic details that must be evaluated by the designer based on project and site specific requirements. The designer shall also be responsible for ensuring conformance to the constraints and design standards noted in this evaluation.