**NOTICE**

This is a standard special provision that revises CDOT’s *Standard Specifications for Road and Bridge Construction*. It has gone through a formal review and approval process and has been issued by CDOT’s Construction Engineering Services Branch with formal instructions regarding its use on CDOT Construction Projects. It is to be used as written without change. Do not use modified versions of this special provision on CDOT Construction Projects, and do not use this special provision on CDOT projects in a manner other than specified in the instructions unless such use is first approved by CDOT’s Standards and Specifications Unit. The instructions for use on CDOT construction projects appear below.

Other agencies that use the *Standard Specifications for Road and Bridge Construction* to administer construction projects may use this special provision as appropriate and at their own risk.

**Instructions for use on CDOT construction projects:**

Use this standard special provision on all projects.

Section 504 of the Standard Specifications is hereby revised for this project.

In the first paragraph of Subsection 504.07 revise the following:

**504.07 Certifications, Calculations, and Testing Reports.** The Contractor shall provide the following reports, certifications, calculations, and checklists as needed to accompany the shop drawing submittal. The Contractor’s Engineer shall electronically seal all engineering calculations, as stated in subsections 504.02(f), 504.02(g), 504.02(j), 504.02(k), 504.07(e), 504.07(f), 504.07(g), and 504.07(h).

1. Certification of TULT (MARV). For geosynthetic reinforced system only, the Contractor shall submit a certification letter from the manufacturer which provides the TULT (MARV) and certifies the TULT (MARV) of the supplied materials have been determined in accordance with ASTM D4595 or ASTM D6637 as appropriate.
2. Mill Report for Metallic Reinforcements and Connectors. This includes, but is not limited to, mill certifications on weldability, ultimate tensile strength, and yield strength.
3. Report of The Panel-Reinforcement Connection Test. The test report shall be prepared and certified by an independent laboratory. The panel to reinforcement connection test method shall conform to the industrial standards. The report shall provide data on the ultimate as well as service limit state.
4. Report for Soil to Reinforcement Interface Pullout Test. The test report shall be prepared and certified by an independent laboratory. The soil to reinforcement interface pullout test method shall conform to the requirements of ASTM D6706. Tests shall include the full range of overburden pressures defined by wall design heights.
5. Certification of Facial Panel to Reinforcement Long-Term Connection Strength. Certification shall include calculations to demonstrate that the facial panel to reinforcement connection meets or exceeds current AASHTO 75 years’ design life requirements.
6. Certification of Reinforcement Pullout. Certification shall be provided with detail calculations to demonstrate that reinforcement pullouts meet or exceed current AASHTO requirements. For metal reinforcement breakage and pullout, calculations shall include a combination of 75 years’ material depletion of carbon steel and galvanization loss.
7. Report and Certification for the Initial Concrete Compression Strength, Shipping and Handling Stress. Cylinder compressive test is acceptable to verify the initial concrete strength of panel at time of shipping. Concrete tensile stress shall not exceed the modulus of rupture. The report shall include calculations of panel cracking stress according to the proposed method of lifting and shipping. Before panel shipping from precast yard to wall site, the Engineer will approve the time of shipping, method of lifting and supporting condition during shipping, as well as storage condition at the site before panel installation.
8. Calculations. Calculation of the LTDS of reinforcement shall conform to current AASHTO LRFD or latest interim requirements.
9. Efflorescence and Air Content Test. Panel shall be visually efflorescence free. Efflorescence control agent shall be used in concrete mix design. When fly ash is used as the efflorescence control agent, the fly ash shall be ASTM C618 Class F fly ash and shall be a minimum of 20 percent by weight of the total cementitious material content. Air Content shall be determined in accordance with AASHTO T152. Concrete shall be tested a minimum of the first three batches each day and then once per five batches for the rest of the day to assure specified air entrainment.
10. Submittal Checklist. The Contractor shall submit the wet cast facing or Panel Faced MSE Wall Submittal Checklist, Form 1402 with the Certifications, Calculations and Testing Report submittal package included with the shop drawing submittal.
11. Certification of TULT (MARV). For geosynthetic reinforced system only, the Contractor shall submit a certification letter from the manufacturer which provides the TULT (MARV) and certifies the TULT (MARV) of the supplied materials have been determined in accordance with ASTM D4595 or ASTM D6637 as appropriate.
12. Mill Report for Metallic Reinforcements and Connectors. This includes, but is not limited to, mill certifications on weldability, ultimate tensile strength, and yield strength.
13. Report of The Panel-Reinforcement Connection Test. The test report shall be prepared and certified by an independent laboratory. The panel to reinforcement connection test method shall conform to the industrial standards. The report shall provide data on the ultimate as well as service limit state.
14. Report for Soil to Reinforcement Interface Pullout Test. The test report shall be prepared and certified by an independent laboratory. The soil to reinforcement interface pullout test method shall conform to the requirements of ASTM D6706. Tests shall include the full range of overburden pressures defined by wall design heights.
15. Certification of Facial Panel to Reinforcement Long-Term Connection Strength. Certification shall include calculations to demonstrate that the facial panel to reinforcement connection meets or exceeds current AASHTO 75 years’ design life requirements.
16. Certification of Reinforcement Pullout. Certification shall be provided with detail calculations to demonstrate that reinforcement pullouts meet or exceed current AASHTO requirements. For metal reinforcement breakage and pullout, calculations shall include a combination of 75 years’ material depletion of carbon steel and galvanization loss.
17. Report and Certification for the Initial Concrete Compression Strength, Shipping and Handling Stress. Cylinder compressive test is acceptable to verify the initial concrete strength of panel at time of shipping. Concrete tensile stress shall not exceed the modulus of rupture. The report shall include calculations of panel cracking stress according to the proposed method of lifting and shipping. Before panel shipping from precast yard to wall site, the Engineer will approve the time of shipping, method of lifting and supporting condition during shipping, as well as storage condition at the site before panel installation.
18. Calculations. Calculation of the LTDS of reinforcement shall conform to current AASHTO LRFD or latest interim requirements.
19. Efflorescence and Air Content Test. Panel shall be visually efflorescence free. Efflorescence control agent shall be used in concrete mix design. When fly ash is used as the efflorescence control agent, the fly ash shall be ASTM C618 Class F fly ash and shall be a minimum of 20 percent by weight of the total cementitious material content. Air Content shall be determined in accordance with AASHTO T152. Concrete shall be tested a minimum of the first three batches each day and then once per five batches for the rest of the day to assure specified air entrainment.
20. Submittal Checklist. The Contractor shall submit the wet cast facing or Panel Faced MSE Wall Submittal Checklist, Form 1402 with the Certifications, Calculations and Testing Report submittal package included with the shop drawing submittal.