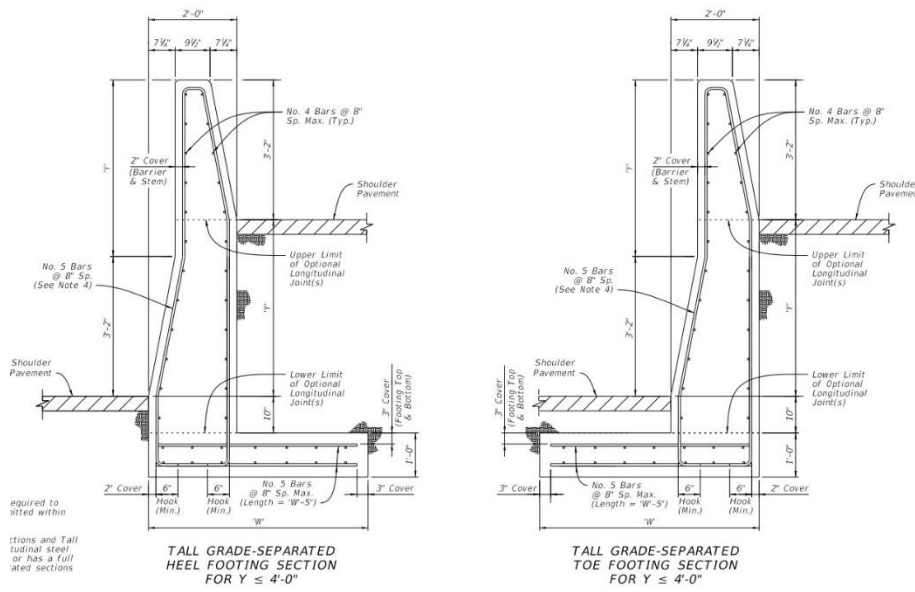


Project Title:	Title: Optimized Grade Separated Concrete Median Barrier (2023-04-LCB)
Project Synopsis:	<p>Often times grade separation is required along median barriers or between adjacent roadways. In particular, for corridors with restricted right-of-way and along superelevated curves. As a result, a combination of median barrier and retaining wall is needed. Some states have developed details for modified median barriers (see details below from FDOT Standard Plans) and there is at least one research project in this area (TTI Report No. 405160-33/35). However, an optimized design evaluated for MASH crashworthiness is needed.</p>  <p>TALL GRADE-SEPARATED HEEL FOOTING SECTION FOR $Y \leq 4'-0''$</p> <p>TALL GRADE-SEPARATED TOE FOOTING SECTION FOR $Y \leq 4'-0''$</p>
Project Goal(s):	Provide MASH TL-4 Compliant Optimized Grade Separated Concrete Barrier Design for range of fill heights.
Project Background:	Grade separation is used along roadway medians with restricted right-of-way and superelevated curvature. For these locations a MASH compliant grade separation barrier system is needed.
Proposed Work Plan:	<ol style="list-style-type: none"> 1.) Literature Review of MASH Compliant TL-4 Concrete Median Barrier Systems 2.) Survey Member States to determine range of grade separation requirements Including retaining walls, MSE and other similar structures, 3.) Design check using strength analysis per AASHTO section 13 and NCHRP 22-20(2) (MSE wall forces) and NCHRP report 20-07 4.) Develop and run computer simulations for development of an optimized barrier design (40-ft long segment) 5.) Run parametric simulations for maximizing the structural loading on key component of the barrier and identify stressed region 6.) Recommendation for testing (or not) depending on a threshold of stresses for key structural components 7.) Phase II: Recommendation of Crash Test (4-12) of the Optimized Design 8.) Phase II: Validate and calibrate Computer Simulation and Develop guidance for design of various heights of grade separation

	Final Report providing design guidance for a MASH Compliant TL-4 grade separated concrete barrier system.
Urgency and Expected Benefit:	The results of the project would provide member states with a MASH TL-4 compliant grade separation barrier system.
Problem Funding and Research Period:	Total Estimated Cost = \$XX,XXX
Developer(s) of the Problem Statement:	Name: Derwood Sheppard, P.E., Florida Department of Transportation Email: derwood.sheppard@dot.state.fl.us Phone: (850) 597-0801