

# MIASIM UPDATE – AUGUST 2025

Updates in this current version are listed and described below. E-mail ancillary structures related questions to [mdot-ancillary@michigan.gov](mailto:mdot-ancillary@michigan.gov)

## August 2025 Updates

<b>All Sections</b>	<ul style="list-style-type: none"><li>Removed AASHTOWare BrM references due to uncertainty in the timing of and approach to certain aspects of this future software transition.</li></ul>
<b>Section 1.4.2.1 Minimum Safety Training Requirements</b>	<ul style="list-style-type: none"><li>Added “When applicable, the members of the inspection crew shall possess the following training” and inserted two previous bullet points pertaining to aerial life training and fall protection</li></ul>
<b>Section 2.6 Request for Action Guidance</b>	<ul style="list-style-type: none"><li>Added “Culvert blockage creates excessive ponding and/or erosion that threatens the roadway or embankment within a 1:1 slope influence of the roadbed” to “Priority Level 2 – item j.”</li><li>Added “Culvert blockage creates excessive ponding and/or erosion that does not threaten the roadway or embankment within a 1:1 slope influence of the roadbed but could if not addressed within the specified timeframe” to “Priority Level 3 – item g.”</li></ul>
<b>Section 3.5 Work Recommendation Guidance</b>	<ul style="list-style-type: none"><li>Added “Remove Vegetation Growth” to work recommendation database in Table 3-17.</li></ul>
<b>Section 4.4 Routine Inspection</b>	<ul style="list-style-type: none"><li>Updated inspection frequency to every 4 years</li></ul>
<b>Section 4.4.1.3 Anchor Bolt and Leveling Nuts Foundation Element Condition States</b>	<ul style="list-style-type: none"><li>Added “(or the top of sound concrete in cases of foundation deterioration).”</li><li>Added updated language under section that states “The standoff distance is an indication of whether or not the anchor rods are subjected to bending moment stress. For double-nut connections, if the clearance between the bottom of the leveling nuts and the top of the concrete foundation is less than or equal to one bolt diameter, bending stresses in the anchor bolts can be disregarded (AASHTO LRFD Specifications for Structural Supports, sec. 5.16.3.1). Any distance greater than one bolt diameter may be cause for concern.”</li><li>Added photos that show standoff measurement for a sound foundation and standoff measurement with foundation concrete deterioration</li></ul>

<b>Section 4.4.4 References</b>	<ul style="list-style-type: none"> <li>Added “AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2015 (AASHTO Signs)”</li> </ul>
<b>Section 4.6 Request for Action Guidance</b>	<ul style="list-style-type: none"> <li>Updated item g under Priority Level 3 list to state “Anchor bolt standoff distance in excess of one bolt diameter but less than two bolt diameters with no anchor bolt bending present.”</li> </ul>
<b>Section 5.6 Request for Action Guidance</b>	<ul style="list-style-type: none"> <li>Updated item d in Priority Level 1 list with “When the lean is greater than 4.75” over 4 feet (approximately 10%).”</li> <li>Updated item d in Priority Level 2 list with “Pole is significantly out of vertical alignment when the lean is between 3.375” to 4.75” over 4 feet (or about 7% to 10%).”</li> <li>Updated item e in Priority Level 3 list with “Priority pole is significantly out of vertical alignment when the lean is between 2.375” to 3.375” over 4 feet (or about 5% to 7%).”</li> </ul>
<b>Section 7.4.1.3 Anchor Bolts and Leveling Nuts Element Condition States</b>	<ul style="list-style-type: none"> <li>Added “(or the top of sound concrete in cases of foundation deterioration).”</li> <li>Added updated language under section that states “The standoff distance is an indication of whether or not the anchor rods are subjected to bending moment stress. For double-nut connections, if the clearance between the bottom of the leveling nuts and the top of the concrete foundation is less than or equal to one bolt diameter, bending stresses in the anchor bolts can be disregarded (AASHTO LRFD Specifications for Structural Supports, sec. 5.16.3.1). Any distance greater than one bolt diameter may be cause for concern.”</li> <li>Added photos that show standoff measurement for a sound foundation and standoff measurement with foundation concrete deterioration</li> </ul>
<b>Section 7.4.4 References</b>	<ul style="list-style-type: none"> <li>Added AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2015 (AASHTO Signs)</li> </ul>

<b>Section 7.6 Request for Action Guidance</b>	<ul style="list-style-type: none"> <li>• Updated 7.6 Priority Level 1 bullet a to “Major foundation deterioration including concrete cracking/spalling/delamination thread damage, steel reinforcement corrosion, and significant section loss of steel reinforcement.”</li> <li>• Added sub-bullet b under Priority Level 1 that states “Ultrasonic test failure of 1 anchor bolt on a 4-bolt foundation or 2 or more anchor bolts on a 6-bolt foundation.”</li> <li>• Added sub-bullet under item n for Priority Level 2 list that states “Significant structural damage to foundation, upright, or other elements, which moderately impacts capacity or function, clearance, safety, or durability of the structure” and “For strain and frangible/non-frangible poles with dents above the actionable level according to <a href="#">Pole Dent &amp; Buckling Calculations guidance document</a>.”</li> <li>• Added sub-bullet o that states “Ultrasonic test failure of 1 anchor bolt on a 6-bolt foundation”</li> <li>• Added item n under Priority Level 1 list that states “Pole is out of vertical alignment when the lean is greater than 4.75 over 4 feet (or about 10%).”</li> <li>• Added item c under Priority Level 2 list that states “When the lean is between 3.375” to 4.75” over 4 feet (or about 7% to 10%).”</li> <li>• Added item c under Priority Level 3 list that states “When the lean is between 2.375” to 3.375” over 4 feet (or about 5% to 7%).”</li> <li>• Updated item e under Priority Level 3 list that states “Standoff distance more than one bolt diameter but less than two bolt diameters with no bending of anchor bolts.”</li> </ul>
<b>Section 8.4 Routine Inspection</b>	<ul style="list-style-type: none"> <li>• Updated inspection frequency to every 5 years</li> </ul>
<b>Section 9.2 Inventory Record Photographs</b>	<ul style="list-style-type: none"> <li>• Added “Luminaire and Luminaire Arm” and “Mast Arm Attachments” to Mast Arm Required Photos list.</li> </ul>
<b>Section 9.4.1.3 Anchor Bolts and Leveling Nuts Element Condition States</b>	<ul style="list-style-type: none"> <li>• Added “(or the top of sound concrete in cases of foundation deterioration).”</li> <li>• Added updated language under section that states “The standoff distance is an indication of whether or not the anchor rods are subjected to bending moment stress. For double-nut connections, if the clearance between the bottom of the leveling nuts and the top of the concrete foundation is less than or equal to one bolt diameter, bending stresses in the anchor bolts can be disregarded (AASHTO LRFD Specifications for Structural Supports, sec. 5.16.3.1). Any distance greater than one bolt diameter may be cause for concern.”</li> <li>• Added photos that show standoff measurement for a sound foundation and standoff measurement with foundation concrete deterioration</li> </ul>

<b>Section 9.4.4 References</b>	<ul style="list-style-type: none"> <li>Added AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2015 (AASHTO Signs)</li> </ul>
<b>Section 9.6 Request for Action Guidance</b>	<ul style="list-style-type: none"> <li>Updated item f under Priority Level 3 list that states “Standoff distance more than one bolt diameter but less than two bolt diameters with no bending of anchor bolts.”</li> <li>Updated Priority Level 1 sub bullet a to say, “Major foundation deterioration including concrete cracking/spalling/delamination thread damage, steel reinforcement corrosion, and significant section loss of steel reinforcement.”</li> <li>Added sub bullet b under Priority Level 1 that states “Ultrasonic test failure of 1 anchor bolt on a 4-bolt foundation or 2 or more anchor bolts on a 6-bolt foundation.”</li> <li>Added sub bullet n that states “Ultrasonic test failure of 1 anchor bolt on a 6-bolt foundation.”</li> </ul>
<b>Section 10.4.1.3 Anchor Bolt and Leveling Nuts Foundation Element Condition States</b>	<ul style="list-style-type: none"> <li>Added “(or the top of sound concrete in cases of foundation deterioration).”</li> <li>Added updated language under section that states “The standoff distance is an indication of whether or not the anchor rods are subjected to bending moment stress. For double-nut connections, if the clearance between the bottom of the leveling nuts and the top of the concrete foundation is less than or equal to one bolt diameter, bending stresses in the anchor bolts can be disregarded (AASHTO LRFD Specifications for Structural Supports, sec. 5.16.3.1). Any distance greater than one bolt diameter may be cause for concern.”</li> <li>Added photos that show standoff measurement for a sound foundation and standoff measurement with foundation concrete deterioration</li> </ul>
<b>Section 10.4.5 References</b>	<ul style="list-style-type: none"> <li>Added AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2015 (AASHTO Signs)</li> </ul>
<b>Section 10.6 Request for Action Guidance</b>	<ul style="list-style-type: none"> <li>Updated item h under Priority Level 3 list that states “Anchor bolt standoff distance more than one bolt diameter but less than two bolt diameters with no anchor bolt bending present.”</li> </ul>

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<b>Section 11.4.1.3</b> <b>Anchor Bolt and</b> <b>Leveling Nuts</b> <b>Foundation Element</b> <b>Condition States</b>	<ul style="list-style-type: none"> <li>• Added “(or the top of sound concrete in cases of foundation deterioration).”</li> <li>• Added updated language under section that states “The standoff distance is an indication of whether or not the anchor rods are subjected to bending moment stress. For double-nut connections, if the clearance between the bottom of the leveling nuts and the top of the concrete foundation is less than or equal to one bolt diameter, bending stresses in the anchor bolts can be disregarded (AASHTO LRFD Specifications for Structural Supports, sec. 5.16.3.1). Any distance greater than one bolt diameter may be cause for concern.”</li> <li>• Added photos that show standoff measurement for a sound foundation and standoff measurement with foundation concrete deterioration</li> </ul>
<b>Section 11.4.4</b> <b>References</b>	<ul style="list-style-type: none"> <li>• Added AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2015 (AASHTO Signs)</li> </ul>

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**Section 11.6 Request  
for Action Guidance**

- Added item n under Priority Level 1 list that states “Pole is out of vertical alignment when the lean is greater than 4.75” over 4 feet (or about 10%).”
- Updated item c under Priority Level 2 list that states “When the lean is between 3.375” to 4.75” over 4 feet (or about 7% to 10%).”
- Updated item e under Priority Level 3 list that states “When the lean is between 2.375” to 3.375” over 4 feet (or about 5% to 7%).”
- Added sub-bullets under Priority Level 1 item h that states “When flat washers are present and the structure has six or fewer anchor bolts, three dull anchors are recorded as an RFA Priority Level 1.”
- Added sub-bullets under Priority Level 2 item h that states “When flat washers are present and the structure has six or fewer anchor bolts, two dull anchors are recorded as an RFA Priority Level 2.”
- Added to the end of item m under Priority Level 2 that states “Dents above the actionable level according to the [Pole Dent & Buckling Calculations guidance document](#).”
- Added sub-bullets under Priority Level 3 item i that state “When lock washers are present, and the washer is compressed with the nut tightened, a dull anchor is not considered an RFA. However, if the nut is loose, it falls under the current RFA guidelines for loose nuts” and “When flat washers are present and the structure has six or fewer anchor bolts, one dull anchor is recorded as an RFA Priority Level 3.”
- Updated item f under Priority Level 3 list that states “Standoff distance more than one bolt diameter but less than two bolt diameters where no bending of anchor bolts is evident (non-frangible pole structures only).”

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**Section 12.4 Routine  
Inspection**

- Updated inspection frequency to every 4 years

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**Section 12.4.1.3  
Anchor Bolts and  
Leveling Nuts  
Element Condition  
States**

- Added “(or the top of sound concrete in cases of foundation deterioration).”
  - Added updated language under section that states “The standoff distance is an indication of whether or not the anchor rods are subjected to bending moment stress. For double-nut connections, if the clearance between the bottom of the leveling nuts and the top of the concrete foundation is less than or equal to one bolt diameter, bending stresses in the anchor bolts can be disregarded (AASHTO LRFD Specifications for Structural Supports, sec. 5.16.3.1). Any distance greater than one bolt diameter may be cause for concern.”
  - Added photos that show standoff measurement for a sound foundation and standoff measurement with foundation concrete deterioration
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<b>Section 12.4.3 References</b>	<ul style="list-style-type: none"> <li>Added AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminares, and Traffic Signals, 2015 (AASHTO Signs)</li> </ul>
<b>Section 12.6 Request for Action Guidance</b>	<ul style="list-style-type: none"> <li>Updated item e under Priority Level 3 list that states “Anchor bolt standoff distance more than one bolt diameter but less than two bolt diameters with no anchor bolt bending present.”</li> </ul>
<b>Section 13.4.1.3 Anchor Bolts and Leveling Nuts Element Condition States</b>	<ul style="list-style-type: none"> <li>Added “(or the top of sound concrete in cases of foundation deterioration).”</li> <li>Added updated language under section that states “The standoff distance is an indication of whether or not the anchor rods are subjected to bending moment stress. For double-nut connections, if the clearance between the bottom of the leveling nuts and the top of the concrete foundation is less than or equal to one bolt diameter, bending stresses in the anchor bolts can be disregarded (AASHTO LRFD Specifications for Structural Supports, sec. 5.16.3.1). Any distance greater than one bolt diameter may be cause for concern.”</li> <li>Added photos that show standoff measurement for a sound foundation and standoff measurement with foundation concrete deterioration</li> </ul>
<b>Section 13.4.3 References</b>	<ul style="list-style-type: none"> <li>Added AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminares, and Traffic Signals, 2015 (AASHTO Signs)</li> </ul>
<b>Section 13.6 Request for Action Guidance</b>	<ul style="list-style-type: none"> <li>Added item h under Priority Level 3 that states “Standoff distance more than one bolt diameter but less than two bolt diameters with no bending of anchor bolts.”</li> </ul>
<b>Section 14.4.1.3 Anchor Bolts and Leveling Nuts Element Condition States</b>	<ul style="list-style-type: none"> <li>Added “(or the top of sound concrete in cases of foundation deterioration).”</li> <li>Added updated language under section that states “The standoff distance is an indication of whether or not the anchor rods are subjected to bending moment stress. For double-nut connections, if the clearance between the bottom of the leveling nuts and the top of the concrete foundation is less than or equal to one bolt diameter, bending stresses in the anchor bolts can be disregarded (AASHTO LRFD Specifications for Structural Supports, sec. 5.16.3.1). Any distance greater than one bolt diameter may be cause for concern.”</li> <li>Added photos that show standoff measurement for a sound foundation</li> </ul>
<b>Section 14.4.3 References</b>	<ul style="list-style-type: none"> <li>Added AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminares, and Traffic Signals, 2015 (AASHTO Signs)</li> </ul>

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**Section 14.6 Request  
for Action Guidance**

- Updated item d under Priority Level 3 list that states “Anchor bolt standoff distance more than one bolt diameter but less than two bolt diameters with no anchor bolt bending present.”
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