

<b>MAINTENANCE PLANNING GUIDELINES</b>		2006																																				
<b>ACTIVITY:</b> Bridge Deck Repair (R323) <b>MAJOR &amp; MINOR</b>	<b>ACTION:</b> Deck Repair (SY) <i>A. Concrete</i>																																					
<b>DEFINITION:</b> The time and expenses incurred for permanent repairs to bridge deck, including the repair or replacement of timber decks.																																						
<b>PURPOSE:</b> Replacement of deteriorated concrete with accelerated mortar to restore rideability and prevent further damage to the structure.																																						
<b>SCHEDULING:</b> Repair as needed when conditions permit.	<table border="1" style="margin: auto;"> <tr> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td><td>A</td><td>S</td><td>O</td><td>N</td><td>D</td> </tr> <tr> <td>A</td><td>E</td><td>A</td><td>P</td><td>A</td><td>U</td><td>U</td><td>U</td><td>E</td><td>C</td><td>O</td><td>E</td> </tr> <tr> <td>N</td><td>B</td><td>R</td><td>R</td><td>Y</td><td>N</td><td>L</td><td>G</td><td>P</td><td>T</td><td>V</td><td>C</td> </tr> </table>		J	F	M	A	M	J	J	A	S	O	N	D	A	E	A	P	A	U	U	U	E	C	O	E	N	B	R	R	Y	N	L	G	P	T	V	C
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<b>RECOMMENDED EQUIPMENT:</b> <ul style="list-style-type: none"> <li>• Air Compressor</li> <li>• Dump Truck</li> <li>• Flatbed or Van</li> <li>• Water Tank</li> <li>• Concrete Saw</li> <li>• Concrete Mixer or Mobile Mix Truck</li> <li>• Concrete Vibrator w/Generator</li> <li>• Traffic Control Equipment; reference the (See EPG 616.23 <a href="#">Traffic Control for Field Operations</a>)</li> </ul>	<b>RECOMMENDED PROCEDURE:</b> <ol style="list-style-type: none"> <li>1. Place traffic control devices as needed.</li> <li>2. Mark limits of patch areas by visual methods and by sounding.</li> <li>3. Saw all patch edges to minimum depth of 1-in. or to top reinforcing steel if it is less than 1-in. deep.</li> <li>4. Remove concrete to below the top reinforcing steel grid as a minimum. Remove all broken concrete. Do not jackhammer against the reinforcing steel.</li> <li>5. Using oil-less compressed air, blow fines from patch area.</li> <li>6. Mix and place accelerated concrete using manufacturer's recommendations.</li> <li>7. Vibrate and strike-off with straight-edge. Minimize troweling.</li> <li>8. Hand broom patch for surface texturing.</li> <li>9. Pour edge joints and other cracks in work zone while material is curing.</li> <li>10. Make sure concrete patch is cured before opening to traffic.</li> <li>11. Remove traffic control devices.</li> </ol>																																					
<b>RECOMMENDED MATERIAL:</b> <ul style="list-style-type: none"> <li>• Accelerated Concrete Mix Ingredients</li> <li>• Water</li> <li>• Bituminous Crack Sealer</li> <li>• Sand</li> </ul>																																						
<b>SAFETY:</b> Clean up and remove excess material. Do not blow debris into adjacent traffic lanes, or travel lanes and waterways beneath the structure. Wear all appropriate PPE. Refer to the <a href="#">Safety Policies, Rules &amp; Regulations – Employee Handbook</a> .																																						
<b>OTHER CONSIDERATIONS:</b> The maximum area to be repaired on a bridge deck is 100 sq. ft. per span per day on reinforced concrete superstructures. If more than 100 sq. ft. per span is necessary, the additional repairs must be done on another day. If extensive repairs are required, a special repair plan should be requested from the State Bridge Maintenance Engineer.																																						
<b>REFERENCES:</b> Missouri Standard Specifications for Highway Construction Sections <a href="#">216.50</a> , <a href="#">216.60</a>																																						



(1) Hydro Demolition Set Up for Spot Repair



(2) Hydro Demolition Pump



(3) Hydro Sprayer in Action



(4) Results of Hydro demolition for Spot Patching



(5) Close Up Showing Exposed Rebar