

<b>REFERENCES:</b> N/A																																																	
<b>MAINTENANCE PLANNING GUIDELINES</b> <span style="float: right;">2006</span>																																																	
<b>ACTIVITY:</b> Drainage (R319)  <b>MAJOR &amp; MINOR</b>	<b>ACTION:</b> Clean & Repair Pipe & Box Culverts <i>B. Box Culverts</i>																																																
<b>DEFINITION:</b> The time and expenses incurred from removing and replacing pipe culverts. Includes time and expenses incurred for installing a new lining in an existing culvert.																																																	
<b>PURPOSE:</b> To clean, repair, and fill voids of box culverts and restore roadway drainage.																																																	
<b>SCHEDULING:</b> As needed.	<table border="1"> <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> <tr style="background-color: black;"> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></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>• Trucks</li> <li>• Loader, Backhoe, or Excavator</li> <li>• Concrete Mixer</li> <li>• Compressor/Breakers</li> <li>• Water Tank w/Trash Pump</li> <li>• Traffic Control Equipment, Reference (See EPG 616.23 Traffic Control for Field Operations).</li> </ul>	<b>RECOMMENDED PROCEDURE:</b> <ol style="list-style-type: none"> <li>1. Call Dig Rite and MoDOT to check for utilities.</li> <li>2. Place traffic control devices as needed.</li> </ol> <p><u>CLEAN OUT</u></p> <ol style="list-style-type: none"> <li>1. Remove drift and debris as needed.</li> </ol> <p><u>REPAIR</u></p> <ol style="list-style-type: none"> <li>1. Remove bad concrete, form, and pour concrete.</li> </ol> <p><u>FILL VOIDS</u></p> <ol style="list-style-type: none"> <li>1. Fill large voids and eroded outlet areas with quarry run rock and if needed grout with concrete.</li> <li>2. Internal voids along the barrel sides and bottom should be mudjacked.</li> <li>3. Remove traffic control devices.</li> </ol>																																																
<b>RECOMMENDED MATERIAL:</b> <ul style="list-style-type: none"> <li>• Concrete</li> <li>• Water</li> <li>• Quarry Run Rock</li> <li>• Form Material</li> <li>• Cement</li> <li>• Agricultural Lime</li> </ul>																																																	
<b>SAFETY:</b> Call before you dig to locate utilities (1-800-DIG-RITE). Use care when climbing on steep slopes, especially quarry run rock on slopes. Wear all appropriate PPE. Refer to the Safety Policies, Rules & Regulations – Employee Handbook.																																																	
<b>OTHER CONSIDERATIONS:</b> Check if Corps of Engineers permit is needed.																																																	
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