## Streams, Wetlands and MoDOT

### Avoid, Minimize and Mitigate

#### Process
- Field check project
- Delineation
- Reports
- Permits
- Mitigation
- Monitoring

#### Value of Wetlands
- Floodwater retention
- Groundwater recharge areas
- Habitat
- Maintain water quality
- Erosion protection
- Sediment trap
- Provide for education, research and recreation

#### 3 Types of Streams:
- Ephemeral
- Intermittent
- Perennial

### Impacts
- Rock placement
- Bridge and Culvert construction and maintenance
- Clearing of debris/trash
- Channel movement

### Mitigation and Monitoring
- Mitigation Stream
- Culvert
- Bridge
- Zebra swallowtail
- Frog eggs
- Southern Painted turtle
- Marbled salamander
- Western Cottonmouth
- Emergent Wetland
- Scrub Shrub Wetland
- Forested Wetland
- Rock blanket
- Wetland grading
- Temporal Pond
- Sensitive Area

---

**Table:**

<table>
<thead>
<tr>
<th>Mitigation Stream</th>
<th>Culvert</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Rock placement</td>
<td>• Channel movement</td>
</tr>
<tr>
<td>• Bridge and Culvert construction and maintenance</td>
<td></td>
</tr>
</tbody>
</table>

---

**Fields:**

<table>
<thead>
<tr>
<th>Field check project</th>
<th>Delineation</th>
<th>Reports</th>
<th>Permits</th>
<th>Mitigation</th>
<th>Monitoring</th>
</tr>
</thead>
</table>

---

**Process:**

- Field check project
- Delineation
- Reports
- Permits
- Mitigation
- Monitoring

---

**Value of Wetlands:**

- Floodwater retention
- Groundwater recharge areas
- Habitat
- Maintain water quality
- Erosion protection
- Sediment trap
- Provide for education, research and recreation

---

**3 Types of Streams:**

- Ephemeral
- Intermittent
- Perennial

---

**Impacts:**

- Rock placement
- Bridge and Culvert construction and maintenance
- Clearing of debris/trash
- Channel movement

---

**Mitigation and Monitoring:**

- Mitigation Stream
- Culvert
- Bridge
- Zebra swallowtail
- Frog eggs
- Southern Painted turtle
- Marbled salamander
- Western Cottonmouth
- Emergent Wetland
- Scrub Shrub Wetland
- Forested Wetland
- Rock blanket
- Wetland grading
- Temporal Pond
- Sensitive Area