

## 4.2 Concrete Sawcutting Waste Management

Waste Control

**Description:** Sawcutting of concrete pavement is a routine practice used to control shrinkage cracking immediately following placement of plastic concrete. It is also used to remove curb sections and pavement sections for pavement repairs, utility trenches, and driveways. Sawcutting for joints involves sawing a narrow, shallow groove in the concrete, while sawcutting for removals is usually done full depth through the slab. Water is used to control saw blade temperature and to flush the detritus from the sawed groove. The objective of concrete sawcutting waste management is to prevent the resulting slurry of process water and fine particles with its high pH from becoming a water pollutant.

<p style="text-align: center;"><b><u>KEY CONSIDERATIONS</u></b></p> <p><b>DESIGN CRITERIA:</b></p> <ul style="list-style-type: none"> <li>● Prohibit discharge of untreated slurry</li> <li>● Educate employees on proper procedures</li> <li>● Continuously vacuum slurry and cuttings during sawcutting operation</li> <li>● Block inlets to prevent discharges</li> <li>● Establish an onsite containment area (minimum 1 ft freeboard) if immediate disposal of the vacuumed slurry is not feasible</li> <li>● Water evaporation and concrete recycling are the recommended disposal methods when slurry is not vacuumed</li> </ul> <p><b>LIMITATIONS:</b></p> <ul style="list-style-type: none"> <li>● Only one part of concrete waste management</li> <li>● Does not address concrete demolition waste</li> </ul> <p><b>MAINTENANCE REQUIREMENTS:</b></p> <ul style="list-style-type: none"> <li>● Check for uncollected slurry after all sawcutting operations</li> <li>● Inspect collection areas and repair containment as needed</li> <li>● Dispose of sediment and cuttings when collection area volume is reduced by 50 percent</li> <li>● Train new employees and regularly re-train all employees</li> </ul>	<p style="text-align: center;"><b><u>APPLICATIONS</u></b></p> <p><b>Perimeter Control</b></p> <p><b>Slope Protection</b></p> <p><b>Sediment Barrier</b></p> <p><b>Channel Protection</b></p> <p><b>Temporary Stabilization</b></p> <p><b>Final Stabilization</b></p> <div style="border: 1px solid black; padding: 2px; text-align: center;"><b>Waste Management</b></div> <p><b>Housekeeping Practices</b></p>
<p style="text-align: center;"><b><u>TARGETED POLLUTANTS</u></b></p> <ul style="list-style-type: none"> <li>○ Sediment</li> <li>● Nutrients &amp; Toxic Materials</li> <li>○ Oil &amp; Grease</li> <li>○ Floatable Materials</li> <li>● Other Construction Wastes</li> </ul>	<p style="text-align: center;"><b><u>IMPLEMENTATION CONSIDERATIONS</u></b></p> <ul style="list-style-type: none"> <li>○ Capital Costs</li> <li>● Maintenance</li> <li>● Training</li> <li>○ Suitability for Slopes &gt; 5%</li> </ul> <p><b>Other Considerations:</b></p> <ul style="list-style-type: none"> <li>● <i>Coordinate with concrete waste management</i></li> </ul>

### 4.2.1 Primary Use

Pavement sawcutting is performed on almost all construction projects that include removal or installation of pavement. Properly managing the slurry and cuttings from sawcutting prevents them from affecting surface and ground water resources.

### 4.2.2 Applications

Concrete sawcutting waste management is applicable on construction activities where sawcutting is part of the work, regardless of the size of the total area disturbed. It is also applicable on repair and maintenance projects that may not be required to implement erosion and sediment controls.

Concrete sawcutting waste management is based on the proper collection and disposal of the slurry and cuttings. Employee education is critical to ensuring correct procedures are followed.

### 4.2.3 Design Criteria

- Construction plan notes shall include proper concrete sawcutting waste management procedures.
- The contractor should be required to designate the site superintendent, foreman, or other person who is responsible for concrete sawcutting to also be responsible for concrete sawcutting waste management.

#### Slurry Collection

- During sawcutting operations, the slurry and cuttings shall be continuously vacuumed or otherwise recovered and not be allowed to discharge from the site.
- If the pavement to be cut is near a storm drain inlet, the inlet shall be blocked by sandbags or equivalent temporary measures to prevent the slurry from entering the inlet. Remove the sandbags immediately after completing sawcutting operations, so they do not cause drainage problems during storm events.
- The slurry and cuttings shall not be allowed to remain on the pavement to dry out.

#### Slurry Disposal

- Develop pre-determined, safe slurry disposal areas.
- Collected slurry and cuttings should be immediately hauled from the site for disposal at a waste facility. If this is not possible, the slurry and cuttings shall be discharged into onsite containment.
- The onsite containment may be an excavated or bermed pit lined with plastic that is a minimum of 10 millimeters thick. Refer to [Section 4.3 Concrete Waste Management](#) for additional design criteria and an example schematic. If the project includes placement of new concrete, slurry from sawcutting may be disposed of in facilities designated for the washout of concrete trucks instead constructing a separate containment.
- The containment shall be located a minimum of 50 feet away from inlets, swales, drainage ways, channels, and other waters, if the site configuration provides sufficient space to do so. In no case shall the collection area be closer than 20 feet from inlets, swales, drainage ways, channels and other waters.
- Several, portable, pre-fabricated, concrete washout, collection basins are commercially available and are an acceptable alternative to an onsite containment pit.
- Remove waste concrete when the containment is half full. Always maintain a minimum of one foot freeboard.

- Onsite evaporation of slurry water and recycling of the concrete waste is the preferred disposal method. When this is not feasible, discharge from the collection area shall only be allowed if a passive treatment system is used to remove the fines. Criteria are in [Section 3.7 Passive Treatment System](#). Mechanical mixing is required in the collection area. The pH must be tested, and discharge is allowed only if the pH does not exceed 8.0. The pH may be lowered by adding sulfuric acid to the slurry water. Dewatering of the collection area after treatment shall follow the criteria in [Section 3.3 Dewatering Controls](#).
- Care shall be exercised when treating the slurry water for discharge. Monitoring must be implemented to verify that discharges from the collection area do not violate groundwater or surface water quality standards.
- Geotextile fabrics such as those used for silt fence should not be used to control sawcutting waste, since the grain size is significantly smaller than the apparent opening size of the fabric.
- Use waste and recycling haulers and facilities approved by the local municipality.

### Education

- Supervisors must be made aware of the potential environmental consequences of improperly handling sawcutting slurry and waste.
- Train all workers performing sawcutting operations on the proper slurry and cuttings collection and disposal procedures.

#### 4.2.4 Design Guidance and Specifications

No specification for concrete sawcutting waste management is currently available in the Standard Specifications for Public Works Construction – North Central Texas Council of Governments.

#### 4.2.5 Inspection and Maintenance Requirements

Concrete sawcutting waste management measures should be inspected regularly (at least as often as required by the TPDES Construction General Permit). Project personnel should inspect the operations to assure that operators are diligent in controlling the water produced by the sawcutting activities. Pavement should be inspected each day after operations to ensure that waste removal has been adequately performed. Residual waste should be cleaned. Reinforce proper procedures with workers.

Inspect the collection area for signs of unauthorized discharges. Repair containment area as needed. Remove sediment and fines when the collection area volume is reduced by 50 percent.