

## **Activity 109 Concrete Repair**

### Description

Activity 109 involves repairing, removing, slab jacking and replacing Portland Cement concrete roadway surfaces and underlying base materials as required to correct defective, damaged, or failed surfacing. It includes repair of non-roadway concrete, such as curbs, sidewalks and retaining walls that do not have a bridge number. It includes placement of temporary pavement markers or markings in the work area.

### General Information

Refer to discussion in the General Instructions section preceding Activity 100 in this section of the *Maintenance Guide* for additional information including environmental and traffic control recommendations and other important considerations.

Refer to Activity 137 for repairs to concrete surfacing at rest areas or Activity F03 for repairs to concrete surfacing at other building locations.

Refer to Activities 160 or 162 for repair of concrete on structures.

If using materials other than ordinary concrete or asphalt concrete, especially rapid curing products needed to accommodate traffic use, use only those products that are shown in ODOT's *Qualified Products List*.

If subsurface water is present, install appropriate drainage.

If at all possible, do not disturb the underlying material and do not damage any remaining material. Ensure that all underlying material is adequately compacted.

If a significant amount of Activity 109 is needed, consider having the work performed by contract methods. Refer to discussion in the Purchase and Acquisition of Goods and Services section of this Guide. The District Manager may also request the Region Manager to include a project in ODOT's Statewide Transportation Improvement Program to accomplish the work.

Also implement appropriate practices to control or contain waste material from the removal operation, from the mixing and placement of new materials, from cleanup of tools and equipment, or other operations.

## Equipment

Equipment may include:

- Concrete saw.
- Equipment or device to remove the affected surfacing without disturbing adjacent or underlying material.
- Concrete equipment.
- Slab jacking equipment.
- Truck.

## Materials

Materials may include:

- Base material or drainage material as needed.
- Reinforcement.
- Joint material.
- Concrete bonding agent.
- Concrete or other replacement material to allow rapid cure.
- Curing material.
- Temporary pavement markers or other appropriate marking material.

## Work Method

1. Identify area to be repaired. Obtain special materials as required for the work. Plan the repair operation so that traffic is obstructed in the least manner for the least amount of time.
2. Implement appropriate traffic control.
3. Implement appropriate methods of erosion, sediment control, or pollutants and contaminants control.
4. Saw the concrete surfacing at the edges of the area to be repaired and as needed to produce chunks that are easily removed.
5. Remove defective surfacing, taking care to not disturb underlying material and to not damage remaining material.
6. Perform needed repair or replacement of base material and subgrade material, including installing drainage to eliminate subsurface water. Ensure that the underlying material is properly compacted.
7. Replace existing reinforcing, joint material, and other special materials. Apply bonding agent if needed.
8. Place concrete or other surfacing material used to allow rapid set.

9. Screed or strike off the concrete or other material to achieve the needed gradeline and cross section and match the adjacent surfacing. Texture the finished surface appropriately.
10. Place or apply appropriate material to facilitate curing of the concrete or other material. Protect from traffic or other damage.
11. Dispose of removed or waste material in an appropriate location.
12. To prevent environmental damage, clean tools and equipment using Best Management Practices.
13. When the concrete or other material has attained the needed strength, remove curing materials. Place temporary pavement markers or markings as needed.
14. Remove traffic control.

Measurement of Accomplishment, Expenditure Account, and Charge Activity

Measurement is number of worker hours involved. Expenditure account type is Highway EA; use a sub job appropriate for the crew performing the work.

Record the mile point locations of work performed, for use by the Pavement Management System.

If preparing a Betterment Order for this Activity, note as many details as possible on the form to help track costs, location, and other relevant details.

Use a sub job within the 800 series if the work involves bicycle path facilities. These sub jobs are assigned by the Maintenance Management System (MMS) Unit based on the type of work performed.

- Charge all work to Activity 109.