18-3 CONCRETE PAVEMENT REPAIR (CPR)

To determine the most cost -effective method of repair of a concrete pavement the field personnel must provide adequate information about the project. This section of the manual is to establish a uniform procedure for the collection of field data for CPR projects.

The technician must have a thorough knowledge of concrete pavements and an understanding of the interaction of pavement components. For example, one should understand that a joint lockup can cause an intermediate slab crack opening to act as a joint. Pumping of the base/subbase can cause a loss of support of the slab, resulting in corner breaks. Volume changes in the subgrade can result in slab cracking. These interactions must be taken into consideration when performing the survey.

The following table identifies the various distress types and the recommended repair methods.

JOINT/CRACK DISTRESS	RECOMMENDED REPAIR METHODS
Pumping	1. Full-depth repair
Faulting	1. Grinding
"D" Cracking	1. Full-depth repair 2. Partial-depth repair
Slab Cracking	1. Full-depth repair 2. Replace/recycle lane
Joint Spalling	1. Full-depth repair 2. Partial-depth repair
Blowup	1. Full-depth repair 2. Pressure relief joint

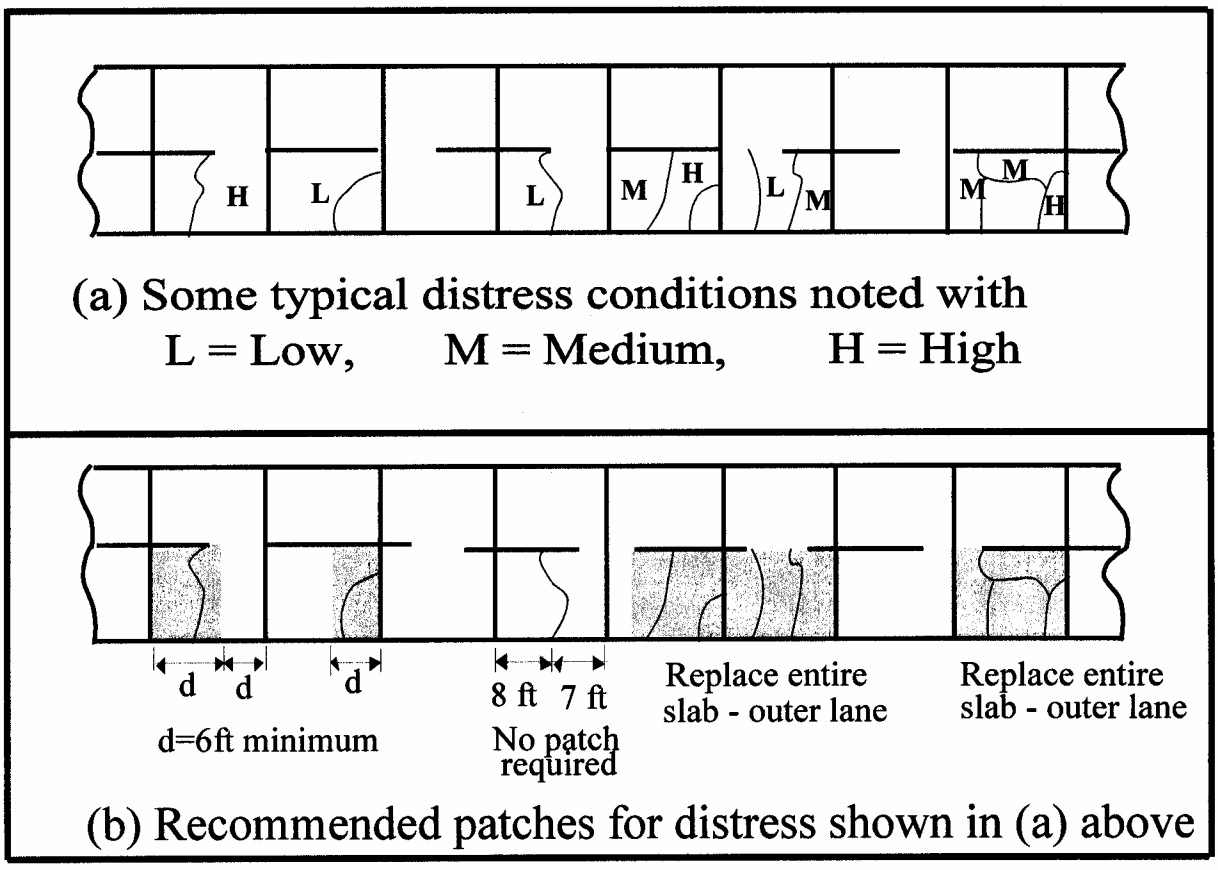
Each joint or concrete panel that requires repair must be referenced by reference point and by joint number or station. The size and type of repair required should be identified on SFN 16513, ***"Concrete Pavement Repair (CPR) Survey" (***see page 36).

Following is a list of the information required on the form and a short explanation of each item.

18-3.1 Concrete Pavement Repair-- This is a full-depth repair area paid for by the square yard. The minimum size of full-depth repair shall be 6 feet long and 12 feet wide.

The following illustrations identify some typical distress conditions and recommended repairs required.

Recommended repair areas for plain jointed concrete pavements.



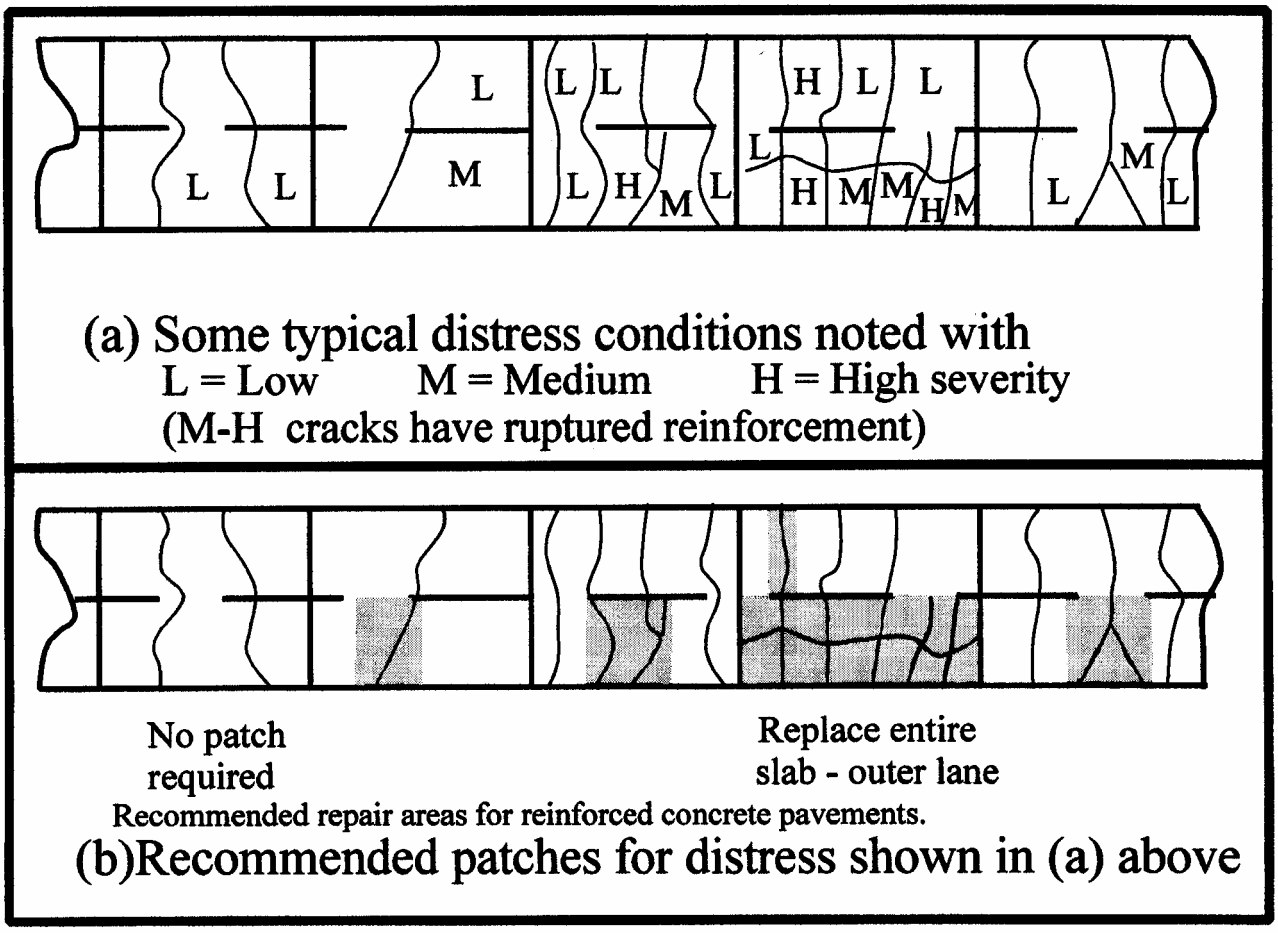
Severity Level

L = The crack is tight (hairline). Well-sealed cracks are considered tight. No faulting or break-up of broken corner exists. Crack is not spalled.

M = The crack is working and spalled at medium severity, but break-up of broken corner has not occurred. Faulting of crack or joint is less than ½ inch. Temporary patching may have been placed because of corner break.

H = The crack is spalled at high severity, the corner piece has broken into two or more pieces, or faulting of crack or joint is more than ½ inch.

Second example.



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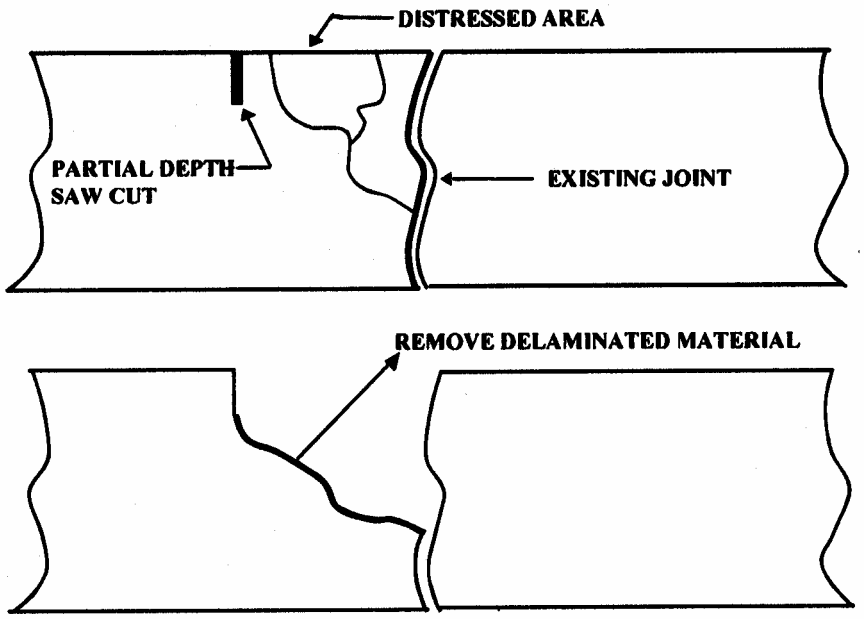
H = The crack is spalled at high severity , the corner piece has broken into two or more pieces, or faulting of crack or joint is more than ½ inch.

18-3.2 Spall Repair-- The repair of partial depth distress and spalled areas.
The minimum size of the repair shall be 2.0 feet x 2.0 feet. Chaining is the most effective method of determining the limits of the spalled area. Following is a typical spalled area and the recommended repair method.



18-3.3 Random Cracks--All random cracks that need to be sealed shall be measured and recorded.

18-3.4 Relief Joint--Identify the number of relief joints to be established or re-established.

The technician shall provide any pertinent information about the project in addition to what is required on SFN 16513, ***"Concrete Pavement Repair (CPR) Survey"***, such as areas of faulting or pumping, locations that have experienced blowups, and areas subject to frost heaves.