

FIGURE 10.2 - REPAIR METHOD: NONE OR CLEAN AND SEAL

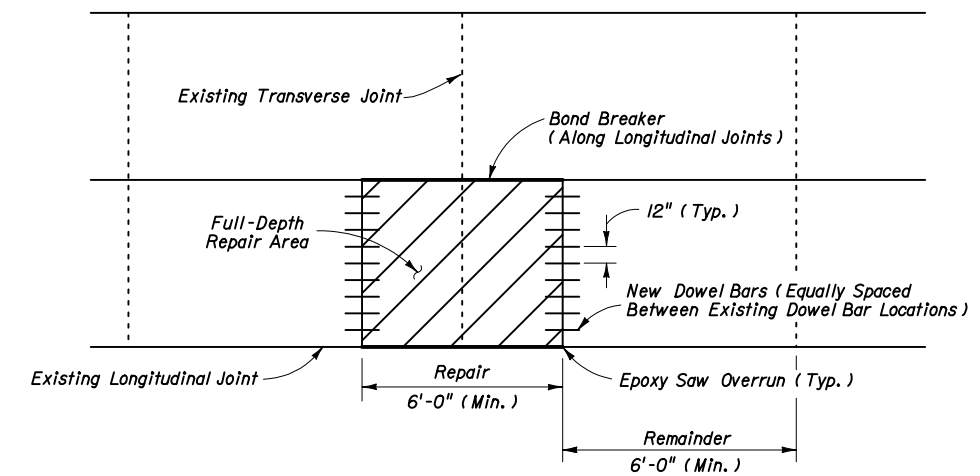


FIGURE 10.5 - FULL-DEPTH REPAIR ON BOTH SIDES OF THE JOINT

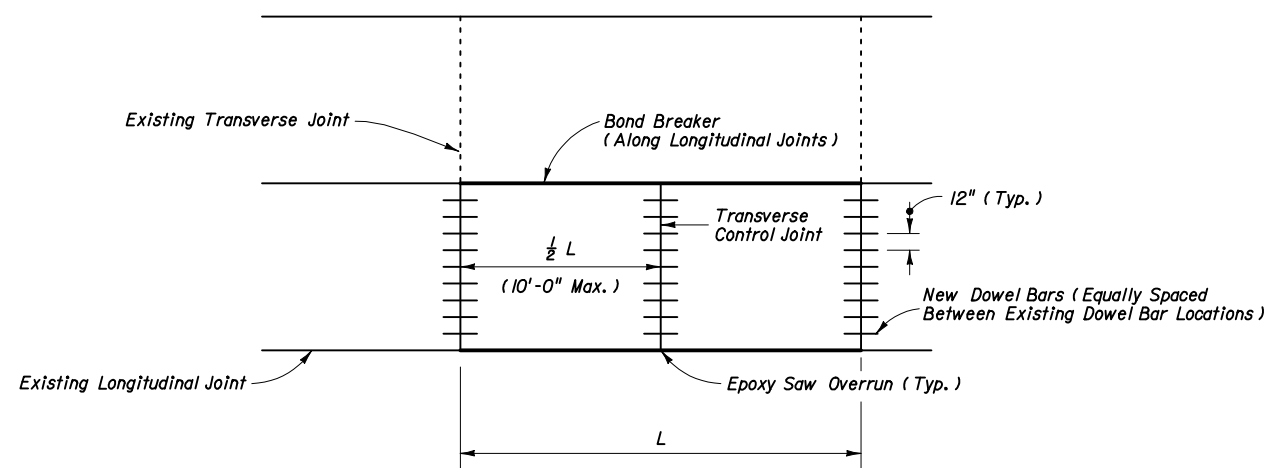


FIGURE 10.3 - FULL SLAB FULL DEPTH REPLACEMENT

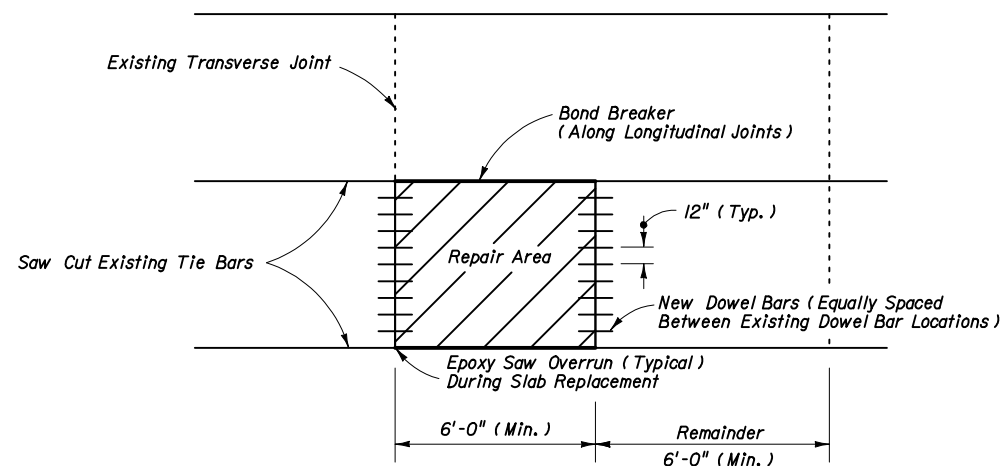


FIGURE 10.4 - PARTIAL SLAB FULL DEPTH REPLACEMENT

GENERAL NOTES

1. For Repair and Replacement Criteria see Sheet 2 of 2.
2. Full depth repairs consist of removing and replacing at least a portion of the existing slab to the bottom of the concrete.
3. Repair boundaries shall be sawed full-depth with diamond saw blades. On hot days, it may not be possible to make this cut without first making a wide, pressure relief cut within the repair boundaries. A carbide-tipped wheel saw may be used for this purpose, but the wheel saw must not intrude on the adjacent lane, unless the lane is slated for repair. The wheel saw cuts produce a ragged edge that promotes excessive spalling along joints. Hence, if wheel saw cuts are made, diamond saw cuts must be made 18 in. outside the wheel saw cuts. To prevent damage to the base, the wheel saw must not be allowed to penetrate more than 0.5 in. into the base.
4. No additional base or subgrade material shall be added and all loose base or subgrade material not recompactable shall be removed prior to placement of the new concrete slab. The concrete slab shall be placed to the full depth of the material removed. No additional compensation will be allowed for additional concrete required to bring proposed concrete slab up to proposed grade.
5. Removal of the damaged pavement shall be by lifting. Any good concrete pavement which is damaged during removal of damaged areas shall be removed and replaced by the contractor at his expense.
6. If the roadway contract includes grinding, then the slab replacement shall be performed first.
7. During slab replacement operations, fill any saw cut over runs into adjacent slabs with epoxy.



2006 FDOT Design Standards

CONCRETE SLAB REPLACEMENT

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SLAB REPAIR AND REPLACEMENT CRITERIA

DISTRESS PATTERN	SEVERITY/DESCRIPTION		REPAIR METHOD	REFERENCE
CRACKING				
Longitudinal	<i>Light</i>	< 1/8", no faulting, spalling < 1/2" wide	None	Figure 10.2
	<i>Moderate</i>	1/8" < width < 1/2", spalling < 3" wide	Clean and Seal	Figure 10.2
	<i>Severe</i>	width > 1/2", spalling > 3" faulting > 1/2"	Replace	Figure 10.3
Transverse	<i>Light</i>	< 1/8", no faulting, spalling < 1/2" wide	None	Figure 10.2
	<i>Moderate</i>	1/8" < width < 1/2", spalling < 3" wide	Clean and Seal	
	<i>Severe</i>	width > 1/2", spalling > 3" faulting > 1/2"	Replace	Figure 10.3, 10.4 and 10.5
Corner Breaks	A corner of the slab is separated by a crack that intersects the adjacent longitudinal and transverse joint, describing an approximate 45° angle with the direction of traffic.		Full Depth	Figure 10.4 and 10.5
Intersecting Random Cracks (Shattered Slab)	Cracking patterns that divide the slab into three or more segments.		Full Depth	Figure 10.3 and 10.4
JOINT DEFICIENCIES				
Spall Non-Wheel Path	<i>Light</i>	spall width < 1 1/2", < 1/3 slab depth, < 12" in length	None	Figure 10.4 and 10.5
	<i>Moderate</i>	1 1/2" < spall width < 3", < 1/3 slab depth, < 12" in length	None	Figure 10.4 and 10.5
	<i>Severe</i>	spall width > 3" or length > 12"	Full Depth	Figure 10.4 and 10.5
Spall Wheel Path	<i>Light</i>	spall width < 1 1/2", < 1/3 slab depth, < 12" in length	None	Figure 10.4 and 10.5
	<i>Moderate</i>	1 1/2" < spall width < 3", < 1/3 slab depth, < 12" in length	Full Depth	Figure 10.4 and 10.5
	<i>Severe</i>	spall width > 3" or length > 12"	Full Depth	Figure 10.4 and 10.5
SURFACE DETERIORATION				
Pop Outs Non-Wheel-Path	Small pieces of surface pavement broken loose, normally ranging from 1 to 4 in. diameter and 1/2 to 2 in. in depth			
	<i>Light</i>	Not deemed to be a traffic hazard	Keep under observation	
	<i>Severe</i>	Flying debris deemed a traffic hazard	Full Depth	Figure 10.4
Pop Outs Wheel-Path	Small pieces of surface pavement broken loose, normally > 3" diameter and 2" in depth			
	<i>Light</i>	Deemed to be a traffic hazard	Full Depth	Figure 10.4
	<i>Severe</i>	Flying debris deemed a traffic hazard	Full Depth	Figure 10.4
MISCELLANEOUS DISTRESS				
Faulting	Elevation differences across joints or cracks			
	<i>Light</i>	Faulting < 4 / 32"	None	
	<i>Moderate</i>	4 < Faulting < 16 / 32"	Grind	
	<i>Severe</i>	Faulting > 16 / 32"	Grind	
Lane To Shoulder Drop Off	<i>Light</i>	0 < drop off < 1"	None	N/A
	<i>Moderate</i>	1" < drop off < 3"	Build Up	
	<i>Severe</i>	drop off > 3 "	Build Up	
Water Bleeding Or Pumping	Seeping or ejection of water through joints or cracks		Install appropriate drainage, edge drain, permeable subbase, reseal joints, etc.	N/A
Blow Ups	Upward movement at transverse joints or cracks often accompanied by shattering of the concrete.		Full Depth	Figure 10.3 and 10.4

