

Guidelines for Reworked Asphalt Concrete

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This process consists of the reworking the top one to two inches of existing asphalt pavement using at the contractor's option either milling and plant produced hot-mix asphalt or the hot-in-place recycling process. For deeper milling depths, this process may also consist of milling a portion of the existing pavement and reworking the top one to two inches of remaining asphalt pavement using at the contractor's option either milling and plant produced hot-mix asphalt or the hot-in-place recycling process. The reworked asphalt layer can then be overlaid by a friction course to bring the roadway surface to its final grade.

Candidate Projects

A reworked asphalt concrete pavement layer should only be used on Traffic Level A or B projects (less than 3 million ESALs; approximately 1000 or less current two-way trucks per day) or as an interim project, without regard to traffic level, where the integrity of the existing pavement needs to be maintained until a scheduled reconstruction/widening project can be let. Use on any other projects will require Chief Engineer approval.

Pavement Evaluation

This process should be used only on pavements that exhibit minor surface distresses such as cracking, and raveling. It should not be used on pavements showing structural failure, embankment failure or with significant rutting problems. Deep structural cracking which extends below the limits of reworking or a combination of milling and reworking will not be fixed by the process and will reflect quickly through the new surface.

Evaluation of the existing pavement should be performed by staff from the District Materials Office to determine that no structural, moisture, or soil problems exist within the pavement structure. The District Bituminous Engineer should also determine whether the existing pavement layer is suitable for rework, and if so, make a recommendation as to the depth of rework. As part of the pavement coring procedure, the District Materials Office should delineate any changes in pavement composition throughout the project limits. Additional pavement cores may be required to accurately delineate any changes in the pavement structure.

Pavement Design

The typical depth of reworked asphalt will range from one to two inches. A three-inch minimum thickness of existing pavement is required for use of the reworked asphalt. In addition, a minimum thickness of one inch of existing pavement should remain undisturbed below the reworked asphalt concrete. Paved shoulders do not require a minimum pavement thickness of three inches, but should have a minimum thickness of half an inch of existing pavement remaining undisturbed beneath the reworked asphalt concrete. The depth of reworking is to be shown in the plans. A Pavement Composition

Report shall be requested and prepared by the District Materials Office for all projects with the reworked asphalt option. The Pavement Composition Report and the Pavement Survey and Evaluation Report for the project shall be made part of the Contract Documents.

Based on visual inspection of the roadway and pavement cores by District Materials Office staff, this process should not be used on roadway sections exhibiting signs of structural failure, embankment failure or severe rutting. Therefore, a project selected to use the reworked asphalt process will be considered a functional overlay as outlined in section 6.8.4 of the Flexible Pavement Design Manual (FDOT document #625-010-002). No structural calculations are necessary.

If a roadway does not have an open-graded friction course and has an existing friction number of 40 or greater, as provided by the District Safety Office, it will be eligible to have the uppermost pavement layer reworked with no friction course layer required to be placed on top. If the reworked asphalt concrete layer will be the uppermost pavement layer, the maximum depth of rework is limited to one-and-a-half inches.

If a layer of hot-mix asphalt is needed above the reworked asphalt layer, the appropriate friction course should be determined according to chapter 4 of the Flexible Pavement Design Manual and paid for with a separate pay item. If additional milling is needed to maintain grade, this should be noted in the plans and the cost included in the Reworked Asphalt pay item.

Cross slope can be corrected in conjunction with the reworked asphalt process. Although it is possible to place reworked asphalt at variable thickness, this practice is discouraged because of the difficulty in achieving density. The preferred methods are to: 1) Mill in the desired cross slope and rework a layer of constant thickness, or 2) Mill to depth, rework a layer of constant thickness, and place superpave overbuild wedges on top of the reworked layer. Both of these described processes would require a final friction course layer to be placed.

Reworked asphalt can be used on Pavement Only Projects (POP). Any Pavement Only Project using reworked asphalt is still subject to POP requirements. All other resurfacing projects using reworked asphalt will be subject to the requirements of Chapter 25, Volume 1 of the Plans Preparation Manual.

RECOMMENDED REFERENCE MATERIALS

Developmental Specification B Section 324: REWORKED ASPHALT CONCRETE

BASIC ASPHALT RECYCLING MANUAL by Asphalt Recycling and Reclaiming Association (ARRA)