

INTEROFFICE COMMUNICATION

TO: Brian Ross, District 4 Planning and Engineering
FROM: Vikas Kumar, Division of Engineering, Office of Pavement Engineering
DATE: July 31, 2025
SUBJECT: POR 422 0.00 (PID 121263) FY 2026 Minor Rehabilitation Pavement Design

Our office has investigated the subject section to determine a rehabilitation strategy. The investigation consisted of non-destructive testing using the FWD, a field review, a review of project history, section PCR, and pavement coring.

0.00-0.17

This section was originally constructed in 2009 with 11" or jointed plain concrete and 6" of aggregate base. This section was most recently rehabilitated in 2022 with Item 255 concrete pavement repairs.

The 2024 PCR of this concrete section was 77 with a structural deduct of 9.5. The major distresses present were surface deterioration, patching, faulting, transverse joint spalling, pressure damage, longitudinal joint spalling, and transverse cracking.

0.17-1.93

This section was originally constructed in the 1920's and 1930's of 18'-8"-10"-8" reinforced concrete pavement in eastbound direction and 9"-7"-7"-9" reinforced concrete in westbound direction. This section was first overlaid in 1950's with 2.5" of asphalt concrete. This section was overlaid again in 1960's with 1" of asphalt concrete. This section was rehabilitated again in 1977 with a 2" overlay of asphalt concrete. In 1991, this section was treated with a 1.75" overlay of asphalt concrete along with some full depth (12") flexible repairs at a PCR of 67-69. This section was rehabilitated in 2005 with a 1.25" asphalt concrete planing and a 3.25" asphalt concrete overlay at a PCR of 57-62. This project also included some partial and full depth flexible repairs. Most recently, this section was rehabilitated in 2016 with a 1.25" overlay of fine graded polymer asphalt concrete along with some partial depth flexible repairs at a PCR of 77-78.

The 2024 PCR of this composite section was 89 with a structural deduct of 3.04-5.04. The major distresses present were raveling, joint reflective cracking, transverse cracking, longitudinal cracking, pressure damage, crack seal deficiency, and corner break.

The FWD evaluation indicated no additional structure is required for a 12-year-design life. The measurements also indicated that approximately 46% of the joints tested poor in the upward direction and 39% in the downward direction. Coring indicated that the concrete base is solid, and full depth Item 255 rigid repairs would be an appropriate strategy for any obviously failed cracks and/or joints. Coring also indicated the existing pavement buildup to be approximately 11.5 inches of asphalt concrete over 9 inches of concrete in the eastbound direction, and about 12 inches of asphalt concrete over 7 inches of concrete in the westbound direction, on average. The District should address the concrete section (SLM 0.00-0.17) with a CPR strategy and use Item 255 to repair any failed joints. Our field review disclosed some areas of debonding in eastbound direction. Besides that, our field review found that the pavement surface is currently in good condition with

no significant visible distress. The District should place a surface treatment to restore functionality to this section. The following minor rehabilitation design is provided:

1.25''' Item 897 Pavement Planing, Asphalt Concrete, Class A.

1.25" Item 424 Fine Graded Polymer Asphalt Concrete, Type B, (448).

Attached are two Excel files with additional FWD data for your information as well as a core report. Please do not hesitate to contact me if you have any questions or need any additional information or advice.

VK

C: N. Chaney, P. Bierl, File