

Requirements for Pavement ATC Submittals

Pavement design ATC's may be submitted for consideration. ~~Top 4 inches of pavement must be rehabilitated.~~ The top 3-4 inches of pavement must be rehabilitated. The westbound direction must have a minimum of the top 3 inches reconstructed and the eastbound direction must have a minimum of the top 4 inches reconstructed. However, no reduction in design structure number shall be allowed.

1.1.1 Criteria in addition to SCDOT Pavement Design Guide and requirements for the ATC process are as follows:

- Acceptable pavement materials are given in the SCDOT Pavement Design Guide Coefficient of Relative Strength for Flexible Pavement Components, included in this exhibit, or are subject to approval in the ATC process.
<http://www.scdot.org/business/pdf/materials-research/PavementDesignGuide2008.pdf>
- Design of pavements or pavement system components not covered in the SCDOT Pavement Design Guide are subject to approval through the ATC process. Provide specifications for materials or processes not covered in current SCDOT specifications.
- Indicate pavement thickness in rate (psy) for HMA courses and inches for all other material types on typical sections. Utilize 110 psy/in for HMA thickness.
- Utilize 25 or 50 psy increments for HMA rates.
- Follow Asphalt Mix Design Guidelines found on SCDOT website for type and rate.
https://www.scdot.org/business/pdf/materials-research/Guidelines_Aspphalt_Mix_Selection.pdf
- Soil-Cement, Section 301 Cement Modified Subbase. The Contractor shall confirm suitability of soils for modification and provide mix design with a minimum strength, during production, of 300 psi for approval. Ensure the full width of the lane/pavement area is mixed.
- Contractor is responsible for mix design of lime modified subbase, include specifications for mix design and final acceptance. Identify criteria for design and method of acceptance.
- Contractor is responsible for mix design of Cement Modified Recycled Base (CMRB). CMRB layers shall not be less than 8 inches or more than 12 inches.

CMRB shall be covered with no less than 175 psy of asphalt surface course. Synthetic CMRB may be created by mixing a minimum of 50% of the thickness with graded aggregate base course (GABC) or recycled asphalt pavement (RAP). The Contractor shall confirm suitability of materials for modification. The design strength shall be between 450 300 and 600 psi at 7 days per SC-T-26. Any design strengths less than 400 psi shall require moisture susceptibility testing using either a wet dry brush test or tube suction testing.

- Roller Compacted Concrete (RCC) layer thickness shall be from 8 to 10 inches in thickness.
- Pavement designs may be dependent upon Contractor’s selection of alignments. If ATC’s are submitted for alignment changes they shall include pavement design for approval.

HMA pavement designs considered for ATC must use recommended input values when calculating structural number, as shown in the table. Indicate the resulting structure number is greater than that of base design in the RFP.

Parameter	Required Input
AADT	27,000
Truck (%)	5.0
Soil Support Value	2.0
Traffic Growth Rate (%)	2.0
Structure Number for Existing Pavement	3.20
Minimum Required Structural Number (Reconstruction)	4.75
Maximum allowable Existing Structural Number for Eastbound mainline after required 4 inch milling	2.16
Maximum allowable Existing Structural Number for Westbound mainline after required 3 inch milling	2.42
Minimum Allowable Terminal Serviceability (Pt)	2.0
Minimum relative strength coefficient assignment (ai) per inch of required removal	0.26