

Minutes for QIC Structural Design/Materials Selection Task Group

Members: Pat Turpin, Jim Huddleston, Cole Mullis and Liz Hunt. Not in attendance was Jim Lundy.

The members met for the first time following the QIC Rodeo at the APAO office on December 10, 2004. The first discussion focused on identifying void targets by layer and environment. Our current spec is 91% compaction for base courses but the ultimate target is 4% air voids. The base layer most likely will never reach 4% air voids through secondary compaction.

The goal would be to identify mix design targets based in initial compaction followed by anticipated secondary compaction. What actually is happening by layer in a given environment? Also, with stiffer binders, the potential for rutting is reduced so ultimately the base layers can handle more AC.

See list of issues, etc., attached to this document.

The next task group meeting was scheduled for January 18th, 2005 at 1:00 PM at the APAO offices.

QIC Task Group Worksheet

Issue/Problem	Timeframe (immediate solution?)	Tasks needed to understand/solve problem. By whom?	Implementation (change process? change spec?) By whom?	Deliverable (revised spec? training? other?) By whom?
<i>Need to improve density and reduce permeability for dense graded mixes.</i>	Yes	<i>Review NCHRP Report #531-- Mike</i>	<i>Provide information to pavement designers; construction offices; contractors.-- Mike</i>	<i>None—assign individuals to make sure information is relayed. -- Mike</i>
Matching target air voids per desired performance for a variety of applications.	Yes	Can modify pavement designs (mix design level)	<ul style="list-style-type: none"> • Initially from Pavement Designs. • Requires change in mix design process/acceptance. 	
Fine tune relationship between target to mix design to construction.				
Implement lift thickness changes.	Yes	Change pavement design; modify ODOT Pavement Design Guide.		
How to allow contractor to achieve smoothness?		<ul style="list-style-type: none"> • Consider min. lifts and leveling materials. • Input from contractors— what can you do and not do? • Consider profile of pavement. • Identify proper aggregate mix size. • Admin. Barriers include the additional time to two lifts. 	Change in Pavement Services Unit Pavement Design approach.	

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Void targets based on environment: <ul style="list-style-type: none"> • Mountain passes • Decrease voids to increase durability (sand, plowing) • Specialized applications 		<ul style="list-style-type: none"> • Ask the question: Are we comfortable with mix levels? • Review NCATs work on test track. • Need Mix design group to look at one mix design (starting point). Set min void target for each layer. 	Change mix design process at the start. Ndesign=100 for all and then do field adjustments.	
Stiffer Binders		<ul style="list-style-type: none"> • Review LTPP Degree Days • What is appropriate AC grade? • 58's vs 64 ok? • Determine if stiffer binder will increase fatigue cracking: • Stiffer binders will reduce strains on thicker applications; thinner sections could be a problem with fatigue. 		