Design Standards Letter

Letter Number: **G-2004-07**

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Section/Plan No.: **502.05G**

Subject: **Shoulders and Construction Joints**

Body

MoDOT continually seeks to expand its fiscal resources without sacrificing performance. The Pavement Team, which includes representatives from private industry, scrutinizes our pavement designs to produce greater efficiency while maintaining performance.

Alternate bids on pavements are now encouraged in order to produce more competition and greater savings on projects. To make alternate bids on pavements as competitive as possible, we have tried to eliminate mobilization of asphalt and concrete plant and equipment for the respective pavement designs. This is also the driving force to allow alternate Type A2 shoulder designs for concrete pavements.

Shoulder designs for medium and heavy duty pavements are under evaluation as well, and although no decisions have been made to reduce the thickness of those shoulders, it has been determined that dowel bars in the shoulder transverse joints are not cost effective. Mechanistic-empirical pavement design analysis shows that non-doweled shoulders perform similar to doweled shoulders. For this reason, for any job that has not been yet bid should include the attached special sheets for projects including concrete shoulders. The specials sheets will be added to the projects by the Design's review section in the Central Office until the January Letting at which time the changes will be covered by the Supplemental Revision to the Standard Plans.

Unbonded concrete overlay designs should also be revised to have the same typical section as that for the construction of a new concrete pavement. Specifically, the typical section should show the passing lane and inside shoulder poured monolithically; the longitudinal joint at the outside lane and shoulder shall be at 14' from the centerline and the remaining 8' of the outside shoulder shall be constructed with the new no-dowel Type C2 transverse joints, as shown on Sheet 3 of 4 of Standard Plan 502.05G.

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Sheet 3 of 4 shows the new no-dowel C2 transverse contraction joint.