



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

August 27, 2002

MEMORANDUM

To: S. Pat Ivey, P.E.
Division Engineer

From: James H. Dunlop, PE
Congestion Management Engineer

Subject: Stamped Pavement Pattern, for downtown Winston-Salem

The city of Winston-Salem is considering installing stamped pavement markings at several intersections in their downtown area. In general, the North Carolina Department of Transportation will allow this type pavement treatment to be use.

Stamped pavement is considered an aesthetic feature that can provide a more desirable ambiance or pleasing appearance to a street and/or intersection. In addition to the visual awareness, drivers will also be alerted as they drive over the surface. The simulated brick texture provides a rough surface felt and heard as the tires of vehicle pass over it. This can prove to be both a positive and negative feature. The texture can cause drivers to become more alert and possibly slow down while the noise can be a nuisance to nearby businesses and/or residences.

Five photographs were sent to Congestion Management for evaluation and comments. These photographs indicate the existing and proposed pavement color and brick pattern at two intersections in Winston-Salem and a close-up of existing brick pavers installed at Fourth Street. (The brick pavers appear to be an existing section of a newly installed pedestrian sidewalk). Based on these photographs, the following comments are provided:

- The pavement surface may have a pattern but individual brick or stone is not recommended. When used as a vehicle roadway surface, individual brick are known to have safety concerns and maintenance issues.
- Pavement markings (travel lanes, crosswalks, etc.) should be retroreflective or have retroreflective markers. It is important for drivers to see the travel lanes during nighttime and inclement weather conditions. Brick color or pattern should not be used as pavement markings but could be used as a visual accent beside standard markings.
- The pavement color and texture should be distinguishable from the adjoining pedestrian sidewalk. The photographs indicates a roadway very similar to the brick sidewalk. Motorists could easily mistake the sidewalk as a driveway, alleyway, or parking space. Likewise, a

pedestrian could easily mistake the roadway as the intended sidewalk or boardwalk. An alternative solution would be to strategically place planters or ballards along the curb at the crosswalks. These ballards will prevent vehicles from entering the sidewalk by mistake but should not interfere with ADA wheelchair requirements.

- The walking surface of the curb ramp shall be slip resistant and a contrasting color - light on dark or dark on light - to the sidewalk. This is in accordance to the *Guidelines Curb Cuts and Ramps for Disabled Persons* by the NC DOT Highway Design Branch. This may require the installation of a color contrasting pathfinder tile be installed at each curb ramp.
- Within the pedestrian crosswalk, the pavement stamp should not present an uneven walking or wheelchair hazard. This may require a rougher surface finish with no brick pattern within the crosswalk or a less distinctive pattern.
- Crosswalk lines shall be solid white lines marking both sides of the crosswalk. The indicated crosswalk lines do not meet the standards set forth in the *MUTCD* or *NC Department of Transportation Highway Design Branch Roadway Standards*. They shall be solid white lines not less than 8-inches in width and not less than 6-feet apart.
- If used, stop lines are a minimum 12-inches wide and placed at the desired stopping point. Ordinarily they should be placed 4-feet in advance of and parallel to the nearest crosswalk line.

If installed, any maintenance issues should be referred to the Division Office.

JHD/jcc

cc: Troy A. Peoples, P.E. – State Traffic Engineer
J. P. Couch - Division Traffic Engineer
A. D. Wyatt, P.E. - Field Operations Engineer
(Attn. W. B. Staley, II, P.E. - Area Traffic Engineer)