This Memorandum notifies the users of the Materials Division Manual of Instructions that a new Section 309.07 has been added that provides guidance and requirements for application of calcium chloride (CaCl₂) to aid in stabilizing gravel roads.
Add the following Section 309.07 to the MOI

Sec. 309.07 Application of Calcium Chloride to Aid in Stabilizing Gravel Roads

VDOT has found the application of calcium chloride (CaCl₂) as a surface treatment for gravel roads to reduce costs and labor of maintaining gravel roads. This section provides guidance and requirements for ensuring quality application of CaCl₂ for this purpose.

There are two methods in which CaCl₂ can be used as a surface treatment. The first method is to add a CaCl₂ solution to the aggregate at the quarry, pugging the brine solution and aggregate and then stockpiling. The second method is to apply the brine solution to the gravel road, and lay down a gravel layer separately, either immediately before or after application of the salt. Whichever method is used, the aggregate-brine mixture should then be compacted and graded into the existing gravel road. The work may be done by VDOT forces or by Contractor; brine-aggregate material may be purchased from quarries, or brine may be purchased from vendors and aggregate from quarries separately.

Regardless of the method used, VDOT requires 2.2 gallons of 32% liquid (Type L) CaCl₂ by weight per ton of aggregate. The aggregate used may be 21B, 21A, or crusher run aggregate No. 25 or No. 26. In order to ensure this, the Contractor, quarry, or vendor from which VDOT purchases the material shall provide certification for acceptance; certification shall include purity of CaCl₂ solution, quantities of CaCl₂ used, and quantities of aggregate treated. VDOT reserves the right to sample and test treated aggregate per VTM–133 or to test brine by the Materials Division Chemistry Section at Contractor's or Producer’s expense to verify material properties. Rain may wash the brine out of treated aggregate stockpiles after several months unless covered.

Application and working of the material on the road surface is normally done under the supervision of the VDOT Residency. FHWA in cooperation with the South Dakota Local Transportation Assistance Program has produced a resource entitled “Gravel Roads Maintenance and Design Manual”, November 2000, that provides guidance on application of stabilizers to gravel roads. The following is a link to the document online:

http://water.epa.gov/polwaste/nps/gravelroads_index.cfm

cc: Deputy Chief Engineer
Division Administrators
District Administrators
District Location & Design Engineers
District Construction Engineers
District Maintenance Engineers
District Bridge Engineers
District Traffic Engineers
Virginia Asphalt Association

Virginia Center for Transportation Innovation and Research
Virginia Ready-Mixed Concrete Association
Precast Concrete Association of Virginia
Virginia Transportation Construction Alliance
Federal Highway Administration
American Concrete Paving Association
NE Chapter, Southern Region
Old Dominion Highway Contractors Association