

**North Carolina Department of Transportation
Division of Highways
Field and A.A.S.H.T.O. Density Determinations**

M&T Form 504 E
Rev. 10/2014

Contract: _____ County: _____ Date: _____ Test No: _____

Test Location & Type _____
 (Sta; Lane) (Rdwy. or Shldr.) (Embank., Subg., or Base)

 (Dist. from C/L; Rt or Lt) (Dist. below Subg. Elev.)

Random Test Site Location Calculations					
Begin Sta.:		Ending Sta.:		Length:	
Random No.		Random (Calculations)		Test Site Location	
Length	Width	Random No. x Length	Random no. x Width	Station	Offset

Road Density Determination

Volumetric Test (short test only)

Volume of Hole: 2nd Reading: _____ Empty Mold & Collar: _____
 1st Reading: _____ Mold w/Soil: _____
 (In-Place Vol.) Difference: _____ ft³ Compacted Vol. of Soil: _____ ft³

Wet Density: $\frac{\text{Wet Wt. Soil (g)}}{\text{Volume} \times 453.6}$ = _____ lb. /ft³

% Moisture: $\left[\frac{\text{Wt. Wet Soil (g)} - \text{Wt. Dry Soil (g)}}{\text{Wt. Dry Soil (g)}} \right] \times 100 = \text{_____} = \text{_____} \% \text{ (moisture)}$

Dry Density: $\left[\frac{\text{Wet Density}}{100 + \% \text{ moisture}} \right] \times 100 = \text{_____} \text{ lb. /ft}^3 \text{ (Dry Road Density)}$

A.A.S.H.T.O. Density Determination

Wet Density: $\frac{\text{Wet Wt. Soil (g)} \times 30}{453.6}$ = _____ lb. /ft³

% Moisture: $\left[\frac{\text{Wt. Wet Soil (g)} - \text{Wt. Dry Soil (g)}}{\text{Wt. Dry Soil (g)}} \right] \times 100 = \text{_____} = \text{_____} \% \text{ (moisture)}$

Dry Density: $\left[\frac{\text{Wet Density}}{100 + \% \text{ moisture}} \right] \times 100 = \text{_____} \text{ lb. /ft}^3 \text{ (Dry AASHTO Density)}$

Percent Compaction

$\left[\frac{\text{Dry Road Density}}{\text{Dry A.A.S.H.T.O. Density (In-Place Vol.)}} \right] \times 100 = \text{_____} \%$

*Print Name Legibly w/HiCAMS No.: _____

Signatures { *Certified Technician: _____
 Resident Engineer: _____

*By providing this data under my signature and/or HiCAMS certification number, I attest to the accuracy and validity of the data contained on this form and certify that no deliberate misrepresentation of test results, in any manner, has occurred.