



Geotechnical and Construction Materials Testing Services

June 12, 2024

Mr. Mike Schneider, PE
Piedmont Land Design, PLLC

Re: Gravel Fire Truck Turnarounds
Weaver's Pointe
Zebulon, North Carolina
GeoTechnologies Project No. 1-24-tba-EA

GeoTechnologies, Inc. has completed a gravel pavement design for fire truck turnarounds in the Weaver's Pointe development in Zebulon, North Carolina. We understand that the turnarounds will be in service during site development, and that the design fire truck weighs 80,000 lbs. We have assumed a minimum design CBR value of 5 percent based on prior experience in the area. Design was performed using AASHTO low-volume road design methods. Based on a CBR value of 5 percent, the design vehicle weight, an allowable rut depth of 1.5 inches, and a terminal serviceability of 2.0, we determined that an 8-inch CABC section will be capable of supporting weekly trips for a period of approximately 5 to 6 years. The CABC should be compacted to 100 percent of AASHTO T-180 as modified by NCDOT. Prior to placement of the stone, subgrade should be compacted to at least 98 percent of the standard Proctor maximum dry density with compaction moisture within 2 percent of optimum moisture content. A non-woven separator fabric equivalent to Mirafi 140N should be placed on the subgrade prior to placement of the stone. Long-term performance of gravel pavements is largely dependent on maintenance. The surface should be re-graded and recompacted, possibly with the addition of fresh CABC, if the surface becomes disturbed or water begins to pond in ruts or low spots.

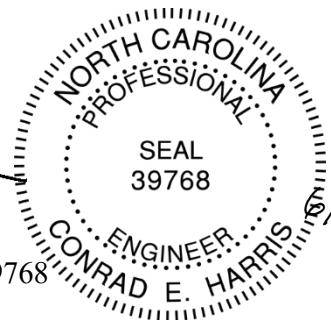
GeoTechnologies, Inc. appreciates the opportunity to have provided you with our services on this project. Please contact us if you should have questions regarding this report or if we may be of any further assistance.

Sincerely,

GeoTechnologies, Inc.,

Conrad E. Harris, P.E.

NC Registration No. 39768



6/12/24