



NicNevol

Engineering Services



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SR 121 – Geotechnical Evaluation

Location: Macclenny, Baker County, FL

Owner: GAI Consultants, Inc.

Markets: Transportation, Geotechnical Engineering

Services: Geotechnical Exploration, Subsurface Investigation, Laboratory Testing, Pavement & Foundation Recommendations

Project Description

NicNevol Engineering Services performed a geotechnical exploration and evaluation for subsurface conditions beneath the southbound lane of SR 121 at Tom Norman Road in Macclenny, FL.

The study was requested by GAI Consultants to support roadway rehabilitation and design. Field activities included two (2) Standard Penetration Test (SPT) borings advanced to depths of 15 and 20 ft using a CME 55 drill rig with continuous flight augers.

Subsurface conditions revealed asphalt (6 in.) over limerock (8 in.), followed by fine sands, clayey sands, and organics at shallow depths. Below 6 ft, soils consisted of gray clay with sand and organics, clayey sands, and silty sands at depth. Groundwater was encountered at 2.1–3.0 ft below surface.

Recommendations included undercutting unsuitable soils, replacement with compacted structural fill, stabilization of weak clays/organics, and groundwater control during construction.

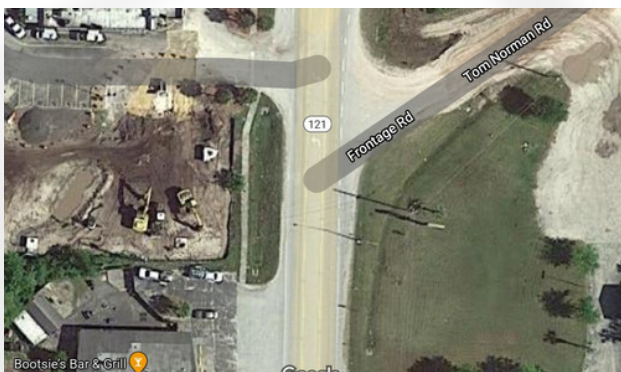
NicNevol Responsibilities

- Performing SPT borings with CME 55 drill rig.
- Logging soil stratigraphy and groundwater observations.
- Conducting laboratory testing for classification and strength.
- Providing recommendations for excavation, fill, and subgrade stabilization.
- Preparing guidelines for groundwater control and roadway foundation design.
- Delivering final geotechnical report with engineering parameters for GAI Consultants.



Project Highlights

- Client: GAI Consultants, Inc.
- Location: SR 121 & Tom Norman Road, Macclenny, FL.
- Field program: 2 SPT borings (15 ft and 20 ft).
- Subsurface profile: asphalt (6 in.), limerock (8 in.), sands (SP), clayey sands (SC), gray clays with organics (CH).
- Groundwater: 2.1–3.0 ft depth.
- Recommendations: undercut organics/clays, replace with compacted fill, stabilize subgrade, provide groundwater/surface water control.



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Delivering engineering expertise that supports safer, stronger infrastructure.

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