



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

DATE: May 21, 2025

TO: Geotechnical Engineering Unit Investigation Staff
Geotechnical Consultants

FROM: Matthew J. Alexander, PE
State Geotechnical Engineer

SUBJECT: Drilling Through Bridge Decks

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A Geotechnical Engineering Unit (GEU) consultant recently drilled through a concrete girder compromising the integrity of the structure. Division is working with Structures Management Unit (SMU) to assess the damage, revise the load rating, and estimate repair costs.

When practical, subsurface investigations should avoid cutting bridge decks to advance bore holes. If a boring must be drilled through the existing bridge deck, then the Division Bridge Maintenance Engineer shall be contacted during investigation planning. The Division Bridge Maintenance Engineer shall be notified of the intent to advance bore holes through the bridge deck and will determine if Division or the geotechnical drill crew will cut the deck and repair. Division Bridge Maintenance Engineers can be found in the [NCDOT Directory](#) listed under the Division in which the project is located.

Consultants shall ensure that their field personnel understand the components of a bridge and a process for measuring the spacing of load bearing members underneath the existing structure. The consultant is responsible for transposing the measurements onto the existing bridge deck surface correctly and avoiding damage to load bearing members. For bridges where measuring the spacing will be difficult or impossible without specialized equipment the Division Bridge Maintenance Engineer must be contacted for assistance in planning the subsurface investigation.

If damage to a load bearing member of a bridge does occur, the consultant shall contact the Division Bridge Maintenance Engineer and the Geotechnical Engineering Unit immediately. The bridge should not be opened to traffic until a determination can be made that the bridge can support posted vehicular loading.

Cc: David Snoke, PE State Structures Engineer
Division Bridge Maintenance Engineers