

# STRUCTURE BULLETIN

## NCDOT Construction Unit

[Website email](#)



### Current Issues: Grout Acceptance for Soil Nails, Anchors

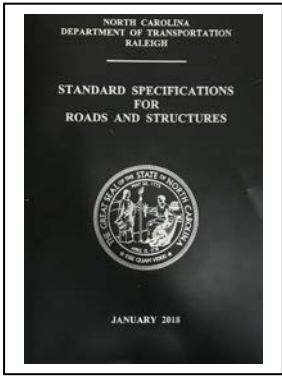
Currently the Soil Nail Wall Special Provisions call for the grout to be Type 2 grout, which is a non-shrink grout typically used for geotechnical applications. Normal procedure for Soil Nails is for the contractor to mix a neat cement grout (cement and water) on site. This has created confusion as to how the materials are supposed to be sampled and tested. The soil nail wall provision will be revised soon, but this article will be guidance until that revision is implemented. This applies to soil nails and ground anchors only.

- In HiCAMS, you should not look for an approved non-shrink grout. The materials used will be an Approved Producer/Supplier under the Vendor system, such as Giant or Cemex. This material can be tied to the line item in the CBOM.
- A mix design will not be required. In general we are looking for a water/cement ratio of 5.5 gal. / 94# cement (45%-55%). A submittal will not be required, as it is included in the grouting plan and is reviewed by Geotech.
- In HiCAMS
  - Samples should be entered as Grout Specimens
  - Material choice should be Grout Cubes
  - Test category should be Acceptance
  - Approved Producer/Supplier should be the cement manufacturer
  - Comments should include the age they would like the samples tested at and the required compressive strength. We will be looking for a 3 day strength of 1,500 psi and a 28 day strength of 4,000 psi.

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### Updates: Culvert Acceptance

According to NBIS (National Bridge Inspection Standards) any culvert that is 20' or longer along the centerline of the roadway is a bridge. This means a culvert with a width measured along centerline of the roadway 20' or more qualifies. If you have a culvert such as this it is important to notify SMU with an "Advance Notice of New Structure Completion" form. Also, make the as built plans and shop drawings with structural details (for aluminum and precast members), available to SMU on the Connect site. Note in the comments section what type of culvert it is (aluminum arch, RCBC, 3 sided). This can normally be done well ahead of project completion for a culvert. Notification of completion of these structures should be sent to [SIA@ncdot.gov](mailto:SIA@ncdot.gov). (Continued next page)



## Standard Specification Questions:

**Question:** When can the contractor walk the screed back over a previously cast section of deck? When can the contractor cast section of deck adjacent to a previously cast section?

**Answer:** Section 420-20 of the Standard Specifications gives guidance on when a previously cast member can be loaded. The two pieces of information in the question above are not covered in this section.

First, the contractor must either move the screed back over the cast section of deck before any part of that pour has reached initial set, **OR** wait until the concrete achieves a compressive strength of 1,500 psi. This is to prevent cracking in the overhangs that may occur due to deflection in the overhang forms as the screed travels back. Waiting until the concrete has 1,500 psi is the best option, as judging when initial set starts in any section of the deck can be difficult. Walking the screed back before initial set should only be done with the approval of the engineer. This is documented in the [Pre-Pour Checklist](#) found in section 420 of the Construction Manual.

Second, the adjacent section of deck must obtain a compressive strength of at least 3,000 psi before the next section can be poured. Again, this is to prevent cracking in the previously cast section due to deflections in the adjacent span. This information is normally found in the plan notes.

### Area Construction Engineers:

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If you have any questions regarding the process please call David Snoke at (919) 707-6431. Next month we will cover large pipe systems.

### Videos:

Inspection training videos can be found on the [Construction Unit YouTube playlist](#).

### Training:

PDF copies of the Winter Inspector Training presentations can be found at the following link:  
[2018 Structure Inspector Training](#)

**Structure Bulletins** are now archived on the [Construction Unit](#) website under [Construction Resources](#).

If you have a topic you would like to see addressed in a future edition of the Structure Bulletin please [email](mailto:acoched@ncdot.gov) us at either [acoched@ncdot.gov](mailto:acoched@ncdot.gov) or [aeerwood@ncdot.gov](mailto:aeerwood@ncdot.gov)