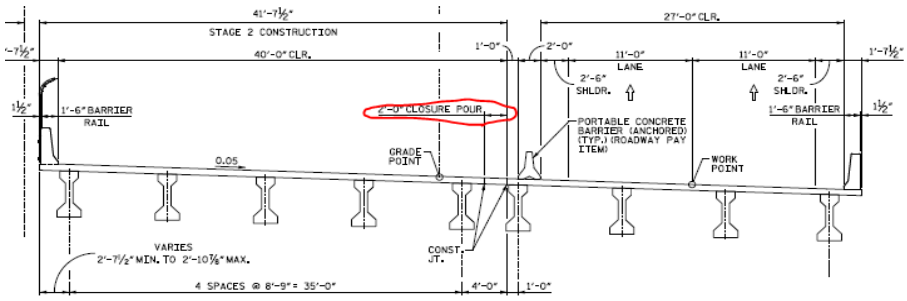
FORMS

STRUCTURE BULLETIN

NCDOT Construction Unit

Website email

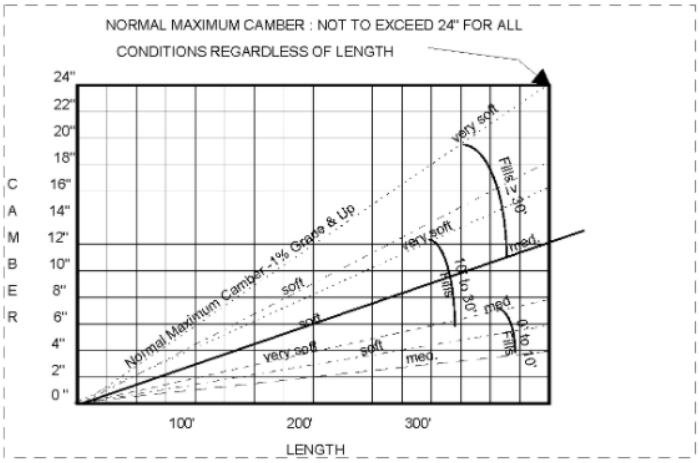


Current Issues: Phased Deck Screed Setup

Closure pours are used to separate phases of a bridge deck. We normally see these as longitudinal strips of deck form 2-8' wide between the phases. This separation is necessary due to differential deflection. In the first phase all the deflection has come out of the girders. In the second phase very little has come out. Because of this the screed must be supported entirely on the phase being poured (with one exception we will get to). If the screed was supported on the deflected portion of the deck on one side and the undeflected section on the other, then as the deflection comes out of the second phase during the pour the amount of cover over the steel will vary as the pour progresses. Depending on how the screed is set up during the dry run this can result in either 1- insufficient cover (resulting in decreased corrosion protection and a shortened deck life) or 2) excess cover (resulting in additional concrete weight which was not accounted for in the design). It can also result in detrimental effects on the ride and cross slope. The Structure Design Manual requires a closure pour between phases unless you have concrete girders with a deflection less than ½". It is not common to have spans short enough to produce deflections this low, so this is an uncommon occurrence. In some cases, the contractor may want to support the screed on the previous phase even when intending to use a separate closure pour. This should not be allowed, since it still results in the problems discussed above. If you have any questions, please contact the engineer.

Cold Weather Concrete:

As temperatures drop, modifications to concrete batching, placement, and curing will be important. Article 420-7 of the Standard Specs discusses requirements for placement of concrete in cold weather. Now is a good time to review these requirements to make sure you are familiar with them and to ensure that Contractors are complying. Another resource available to Engineers and Inspectors is the Transportation Curriculum Coordination Council (TC3). TC3 is an AASHTO technical service program focused on web-based training for construction, maintenance, and materials. Anyone with an NCDOT email address has free access to these web-based training courses, so take advantage of them!! The course *Quality and Durability Issues Related to Cold Weather Concreting* addresses this topic and helps to explain why the requirements in our specifications are important.



Culvert Camber

Sections 414-3 and 300 of the Construction Manual discusses camber for box culverts. Some plans include a value for camber to be staked into the culvert. This happens when subsurface information is available, but if your plans do not include this it does not mean that camber is not necessary. In such cases the table above should be used as a guide for determining camber. For instance, a 200' long culvert in a 40' fill on soft material should have about 9" of camber staked into it. Determining the type of material can be tricky sometimes, but if you need assistance you can contact your Resident, Area Construction Engineer or Geotechnical Operations Engineer.

Area Construction Engineers:

Div	Contact	Phone
1&2	Randy Hall	282-402-9957
3&4	David Candela	910-524-4931
5	Troy Brooks	336-972-4627
6&8	John Partin	336-847-1226
7	Aaron Griffith	336-215-9170
9	Vickie Davis	704-202-0945
10	Darin Waller	980-521-5176
11&12	Doug Eller	336-877-7048
13&14	Aaron Powell	828-694-7971

Videos:

New training available: NCDOT: Construction: 2020 Online Training: Bridge Deck has been uploaded to the LMS system. This one hour video course is a review of bridge deck construction from buildups through screed setup, and provides **1 hour of PDH credit.**

Inspection training videos can be found on the Construction Unit YouTube playlist.

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 us at either acochran@ncdot.gov or aearwood@ncdot.gov