

Forms

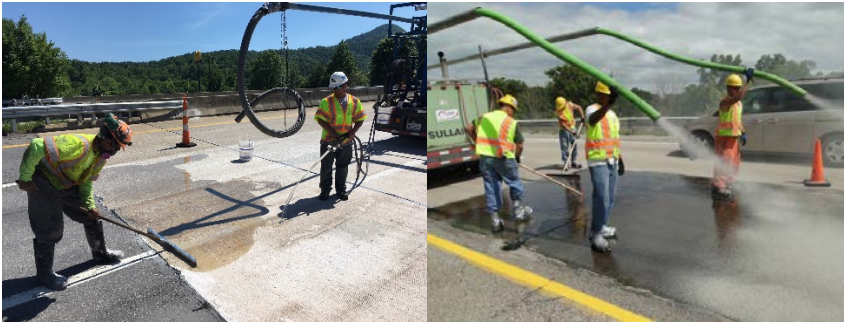
# STRUCTURE BULLETIN

## NCDOT Construction Unit

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1. Current Issues
2. Updates
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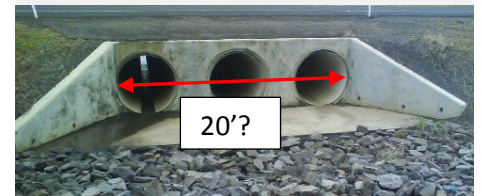


### Current Issues: Epoxy Overlay Materials

A common question regarding epoxy overlays is "do we require samples?" The current Special Provision requires that the epoxy be on the [NCDOT Approved Products List](#) under the Product Group "Structures" and Product Category "Maint: Bridge Deck Epoxy Overlays (PSP-STR)". If the material your contractor submits is not listed there, you should check with the M&T unit to confirm whether or not the material is acceptable.

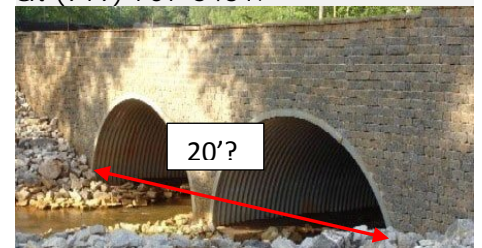
For aggregate the SP currently only gives required properties and gradation. There are no producers of the required aggregate in North Carolina, and all materials currently come from Oklahoma. It is normally shipped in bulk bags, and should be accompanied by a manufacturer's certification. Unless the material is suspect (wet, dirty, etc.) there is no need to take field samples. If you do decide it needs to be sampled, please contact your M&T Section Materials Specialist.

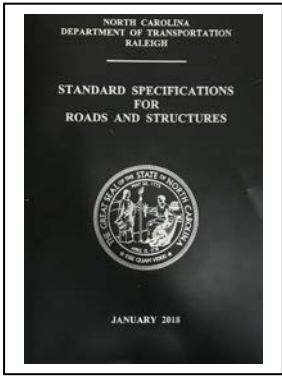
The Special Provision for Epoxy Overlay Systems is being updated to clarify these points and the aggregate supplier is going to be added to the HiCAMS Vendor Producer/Supplier list. Until then just make sure the epoxy is on the APL and you have a Type 3 certification for the aggregate.



### Updates: Pipe Acceptance

According to NBIS (National Bridge Inspection Standards) some pipe systems may qualify as a bridge. A series of pipes may count as a bridge if the distance between the outside walls of the outer pipes is greater than 20'. These structures must be inventoried by the SIU, so an Advance Notice of Structure Completion form should be sent to [SI@ncdot.gov](mailto:SI@ncdot.gov). If you have any questions regarding the process please call David Snoke at (919) 707-6431.





## Special Provision Questions:

**Question:** What is the ASTM C1583 pull off test?

**Answer:** The *Epoxy Overlay System Special Provision* calls for the contractor to perform a bond test on a test section. This test is the ASTM C1583. The test is performed by the contractor and tests the adhesion of the overlay system to the prepared concrete surface. In short, a core

hole is cut through the overlay and ½" into the concrete, a metal disc is bonded to the epoxy overlay, and the force necessary to pull the core up is measured. The failure should occur mainly in the concrete, meaning the entire overlay comes up and pulls pieces of concrete with it. A video will be posted later this month on the NCDOT YouTube site detailing this operation.

A similar bond test is required of the contractor on PPC overlays. This test is the ACI 503R-30. This test uses different equipment and does not mention cutting ½" into the concrete substrate. If the contractor chooses this method they should still cut ½" into the concrete. The ASTM C1583 test used on epoxy overlays is also acceptable for PPC overlays.

Both tests should yield a minimum tensile strength of 250 psi, and both tests should demonstrate that the failure was at least 50% in the substrate. There are some small differences in the two special provisions, so always make sure to read the SP before starting the work.

## New Videos:

Two new videos have been uploaded to the YouTube playlist. [Mono Strand Jacks](#) Show the proper procedures for post tensioning strands in box beams and cored slabs in accordance with the 2018 Standard Specifications. [How To Use The Fann Mud Balance](#) shows how to use a mud balance to check the specific gravity of neat cement grouts and slurry.

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](#).

## Area Construction Engineers:

Div	Contact	Phone
1&2	<a href="#">Randy Hall</a>	282-402-9957
3&4	<a href="#">David Candela</a>	910-524-4931
5	<a href="#">Troy Brooks</a>	336-972-4627
6&8	<a href="#">John Partin</a>	336-847-1226
7	<a href="#">Aaron Griffith</a>	336-215-9170
9	<a href="#">Vickie Davis</a>	704-202-0945
10	<a href="#">Darin Waller</a>	980-521-5176
11&12	<a href="#">Brian Skeens</a>	828-803-1461
13&14	<a href="#">Aaron Powell</a>	828-694-7971

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](mailto:acochran@ncdot.gov) or [aeerwood@ncdot.gov](mailto:aeerwood@ncdot.gov)