



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY  
GOVERNOR

NICHOLAS J. TENNYSON  
SECRETARY

August 23, 2016

MEMO TO: Jeff Allen, Jonathan Bivens, Stuart Bourne, Larry Brickey, Chris Byers, Shannon Douglas, Matt Farley, Ron Hancock, Bruce Hazle, Brandon Hill, Ryan Ilg, Berry Jenkins, Steve Kite, Ben Lanier, Don Lee, Clark Morrison, Glenn Mumford, Mark Perkins, Michael O'Sheilds, Ian Scott, Jim Sebert, Lamar Sylvester, Kevin Thomas, Brian Webb

FROM: R. A. Garris, PE  
Contract Officer

SUBJECT: DOT-AGC Roadway Subcommittee Meeting Minutes

The subject committee met on August 18, 2016 at 9:30 a.m. in the Riverwood Conference Room at the Century Center.

*Agenda and Discussion Items:*

**Electronic Bidding in Divisions**

**Andy Gay**

The Department is training 2 to 3 divisions per month and hope to be completed by the end of the year. To date, Divisions 1, 5 and 7 have been fully trained and six others are in various stages of training. Paper submittals will still be allowed in the meantime until some point when all will go electronic.

Industry stated that there were some issues with the response in the electronic process. The turn in went smooth but since the results are so delayed, some of the contractors still had employees going to the bid openings so they can find out the results sooner.

Industry also brought up that the divisions work off of a three week advertisement while central let is four. They stated that many times that extra week is very helpful especially with getting DBE firms on board. As division jobs get more complex, it would be helpful for the Department to be consistent and have four week advertisements across the board.

**Proposed Utility Revisions to the 2018 Spec Book**

**Carl Barclay**

Carl mentioned that they are putting together a special provision that will eventually go into the 2018 Standard Specifications on paying for fittings by the pound based on a declared weight. Carl stated that they hope to have this provision ready for January 2017 let.

Carl stated that the specifications book committee is adding a few items into the 2018 book including payment per linear foot of fire hydrant leg, and payment for valves in relocating a fire hydrant only if there is no properly functioning existing valve.

Currently, water meter service line is incidental to water meter (proposed, reconnected or relocated). Carl stated that they are proposing to pay per linear foot for these services lines by two new pay items (\_\_\_\_" Service Line 2 inches or greater, and Service Line less than 2 inches).

Carl provided a handout with a proposal to measure and pay for Trenchless Installations (TI). Currently, the plans show the limits where open trenching is prohibited and the total length of the trenchless limit is split into two pay items (in soil, not in soil). This total trenchless length is intended to be the maximum pay item quantity. In reality however, the actual trenchless length may be longer for constructability, particularly with horizontal direction drilling (HDD). The handout proposed to address a level playing field during the bidding process and a fair contract with the department. Industry representatives in the meeting volunteered to discuss these options further. Industry also stated that they would like additional geotech borings by NCDOT for additional information and so everyone has the same information in areas where trenchless installations are required. NCDOT is allowed into the permitted areas for some additional borings while contractors are not.

Industry also discussed the need for a PE design and seal for all projects / conditions, as well as when utility services are certified and when does the warranty start. Carl stated he will talk to Ron Wilkins on these questions.

#### **Update on Pilot Work Zone Projects**

**Steve Kite**

Steve thanked the contractors for doing supplemental agreements to put work zone presence lighting and digital speed limit signs on current interstate projects. Steve stated that he would like to see the balloon lights on the 10 foot paved shoulders on a level surface and not in the way of operation. Steve hopes to get some speed data where these devices are being used and is currently creating a special provision for future projects on interstates.

#### **Upcoming Work Zone Reviews**

**Steve Kite**

Steve stated that they have not done many night work zone reviews and with more work going to private firms, they would like to pick up day and night reviews. These reviews will mostly be on those projects that are longer duration interstate jobs. The review will be on signing, delineation, etc. and will be done by NCDOT personnel.

#### **Quarry Pond Fines for Embankment**

**Chris Peoples/John Pilipchuck**

Chris passed out a draft special provision on quarry Pond Fines in Embankments. In the past, we have had haul roads that have been made out of this material. Materials and Tests, and Geotech looked at the material and are on board using it in embankments from an approved source. Industry stated that NCDOT needs to specify approved fines from washed fines and clarify that the provision does not apply to select material. Chris and John asked for additional comments to be turned in within the next few weeks.

#### **Rock and Broken Pavement Fills**

**Shannon Douglas**

Shannon asked NCDOT why the stone, rip rap and geotextiles to construct embankments with rock and broken pavement fills are incidental. There are many unknowns to estimate this material

from both the industry's and the department's perspective. Industry feels however that if the NCDOT feel this provision is necessary that there should be a payment attached.

### **Open Discussion**

Industry brought up the maintenance and replacement of temporary silt fence on longer duration projects. Typically silt fence will not last on projects lasting 3-5 years and industry recalls that if the fence was installed properly and is at the end of its useful life then it can be replaced with payment. Per the specifications book, silt fence is to be removed and replaced if it is deteriorated or ineffective. NCDOT needs to get the message out that if this happens, the replaced fence should be paid for.

### **Next Meeting**

The next meeting is scheduled for October 20, 2016 at 9:30 a.m. in the Riverwood Conference Room at Century Center B.



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY  
GOVERNOR

NICHOLAS J. TENNYSON  
SECRETARY

August 16, 2016

MEMO TO: Jeff Allen, Jonathan Bivens, Stuart Bourne, Larry Brickey, Chris Byers, Judith Corley-Lay, Shannon Douglas, Matt Farley, Ron Hancock, Bruce Hazle, Brandon Hill, Ryan Ilg, Berry Jenkins, Ben Lanier, Don Lee, Glenn Mumford, Michael O'Sheilds, Mark Perkins, Ian Scott, Jim Sebert, Lamar Sylvester, Kevin Thomas, Brian Webb

FROM: R. A. Garriss, PE  
Contract Officer

SUBJECT: DOT-AGC Roadway Subcommittee Meeting 8/18/16 Agenda

The next meeting will be held at the Riverwood Conference Room in the NCDOT Century Center Building B at 9:30 a.m. The following is a list of items scheduled for discussion:

1. Electronic Bidding in Divisions Randy Garriss
2. Proposed Utility Revisions to 2018 Spec Book Carl Barclay
3. Update on Pilot Work Zone Projects (presence lighting/digital speed limit signs) Steve Kite
4. Upcoming Work Zone Reviews (day and night time) Steve Kite
5. Quarry Pond Fines for Embankment Chris Peoples / John Pilipchuk
6. Rock and Broken Pavement Fills Shannon Douglas

## Trenchless Installations (TI)- Clarification of Measurement and Payment

1. Unless an encasement is shown, the contractor has the choice of method. Typical methods include bore and jack, horizontal directional drilling (HDD), HDD with intercept pits, tunneling, etc.
2. An encasement pipe is shown only when a bore and jack is required (e.g., by utility owner, crossing railroad right of way, etc.). This is the only TI case where payment will be made for an encasement pipe.
3. Some TI clearly have only one feasible method. However, they will be depicted on the plan sheet the same way as those that have multiple feasible methods (unless #2 applies).
4. To ensure an effective bidding process for contractors who may be planning different methods, the quantity for payment is defined as the horizontal length of the “no dig zone”, the area where open trenching is prohibited.
5. Lump sum is not used in order to provide compensation for boring in rock (or other obstructions). The length where open trenching is prohibited is divided among two pay items, Trenchless Installation in Soil and Trenchless Installation Not in Soil. Typically, the ratio is:

Divisions 1 & 2- 90% in soil, 10% not in soil

Division 3- 70% in soil, 30% not in soil

Divisions 4-14- 50% in soil, 50% not in soil

6. The actual ratio of “in soil” to “not in soil” quantities paid will reflect the ratio of the conditions encountered during the construction. When the actual length is greater than the quantity for payment, calculate “in soil/not in soil” as follows:

Using the HDD example and an actual “in soil”= 225 LF and actual “not in soil”= 75 LF determine the percent of each.

$225/300 = 75\%$  in soil                       $75/300 = 25\%$  not in soil

Multiply the percent by the total quantity for payment.

$.75 \times 100 = 75$  LF “in soil”                       $.25 \times 100 = 25$  LF “not in soil”

The quantity for “not in soil” will be calculated based on this percent of total, regardless of its location being outside the “no dig zone” (first or last 100’).

7. Quantity overruns will only be used to account for a different ratio of "in soil"/"not in soil". **The total quantity for payment will equal the horizontal length of the area where open trenching is prohibited.**

8. The examples on this sheet show 3 possible trenchless installations for crossing a "no dig zone" 100' in length. Depending on the method, the actual trenchless length may be 100' or several times that length.

9. When establishing a bid price, the contractor must determine if the actual length will be significantly longer than the total quantity for payment. If so, this should be reflected in the bid price.

#### Example- Bore and Jack

Estimate \$100 per LF "in soil", \$150 per LF "not in soil"

Quantity for payment= 100 LF      Estimated actual length= 100 LF No multiplier needed

Bid= \$100 per LF "in soil", \$150 per LF "not in soil"

#### Example- HDD

Estimate \$75 per LF "in soil", \$125 per LF "not in soil"

Quantity for payment= 100 LF      Estimated actual length 300 LF. Use a multiplier of 3.

Bid 3x \$75= \$225 per LF "in soil", 3x \$125= \$375 per LF "not in soil"

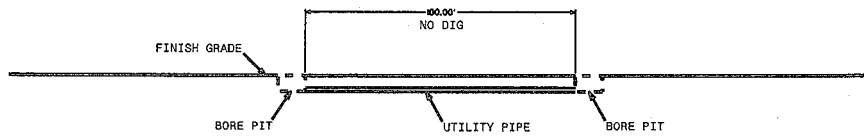
#### Example- HDD with intercept pits (pits are incidental and factored in to unit price)

Estimate \$90 per LF "in soil", \$145 per LF "not in soil"

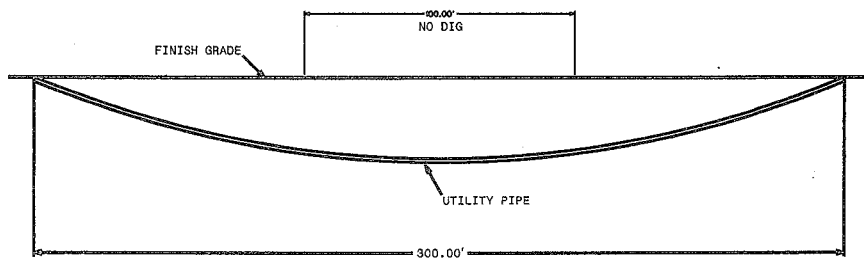
Quantity for payment= 100 LF      Estimated actual length 200 LF. Use a multiplier of 2.

Bid 2x \$90= \$180 per LF "in soil", 2x \$145= \$290 per LF "not in soil"

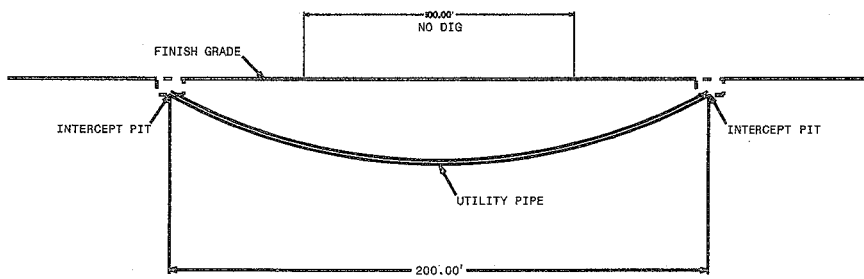
BORE & JACK (ACTUAL 100')



H.D.D. (ACTUAL 300')



H.D.D. W/ INTERCEPT PIT (ACTUAL 200')



# DRAFT

## QUARRY POND FINES IN EMBANKMENTS:

(DRAFT 06-15-16)

235

SPx Rxx

### **Description**

This specification allows the Contractor an option, with the approval of the Engineer, to use quarry pond fines (QPFs) in embankments as a substitute for conventional borrow material. Furnish and place geotextile for pavement stabilization in accordance with the contract. Geotextile for pavement stabilization is required to prevent pavement cracking and provide separation between the subgrade and pavement section at embankment locations where quarry pond fines are utilized and as directed by the Engineer.

### **Materials**

Quarry Pond Fines.

Site specific approval of QPFs material will be required prior to beginning construction as detailed in the preconstruction requirements of this provision.

The following QPFs are unacceptable:

- (A) Frozen material,
- (B) Material with a maximum dry unit weight of less than 90 pounds per cubic foot when tested in accordance with AASHTO T-99 Method A or C.
- (C) Material with greater than 80% by weight Passing the #200 sieve

Collect and transport QPFs in a manner that will prevent nuisances and hazards to public health and safety. Moisture condition the QPFs as needed and transport in covered trucks to prevent dusting. If QPFs are blended with natural earth material, follow Borrow Criteria in Section 1018 of the *Standard Specifications*.

Geotextiles.

Areas of embankment where QPFs are incorporated, Geotextile for Pavement Stabilization shall be used. If the Geotextile for Pavement Stabilization special provision is not included elsewhere in this contract, then it will be incorporated as part of the contractors request to use. Notification of subgrade elevation, sampling and waiting period as required in the Construction Methods section of the Geotextile for Pavement Stabilization special provision are not required.

### **Preconstruction Requirements**

When QPFs are to be used as a substitute for earth borrow material, request written approval from the Engineer at least ninety (90) days in advance of the intent to use QPFs and include the following details:

- (A) Description, purpose and location of project.
- (B) Estimated start and completion dates of project.
- (C) Estimated volume of QPFs to be used on project with specific locations and construction details of the placement.



# DRAFT

- (D) The names, address, and contact information for the generator of the QPFs.
- (E) Physical location of the site at which the QPFs were generated.

The Engineer will forward this information to the State Materials Engineer for review and material approval.

## Construction Methods

In accordance with the detail in the plans, place QPFs in the core of the embankment section with at least 4 feet of earth cover to the outside limits of the embankments or subgrade.

Construct embankments by placing QPFs in level uniform lifts with no more than a lift of 10 inches and compacted to at least a density of 95 percent as determined by test methods in AASHTO T-99, Determination of Maximum Dry Density and Optimum Moisture Content, Method A or C depending upon particle size of the product. Provide a moisture content at the time of compaction of within 4 percent of optimum but not greater than one percent above optimum as determined by AASHTO T-99, Method A or C.

Areas of embankment where QPFs are incorporated, Geotextile for Pavement Stabilization shall be used. See Geotextile for Pavement Stabilization special provision for geotextile type and construction method.

## Measurement and Payment

*Borrow Excavation* will be measured by truck volume and paid in cubic yards in accordance with Article 230-5 of the *2012 Standard Specifications*. As an alternate weigh tickets can be provided and payment made by converting weight to cubic yards based on the verifiable unit weight.

Where the pay item of *Geotextile for Pavement Stabilization* is included in the original contract the material will be measured and paid in square yards. Geotextiles will be measured along subgrades as the square yards of exposed geotextiles before placing base courses. No measurement will be made for overlapping geotextiles. The contract unit price for *Geotextile for Pavement Stabilization* will be full compensation for providing, transporting and placing geotextiles. Where the pay item of *Geotextile for Pavement Stabilization* is not included in the original contract then no payment will be made for this item and will be considered incidental to the use of QPFs in embankment.

Where allowed, payment will be made under:

### Pay Item

Geotextile for Pavement Stabilization

### Pay Unit

Square Yard

**Page 2-24, Article 235-5 MEASUREMENT AND PAYMENT**, add the following:

*Borrow Excavation* for surcharge material and additional material for maintaining embankment grade elevations will be measured and paid in accordance with Article 230-5. *Unclassified Excavation* for surcharge material, additional material for maintaining embankment grade elevations and removing surcharges will be measured and paid in accordance with Article 225-7. When there is no pay item for *Borrow Excavation* or *Unclassified Excavation* in the contract, surcharge material and removing surcharges will be included in the lump sum payment for *Grading*. Additional material for maintaining embankment grade elevations will be paid as extra work in accordance with Article 104-7.

*Embankment Settlement Gauges* will be measured and paid in units of each. Settlement gauges will be measured as one per gauge location. The contract unit price for *Embankment Settlement Gauges* will be full compensation for fabricating and installing settlement gauges including placing and compacting fill material around gauges, adding pipes and couplers until embankment monitoring ends and any incidentals necessary to monitor settlement. No payment will be made for interfering with the Contractor's operations due to embankment monitoring or damaged settlement gauges as determined by the Engineer.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Embankment Settlement Gauges	Each

**ROCK AND BROKEN PAVEMENT FILLS:**

(2-16-16)

235

SP2 R85

Revise the *2012 Standard Specifications* as follows:

**Page 2-22, Article 235-2 MATERIALS**, add the following after line 19:

<b>Item</b>	<b>Section</b>
Geotextile for Rock and Broken Pavement Fills, Type 2	1056

Provide Type 2 geotextile for filtration geotextiles. Use rip rap and No. 57 stone from either a quarry or onsite material to fill voids in rock and broken pavement fills. Provide small and large size rip rap with stone sizes that meet Class A and B in accordance with Table 1042-1 and No. 57 stone with a gradation that meets Table 1005-1 or use similar size onsite material approved by the Engineer.

**Page 2-23, Subarticle 235-3(B) Embankment Formation**, lines 18-19, delete the third sentence in the seventh paragraph.

**Page 2-23, Subarticle 235-3(B) Embankment Formation**, lines 21-23, replace the eighth paragraph with the following:

Before placing embankment fill material or filtration geotextiles over rock and broken pavement, fill voids in the top of rock and broken pavement fill with rip rap and No. 57 stone. Place and compact larger rip rap first followed by smaller rip rap. Then, fill any remaining voids with No. 57 stone so geotextiles are not torn, ripped or otherwise damaged when installed and covered. Compact rip rap and No. 57 stone with tracked equipment or other approved methods. Install filtration geotextiles on top of rock, broken pavement, rip rap and No. 57 stone in accordance with Article 270-3 before placing remaining embankment fill material.

Remove any rocks, debris or pavement pieces from the roadbed larger than 2" within 12" of the subgrade or finished grade, whichever is lower.

**Page 2-24, Article 235-5 MEASUREMENT AND PAYMENT**, line 13, add the following to the end of the first paragraph:

- Payment for rip rap, No. 57 stone and geotextiles to construct embankments with rock and broken pavement fills will be considered incidental to the work in Sections 225, 226, 230 and 240.

#### **PIPE INSTALLATION:**

(11-20-12) (Rev. 8-18-15)

300

SP3 R01

Revise the *2012 Standard Specifications* as follows:

**Page 3-1, Article 300-2, Materials**, line 15, in the materials table, replace "Flowable Fill" and "Geotextiles" with the following:

<b>Item</b>	<b>Section</b>
Flowable Fill, Excavatable	1000-6
Grout, Type 2	1003
Geotextiles, Type 4	1056

**Page 3-1, Article 300-2, Materials**, lines 23-24, replace sentence with the following:

Provide foundation conditioning geotextile and geotextile to wrap pipe joints in accordance with Section 1056 for Type 4 geotextile.



# AEC/NC/DOT Highway Subcommittee

<u>Name</u>	<u>Org/Firm</u>	<u>e-mail</u>
Terry Canales	DOT: CS&D	tcanales@ncdot.gov
Phillip Johnson	DOT: CONST. UNIT	pjohnson@ncdot.gov
JONATHAN BIVENS	S.T. WOOTEN CORP.	Jonathan@STWCOAR.COM
BRUCE HAZLE	Balfour Beatty	bhazle@bbius.com
MARIL PERKINS	T.A. LEVING COMPANY	MPERKINS@TALOVING.COM
SHANNON DOUGLAS	BAZEMORE CON. CO.	SDOUGLAS@BAZEMORECONTRACTING.COM
Jeff Allen	Fred Smith Co.	jeff.allen@fredsmithcompany.net
Kevin Thomas	Lynn Thomas Grading	kthomas@lynnthomasgrading.com
Judith Corley-Lay	DOT Pavement	jlay@ncdot.gov
BERRY JENKINS	CAROLINAS AGC	bjenkins@carolinagc.org
Steve Kite	DOT - WZTCS	skite@ncdot.gov
Chris Peoples	DOT - M&T	cpeoples@ncdot.gov
MEHDI HAERI	DOT - M&T	mhaeri@ncdot.gov
Brad Hibbs	FHWA	bradley.hibbs@dot.gov
JOHN PILIPCHUK	NCOT - GEOTECHNICAL	JPILIPCHUK@NCOT.GOV
Scott Hidden	"	shidden@ncdot.gov
CHRIS BYERS	Young & McQueen	cbyers@youngmcqueen.com
Brandon Hill	Propst Construction Co	bhill@propstconstruction.com
Mickey O'Shields	Sloan Construction	oshieldsm@sloance.net
Andy Gay	NC DOT - Contract Office	agay@ncdot.gov
Carl Barclay		