1250000 – EXCAVATION FOR STRUCTURES AND PIPE
COMMENTS/RESPONSES FROM INDUSTRY REVIEW

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Comments:

I disagree with the philosophy of moving away from Lots and calling them "Sections". It most likely will cause more problems than it fixes. Lots are standard term and need to be understood by those working in this industry. It is the basis of statistically based acceptance specifications and those in the field are more than capable of understanding these concepts. I have been teaching these basic statistical concepts for years in the CTQP courses and never get questions on what a Lot is, but rather what is the size of the Lot? Changing the terms mid-stream will cause confusion in the field, especially between different material areas. A Lot is a Lot is a Lot, whether it is in linear feet, cubic yards or tons depending on the type of material.

Also, there needs to be provision for accepting shorter segments. In changing the Lots to consecutive feet and increasing the distance/total number of tests - how does one handle a project that is built in short segments? Specifically, if the phasing of the project calls for building an area up that is less than the consecutive footage requirement, how do you accept lower lowers of embankment, sub base or base? The same situation applies to areas that in the interest of getting the project built faster – the contractor wants to work smaller sections – is the contractor then placed at high risk in covering up lower layers? Why can't the layers be accepted as they are completed regardless of the length – if it will get the project done faster? If we can reduce the risk to both the contractor and the agency, the projects will undoubtedly be built right (quality) and faster and cheaper in the process. Seems the way that is proposed will be a paperwork nightmare.

There appears to to be a push toward larger Lots and longer consecutive distances before reduced testing is an option. My question to the Department is how many projects are actually phased this way anymore, or is the trend to have projects built in shorter sections? Any specification that is developed must be flexible enough to work in both long continuous runs of production and short discontinuous runs of production. I'd go further to recommend to the Department that they consider looking at how they are doing business now (compared to 10 years ago) in terms of the type/scope/phasing of projects to see if the current specifications are applicable to the majority of that type of work.

Response

1. The lot language is reinstated
2. Lot lengths will remain a minimum of 300 feet or the full length of the embankment. Non-traffic construction areas will be allowed to extend up to a Day's Production. The purpose of this specification change is to remove restrictions that do not add value to contruction.
3. Larger sections of construction are allowed in Non-Traffic construction to reduce testing requirements. Traffic construction sections are not expanded.

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Comments:

1. 125-8.1.6: Test strip has been deleted from 12 inch lift. Suggest retain test strip.
2. 125-9.1.1 to be consistent delete *or two sections* in .....*reduce the QC density testing to one test every 1000 feet or two sections*

Response:

1. The test strip has been reinstated.
2. Lot Language has been reinstated.

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Comments:

1. The specifications require 1 verification test per 4 passing QC tests. From our experience, there are often multiple pipe crews working at the same time, with 1 QC technician performing testing for all the crews. We have seen project inspection staff interpret the specification in two separate ways: 1. A verification test run per four passing QC tests within a run of pipe and 2. A verification test run per four consecutive passing QC tests irrespective of where they were performed (based upon 4 consecutive tests listed in the LOT index of the density logbook). The second situation may, and has resulted in, sections of pipe not having a single verification test for 6-9 lifts of backfill placed, while other sections of pipe have multiple verification tests. Clarification of this issue should be considered so that the Department's intent is achieved.

2. I also am concerned that on some projects JPA work falls under the jurisdiction of the particular utility involved. QC testing is performed as required by the utility and often has not been included in the density logbook and the CEI performs no verification testing. Often the utility work involves larger diameter pipe and deeper excavations yet receives less testing than other contract pipe (especially if a trench box is used). Some consideration and clarification of the Department's desires in the specifications would be helpful.

Response:

1. Added language stating “on consecutive lots”, this implies consecutive linear or vertical Lots.
2. There are differences in the departments procedure for managing JPA’s. The technical special provisions should provide the details of verification testing and acceptance.

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Comments:

I have reviewed the proposed changes to section 125 and offer the following comments:

1. 125-8 – I can only see problems with requiring the engineer’s approval to proceed to the next lift. If the issue here is that the engineer needs notification of passing tests then perhaps we can address that directly. A statement somewhere else may be better suited.
Thanks for the clarification of “same compactive effort”.

2. 125-8.1.6 – I can see no value to the 6” maximum lift thickness. The testing will determine whether or not the material can be placed in 12” lifts. Can we please move to 12” lift where ever it can be achieved?

3. 125-8.3.3.3 – Same issue, if the material can be compacted and tested in 12” lifts, it should be allowed any where. Again the testing will determine the thickness and since verification testing will be done on a random lift, it is in the contractors best interest to compact all lifts the same.

4. 125-9.1 – Reduced testing. I guarantee that this will turn into measuring and adding all the lineal feet between structures to determine 3000 feet. I recommend changing his back to 12 consecutive tests. This spec can refer back to 120 and the definition of 500 lineal feet per lift.

5. 125-9.3 – This table can be deleted and summarized in a paragraph such as the suggestion I made for 120.

Response:

1. This is not mentioned in 125-8. Conversation with Mr. Price indicated that the comment refered to 125-9.1.1. This has been revised to allow no more than one LOT over an untested LOT.
2. The proposal to allow 12" lifts without a test section has been retracted. The intent is for the contractor to bid the project using 6" lifts. The specifications have provisions to allow 12 inch lifts where it is considered practicle.
3. To ensure thorough compaction to support the structures and pipe. Thicklifts are impractical under pipe haunches.
4. Changed to 6 consecutive Lots.
5. Tables have been added throughout the specification for uniformity.

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Greg Schiess
FHWA

Comments:

1. 125-8.1 - this concept needs to be added to 120 and others to ensure the verfication of similar operations…not just various completed embankments.

2. 125-8.1.6 – "(thick lifts)" is not needed.

3. 125-9.1.1 - this should be 6 consecutive sections. Why was the last sentence added? If the Iv shows non spec the FDOT should have the right to increase the qc frequency.

Response:

1. The same compactive effort concept was defined to allow material on either side of a pipe to be considered one lot. We will modify the materials manual to instruct the engineer that if construction methods change then verification approval will be needed for the different methods of construction regardless the number of lots.
2. This has been removed
3. 125-9.1.1 is changed to read 6 consecutive Lots. The last sentence was removed.

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Comments:

Following are comments from State Construction Office (David Sadler and Stefanie Maxwell) for specs 120, 125, 160, 161 and 200. Also, we agree with a lot of the comments made by FHWA, so we tried not to duplicate.

Section 125: Excavation for Structures and Pipe

Keep LOT language.

Response:
Lot language has been retained.

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