

1250100 EXCAVATION FOR STRUCTURES AND PIPE
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

Larry Jones
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Comments: (4-5-13)

The changes to 125-4.2 Earth Excavation need to be removed. (do not delete 125-4.2.2 Foundation Piles.) The deleted text needs to remain for the items specifically listed in 125-1 (e.g. retaining walls, head walls, drop inlets, etc.) which could be pile supported.

Response: (as per Juan Castellanos, originator): Agree. We concur to keep 124-4.2.2 since we may have pile for structures that are not bridges.

Change made prior to Industry.

Eddy Scott
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Comments: (4-10-13)

In 125-4.4 (Pipe Trench Excavation) it states “Excavate trenches for pipe culverts and storm sewers to the...” Could this be changed to “Excavate trenches for pipe to the...” There are other types of pipe beside these to which this spec is applicable (various Utility Pipe for example). We’ve ran across this on various Utility Projects and would like to have it corrected. I believe there may be other references similar references in 125 that could also be corrected as well.

Response: Agree. Change made in 125-4.4. Other Sections not included in this revision will be changed at a later date.

Change made.

Cheryl Hudson
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Comments: (4-11-12)

1. Suggest the last paragraph of 125-4.1 (moved from 125-4.4 to 124-4.1) be moved to the beginning of the section (not the end) to put it in the order of application.

125-4.1 Requirements for all Excavation: ~~Excavate foundation pits to permit the placing of the full widths and lengths of footings shown in the Plans, with full horizontal beds. Do not round or undercut corners or edges of footings.~~ *Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of pipes and box culverts elevations. Remove muck or other soft material to a depth necessary to establish a firm foundation.* Perform all excavation to foundation materials, satisfactory to the Engineer, regardless of the

elevation shown in the Plans. ~~Perform all excavation in stream beds to a depth at least 4 feet below the permanent bed of the stream, unless a firm footing can be established on solid rock before such depth is reached, and excavate to such additional depth as may be necessary to eliminate any danger of undermining. Wherever rock bottom is secured, excavate in such manner as to allow the solid rock to be exposed and prepared in horizontal beds for receiving the masonry. Remove all loose and disintegrated rock or thin strata. Have the Engineer inspect and approve all foundation excavations prior to placing any structure or masonry concrete.~~

~~Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of pipes and box culverts elevations. Remove muck or other soft material to a depth necessary to establish a firm foundation.~~

Response: Change made to follow logical order of construction. Paragraph in question moved to after the first sentence.

Change made.

2. I know there have been updates to OSHA, but am not that familiar with the document. Are you certain the reference is still correct? (125-1.1)

Response: Yes, this is the correct reference. No change made.

Thomas Woodward
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Comments: (4-26-13)

The changes in the last sentence of 125-4.1 could be interpreted to mean we cannot lay the next joint of pipe or precast box culvert without specific approval of the foundation by the engineer. This would require continuous inspection and/or cause delays which cost money. The approval would probably have to be documented for each piece of pipe. All of this costs money. What are we fixing with this change?

Response: The sentence “ Have the Engineer inspect...” will be removed.

Change made.

No info provided

Comments: (4-26-13)

Paragraph 125-4 seems to imply the Engineer would need to approve all bedding prior to placing each section of pipe or box culvert. Is this the intent?

Response: Please see the previous response.

Douglas Ipolito
Johnson-Davis, Inc.

Comments: (5-2-13)

We have reviewed the proposed specification 1250100 and have the following comments/questions.

1. The last line in Section 125-4.1 (see below) would require the Engineer to approve the foundation for every Inlet and Box Culvert as well as for every stick of drainage pipe.

Have [c1] the Engineer inspect and approve all foundation excavations prior to placing *any structure or masonry concrete*.

Response: Please see previous response.

2. Also, by moving comment c5 from 125-4.4 to end of 125-4.1 it has occurred to us that the *“Removal of muck or other soft material to a depth necessary to establish a firm foundation”* should have a limit before this work becomes payable as removal of unsuitable material and consideration should given to situations when excavation to a “depth necessary” results in entering the water table which, as you are well aware, creates an entirely new and unforeseen condition.

All Jobs

→ ~~Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of pipes and box culverts elevations. Remove muck or other soft material to a depth necessary to establish a firm foundation.~~

→ **125-4.2 Earth Excavation:**

→ **125-4.4 Pipe Trench Excavation:** Excavate trenches for pipe culverts and storm sewers to the elevation of the bottom of the pipe and to a width sufficient to provide adequate working room. Remove soil not meeting the classification specified as suitable backfill material in 125-8.3.2.2, to a depth of 4 inches below the bottom of the pipe elevation. ~~Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of the pipe elevation. Remove muck or other soft material to a depth necessary to establish a firm foundation.~~ Where the soils permit, ensure that the trench sides are vertical up to at least the mid-point of the pipe.

Comment [c5]: From 125-4.4 modified to include box culverts

Comment [c6]: Move to 125-4.1 to cover also for box culverts

Response: This was already existing language for pipe trench excavation under 125-4.4. It was moved it to 125-4.1 because it applies to box culverts as well. On the other hand, when an unforeseen condition occurs it is to be handled in accordance with section 4-3. To address the concern raised by the sentence in question we changed it to “Remove muck or other soft material to the depth indicated in the Plans or as directed by the Engineer”.
Change made.

D5 Construction (Jeff Oakes)
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Comments: (5-6-13)

1. **Section 125-4.1, second paragraph:** Who makes the determination call on the materials – Contractor or DOT? Recommend setting a depth or put someone in control of depth.

125-4.1 Requirements for all Excavation: ~~Excavate foundation pits to permit the placing of the full widths and lengths of footings shown in the Plans,~~

~~with full horizontal beds. Do not round or undercut corners or edges of footings. Perform all excavation to foundation materials, satisfactory to the Engineer, regardless of the elevation shown in the Plans. Perform all excavation in stream beds to a depth at least 4 feet below the permanent bed of the stream, unless a firm footing can be established on solid rock before such depth is reached, and excavate to such additional depth as may be necessary to eliminate any danger of undermining. Wherever rock bottom is secured, excavate in such manner as to allow the solid rock to be exposed and prepared in horizontal beds for receiving the masonry. Remove all loose and disintegrated rock or thin strata. Have the Engineer inspect and approve all foundation excavations prior to placing any structure or masonry concrete.~~

Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of pipes and box culverts elevations. Remove muck or other soft material to a depth necessary to establish a firm foundation.

Response: Both. Contractor is responsible to perform excavation to foundation materials satisfactory to the Engineer. Contractor's QC personnel are supposed to ensure that the excavation reaches acceptable foundation materials. Similarly, the Engineer personnel is required to inspect and has the right to request additional excavation if needed. Also refer to the response to the previous response.

2. Section 125-4.1, last paragraph: How will this be paid for because it does not reference payment?

Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of pipes and box culverts elevations. Remove muck or other soft material to a depth necessary to establish a firm foundation.

Response: Measurement for payment is described in 125-13 and compensation will be provided as outlined in 125-14 when no unforeseen materials are removed and the soft material is within the excavation limits indicated by the Plans. For unforeseen materials or unexpected excavation depths we need to refer to sections 4-3.

3. 125-4.2.2 Removal of Obstructions: Why could this not be under 4-3.2 for extra work instead of doing an SA?

125-4.2.3-2 Removal of Obstructions: Remove boulders, logs, or any unforeseen obstacles encountered in excavating. Compensation will be in accordance with the requirements of 4-3.4.

Response: Change made to refer to 4-3 (in lieu of 4-3.4).
Change made.
