

Specification Section 455

Subarticle 455-2

ORIGINATION

Date: 6-2-2025

Name: Rodrigo Herrera

Email: Rodrigo.herrera@dot.state.fl.us

COMMENTARY

The previous version of the Specification had significant updates implemented regarding pile driving, particularly in the manner that payment is made for the various activities required for pile installation. The proposed updates to the current version are mostly clarification as to what those activities are, and how they are paid for.

INTERNAL COMMENTS AND RESPONSES

(Please note all comments and responses are verbatim as received. The Specifications Office does not alter typos or grammar.)

BLACK = Comment **BLUE** = Specifications Response **GREEN** = Change Made to Specification

Name: Keith Waugh

Date: 6-30-25

COMMENT: 455-5.18 I'm not sure why submittal of driving and testing records within one day is necessary. FDOT will not determine if Verification Testing is needed until submittal of the Foundation Certification for the completed foundation unit. Failure to submit driving records within one day will allow the CEI to issue warning for "non-compliance" or "failure to submit documents in a timely manner". 455-11.8 Splices to incorporate piles that were driven below cutoff into the structure should be paid as unforeseen work.

RESPONSE:

(455-5.18) The revision should minimize the potential for unnecessary Verification Testing. In projects that require pile driving beyond initial drive, receiving the data for each phase of pile installation (initial drive, set checks, redrives) provides the District Geotechnical Office with sufficient time for evaluation and should reduce the number of unnecessary VT requests. Note that the Department still has only one working day, excluding weekends and Department observed holidays, after receipt of the Certification Package to determine if any VT is necessary.

(455-11.8) Concur, if the typical process of pile installation is followed, meaning stopping the drive prior to reaching cut-off to allow for either set-checks or redrives, as the case may be. If the process is followed and the authorized length proves to be short, the excess effort should be paid for as unforeseen work. The scenario should be covered under the existing language in the following two places: The first paragraph, which deals with concrete piles, and states "Unplanned splices and build-ups required to achieve pile resistance will be paid for as unforeseen work." And the second paragraph's language "Steel pile splices required for the purpose of obtaining lengths longer than the lengths originally authorized by the Engineer will be paid for as unforeseen work."

ACTION TAKEN: No action required

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COMMENTARY

The previous version of the Specification had significant updates implemented regarding pile driving, particularly in the manner that payment is made for the various activities required for pile installation. The proposed updates to the current version are mostly clarification as to what those activities are, and how they are paid for.

INDUSTRY COMMENTS AND RESPONSES

(Please note all comments and responses are verbatim as received. The Specifications Office does not alter typos or grammar.)

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Name: John Bosnoian

Email: jbosnoian@hntb.com

Date: 7-25-25

COMMENT: 455-5.12.3 Temporary Piles - Does this apply to temporary work structure piles that if they were to fail, the objects on the work structure would impact adjacent roadways? As its currently written it seems to indicate temp piles for a temp bridge accessible to the public.

RESPONSE: Yes, the existing language covers the scenario described above since that would affect public safety. The proposed revision requires a certification package that meets the requirements of Section 455-5.19.

ACTION TAKEN: No action required.

Name: Leo Rodriguez

Email: Leo@CentroConsultingGroup.com

Date: 8-12-25

COMMENT: The Department should consider including the conventional 30" piles in the reduction of driving stresses. The conventional 30" piles also have the voided center and subjected to hoop stresses.

RESPONSE: In general, the issues that have been reported to Central Office with regards to conventional 30-inch piles have been related to the development of time-dependent internal pressure within the void, rather than observed cracking during driving operations. The high-moment 30" piles which have a void that extends all the way to the pile head, and cylinder piles, have been observed to occasionally develop longitudinal cracking during driving, and are covered under the recent update.

ACTION TAKEN: No action required.

Name: Davidge Turley
Email: davidge.turley@dot.state.fl.us
Date: 8-12-25

COMMENT: Recommend rewording 455-5.3 "End of initial drive (EOID) is defined as meeting the requirements of 455-5.9 and achieving the required nominal resistance at or below minimum tip, practical refusal, the authorized pile length driven to 12 inches above cut off, or the bearing resistance required for soil set-up in accordance with 455-5.11.7."

Recommend rewording 455-5.12.3 including the word "foundation" in front of certification package.

With the addition of 455-5.14.1 Remote monitoring, the PIP form should be updated with a check box if the intent is to remote monitor on a project and how it will be provided.

Recommend rewording the last paragraph of 455-5.14.1 If the Engineer determines that remote monitoring "does not provide the same level of oversight" to on-site monitoring, then a DTO or DTE shall be on site for dynamic load testing.

455-5.15.3 the verbiage for pile lengths recommended letter should be changed to "production pile length letter" to be in line with CPAM 10.1

455-10.1 "Notify the Engineer of any test pile driving and production pile driving at least one week five working days prior to beginning the installation operations of any pile" This may be in conflict with 455-5.12.1 and should be checked to make more concise or referenced in same area.

455-11.5 It should be defined that the dynamic testing for the driving to get to EOID and that redrives authorized by the Engineer are to be paid for under pay item 455-137. Some of this verbiage is vague and may lead to load tests getting paid for that may not be warranted.

Recommending rewording the last sentence of 455-11.8 to "Unplanned splices and build-ups required to achieve the pile resistance beyond the authorized pile lengths will be paid for as unforeseen work."

455-12.5.3 Include at the end of the sentence “on redrives authorized by the Engineer”.

RESPONSE:

455-5.3: Suggested changes were implemented.

455-5.12.3: Suggested changes were implemented

455-5.14.1 (first instance): The comment does not concern the Specification.

455-5.14.1 (second instance): The language as proposed is expresses the intent clearly.

455-5.15.3: Suggested update adopted.

455-10.1: The language in this section serves to notify of the intent of pile driving, while 455-5.12.1 is addressing methods to determine pile capacity.

455-11.5: The title of the Pay Item is “Dynamic Load Test”. No action required.

455-11.8: Language implemented.

455-12.5.3: The concern the comment brings up is covered under 455-11.9.3.

ACTION TAKEN:

455-5.3: Language updated.

455-5.12.3: Language updated.

455-5.14.1 (first instance): Will be coordinated with the Construction Office.

455.5.14.1 (second instance): No action required.

455-5.15.3: Update implemented.

455-10.1: No action required.

455-11.5: No action required.

455-11.8: Suggested update implemented.

455-12.5.3: No action required.

Name: Brian Blair

Email Address: brian.blair@dot.state.fl.us

Date: 8-20-25

COMMENT: Section 455-5.11.4, Item No. 1: In the set check definition, it is unclear why it is necessary to reference the time periods specified in Sections 455-11.9.1 and 455-11.0.2, which address payment separately. Recommend removing the references since set checks can be performed at any time and are not limited to the initial day of driving and day after.

Section 455-5.11.4: Definitions for set checks and redrives are confusing based on the time references in Sections 455-11.9.1 and 455-11.9.2, since the timeframes are different for test piles and production piles. Consider adding clarity to the definitions in Section 455-5.11.4 to better distinguish between set checks and redrives and eliminating the time references from the definitions here and let payment be addressed separately in 455-11.9.1 and 455-11.9.2.

Sections 455-11.2.1 and 455-11.3.1 and/or 455-11.8: Clarify that if splices are necessary to achieve the authorized length in the plans due to transport issues, the cost of the splice shall be included in the unit price of the pile. (In other words, it won't be paid at the pile splice unit rate in the contract.)

455-11.4: Add "splice" after "...will be paid for as test piles". Does "splice" need to be added after "...will be paid for as regular piling."?

455-11.8: Suggest revising "Unplanned splices and buildups required to achieve pile resistance will be paid for as unforeseen work." to "Unplanned splices and buildups required to achieve pile resistance will be paid as unforeseen work under the contract pay items." since we now have several individual pay items that have been added.

RESPONSE:

455-5.11.4 (first instance): Set checks are time-limited and are performed at no additional cost to the Department. A set-check operation required beyond the time limits outlined in the Specification is referred to and paid for as a Redrive.

455-5.11.4 (second instance): The text referencing the time limits associated with set checks was implemented for clarity, as a means to relay to the reader that there is a time component to the operation.

455-11.2.1, 455-11.3.1 and 455-11.8: Clarifying language was added to 455-7.1 and 455-11.8.

455-11.4: The language in that sentence refers to pile length.

455-11.8: As discussed with the District Geotechnical Office, the current language suffices.

ACTION TAKEN:

455-5.11.4 (first instance): No action required.

455-5.11.4 (second instance): No action required.

455-11.2.1, 455-11.3.1 and 455-11.8: Clarifying language was added to Section 455-7.1.

455-11.4: No action required.

455-11.8: No action required.

Name: Osvaldo Vargas, P.E.

Email: ovargas@tierraeng.com

Date: 8-20-25

COMMENT: Section 455-11.5, Dynamic Load Tests, indicates that additional payment will be made for dynamic load tests used for the redrive of test and production piles under Pay Item No. 455-137. Designers should be made aware of this change and instructed to include the number of anticipated redrives with the number of dynamic load tests under pay Item no. 455-137. So far, since Item 455-137 was introduced last year, the number of items included under it has only been the number of test and production piles included on the plans; redrives were left out although it was assumed that any redrives will be instrumented with dynamic load testing equipment.

RESPONSE:

455-11.5: The process of updating the Basis of Estimates is already in progress and was conducted in tandem with the Specification updates. The language in the BOE will inform Designers of the items that have to be included in the pay item. Additionally, efforts have been made to disseminate the information including presentations on the two instances of the Transportation Symposium, as an attempt to further elaborate on that point.

ACTION TAKEN: No action required.