

Specification Section 455

Subarticle 455-2

ORIGINATION

Date: 6-9-2026

Name: Rodrigo Herrera

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COMMENTARY

To ensure consistency between the conventional and design-build versions of the Specification, to address time requirements for review of construction documents, update the limits on stress levels for cylinder piles, and ensure adequate use of polymer slurry during drilled shaft excavation.

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: Jon Droge

Date: 6-26-2026

COMMENT: 455-2.8 -5 - test data requirements need to be specified. -10 cross sonic logging results – as required

RESPONSE:

455-2.8 (5): Because the means of deriving skin friction is not limited to the collection of strain readings from within the pile, the current language requires that any other data used in that process also be submitted to the Department. The proposed verbiage is applicable in the sense that it doesn't limit the data to be submitted to the usual strain gauge output.

455-2.8 (10)

CSL results will not be required when CSL tests were not performed. The proposed language covers that scenario adequately.

ACTION TAKEN:

No action required at this time.

Name: Debroah Ihsan

Date: 6-29-2026

COMMENT: Issue 1: Diesel Hammer Overheating During Continuous Pile Driving Field staff consistently report significant overheating of diesel hammers when contractors drive an entire

bent or pile cluster within a single workday. Unlike past practice—where 1 to 3 piles were driven per day—contractors now frequently design large templates enabling 8 or more piles to be driven consecutively to accelerate production and reduce cost. Continuous, full day driving from sunup to sundown causes diesel hammers to reach elevated temperatures, which results in:

- Reduced hammer energy output
- Lower driving efficiency
- Longer drive times
- Increased mechanical wear
- Diminished reliability of driving resistance measurements

Proposed Modification to Specification 455 5.11.1 To mitigate overheating and documentation issues, the following addition is recommended at the end of Paragraph 1 of 455 5.11.1 General:

Proposed Additional Sentence: “During summer months, the maximum number of concrete piles permitted to be driven within any 24 hour period shall be limited to four (4) piles per location.”

Rationale: • Provides adequate cooling intervals for diesel hammers, ensuring consistent energy transfer and reliable driving resistance measurements.

RESPONSE:

The Department’s adoption of 100% dynamic load testing of driven piles ensures that the elements are driven to the required resistance.

ACTION TAKEN:

No action required at this time.