

STATEWIDE CRITICAL REQUIREMENT LIST – FISCAL YEAR 2016/2017

Quality Assessment Category Number 9 Structure Foundations

PILES

1. Does the CEI staff ensure that pile driving requirements as outlined in Spec 455 and as established by the Geotechnical Engineer in reference to bearing penetration, pile and hammer cushion, blow count criteria, practical refusal, maximum strokes and equipment for driving has been complied with? Do the project records, the pile driving log and a field visit verify this? [Spec.455-5]
2. Does the CEI staff inspect prestressed piles for defects as soon as possible upon delivery to the project site? Are defects reported to the Project Administrator as soon as possible but, in any case, prior to use? Have the width, length, termination points, and precise location for any cracks or other defects been properly documented? Have the cause and need for correction of defects been addressed appropriately? Do project documentation and a field visit verify the aforementioned? [Good Practice]
3. Does the CEI enforce the requirement that the contractor shall provide and maintain in working order an approved device to automatically determine strokes when driving with Open Ended Diesel hammers or energy/equivalent strokes when driving with hydraulic hammers?
4. Does the CEI enforce that the proper number of lifting points and distances are used for concrete piles, Piles must also be stored properly. [Spec. 455-7 & Standard Index 20600]
5. Does the CEI ensure the final pile top elevation and alignment are within tolerances?

ALL DRILLED SHAFTS INCLUDING SHAFTS UNDER MISCELLANEOUS STRUCTURES

6. Does the CEI staff ensure the methods and equipment for drilled shaft construction are consistent with the contract plans and the approved drilled shaft installation plan and ensure proper alignment, cleanliness of shaft, over reaming, and slurry mixtures have been maintained and documented as required by contract documents? Do project records including the drilled shaft logs and a field visit verify this? Try to visit during drilled shaft installation if possible. [Spec. 455-15]
7. Does the CEI staff ensure that Drilled shaft concrete operations are consistent with slump loss test results, limits, pump requirements, curing requirements and duration of placement limits as outlined in Specs 346, 400 and 455? Does the CEI ensure that the concrete is over-poured until good concrete is evident? Do project records including the drilled shaft logs and a field visit verify this? [Spec. 455-17]
8. Does the CEI staff verify that the temporary casing in drilled shafts supporting miscellaneous structures provided at least one foot above the ground surface to at least five feet below the ground surface [455-15]?
9. Does the CEI verify that the proper reinforcement cage is assembled according to the plans, indexes or specifications with the proper number and dimension of bars, with the proper number, type and size of spacers, and that the number, length, top and bottom of the CSL tubes are according to the specifications? [Spec. 455-16]

10. Does the CEI enforce that the shafts are over-reamed when the excavation time exceeds the limits indicated in the specifications? [Section 455-15.11.5]

11. Does the CEI verify that the Contractor insert simulated or mock probes in each cross-hole-sonic access tube prior to concreting to ensure the serviceability of the tube? Does the CEI verify that the Contractor fills access tubes with clean potable water and recap prior to concreting? The Contractor must repair or replace any leaking, misaligned or unserviceable tube prior to concreting [Section 455-16.4].

AUGER CAST PILES

12. Auger Cast Pile Installation Plan (ACPIP): Have an approved copy of the ACPIP on site. [Spec. 455-47]. Verify the auger flights are of the proper diameter and length, continuous and without breaks and gaps.

13. Ensure the demonstration Pile is performed successfully prior to the start of production piles [Spec. 455-39]. Document demonstration pile and production pile activities in the Auger Cast-in-Place Pile Installation Record (Form 700-011-03) and note problems in the Daily Report of Construction.

14. Ensure the pump is properly calibrated [455-42] and an accurate calibration factor in units of volume/stroke is obtained. Pump calibration must be performed prior to the installation of the demonstration pile, immediately after any significant pump maintenance or repair is performed or at any time the inspector suspects the pump is operating differently from the last calibration.

15. Ensure that at least 5 ft of head is established before withdrawing the auger [455-44, item 10].

16. Make sure Contractor re-drills and re-grouts in accordance with the specifications, when the return depth is less than 5 ft [455-44, item 11], when grouting is interrupted by any reason [455-44, item 11], or when the minimum over pour requirements are not met [section 455-44, item 12] in any segment of the pile.