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| CIDH Pile Preconstruction Meeting | | Date: | Project Stamp: |
| Agenda / Minutes | | Time: | |
| | | Location: | |
| Facilitator: | Structure Representative: | | |
| Invitees: | <p style="text-align: right;">By phone:</p> Resident Engineer: Assistant Structure Rep.: Foundation Testing Branch Rep.: CIDH Pile Mitigation Committee Rep.: Structural Designer: Geotechnical Designer: Contractor's Project Manager: Drilling Subcontractor's Project Manager: Project Superintendent: Drilling Subcontractor's Superintendent/Foreman: Reinforcing Steel Subcontractor's Foreman/Superintendent: | | |
| Purpose | Establish contacts and communication protocol for the contractor, the engineer, and their representatives involved in CIDH pile design and construction, and to afford all parties a common understanding of the construction process, acceptance testing, and mitigation process of CIDH piles. | | |

| Time | Topic* | Who |
|-------------|--|------------|
| | 1. Welcome and Self Introduction | |
| | 2. Project Background | |
| | 3. Pile Installation Plan | |
| | 4. Emergency Plan | |
| | 5. Acceptance Testing | |
| | 6. Pile Design Data Form | |
| | 7. Mitigation Process | |
| | 8. Timelines and Critical Path Activities | |
| | 9. Special Structural, Geotechnical, and Corrosion Design Requirements | |
| | 10. Future Meetings | |
| | 11. Safety | |
| | 12. Adjourn Meeting | |

* These topics are reminders only. Items will or will not be included depending upon their applicability to a specific project.

Topic 1: Welcome and Self Introduction

- a. Attendance Sheet (see attachments)
- b. Introduction statements about each person's responsibilities during construction of CIDH piles.

Topic 2: Project Background

Topic 3: Pile Installation Plan

Pile Installation Plan Submittal Review:

- a. Concrete mix design, certified test data, and trial batch reports.
- b. Drilling or coring methods and equipment.
- c. Proposed method for casing installation and removal, if necessary.
- d. Plan view drawing of pile showing reinforcement. Include inspection pipes on the drawing, if inspection pipes are required.
- e. Methods for placing, positioning, and supporting bar reinforcement and inspection pipes.
- f. Methods and equipment for determining:
 - f.1 Depth of concrete
 - f.2 Theoretical volume of concrete to be placed, including the effects on volume if casings are withdrawn
 - f.3 Actual volume of concrete placed (see Attachment No. 5)
- g. Methods and equipment for verifying that the bottom of the drilled hole is clean before placing concrete. How much loose material will be permitted?
- h. Methods and equipment for preventing upward movement of reinforcement, including the means of detecting and measuring upward movement during concrete placement activities.

For concrete placed under slurry, include complete descriptions, details, and supporting calculations in the pile installation plan for:

- i. Wet vs. Dry (see Attachment No. 2)
- j. Concrete batching, delivery, and placing systems, including time schedules and capacities. Time schedules must include the time required for each concrete placing activity at each pile.
- k. Concrete placing rate calculations. If requested, base calculations on the initial pump pressures or static head on the concrete and losses throughout the placing system, including anticipated head of slurry and concrete to be displaced.
- l. Suppliers' test reports on the physical and chemical properties of the slurry and any proposed slurry chemical additives, including MSDSs.
- m. Slurry testing equipment and procedures.
- n. Methods of removal and disposal of excavation, slurry, and contaminated concrete, including removal rates.
- o. Methods and equipment for slurry agitating, recirculation, and cleaning

Topic 4: Emergency Plan

- a. Sidewall sloughing or water inflow during concrete placement.
- a. Broken tremie, breach of tremie seal, tremie blockage, tremie removal and reinsertion
- b. Temporary casing removal, breach of casing seal.
- c. Delay in concrete delivery, loss of concrete workability.
- d. Rebar cage movement
- e. Who is authorized to make the decision to abandon concrete placement and remove rebar cage?

Topic 5: Acceptance Testing

- a. CIDH Pile Acceptance Test Request Form (see Attachment No. 7)
- b. The Dept. performs acceptance testing using GGL to test the concrete density of the pile for homogeneity.
- c. Run dummy probe prior to testing. PVC tubes must be dry prior to GGL testing.
- d. Blocked tubes and coring. Blockage at the bottom of the pile may not need coring (See BCM 130-10.0)
- e. GGL Acceptance Test Report by FTB (distribution list – emails)
- f. Allow 15 days for providing GGL Acceptance Test Report
- g. CSL/additional testing selected by FTB. GGL report will address additional testing. Contractor may also do their own testing when the state does not elect to do so.
- h. Allow Dept. 20 additional days to perform and report CSL/additional testing. Allow Dept. 10 days to review CSL/additional testing by Contractor.
- i. If pile is rejected, suspend concrete placement until revised installation plan is authorized

Topic 6: Pile Design Data Form (PDDF)

- a. "Simple Repair" anomaly does not require a PDDF.
- b. Section 1 of the PDDF to be completed by the FTB (see Attachment No. 8)
- c. Section 2 of the PDDF to be completed by the Geotechnical Designer.
- d. Section 3 of the PDDF to be completed by the Structural Designer.
- e. Section 4 of the PDDF to be completed by the Corrosion Engineer.
- f. Allow Dept. 30 days to determine if rejected pile requires mitigation (PDDF completion)
- g. If CSL/additional testing was performed, remember to add 20 or 10 days per Topic 5h or 5i, respectively.
- h. If anomaly does not require mitigation Contractor may repair the anomaly or pay administrative deduction
- i. If anomaly requires mitigation follow mitigation process (Topic 7).

Topic 7: Mitigation Process

- a. Pile Mitigation Procedure Flowchart (see Attachment No. 9)
- b. Contractor proposal/Caltrans review and approval
- b. Simple Repair (ADSC Standard CIDH Anomaly Mitigation Plan "A")
- c. Basic Repair (ADSC Standard CIDH Anomaly Mitigation Plan "A")
- d. Grouting Repair (ADSC Standard CIDH Anomaly Mitigation Plan "B")
- e. Structural Bridging Repair
 - e.1 PDDF indicating Basic/Grouting Repair not acceptable
 - e.2 CIDH Pile Mitigation VA Meeting (see BCM 130-12.0)
 - e.3 CIDH Pile Mitigation Plan Review Meeting (see BCM 130-12.0)
- f. Supplementation/Replacement
 - f.1 Not feasible to repair pile
 - f.2 CIDH Pile Non-Standard Mitigation Meeting (see BCM 130-21.0)
 - f.3 CIDH Pile Mitigation Plan Review Meeting (see BCM 130-12.0)

Topic 8: Timelines – Critical Path Activities

- a. Acceptance Testing and Mitigation Timeline (see Attachment No. 10)

Topic 9: Structural, Geotechnical, & Corrosion Design Requirements

- a. Communicate design/performance requirements (i.e. Did geotechnical designer add one pile diameter to the bottom of the pile?)
- b. Verify construction methods do not impact performance requirements
- c. Structural Construction Considerations (construction joint, splice zones, isolation casing, column to shaft connection detail in Type II shaft, location of inspection tubes, bundling of longitudinal rebar, rebar splicing, concrete cover)
- d. Geotechnical Construction Considerations (end bearing, skin friction, permanent casing, rock socket)
- e. Corrosion Construction Considerations (Corrosive soil, lowest ground water elevation).

Topic 10: Future Meetings

- a. CIDH Pile Non-Standard Mitigation Meeting (see BCM 130-21.0)
- b. CIDH Pile Mitigation Plan Review Meeting (see BCM 130-12.0)

Topic 11: Safety

- a. Applicable Construction Safety Orders.
- b. For CIDH Piles 30 inches or greater in diameter and deeper than 20 ft', Cal-OSHA Mining and Tunneling Safety Orders apply. (see BCM 145-5.0)
- c. MSDS for all drilling slurries and chemical additives

Topic 12: Adjourn Meeting

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| Action Item No. 1 | Who: | Due: |
| Action Item No. 2 | Who: | Due: |
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| Bin List |
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ATTACHMENTS

1. CIDH Pile Preconstruction Meeting Attendance Sheet
2. CIDH Wet vs. Dry
3. CIDH Drilling & Concrete Placement Record
4. Synthetic slurry Test Record
5. Concreting Yield Plot
6. GGL Inspection Tube Verification
7. CIDH Pile Acceptance Test Request Form
8. Pile Design Data Form (PDDF)
9. Pile Mitigation Procedure Flowchart
10. General Mitigation Timeline