1. Work this Index with the Pile Data Table in the Structures Plans.

2. Concrete:
   A. Piles: Class V (Special)
   B. Splice: Class IV
   C. Silica Fume: See "GENERAL NOTES" in Structures Plans for locations where the use of silica fume, metakaolin or ultra-fine flyash is required for options using stainless steel strand and reinforcing.

3. Concrete Strength at time of prestress transfer:
   A. Piles: 6,000 psi minimum.

4. Reinforcing:
   A. Bars:
      a. Stainless Steel: Meet the requirements of Specification Section 931 for Type 304, Grade 75.
      b. Carbon FRP: Meet the requirements of Specification Section 932.
   B. Prestressing Strands:
      a. Stainless Steel: Seven-wire HSSS, UNS S32205 (Type 2205) or UNS S31803 strand, meeting the requirements of Specification Section 933.
      b. Carbon FRP: Meet the requirements of Specification Section 933.
   C. Spiral Ties:
      a. One half turn is required for carbon steel spiral splice.
      b. One full turn is required at the pile head and tip.

5. Pile Splices:
   A. Epoxy: Type AB Epoxy Compound or Mortar must meet the requirements of Specification Section 926.
      a. Use a Type AB Epoxy Bonding Compound or Epoxy Mortar, as recommended by the Manufacturer, to form the joint between pile sections.
      b. Use a Type AB Epoxy Bonding Compound as a bonding agent on internal pile surfaces.
   B. Driving: Resume pile driving after splice concrete reaches a minimum strength of 5,500 psi.

6. Mark piles at the pick-up points to indicate the proper points for attaching handling lines.
**SECTION A-A**

- Full Epoxy Compound Joint around cylinder pile wall only (See Detail "A")
- Roughen inside surface of 54" Ø Pile to 1/32" amplitude for Spliced Pile Section
- Clean inside surface of 54" Ø Pile with a high pressure water blast (3000 psi Min.) and apply bonding agent for Driven Prestressed Pile

**SECTION B-B**

- Alternate Strand Patterns
  - 48 ~ 0.5" Ø, Single-Strand, at 28 kips
  - 48 ~ 0.6" Ø, 7-Strand, at 29 kips

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**DRIVABLE UNFORESEEN FIELD SPlice DETAIL**

- Cast-in-Place Plug
- Form to retain epoxy compound
- Full Epoxy Compound Joint around cylinder pile wall only (See Detail "A")

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**REVISION DESCRIPTION:**

- For Spun Cast Cylinder Piles, the following requirements for concrete cover apply:
  1. Slightly or Moderately Aggressive Environments: The concrete cover may be reduced to 2 inches.
  2. Extremely Aggressive Environments: The concrete cover may be reduced to 2 inches as long as the concrete has a documented chloride ion penetration apparent diffusion coefficient with a mean value of 0.005 in² per year or less; otherwise, a 3-inch concrete cover is required.

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**CFRP POST-TENSIONED PILE DETAILS**

**ALTERNATE STRAND PATTERNS**

- 48 ~ 0.5" Ø, Single-Strand, at 28 kips
- 48 ~ 0.6" Ø, 7-Strand, at 29 kips

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**DETAIL "A"**

- Full Epoxy Compound Joint around cylinder pile wall only (See Detail "A")
- Roughen inside surface of 54" Ø Pile to 1/32" amplitude for Spliced Pile Section
- Clean inside surface of 54" Ø Pile with a high pressure water blast (3000 psi Min.) and apply bonding agent for Driven Prestressed Pile

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**INDEX SHEET 455-154**

**DESIGNATION:**

- FY 2018-19
- STANDARD PLANS
- 54" PRECAST/POST-TENSIONED CFRP & SS CONCRETE CYLINDER PILE
For Spin Cast Cylinder Piles, the following requirements for concrete cover apply:

1. Slightly or Moderately Aggressive Environments: The concrete cover may be reduced to 2 inches.
2. Extremely Aggressive Environments: The concrete cover may be reduced to 2 inches as long as the concrete has a documented chloride ion penetration apparent diffusion coefficient with a mean value of 0.005 in² per year or less; otherwise, a 3-inch concrete cover is required.