

LOUISIANA

STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES



LOUISIANA DEPARTMENT OF
TRANSPORTATION & DEVELOPMENT

2016
EDITION

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT

Section 803

Drilled Shafts

803.01 DESCRIPTION. Furnish and install drilled shafts of the specified type, dimensions, locations, elevations, integrity, and resistance.

803.02 MATERIALS. Comply with the following sections and subsections:

Slurry	803.02
Portland Cement Concrete	901
Granular Material	1003.09
Cold Tar Epoxy Polyamide Paint	1008.04
Reinforcing Steel	1009.01
Concrete Admixtures	1011.02
Permanent Steel Casing	1013.11

803.02.1 Concrete

Use Class S concrete conforming to Section 901 and with the following slump requirements:

Dry placement methods:	5 – 7 inches
Casing removal methods:	8 – 10 inches
Tremie placement methods:	8 – 10 inches

Slump loss of more than 4 inches shall not be permitted during the period equal to the anticipated placement period plus two hours. Slump life may be extended through use of retarders and mid-range water reducers.

803.02.2 Steel Casing: Casing shall be of ample strength to resist damage and deformation from transportation and handling, installation and extraction stresses, and all pressures and forces acting on the casing. Casing shall be watertight and clean prior to placement in the excavation.

803.02.2.1 Permanent Casing: Use steel conforming to ASTM A36 or ASTM A252 Grade 2 unless specified otherwise on the plans. Corrugated casing is not allowed. All splicing of permanent structural casing shall be in accordance with Section 6 of the *LRFD Bridge Design Specifications*, latest edition. The inside diameter of permanent casing shall be as shown on the plans unless a larger diameter is approved by the engineer, at no additional cost to the Department.

Splicing of the reinforcement cage during placement in the shaft excavation will not be permitted unless shown on the plans or allowed by the engineer. If the reinforcing cage is spliced during placement into the drilled shaft excavation, the splice details and location of the splices shall be in accordance with the plans and the Drilled Shaft Installation Plan.

Securely hold steel reinforcing cage in position throughout the concrete placement operation. Tie and support the reinforcing steel in the drilled shaft so that the location of the reinforcing steel will remain within allowable tolerance. Use concrete spacers or other acceptable non-corrosive spacing devices at sufficient intervals [near the bottom, the top, and at intervals not exceeding 10 feet vertically] to ensure concentric spacing for the entire cage length. The number of spacers required at each level will be one spacer for each foot of excavation diameter, with a minimum of four spacers at each level. The spacers shall be of adequate dimension to ensure an annular space between the outside of the reinforcing cage and the side of the excavation along the entire length of the drilled shaft as shown on the plans. The width of the spacer shall be a minimum of 1.75 inches. Acceptable feet (bottom supports) made of plastic or concrete shall be provided to ensure that the bottom of the cage is maintained at the proper distance above the base of the excavation unless the cage is suspended from a fixed base during concrete placement.

Bracing steel which constricts the interior of the reinforcing cage must be removed after lifting the cage if free fall concrete or tremie methods of concrete placement are to be used.

803.05.7 Assembly and Placement of Access Tubes: Install access tubes meeting the requirements of 803.02.6 for the full depth of all shafts to permit access of CSL testing equipment, except as otherwise noted herein. If, in the opinion of the engineer, the condition of the drilled shaft excavation permits drilled shaft construction in the dry, the engineer may specify that CSL testing be omitted.

Clear access tubes of all debris before installing. Repair or replace damaged access tubes prior to concrete placement.

The minimum number of access tubes installed shall be as specified in Table 803-5.