

Drilled Shaft Construction

Type of Construction	Material	Test	Frequency of Acceptance Samples and Tests for Job Control	Construction Stages for Obtaining Sample or Test	Sample Size	Procedures		Remarks
						Sampling Method	Test Methods	
Drilled Shafts	Quality Control Operation	Laboratory and Equipment Check List	Prior to production (DAILY)					ALDOT-170 and Section 506 should be reviewed prior to beginning any drilled shaft operations.
	Stock Piling Aggregates	Visual inspection	Daily on arriving shipments. Aggregate must be from an approved source and accompanied by BMT-10	Prior to use			ALDOT-175	Must be from an approved source. See List I-1 in Materials, Sources, and Devices with Special Acceptance Requirements Manual before beginning stockpiling operations. See ALDOT-249.
	Design Mix		The design mix is reviewed and approved by the Concrete Section of the Bureau of Materials and Tests, and then submitted to the Area Materials Engineer for project approval prior to beginning operations.	NOTE: See ALDOT-170	NOTE: See ALDOT-170	NOTE: See ALDOT-170		At least four weeks shall be allowed for the evaluation and approval of the drilled shaft concrete mix design. NOTE: The chemical admixtures used in DS concrete may be adjusted to compensate for ambient temperature changes, but in no event shall the manufacturer's recommended dosage be exceeded.

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	<u>Mix Components:</u> Cement		Pretested from approved sources	Prior to use, see ALDOT-195 and ALDOT-227				Must be from an approved source. See list I-2, Materials, Sources and Devices With Special Acceptance Requirements Manual. Report on BMT-1.
	Mineral Admixtures		Pretested from approved sources	Prior to use, see ALDOT-195 and ALDOT-227 and Section 806				Must be from an approved source. See list I-3, Materials Sources and Devices With Special Acceptance Requirements Manual. Report on BMT-1.
	Fine Aggregate	Gradation and Fineness Modulus	See ALDOT-249	Before beginning operations and during production. See ALDOT-249	AASHTO T 2	AASHTO T 2	AASHTO T 27	Aggregate must be from an approved source. See list I-1, Materials Sources and Devices With Special Acceptance Requirements. See ALDOT-249. Report on BMT-91.
		Unit Weight	See ALDOT-249	Before beginning operations and during production. See ALDOT-249	AASHTO T 2	AASHTO T 2	AASHTO T 19	See List I-1, Materials, Sources, and Devices with Special Acceptance Requirements Manual
	Deleterious Materials	Pretested see ALDOT-249	Before beginning operations and during production.	AASHTO T 2	AASHTO T 2	AASHTO T 11	Review Section 802	

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	Coarse Aggregates	Gradation	See ALDOT-249	Before beginning operations and during production. See ALDOT-249	AASHTO T 2	AASHTO T 2	AASHTO T 27	Aggregate must be from approved source. See List I-1 in the Materials, Sources, and Devices with Special Acceptance Requirements Manual. See ALDOT-249. Report on BMT-91.
		Unit Weight	See ALDOT-249	Before beginning operations and during production. See ALDOT-249	AASHTO T 2	AASHTO T 2	AASHTO T 19	
		Adherent Coating	See ALDOT-249	Before beginning operations and during production.	AASHTO T 2	AASHTO T 2	AASHTO T 11	Review Section 801.02
	Water		Approved prior to use	Prior to use.		See Section 807		No testing required for potable water sources.
	Chemical Admixtures		Approved prior to use	See ALDOT-195, ALDOT-170, and Sections 506, 808 and 809				Must be from approved sources. See List II-1 in the Materials, Sources, and Devices with Special Acceptance Requirements Manual.

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	Portland Cement Concrete	Batching Plant, Mixers and Transport vehicle checks	See ALDOT-352	Before beginning operations and during production.			AASHTO M 157	NRMCA Certification required. See ALDOT-352 and Section 501. Report on BMT-95.
		Moisture Tests: Fine and Coarse Aggregate	Before beginning each days production, then as often as necessary to compensate for moisture changes in the aggregate.	See ALDOT-170 and ALDOT 352.	AASHTO T 2	AASHTO T 2	AASHTO T 84 AASHTO T 85 AASHTO T 217 AASHTO T 255	Report on BMT-122 and Plant Diary.
		Concrete Test Cylinders	For each drilled shaft, cast a set of cylinders for each 50 yd ³ (40 m ³) of concrete or fraction thereof for the first 100 yd ³ (80 m ³) placed. The frequency is decreased to one set of cylinders for each 100 yd ³ (80 m ³) or fraction thereof for concrete placed exceeding 100 yd ³ (80 m ³). Selection of truck for sampling should be determined by ALDOT-210.	During placing of concrete operation.	One set equals two 7-day, two 14-day and two 28-day cylinders. All the cylinders from one set have to be cast from the same batch.	AASHTO T 141 ALDOT-210	AASHTO T 22 AASHTO T 23	Submit cylinders to Project or Area Materials Laboratory for Standard Curing and compressive strength testing. Submit with Form BMT-1. NOTE: Drilled Shaft concrete may include admixtures that delay the setting time of the concrete more than normal concrete; therefore, before moving any cylinder check to see if the concrete has already set. If the concrete has not set, prolong the initial curing up to a maximum of 48 hours rather than risking damage to the cylinder.

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	Portland Cement Concrete (continued)	Slump	First truck that arrives at the job and every time concrete cylinders are made.	During concrete placing operation	AASHTO T 141	ALDOT-210 AASHTO T 141	AASHTO T 119	Report on BMT-122 and BMT-174.
		Air Content	First truck that arrives at the job and every time concrete cylinders are made.	During concrete placing operation	AASHTO T 141	ALDOT-210 AASHTO T 141	AASHTO T 152	Report on BMT-122 and BMT-174. <u>NOTE:</u> Concrete that exceeds the specified air content shall not be accepted since it will affect the compressive strength of the concrete.
		Temperature of Concrete	First truck that arrives at the job site and every time concrete cylinders are made.	During concrete placing operation	AASHTO T 141	ALDOT-210 AASHTO T 141	ASTM C 1064	Report on BMT-122 and BMT-174.
		Concrete Monthly Quantity Reports	Monthly	During concrete placing operation				Report monthly to the Bureau of Materials and Tests (Concrete Section) on BMT-117.
	Slurry	Control Testing	See Section 506	See Section 506				See Section 506