

SPECIAL PROVISIONS

FOR

SECTION 906 MINIMUM TESTING REQUIREMENTS (MTR's)

(August 2021 – Not to be used on Federally Funded Projects)

The special provision shall supersede section 906 of the 2019 Edition of New Mexico Department of Transportation Standard Specification for Highway and Bridge Construction:

906.1 DESCRIPTION

906.1.1 General

This Work consists of Minimum Testing Requirement's (MTR's) for the County and Contractor which includes construction sampling, tests, and testing frequencies of Materials incorporated into the Work for Acceptance and Quality Control.

906.1.2 Minimum Testing Requirements

Earthwork				
ITEM	Test Required	Sampling/Testing Location	Minimum Testing Frequency	NMDOT Requirements (Revised, Same)
Embankment, Unclassified Excavation and Borrow	Moisture/Density Tests (Proctor), Soils Classification	Roadway	1 per material type	Same
	In-Place Density and Moisture	Roadway	1/500 cy	Revised
Natural Ground (NMDOT Standard Spec. Section 203.3.5.1)	Moisture/Density Tests (Proctor), Soils Classification	Roadway	1 per material type	Same
	In-Place Density and Moisture	Roadway	1/500lf per 2 lane Roadway	Revised
Surfacing Required (NMDOT Standard Spec. Section 203)	Estimated "R" Value	Top 2 feet of Roadway	1/500lf per 2 lane Roadway	Revised
Foundations/Backfill for Culverts and Minor Structures	In-Place Density and Moisture	Structure	See Table A	See Table A
	Moisture/Density Tests (Proctor), Soils Classification	Stockpile	1 per material type	Same
	Gradation		1/300cy	Same
Subgrade Preparation	Moisture/Density Tests (Proctor), Soils Classification	Roadway	1 per material type	Same
	In-Place Density and Moisture		1/500lf/lane	Revised

Backfill for Major Structures	In-Place Density and Moisture	Structure	See Table A	See Table A
	Moisture/Density Tests (Proctor), Soils Classification	Stockpile	1 per material type	Same
	Gradation		1/300cy	Same
Backfill for Mechanical Stabilized Earth (MSE) Retaining Structures (NMDOT Standard Spec. Section 506)	In-Place Density and Moisture	Structure	See Table A	See Table A
	Moisture/Density Tests (Proctor), Soils Classification	Stockpile	1 per material type	Same
	Gradation, PI		1/300cy	Same
Foundations for Slope and Erosion Protection Structures (NMDOT Standard Spec. Section 602)	In-Place Density and Moisture	Structure	1 per 25sy	Same
	Moisture/Density Tests (Proctor), Soils Classification	Foundation Material location	1 per material type	Same
Foundations For Sidewalks, Drive pads, and Concrete Median Paving (NMDOT Standard Spec. Section 608)	In-Place Density and Moisture	Roadway	1/500lf and at least 1 per day	Revised
	Moisture/Density Tests (Proctor), Soils Classification	Stockpile	1 per material type	Same
Bed Course Material for Sidewalks, Drive Pads, and Concrete Median Paving (NMDOT Standard Spec. Section 608)	Moisture/Density Tests (Proctor), Soils Classification	Stockpile	1 per material type	Same
	In-Place Density and Moisture	Roadway	1/500lf and at least 1 per day	Revised
Foundations For Curb and Gutter (NMDOT Standard Spec. Section 609)	In-Place Density and Moisture	Roadway	1/500lf and at least 1 per day	Same
	Moisture/Density Tests (Proctor), Soils Classification	Stockpile	1 per material type	Same
Bed Course For Curb and Gutter (NMDOT Standard Spec. Section 609)	In-Place Density and Moisture	Stockpile	1 per material type	Same
	Moisture/Density Tests (Proctor), Soils Classification	Roadway	1/500lf and at least 1 per day	Same
Foundations/Backfill for Drop Inlets and Junction Boxes (NMDOT Standard Spec. Section 623)	In-Place Density and Moisture	Structure	See Table A	See Table A
	Moisture/Density Tests (Proctor), Soils Classification	Foundation Material location	1 per material type	Same
Base Course				
ITEM	Test Required	Sampling/Testing Location	Minimum Testing Frequency	
Base Course	In-Place Density and Moisture	Roadway	1/500ft/lift	Revised
*if the percent passing the No. 10 sieve is less than 10% of AASHTO T-27 test procedure,	Moisture/Density Tests (Proctor), Soils Classification	Stockpile	1 per material type	Same

than this test does not need to be performed.	Gradation	Processed Material	1 per source and 1 per 1000 tons of placement	Revised
	FF, LL*, PI*	Processed Material	1 per source and 1 per 1000 tons of placement	Revised
	Thickness	Roadway after Compaction	1/500ft/lane	Revised
Asphalt				
ITEM	Test Required	Sampling/Testing Location	Minimum Testing Frequency	
Pavement	Asphalt Content	Roadway	1/500 tons/lift, with a minimum of 1 per day's run	Revised
	Air Voids, Roadway Compaction (Cores)	Roadway after Compaction	1 per days run or as required by the County Inspector	Revised
	Roadway Compaction (Nuclear Densometer)	Roadway after Compaction	1 per 500ft/lane	Revised
	Gradation, FF, PI, SE, F&E, FAA, Moisture	Cold Feed before addition of lime or Anhydrite material	1/segment	Revised
Performance Graded Asphalt Binder	The manufactures certificate of compliance will suffice for testing credits	From storage tank of injection line to the plant	1 per binder type per project	Revised
Portland Cement Concrete				
ITEM	Test Required	Sampling/Testing Location	Minimum Testing Frequency	
Fine Aggregates	Gradation	Stockpile	1/100cy	Revised
	SE, FM		2 per project	Revised
Course Aggregates	Gradation	Stockpile	1/100cy	Revised
	FF, F&E		2 per project	Revised
Non-Shrink Mortar Aggregate	Gradation	Stockpile	1/10 cy	Revised
Project Acceptance Test	Compressive Strength Cylinders	See Table B	1 set (4) of cylinders from one of the first three trucks, minimum of 1 per day	Same
	Slump, Unit Weight, Air Content, Temperature		1 per first three trucks, then 1 within the next 6 trucks,	Same

			minimum of 1 per day	

Table 906.1.2:14

Method of Placement	Sample Location
Pumped	Point of discharge from pump into Structure
Direct Discharge from Truck	At end of discharge chute of truck
Crane and Bucket	From discharge chute of bucket
Conveyor belt	From Material on Roadway after being discharged from conveyor
Slip Form (Curb and Gutter/Barrier Walls)	Point of discharge into extrusion machine
Slip Form Paver (PCCP)	From grade in front of paving machine
Drill Shafts	At end of discharge chute of truck

Table 906.1.2:15

Tolerances for Comparison of Independent Assurance Sample Tests to Acceptance and Process Control Tests

Characteristics	Tolerances
Moisture/Density Test (Proctor)	± 3.0 PCF*, ± 2 Units for Moisture
In Place Moisture/Density (Roadway)	± 3.0 PCF, ± 2 Units for Moisture
Plasticity Index (P.I.)	± 3 Units
*Only if proctors are run by both District and Project. If proctors are not run by both District and Project ± 5.0 PCF.	

Gradation	Tolerances
1 1/2" to 3/4"	± 6 Units
1/2" to No. 4	± 5 Units
No. 8 through No. 200	± 4 Units
Fractured Faces	± 5 Units
Flat & Elongated	± 5 Units
Fine Aggregate Angula	± 3 Units
Sand Equivalent	± 4 Units
Aggregate Specific Gra	± 0.020

Concrete	Tolerances
Slump	± 0.5 Inch
Unit Weight	± 2.0 PCF
Compressive Strength	10% or less = Range / Average x 100%

Hot Mix Asphalt (HMA)/Warm Mix Asphalt (WMA)	Tolerances
Roadway Density (Cores from Project, retained by Agency and Contractor Personnel)	± 0.025 Units
Density (Nuclear)	± 4 Units
VMA	± 1.0 Units
Asphalt Content (Ignition Burn Oven)	± 0.50
Bulk Specific Gravity at Ndes	± 0.025 Units
Maximum Specific Gravity	± 0.020 Units
Air Voids	± 1.5 Units

**Los Alamos County Public Works
Minimum Testing Requirements**

Table A

Structure Definitions, Foundation and Backfill Requirements

1. Transverse or skewed culvert or concrete box culvert (CBC) not connected to an underground drainage network, including end sections, wing walls if backfilled simultaneously, structural plate, pipe, storm drains and sewer lines¹:

Foundation: One density per 200 linear feet. For pipe in a batter, up to 4 pipes may be considered as a unit for purposes of foundation density. ³

Backfill Density: 1 per 1 foot of fill per side* and to top of trench per 200 linear feet. ²

*For a battery of pipes, the number of backfill densities required will be as follows:

One-half (1/2) of the required densities for up to 4 pipes. ⁴

One-third (1/3) of the required densities for more than 4 pipes. ⁴

2. End section of CBC wing wall if backfilled separately from culvert pipe or CBC²:

Backfill Density: 1 per 1 foot of fill per side. ³

3. Drop Inlet (DI), junction box, cattle guard, light and signal base, manhole, etc.:

Foundation: 1 per structure⁴

Backfill Density: 1 per 1 foot of fill³

4. Underground drainage network including interruptions such as DI, manhole, junction box, plug service connection, slotted drain, etc., if backfilled simultaneously:

Foundation: 1 per structure⁴

Backfill Density: 1 per 1 foot of fill³

5. Retaining Wall/MSE wall:

Foundation: One foundation density per 50 linear feet. ³

Backfill Density: 1 per 1 foot of fill per 50 linear feet. ³

6. Bridge abutment back wall, wing wall or approach slab.

Backfill Density: 1 per 6 inches of fill⁴

7. Pier Footing:

Foundation: 1 per footing⁴

Backfill Density: 1 per 6 inches of fill⁴

Notes:

1. All extensions will be considered increments and as such structure units.
2. Determination of backfill Depths Governing Minimum Testing Criteria Requirements:
 - a. When backfill construction is performed in trench conditions, the depth of compacted backfill to be tested shall be measured from the foundation to the top of the trench.
 - b. When backfill construction is performed in non-trench conditions, the depth of compacted backfill to be tested shall be determined through the use of the appropriate NMDOT standard drawings unless where Los Alamos County Utilities Specifications would apply.
3. Revised from NMDOT minimum testing requirements
4. Same testing requirements as NMDOT Minimum Testing Requirements

Table B

<u>Method of Placement</u>	<u>Sample Location</u>
Pumped	Point of Discharge from pump into structure
Direct Discharge from Truck	At end of discharge chute of truck
Crane and Bucket	From discharge chute of bucket
Conveyor belt	From material on roadway after being discharged from conveyor
Slip Form (C&G, Sidewalk, CWB, etc.)	Point of discharge into extrusion machine
Slip For Paver (PCCP)	From Grade in front of paving machine