TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Borrow / Embankment	115	Resistance "R" value	One per 40,000 m^3 (50,000 yd^3) or fraction thereof for qualifying the materials	Source Requirement Test	Sample one full, large canvas sample sack	Submit to Materials Division for testing
	108	Proctor	108 and 104 (when rock correction is required) to be run every 25 compaction tests, minimum	Material obtained from 200		108 and 104 to be run concurrently when rock correction is required
	104	Specific Gravity				
	102 or 103	Density	One per 4,000 m^3 (5,000yd^3) of embankment, but not less than one per day, per lift	After final compaction		
Select Borrow	115	Resistance "R" value	One per 40,000 m^3 (50,000 yd^3) or fraction thereof for qualifying the materials	Source Requirement Test	Sample one full, large canvas sample sack	Submit to Materials Division for testing
	108	Proctor	108 and 104 (when rock correction is required) to be run every 25 compaction tests, minimum	Material obtained from 200		108 and 104 to be run concurrently when rock correction is required
	104	Specific Gravity				
	102 or 103	Density	One per 4,000 m^3 (5,000 yd^3) of embankment, but not less than one per day, per lift	After final compaction		
	206	Sieve Analysis	One per day		Table 5.3	
Original Ground and Base of Cuts	108	Proctor	108 and 104 (when rock correction is required) to be run every 25 compaction tests, minimum	Material obtained from 200		108 and 104 to be run concurrently when rock correction is required
	104	Specific Gravity				
	102 or 103	Density	One per 3,350 m^2 (4,000 yd^2), but not less than one per day; or one per structure for footings, pipes, headwalls,etc.	After final compaction		

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Backfill	108	Proctor	108 and 104 (when rock correction is required) to be run every 25 compaction tests, minimum	Material obtained from 200		108 and 104 to be run concurrently when rock correction is required.
	104	Specific Gravity				
	102 or 103	Density	One per 750 m^3 (1,000 yd^3) or fraction thereof per structure, or one per lift	At the discretion of the Resident Engineer		
	206	Sieve Analysis	One per 750 m^3 (1,000 yd^3) or fraction thereof		Table 5.3	
Granular Backfill	206	Sieve Analysis		Source Requirement Test	Sample one full, large canvas sample sack	Submit to Materials Division for testing
	210/211/212	Atterberg Limits		Source Requirement Test		Submit to Materials Division for testing
	AASHTO T289 AASHTO T288	pH Value Resistivity		Source Requirement Test		Submit to Materials Division for testing. Indicate on the transmittal whether concrete, aluminum or steel are being used with a culvert or structure
	108	Proctor	108 and 104 (when rock correction is required) to be run every 25 compaction tests, minimum	Material obtained from 200		108 and 104 to be run concurrently when rock correction is required.
	104	Specific Gravity				
	102 or 103	Density	One per 750 m^3 (1,000 yd^3) or fraction thereof per structure, or one per lift	At the discretion of the Resident Engineer		
	206	Sieve Analysis	One per 750 m^3 (1,000 yd^3) or fraction thereof		Table 5.3	
	210/211/212	Atterberg Limits	One per 750 m^3 (1,000 yd^3) or fraction thereof			
MSE Backfill	206	Sieve Analysis	One per 7,650 m^3 (10,000 yd^3), one per stockpile minimum	Source Requirement Test	Sample on full, large canvas sample sack	Submit to Materials Division for Testing

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
MSE Backfill Cont.	210/211/212	Atterberg Limits	One per 7,650 m^3 (10,000 yd^3), one per stockpile minimum	Source Requirement Test		Submit to Materials Division for testing
	AASHTO T289 AASHTO T288 AASHTO T291 AASHTO T290	pH Value Resistivity Chlorides Sulfates	One per 7,650 m^3 (10,000 yd^3), one per stockpile minimum	Source Requirement Test		Submit to Materials Division for testing. Indicate the type of reinforcement (Metallic or Geogrid) on the transmittal.
	108	Proctor	108 and 104 (when rock correction is required) to be run every 25 compaction tests, minimum	Material obtained from 200		108 and 104 to be run concurrently when rock correction is required.
	104	Specific Gravity				
	102 or 103	Density	One per 750 m^3 (1,000 yd^3) or fraction thereof per structure, or one per lift	At the discretion of the Resident Engineer		
	206	Sieve Analysis	One per 750 m^3 (1,000 yd^3) or fraction thereof		Table 5.3	
	210/211/212	Atterberg Limits	One per 750 m^3 (1,000 yd^3) or fraction thereof			
	AASHTO T289 AASHTO T288 AASHTO T291 AASHTO T290	pH Value Resistivity Chlorides Sulfates	One per 750 m^3 (1,000 yd^3) or fraction thereof			Submit to Materials Division for testing. Indicate the type of reinforcement (Metallic or Geogrid) on the Transmittal.
Slurry Backfill	206	Sieve Analysis	One per 750 m^3 (1,000 yd^3) or fraction thereof		Table 5.3	
	428	Compressive Strength	One per 150 m^3 (200 yd^3) or fraction thereof	See Nev. T425, Standard Method of Test for Sampling Fresh Concrete.		Three 6" X 12" cylinders (28 day) are required for each sample. More may be made for information. Submit to designated lab for testing
	431 or 432	Air Content by Volumetric or Pressure	One per 150 m^3 (200 yd^3) or fraction thereof	First test to be taken within first two loads		
	438	Slump	At the discretion of the Resident Engineer			Slump is run whenever consistency is questionable. See Section 207

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Drain Backfill	AASHTO T96	% of Wear (500 rev.)		Source Requirement Test	Sample two full, large canvas sample sacks	Submit to Materials Division for testing
	206	Sieve Analysis	One per 750 m^3 (1,000 yd^3) or one per project minimum	At time of use, jobsite stockpile	Table 5.3	
Types 1, 2 and 3 Base (For Type 3, See Special Provisions)	115	Resistance (R Value)		Source Requirement Test	Sample two full, large canvas sample sacks	Submit to Materials Division for testing
	AASHTO T96	% Wear (500 Rev.)		Source Requirement Test		Submit to Materials Division for testing
	206	Sieve Analysis	One per day or one per 1,800 t (2,000 tons) when non-uniform material	Class A: From roadway directly behind spreader Class B: From processed windrow, just prior to final lay down	Table 5.3	For small quantity, location and frequency of sample are at the discretion of the Resident Engineer
	210/211/212	Atterberg Limits	One per day or one per 1,800 t (2,000 tons) when non-uniform material			For small quantity, location and frequency of sample are at the discretion of the Resident Engineer
	230	Fractured Face	One per day			For small quantity, location and frequency of sample are at the discretion of the Resident Engineer
	112	Moisture	One per day or one per 1,800 t (2,000 tons) when non-uniform material	Moisture tests should be taken from the windrow or stockpile after the material has been weighed, but prior to adding any additional water in the field		Results for payment purposes. Moisture tests need to represent what was weighed
	108	Proctor	108 and 104 (when rock correction is required) to be run every 25 compaction tests, minimum	Material obtained from 200		108 and 104 to be run concurrently when rock correction is required. For small quantity, location and frequency of sample are at the discretion of the Resident Engineer. For Type A only: Depth checks taken during density test but for information only. Record depths on Daily Construction Report.

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Types 1, 2 and 3 Base (For Type 3, See Special Provisions) Cont.	104	Specific Gravity				
	102 or 103	Density	One per 1800 t (one per 2,000 tons) or fraction thereof or one per lift	On roadway, after trimming and final compaction		
		Straightedge Tolerances Section 302	One per lane km (two per lane mile)	Finished surface		Record results on Daily Construction Report
Aggregate for Portland Cement Treated Base	AASHTO T96	% of Wear (500 rev.)		Source Requirement Test	Sample four full, large canvas sample sacks	Submit to Materials Division for testing
	206	Sieve Analysis	One per 900 t (1,000 tons)	Road mixed: From processed material, prior to adding cement Plant mixed: From conveyors, prior to adding cement	Table 5.3	Sample aggregate during production
	227	Sand Equivalent	One per day or one per 900 t (1,000 tons) when questionable material			
Cement Treated Base (Road mixed or Plant mixed Method)	237	Compressive Strength	Three on the first day of production, one per day thereafter. If questionable material, more tests may be required at the discretion of the Resident Engineer			Compressive strength for information only.
	112	Moisture	One per 1,800 t (2,000 tons)			Record moistures on Daily Construction Report
	108	Proctor	108 and 104 (when rock correction is required) to be run every 25 compaction tests, minimum	Material obtained from 200		108 and 104 to be run concurrently when rock correction is required. Depth checks taken during density test for information only. Record depths on Daily Construction Report
	104	Specific Gravity				
	102 or 103	Density	One per 1,800 t (one per 2,000 tons) or fraction thereof or one per lift	On roadway, after trimming and final compaction		

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Cement Treated Base (Road mixed or Plant mixed Method)		Straightedge Tolerances Section 304	One per lane km (two per lane mile) per lift	Finished surface		Record results on Daily Construction Report
Pulverized Base and Surface (Roadbed Modification)	112	Moisture	One per 5,900 m^2 (7,000 yd^2) or fraction thereof	On roadway, after final compaction		Record moistures on sieve analysis form
	108	Proctor	108 and 104 (when rock correction is required) to be run every 25 compaction tests, minimum	Material obtained from 200		108 and 104 to be run concurrently when rock correction is required. Depth checks for information only. Record depths on Daily Construction Report
	104	Specific Gravity				
	102 or 103	Density	One per 5,900 m^2 (7,000 yd^2) or fraction thereof	On roadway, after final compaction		
	206	Sieve Analysis	One per 5,900 m^2 (7,000 yd^2) or fraction thereof	After final pulverization by removing a composite sample of the pulverized surface at randomly selected sites prior to adding cement	Table 5.3	
		Cement Distribution	One per lane km (two per lane mile)			Phenolphthalein test for information only. Record results on Daily Construction Report
		Straightedge Tolerances Section 305	One per lane km (two per lane mile) per lift	Finished surface		Record results on Daily Construction Report
Shouldering Material	112	Moisture	One per day or one per 1,800 t (2,000 tons)			Record moistures on Daily Construction Report
	206	Sieve Analysis	One per day or one per 1,800 t (2,000 tons) when non-uniform material; one per day for coldmilled material	At belt or stockpile. Coldmilled material from windrow.	Table 5.3	
	210/211/212	Atterberg Limits	One per day or one per 1,800 t (2,000 tons) when questionable material			

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Blotter Sand, Sand in Stockpile	206	Sieve Analysis	One per project per source	At belt or stockpile	Table 5.3	
Aggregate for Plantmix Bituminous Base, Surface, Open-Graded, Permeable Base and Premix	AASHTO T96	% of Wear (500 rev.)		Mix Design Submittal and/or Source Requirement Test	Sample two full, large canvas sample sacks from each size for each mix design	Submit to Materials Division for testing
	206	Sieve Analysis		Mix Design Submittal and/or Source Requirement Test		Submit to Materials Division for testing
	210/211/212	Atterberg Limits		Mix Design Submittal and/or Source Requirement Test		Submit to Materials Division for testing
	230	Fractured Face		Mix Design Submittal and/or Source Requirement Test		Submit to Materials Division for testing
	AASHTO T104	Soundness, Sodium	Coarse and fine aggregate	Mix Design Submittal and/or Source Requirement Test		Submit to Materials Division for testing
	T111	Absorption	Coarse aggregate	Mix Design Submittal and/or Source Requirement Test		Submit to Materials Division for testing
	T493	Specific Gravity	Fine aggregate	Mix Design Submittal and/or Source Requirement Test		Submit to Materials Division for testing
	T111	Specific Gravity	Coarse aggregate	Mix Design Submittal and/or Source Requirement Test		Submit to Materials Division for testing

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Aggregate for Plantmix Bituminous Base, Surface, Open-Graded, Permeable Base and Premix Cont.	206	Sieve Analysis	One per 4,500 t (5,000 tons) of each size produced, minimum one test per five crushing days for each size aggregate	From belt or stockpile	Table 5.3	Tests must be run prior to marination. For information only
	210/211/212	Atterberg Limits	One per 4,500 t (5,000 tons) of each size produced, minimum one test per five crushing days for each size aggregate	From belt or stockpile		Tests must be run prior to marination
	230	Fractured Face	One per 4,500 t (5,000 tons) of each size produced, minimum one test per five crushing days for each size aggregate	From belt or stockpile		Tests must be run prior to marination
	111	Absorption of Coarse Aggregate	One per five crushing days per size	From belt or stockpile		Tests must be run prior to marination
	112	Moisture	Minimum one per size per week	From belt of stockpile during marination		Record moistures in Marination Diary. For information only.
		Lime Distribution	One per size per project. If questionable material, more tests may be required at the discretion of the Resident Engineer	From belt or stockpile during marination		Phenolphthalein test during production. Record in Marination Diary
Recycled Asphalt Pavement (RAP) for Plantmix Bituminous Surface	AASHTO T30	Mechanical Analysis of Extracted Aggregate		Mix Design Submittal	Sample two full, large canvas sample sacks from each size for each mix design	Submit to Materials Division for testing
	AASHTO T164	Extraction of Asphalt Binder		Mix Design Submittal		Submit to Materials Division for testing
	206	Sieve Analysis	One per 4,500 t (5,000 tons) of each size produced, minimum one test per five production days for each size aggregate	From belt or stockpile	Table 5.3	Verify material meets specified sieve requirements

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Permeable Base (Asphalt Treated)	206	Sieve Analysis	One per 1,800 t (2,000 tons), or one per day minimum	Section 303	Table 5.3	Material remaining from Nev. T761
Permeable Base (Asphalt Treated)	761 306	Bitumen Ratio Moisture Content	One per 1,800 t (2,000 tons), or one per day minimum			
		Straightedge Tolerances Section 303	One per lane km (two per lane mile)	Finished surface		Record results on Daily Construction Report
Premix	AASHTO T269	Percent Air Voids of Compacted Mixture	One per project	From jobsite stockpile	Three full 6" X 12" cylinders, this sample will cover AASHTO T269 and Nev. T303	Submit to Materials Division for testing
	303	Stabilometer	One per project	From jobsite stockpile		Submit to Materials Division for testing
	206	Sieve Analysis	One per 1,800 t (2,000 tons) or one per day minimum	From coldfeed belt at plant during production	Table 5.3	
Plantmix Bituminous Base and Surface	206	Sieve Analysis	One per 900 t (1,000 tons) or one per day minimum.	Section 106	Table 5.3	Material remaining from Nev. T761
	112	Moisture	One per day	From coldfeed belt at plant during production		For information only, record moistures on testers portion of Daily Plant Report
	761 306	Bitumen Ratio Moisture Content	One per 900 t (1,000 tons) or one per day minimum. NOTE: Immediately test another sample to verify the results before making plant adjustment	Composite sample from behind the paver, prior to rolling		
	325	Theoretical Maximum Specific Gravity (Rice)	One for each one-half day of production (a.m. and p.m.)	Composite sample from behind the paver, prior to rolling		For Method B compaction only

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Plantmix Bituminous Base and Surface Cont.	AASHTO T269	Percent Air Voids of Compacted Mixture	Sample first three days of paving; then one per 9,000 t (10,000 tons) or twice per week, whichever is less		Three full 6" X 12" cylinders, this sample will cover AASHTO T269 and Nev. T303 and T341	Submit to Materials Division for testing
	303	Stabilometer	One per 9,000 t (10,000 tons) or twice per week, whichever is less; sample first three days of paving			Submit to Materials Division for testing
	341	Indirect Tensile Strength and Retained Strength	One per 9,000 t (10,000 tons) or twice per week, whichever is less; sample first three days of paving			Submit to Materials Division for testing. Materials Division will determine the frequency of performing the test
	335 or 750	Density	Section 402	Random locations per Test Method		See specifications for required test method and density requirements. Nev. T336 will be used to correlate the thin layer density gauge (Nev. T335)
		Straightedge Tolerance Section 402	One per lane km (two per lane mile)	Finished surface		Record results on Daily Construction Report
	446	Evaluation of Profiles	Section 402	Section 402		Complete within 48 hours after placement
Plantmix Bituminous Open-Graded Surface	206	Sieve Analysis	One per 900 t (1,000 tons) or one per day minimum	From augers at paver or windrow in front of paver	Table 5.3	Material remaining from Nev. T761
	112	Moisture	One per day	From coldfeed belt at plant during production		For information only, record moistures on testers portion of Daily Plant Report
	761 306	Bitumen Ratio Moisture Content	One per 900 t (1,000 tons) or one per day minimum	From augers at paver or windrow in front of paver		

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Plantmix Bituminous Open-Graded Surface Cont.	325	Theoretical Maximum Specific Gravity (Rice)	One for each one-half day of production (a.m. and p.m.)	From augers at paver or windrow in front of paver		
		Straightedge Tolerance Section 402	One per lane km (two per lane mile)	Finished surface		Record results on Daily Construction Report
	446	Evaluation of Profiles	Section 402 and 403	Section 402 and 403		Complete within 48 hours after placement
Cold Recycle	206	Sieve Analysis	One per lane km (two per lane mile)	Windrow	Table 5.3	Verify material meets specified sieve requirements
	750	Density	Section 404	Random locations per Test Method		
	112	Moisture	Two per day	Windrow		One in a.m. and one in p.m., for information only. Record moistures on Daily Construction Report
	112	Moisture	See Section 404	Section 404		(Moisture for cores)
	759	Field Viscosity Section 404	One per truck and one per trailer	Approximate midpoint / mid depth of the load		Sampled by contractor and observed by NDOT representative
		Straightedge Tolerance Section 404	One per lane km (two per lane mile)	Finished surface		Record results on Daily Construction Report
Surface Treatment Screenings (Chips)	AASHTO T96	% Wear (500 Rev.)	One per project, per source, per supplier	Source Requirement Test	Sample two full, large canvas sample sacks per source per supplier	Submit asphalt and aggregate to Materials Division for testing
	209	Stripping	One per project, per source, per supplier	Aggregate source and asphalt supplier specific	1 gallon of asphalt	Submit 1 gallon of asphalt and aggregate sample to Materials Division for testing

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Surface Treatment Screenings (Chips) Cont.	206	Sieve Analysis	One per 1,800 t (2,000 tons)	From jobsite stockpiles	Table 5.3	
	228 (CA T227)	Cleanness Value	One per 1,800 t (2,000 tons)	From jobsite stockpiles		
	230	Fractured Face	One per 1,800 t (2,000 tons)	From jobsite stockpiles		
	759	Field Viscosity Section 408	One per truck and one per trailer	Approximate mid depth / midpoint of the load		Sampled by contractor and observed by NDOT representative
Micro-Surfacing	AASHTO T96	% Wear (500 Rev.)	One per project per source	Mix Design Submittal and Source Requirement Test. Minimum of 20 working days before use.	Sample two full, large canvas sample sacks of aggregate.	Submit to Materials Division for testing
	AASHTO T104	Soundness, 5 cycle sodium sulfate	Coarse and fine aggregate	Mix Design Submittal and Source Requirement Test. Minimum of 20 working days before use.	Sample two full, large canvas sample sacks of aggregate.	Submit to Materials Division for testing
	206	Sieve Analysis		Mix Design Submittal and/or Source Requirement Test		Submit to Materials Division for testing
	210/211/212	Atterberg Limits		Mix Design Submittal and/or Source Requirement Test		Submit to Materials Division for testing
	227	Sand Equivalent		Mix Design Submittal and/or Source Requirement Test		Submit to Materials Division for testing
	230	Fractured Face		Mix Design Submittal and/or Source Requirement Test		Submit to Materials Division for testing

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Micro-Surfacing Cont.	206	Sieve Analysis	One per 1,800 t (2,000 tons) or one per day minimum	From Jobsite Stockpiles	Table 5.3	
	210/211/212	Atterberg Limits	One per 1,800 t (2,000 tons) or one per day minimum	From Jobsite Stockpiles		
	227	Sand Equivalent	One per 1,800 t (2,000 tons) or one per day minimum	From Jobsite Stockpiles		
	230	Fractured Face	One per 1,800 t (2,000 tons) or one per day minimum	From Jobsite Stockpiles		
		Straightedge Tolerance Section 418	One joint per lane km (two per lane mile)	Finished Surface		Record results on Daily Construction Report
Concrete Aggregates	AASHTO T112	Clay Lumps	Pavement: One per size per 6,000 m^2 (7,000 yd^2) of pavement or fraction thereof Structures: One per size per 225 m^3 (300 yd^3) of concrete or fraction thereof		Sample one full, large canvas sample sack for each size	Submit to Materials Division for testing
	206	Sieve Analysis	Pavement: One per size per 6,000 m^2 (7,000 yd^2) of pavement or fraction thereof Structures: One per size per 225 m^3 (300 yd^3) of concrete or fraction thereof	Belt sample whenever possible. Structures: Sample stockpiles before beginning concrete production	Table 5.3	
	227	Sand Equivalent	Pavement: One per size per 6,000 m^2 (7,000 yd^2) of pavement or fraction thereof Structures: One per size per 225 m^3 (300 yd^3) of concrete or fraction thereof			Fine Aggregate
	228 (CA T227)	Cleanness Value	Pavement: One per size per 6,000 m^2 (7,000 yd^2) of pavement or fraction thereof Structures: One per size per 225 m^3 (300 yd^3) of concrete or fraction thereof			Commercial sources to be tested two days prior to anticipated use. Coarse Aggregate
	112	Moisture	Minimum of one per day per size	Prior to beginning concrete production		For information only

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Concrete Aggregates Cont.	492	Specific Gravity	Minimum of one per source per mix design			For information only
	493	Absorption	Minimum of one per source per mix design			For information only
Portland Cement Concrete for Structures (For precast boxes and MSE panels, testing freq. can be doubled if cast from a certified facility)	428	Compressive Strength	One set per 75 m^3 (100 yd^3). Minimum one set per pour	See Nev. T425, Standard Method of Test for Sampling Fresh Concrete. At the discretion of the Resident Engineer		Three cylinders (28 day) are required for each sample. Two additional cylinders (7 day) will be required for MSE panels. More may be made for information. Submit to designated lab for testing
	431 or 432	Air Content by Volumetric or Pressure	One per 75 m^3 (100 yd^3) or fraction thereof	First test to be taken within first two loads		
	438	Slump	One per 75 m^3 (100 yd^3) or fraction thereof	First test to be taken within first two loads		Slump is run concurrently with fabrication of cylinders; also whenever required or consistency is questionable. If failing results, vehicle should stop unloading, test results verified and corrective action taken
	435	Unit Weight	One per 75 m^3 (100 yd^3) or fraction thereof		0.03 m^3 (1 ft^3)	Unit weight is run concurrently with fabrication of cylinders
		Field Measurements of concrete cover on deck reinforcement Section 502	Minimum of 12 measurements for each section of deck pour	Six measurements are to be taken before placing concrete and six measurements at the same locations shall be taken after concrete has been placed		Record measurements on Daily Construction Report
Pneumatically Placed Concrete Aggregates (Shotcrete Aggregate)	206	Sieve Analysis	Minimum one per day	Sample during production	Table 5.3	

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Pneumatically Placed Concrete (Shotcrete)	ASTM C42	Compressive Strength for Cores	Special Provisions, Section 660	Special Provisions, Section 660		Submit cores to Materials Division for testing
Self Consolidating Concrete (SCC)	416	Compressive Strength	One set per 75 m^3 (100 yd^3) or fraction thereof. Minimum one set per pour	See Nev. T416, Standard Method of Test for Sampling Fresh Concrete. At the discretion of the Resident Engineer		Three cylinders (28 day) are required for each sample. More may be made for information. Submit to designated lab for testing
	416	Air Content	One per 75 m^3 (100 yd^3) or fraction thereof	First test to be taken within first three loads		When possible, fabrication of cylinders, air content, unit weight, slump flow and j-ring to be run concurrently
	416	Unit Weight	One per 75 m^3 (100 yd^3) or fraction thereof			
	417	Slump Flow / VSI (Visual Stability Index)	One per 75 m^3 (100 yd^3) or fraction thereof	Test first three loads then one per 75 m^3 (100 yd^3)	0.03 m^3 (1 ft^3)	
	418	J-Ring / Slump cone	One per 75 m^3 (100 yd^3) or fraction thereof	First test to be taken within first three loads		
Portland Cement Concrete for Pavement	442	Flexural Strength	One per day	Platform at the plant or on roadway when using transit trucks		Three strength specimens are made from each sample and are broken in the field. Break one beam at age of 10 days and one beam at age of 28 days. The spare beam should be used in case of faulty break or if it is desired to vary the breaking schedule
	438	Slump	One per 600 m^3 (750 yd^3) but not less than one per day	Platform at the plant or on roadway when using transit trucks		Slump is run concurrently with fabrication of cylinders; also when consistency is questionable
	435	Unit Weight	One per 600 m^3 (750 yd^3) but not less than one per day	Platform at the plant or on roadway when using transit trucks	0.03 m^3 (1 ft^3)	Unit weight and air content to be run concurrently on different portions of the same sample
	431 or 432	Air Content by Volumetric or Pressure	One per 600 m^3 (750 yd^3) but not less than one per day	Platform at the plant or on roadway when using transit trucks	0.03 m^3 (1 ft^3)	

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Portland Cement Concrete for Pavement Cont.	428	Compressive Strength	One per 600 m^3 (750 yd^3) but not less than one per day	Platform at the plant or on roadway when using transit trucks		Concurrent with other tests. Three cylinders (28 day); more may be made for information
	446	Evaluation of Profiles	Section 409	Section 409		
		Straightedge Tolerance Section 409	One per lane km (two per lane mile)	At the discretion of the Resident Engineer		Record results on Daily Construction Report
	ASTM C174	Length of Drilled Cores	One per 300 m (1,000 ft), or fraction thereof, traffic lane, auxiliary lane or shoulder	At random locations		Cores taken by Materials Division after profile grinding
		Dowel Bar Placement Section 409				Contact Materials Division for testing.
Grout for Post Tensioning Ducts, Soilnails, Shear Keys, Dowel Holes and Ground Anchors	ASTM C939	Fluidity	Section 503	At the point of discharge		Performed by Contractor and observed by NDOT
	427	Compressive Strength	Special Provisions, Section 503, 643 or 644	Special Provisions, Section 503, 643 or 644	Three 4" X 8" cylinders	Submit to Materials Division for Testing
Polymer Concrete	ASTM D4263	Moisture by Plastic Sheet Method	One per 90 m^2 (1,000 ft^2) or portion thereof	At the discretion of the Resident Engineer		
	ACI 503R	Surface Soundness and Adhesion	One per 50 m^2 (60 yd^2) or portion thereof	At the discretion of the Resident Engineer		Pull Off test
	446	Evaluation of Profiles	Section 496	Section 496		
		Straightedge Tolerance Section 496	At the discretion of the Resident Engineer	At the discretion of the Resident Engineer		Record results on Daily Construction Report

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Stone for Riprap, Aggregate for Riprap Bedding and *Stone for Grouted Riprap	AASHTO T96	% Wear (500 Rev.)		Source Requirement Test	Sample two full, large canvas sample sacks	Submit to Materials Division for testing. For riprap larger than Class 150, contact Materials Division
	104	Specific Gravity		Source Requirement Test		Submit to Materials Division for Testing
		Gradation		Visual Inspection, Section 719		
		*Gradation and Grout Penetration	Section 719			
Asphaltic Products (Cutback Asphalts and Emulsions)			One sample for each delivery (this sample represents truck and trailer).	From shipping vehicle after arrival on job and before or at time of unloading, approximately midpoint/mid depth of load.	1 liter (1 qt.)	Submit to Materials Division for testing. To be sampled by contractor and observed by NDOT representative.
	759	Field Viscosity	For field viscosity testing, take one sample from each truck and one from each trailer.	Approximately midpoint/mid depth of load.	1 liter (1 qt.)	
Asphalt Cements			Section 106 for applicable frequencies	Samples of asphalt cement from a hotplant shall be taken from bituminous feed line at a suitable location between storage tank and bituminous metering device	1 liter (1 qt.)	Submit to Materials Division for testing. To be sampled by contractor and observed by NDOT representative
Quicklime (Cold Recycle)	ASTM C977		One sample per contract per supplier	During unloading at jobsite	2.5 kg (5 lbs)	Submit to Materials Division for testing. A certificate of compliance for each load is required, per the specifications. Samples are taken by the contractor's representative and witnessed by an NDOT representative.

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Portland Cement	ASTM C150		Pavement: One sample per 100,000 m^2 (120,000 yd^2) of pavement Structures: One sample per type of cement per project per supplier	During unloading at jobsite	2 kg (4 lbs), one 4" X 8" cylinder may be used	Submit to Materials Division for testing. A certificate of compliance for each load is required, per the specifications. Cement is accepted for immediate use on the basis of Certificate of Compliance. Manufacturer's test report is required. Samples are taken by the contractor's representative and witnessed by an NDOT representative. Small quantities, at discretion of Resident Engineer.
Water (Cold Recycle, Concrete, Micro-Surfacing, etc.)		Section 722	One sample per source	Submit according to specifications	Refer to specifications	Submit to Materials Division in clean glass or plastic container.
Reinforcing Steel		Section 713	Two samples of each bar size per manufacturer, per project, per year and two samples of each bar size for every 90 t (100 tons) thereafter.	Supplier shall furnish 2 samples of each bar size for testing. Random samples may be taken as provided for in Section 505	0.75 m (30 in)	Submit to Materials Division for testing. Show heat numbers on transmittal and state test procedure needed ASTM A706 or AASHTO M31. Certified mill tests used for acceptance at jobsites
Prestressing Bars, Steel Strand, Wire, Anchorage Assemblies and Bar Couplers		Section 713	Sample per size and heat for prestressing bar; sample per manufactured reel for prestressing steel strand; sample per coil for prestressing wire; and sample per lot for anchorage assemblies and bar couplers	Section 713	Refer to specifications	Submit with each sample, a certification stating the manufacturer's minimum guaranteed ultimate tensile strength of the sample furnished
Corrugated Metal Pipe (CMP) and Structural Plate Pipe	AASHTO T65	Spelter Coating	Two per 150 m (500 ft) or fraction thereof	Random samples throughout shipment after delivery to job	50 mm (2 in) triangle	Submit to Materials Division for testing. Tests on base metal performed periodically in addition to coating test. Show mill analysis and heat number
Reinforced Concrete Pipe (RCP)		Fabricator Certificate				Fabricator must have yearly certification by Materials Division

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Permanent Sign Posts		Section 716	One sample per project per supplier	After delivery to jobsite	0.3 m (1' – 3')	Submit to Materials Division for testing
Metal Fence Posts		Section 724	One sample per project per supplier	After delivery to jobsite	0.3 m (1' – 3') Submit one full T-Post.	Submit to Materials Division for testing. Include grade and class on transmittal
Guide Posts		Section 721	One sample per project per supplier	After delivery to jobsite	One full post	Submit to Materials Division for testing
Object Markers		Section 721	One sample per project per supplier	After delivery to jobsite	One full post	Submit to Materials Division for testing
Chain Link Fence		Section 724	Two pieces for each lot shipped to jobsite	Random samples from random spools after delivery to jobsite	0.3 m (1 ft) wide full height	Submit to Materials Division for testing
Woven Wire and Barbed Wire		Section 724	Woven Wire: Two pieces per 50 rolls or fraction thereof. Barbed Wire: Four pieces per 50 rolls or fraction thereof	Random samples from random spools after delivery to jobsite	Woven: Two sections wide full height. Barbed: 900 mm (3 ft) long	Submit to Materials Division for testing
Traffic Paint		Section 729	One per contract per manufacturer's lot	Upon delivery to jobsite	1 liter (1 qt) wide mouth metal can	Submit to Materials Division for testing. Sample each color. Plural component paints (epoxy and polyuria). Sample each component. Include the manufacturer product code and batch on the transmittal. For waterborne paint, specify Type I or Type II
	511	Retroreflectivity Section 632	One per lane kilometer (two per lane mile) of stripe. Average five readings per location, minimum	1-2 weeks after application		

TABLE 5.1 – MINIMUM REQUIRED SAMPLES AND TESTS - PROJECT

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	SIZE OF SAMPLE	REMARKS
Traffic Paint Cont.	510	Thickness Section 632	Two per day per color			Measured without beads
Concrete Paint, Concrete Stain, Structural Steel Paint and Fine Surface Finish		Section 502 Section 714	One per contract per manufacturer's lot	Upon delivery to jobsite	1 liter (1 qt) wide mouth metal can	Submit to Materials Division for testing. Sample each color. Plural component paints (epoxy and polyuria). Sample each component. Include the manufacturer product code and batch on the transmittal.
Pavement Marking Film (Tape)	512	Adhesion Section 634	One per lane kilometer (two per lane mile); miscellaneous items - arrows, only's, crosswalks, stop bars, etc. will be at the discretion of the Resident Engineer	Test within 48 hours of placement		
Traffic Beads		Section 730	One per project per manufacturer's lot	Upon delivery to jobsite	1 liter (1 qt) wide mouth metal can	Submit to Materials Division for testing. Include manufacturer's lot number and type on the transmittal