Guide Schedule of Sampling and Testing for Design-Bid-Build (DBB) Projects (DBB Guide Schedule)

May 28, 2025

Texas Department of Transportation

Using the *DBB Guide Schedule*

Materials incorporated in TxDOT projects are subjected to various quality assurance procedures such as testing (as outlined in this document), certification, quality monitoring (QM), approved lists, etc. The Engineer and testing staff should familiarize themselves with materials to be used before work begins by reviewing the specifications and this document. Discuss material testing requirements with the Contractor.

Other testing required by the specifications, but not shown in the DBB Guide Schedule, should be performed at a frequency necessary to provide adequate confidence that materials meet specifications. There is a need to increase the frequency of testing for high-variability materials and when testing results do not meet specifications. The Engineer may require the Contractor to reimburse the Department for costs resulting from failing test results, in accordance with the specifications.

NOTE—The TxDOT District Area Engineer or Director of Construction must submit a "Materials Certification Letter" at final acceptance of the project. The intent of this letter is to ensure that the quality of all materials incorporated into the project is in conformance with the plans and specifications, thus ensuring a service life equivalent to the design life. Any material represented by an acceptance test, that does not meet the criteria contained in the plans and specifications, is considered an exception. Exceptions must be listed in the materials certification letter. For projects with federal oversight, submit the materials certification letter (See Appendix D of DBB QAP) to the FHWA division administrator, with a copy to the Materials and Tests Division (MTD). For non-federal oversight projects, submit the material certification letter (Appendix E of DBB QAP) to the TxDOT District Engineer, with a copy to MTD. Refer to section 4.1 of the "Quality Assurance Program for Design-Bid-Build Projects" (DBB QAP).

Assuring the quality of the product and proper incorporation of materials into the project begins with proper sampling practices. Sampling, testing, and construction inspection must be performed collaboratively to assure the specific attributes of the finished product reflect quality workmanship. Sampling guidance for hot-mix asphalt is contained in Tex-225-F, "Random Selection of Bituminous Mixture Samples," and the respective specification for that material. All remaining materials are covered by method and materials specifications, to which the following applies.

For acceptance testing, especially that which directly determines payment for the Contractor, sampling personnel should provide randomness in sampling by avoiding patterned sampling routines. Examples of such sampling practices are as follows:

- Soils/flexible base: Vary sampling between stockpiling operations, completed stockpile, windrow, and project site. Vary the time of day sampling is performed.
- Aggregates: Sample aggregates nearest the point of incorporation into the work. Vary sampling between stockpiling operations, completed stockpile, belt sampling, and if deemed necessary, railroad cars/trucks. Vary the time of day sampling is performed.
- Concrete (All classes other than Class P): Always sample as near as practicable to the point of placement. For strength testing, vary the time of day or the number of truck from which the concrete is sampled.

The DBB Guide Schedule is applicable to all contracts associated with the 2024 Standard Specifications.

This is a guide for minimum sampling and testing.
Testing frequency may need to be increased for high material variability or when test results approach specification limits.

TABLE I – EMBANKMENTS, SUBGRADES, BACKFILL, AND BASE COURSES					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (D)**	**FREQUENCY OF SAMPLING (F)**	**REMARKS**
EMBANKMENT (CUTS & FILLS)	Liquid Limit **(A)**	Tex-104-E	During stockpiling operations, from completed stockpile, or project site. **(B)**	Materials with PI ≤15: 10,000 CY	When Type A embankment is required, this test may be waived for embankment cuts as directed by the Engineer. Determine a new liquid limit and plasticity index for each different material or notable change in material. Sample in accordance with Tex-100-E.
	Plasticity Index **(A)**	Tex-106-E		Materials with PI >15: 5,000 CY	
	Gradation	Tex-110-E, Part I		Each 10,000 CY	Required when shown on plans. This test may be waived for embankment cuts, as directed by the Engineer. Sample in accordance with Tex-100-E.
	Moisture/Density	Tex-114-E		As directed by the Engineer.	Not required for ordinary compaction. Determine a new optimum moisture and maximum density for each different material or notable change in material. Sample in accordance with Tex-100-E.
	In-Place Density **(A)**	Tex-115-E, Part I	As directed by the Engineer.	Fill: each 5,000 CY Min 1 per lift	Determine random testing locations in accordance with Tex-115-E, Part IV. Not required for ordinary compaction. Determine a new optimum moisture and maximum density according to Tex-114-E for each different material or notable change in material. Correct the moisture contents measured by nuclear density gauge in Tex-115-E with the moisture contents determined in accordance with Tex-103-E, as necessary for control, for each different material or notable change in material, and adjust the density accordingly.
				Cut: each 6,000 LF	
RETAINING WALL (NON-SELECT BACKFILL)	As shown above for EMBANKMENT (CUTS & FILLS)				Sample in accordance with Tex-100-E.

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TABLE I – EMBANKMENTS, SUBGRADES, BACKFILL, AND BASE COURSES					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (D)**	**FREQUENCY OF SAMPLING (F)**	**REMARKS**
RETAINING WALL (SELECT BACKFILL)	Plasticity Index **(A)**	Tex-106-E	During stockpiling operations, from completed stockpile, or project site. **(B)**	Each 5,000 CY	Required only for Type CS backfill. Sample in accordance with Tex-100-E.
	Gradation	Tex-110-E, Part I	During stockpiling operations, from completed stockpile, or project site. **(B)**	Each 5,000 CY	Required only for drainage aggregate. Sample in accordance with Tex-100-E.
		Tex-401-A			Required for select backfill. Sample in accordance with Tex-100-E.
	Resistivity **(A)**	Tex-129-E	During stockpiling operations, from completed stockpile, or project site. **(B)**	Each 5,000 CY	For material with resistivity between 1,500 ohm-cm and 3,000 ohm-cm, determine chloride and sulfate content as specified in Item 423. Sample in accordance with Tex-100-E.
	pH **(A)**	Tex-128-E	During stockpiling operations, from completed stockpile, or project site. **(B)**	Each 5,000 CY	Sample in accordance with Tex-100-E.
	Magnesium Soundness	Tex-411-A	During stockpiling operations, or from completed stockpile.	1 per source, per project	Sample in accordance with Tex-100-E.
	Micro-Deval	Tex-461-A	During stockpiling operations, or from completed stockpile	1 per source, per project	May be used as an alternate to the magnesium soundness only when the percent loss from the Micro-Deval is not >20%. When percent loss from Micro-Deval is >20%, the magnesium soundness test governs aggregate verification. Sample in accordance with Tex-100-A.

TABLE I – EMBANKMENTS, SUBGRADES, BACKFILL, AND BASE COURSES					
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MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (D)**	**FREQUENCY OF SAMPLING (F)**	**REMARKS**
RETAINING WALL (SELECT BACKFILL) (continued)	In-Place Density **(A)**	Tex-115-E, Part I	As directed by the Engineer.	1 per backfill lift, per wall	Determine random testing locations in accordance with Tex-115-E, Part IV. Not required for rock backfill. For walls greater than 500 ft. in length, perform 1 test per lift for every 500 ft. in length. **(F)**
UNTREATED BASE COURSES	Liquid Limit **(A)**	Tex-104-E	During stockpiling operations, from completed stockpile, or windrow. **(B)**	Each 5,000 CY	Sample in accordance with Tex-100-E.
	Plasticity Index **(A)**	Tex-106-E	During stockpiling operations, from completed stockpile, or windrow. **(B)**	Each 5,000 CY	Sample in accordance with Tex-100-E.
	Gradation **(A)**	Tex-110-E, Part I	During stockpiling operations, from completed stockpile, or windrow. **(B)**	Each 5,000 CY	May require the #200 sieve when allowing to waive the unconfined compressive strength for Grade 1–Grade 2 only. Sample in accordance with Tex-100-E.
	Moisture/Density	Tex-113-E	From completed stockpile at the source **(E)**	Each 20,000 CY	Not required for ordinary compaction. Sample in accordance with Tex-100-E.
	Wet Ball Mill **(A)**	Tex-116-E, Parts I & II	From completed stockpile at the source **(E)**	Each 20,000 CY	Required for Grade 1–Grade 2 and Grade 5, and as shown on the plans for Grade 4. Sample in accordance with Tex-100-E.

TABLE I – EMBANKMENTS, SUBGRADES, BACKFILL, AND BASE COURSES					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (D)**	**FREQUENCY OF SAMPLING (F)**	**REMARKS**
UNTREATED BASE COURSES (continued)	Strength **(A)**	Tex-117-E, Part II	From completed stockpile at the source **(E)**	Each 20,000 CY	Required for Grade 1–Grade 2 and Grade 5, and as shown on the plans for Grade 4. When base material is from a source where the District has a record of satisfactory triaxial results, the frequency of testing may be reduced to 1 per 30,000 CY. If any 1 test falls below the minimum value required, the frequency of testing will return to the original frequency of 20,000 CY. Testing may be waived when meeting the #200 sieve requirement for Grade 1–Grade 2 only. Sample in accordance with Tex-100-E.
	In-Place Density **(A)**	Tex-115-E, Part I	As directed by the Engineer	Each 3,000 CY Min 1 per lift	Correct the moisture contents measured by nuclear density gauge in Tex-115-E with the moisture contents determined in accordance with Tex-103-E, as necessary for control, for each different material or notable change in material, and adjust the density accordingly.
	Thickness **(A)**	Tex-140-E	As directed by the Engineer	Each 3,000 CY	Not required where survey grade control documents are compliant.
	Ride Quality **(A)**	Tex-1001-S Surface Test Type B	Final riding surface of each travel lane		Only applies to the final travel lanes that receive a 1- or 2-course surface treatment for the final riding surface, unless otherwise shown on the plans.

This is a guide for minimum sampling and testing.
Testing frequency may need to be increased for high material variability or when test results approach specification limits.

TABLE I – EMBANKMENTS, SUBGRADES, BACKFILL, AND BASE COURSES

				PROJECT TESTS		
MATERIAL OR PRODUCT		**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (D)**	**FREQUENCY OF SAMPLING (F)**	**REMARKS**
TREATED SUBGRADE AND BASE COURSES	SUBGRADE BEFORE TREATMENT	Organic Content **(A)**	Tex-148-E	As directed by the Engineer	1 per project	Required for existing subgrade material and material imported from a borrow source. Soil survey and geologic maps may be used to determine sampling locations. When treating with lime and results fail to meet specification, the Engineer may perform a pH series or as directed. This will determine if there is a significant decrease in pH to justify using more lime. Sample in accordance with Tex-100-E.
		Sulfate Content	Tex-145-E, Part II	As directed by the Engineer	1 per 500-LF section or 5,000 CY	Required for existing subgrade material and material imported from a borrow source. Soil survey and geologic maps may be used to determine sampling locations. Sample in accordance with Tex-100-E.
	NEW BASE MATERIAL	Liquid Limit **(A)**	Tex-104-E	During stockpiling operations, from completed stockpile, or windrow. **(B)**	Each 5,000 CY	When central mix site or plant is used, windrow sampling may be waived. Sample in accordance with Tex-100-E.
		Plasticity Index **(A)**	Tex-106-E	During stockpiling operations, from completed stockpile, or windrow. **(B)**	Each 5,000 CY	Sample in accordance with Tex-100-E.
		Gradation **(A)**	Tex-110-E, Part I	During stockpiling operations, from completed stockpile, or windrow. **(B)**	Each 5,000 CY	Sample in accordance with Tex-100-E.
		Wet Ball Mill **(A)**	Tex-116-E, Part I & II	From completed stockpile at the source **(C)**	Each 20,000 CY	Required for Grade 1–Grade 2 and Grade 5, and as shown on the plans for Grade 4. Sample in accordance with Tex-100-E.

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TABLE I – EMBANKMENTS, SUBGRADES, BACKFILL, AND BASE COURSES						
				PROJECT TESTS		
MATERIAL OR PRODUCT		TEST FOR	TEST NUMBER	LOCATION OR TIME OF SAMPLING (D)	FREQUENCY OF SAMPLING (F)	REMARKS
TREATED SUBGRADE AND BASE COURSES (continued)	LIME	Compliance with DMS-6350	Tex-600-J	During delivery to project	Commercial and quicklime slurry: Each 200 tons of lime, per source	Sample in accordance with Tex-600-J. Verify the source is listed on the current MPL for commercial lime slurry. Only materials appearing on the MPL will be accepted. **(C)** Verify the sources for dry lime are listed on the MPL. If not on the MPL, sample the material at a rate of 1 per source and submit to MTD for testing prior to use.
	CEMENT	Compliance with DMS-4600		Railroad car, truck, or cement bins		Verify the source is listed on the current MPL for cement. If not, sample in accordance with DMS-4600. **(C)**
	COAL ASH MATERIAL	Compliance with DMS-4615		Project samples at location directed by the Engineer		Verify the source is listed on the current MPL for coal ash. Only materials from MTD-approved sources appearing on the MPL will be accepted. Project testing is not required but it is encouraged to sample and test the material at a rate of 1 per project as a best practice. **(C)**
	COMPLETE MIXTURE	Pulverization Gradation	Tex-101-E, Part III	Roadway, after pulverization and mixing	As necessary for control	At the beginning of the project, 1 test must be made for each 4,500 CY or 6,000 tons until the Engineer is satisfied that acceptable pulverization results are being obtained. Sample in accordance with Tex-100-E.
		Moisture/Density Curve	Part I for Tex-120-E, Tex-121-E, Tex-122-E, or Tex-134-E	From roadway windrow after treatment	Each 20,000 CY	Not required for ordinary compaction. Determine a new moisture/density curve for each different or notable change in material. Sample in accordance with Tex-100-E.

TABLE I – EMBANKMENTS, SUBGRADES, BACKFILL, AND BASE COURSES						
				PROJECT TESTS		
MATERIAL OR PRODUCT		**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (D)**	**FREQUENCY OF SAMPLING (F)**	**REMARKS**
TREATED SUBGRADE AND BASE COURSES (continued)	COMPLETE MIXTURE (continued)	Strength **(A)**	Part II for Tex-120-E, Tex-121-E, Tex-122-E, or Tex-134-E	From roadway after treatment	Minimum 1 per project	Perform strength testing for each different or notable change in material. For cement-treated base (CTB): A higher sampling and testing frequency of 1 test per day of production will be at the Engineer's discretion for CTB layers that are part of the pavement section. Sample in accordance with Tex-100-E.
		In-Place Density **(A)**	Tex-115-E, Part I	As directed by the Engineer	Each 3,000 CY Min 1 per lift	Determine random testing locations in accordance with Tex-115-E, Part IV. Determine the appropriate moisture/density curve for each different material or notable change in material. Correct the moisture contents measured by nuclear density gauge in Tex-115-E with the moisture contents determined in accordance with Tex-103-E, as necessary for control, for each different material or notable change in material, and adjust the density accordingly.
		Thickness **(A)**	Tex-140-E	As directed by the Engineer	Each 3,000 CY	Not required where survey grade control documents are used for compliance.

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			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (D)**	**FREQUENCY OF SAMPLING (F)**	**REMARKS**
RECLAIMED ASPHALT PAVEMENT (RAP), CRUSHED CONCRETE, AND RECYCLED MATERIALS	Sulfate Content	Tex-145-E, Part II	During stockpiling operations, from completed stockpile, or windrow.	Each 5,000 CY	Not required for RAP. Sample in accordance with Tex-100-E.
	Deleterious Material	Tex-413-A		Each 5,000 CY	Sample in accordance with Tex-100-E.
	Decantation	Tex-406-A, Part I		Each 5,000 CY	Sample in accordance with Tex-100-E.

TABLE I – FOOTNOTES	
A	When this project acceptance test fails but the product is accepted, document the reasons for acceptance in SiteManager, in the remarks field, and on the Material Certification Letter at the end of the project.
B	Engineer will select any of these locations or any combinations thereof with the provision that the initial sample will be obtained from the completed stockpile at the source and at least one out of ten consecutive samples will be taken at the project site (from the windrow for treated and untreated bases and embankments when possible).
C	Attach the corresponding QM test report for SiteManager projects to satisfy project sampling and testing requirements.
D	For acceptance testing, random sampling and testing is required to avoid patterned sampling routines. Examples of such sampling practices are as follows: • Soils/Flexible Base: For gradation, liquid limit, and plastic limit, vary sampling between stockpiling operations, completed stockpile, windrow, and project site. Vary the time of day sampling is performed. • Aggregates: Sample aggregates nearest the point of incorporation into the work. Vary sampling between stockpiling operations, completed stockpile, belt sampling, and if deemed necessary, railroad cars/trucks. Vary the time of day sampling is performed.
E	The Engineer will sample from the completed stockpile at the source and test before placement.
F	Each test performed that is based on a quantity of material is considered "or fraction thereof" for calculating number of tests.

TABLE IA – ASPHALT-TREATED BASE (Plant-Mix)					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (C)**	**FREQUENCY OF SAMPLING (D)**	**REMARKS**
AGGREGATE	Liquid Limit **(A)**	Tex-104-E	During stockpiling operations, from completed stockpile, or before mixing	Each 5,000 CY	Sample in accordance with Tex-221-F.
	Plasticity Index **(A)**	Tex-106-E	During stockpiling operations, from completed stockpile, or before mixing	Each 5,000 CY	Sample in accordance with Tex-221-F.
	Wet Ball Mill **(A)**	Tex-116-E, Parts I & II	During stockpiling operations, from completed stockpile, or before mixing	1 per project, per source	Sample in accordance with Tex-221-F.
LIME	Compliance with DMS--6350	Tex-600-J	During delivery to the project	Commercial slurry: Each 200 tons of lime slurry per source **(D)**	Sample in accordance with Tex-600-J. Verify the source is listed on the current MPL for commercial lime slurry. Only materials appearing on the MPL will be accepted. **(C)** Verify the sources of dry lime are listed on the MPL. If not on the MPL, sample the material at a rate of 1 per source and submit to MTD for testing before use. (C) On projects requiring less than 50 tons, material from MTD approved sources may be accepted on the basis of Producer's Certification without sampling.
RECLAIMED ASPHALT PAVEMENT (RAP) AND RECYCLED AGGREGATE	Decantation	Tex-406-A, Part I	During stockpiling operations, from completed stockpile, or before mixing	Each 10,000 CY	Sample in accordance with Tex-221-F.
RECYCLED ASPHALT SHINGLES (RAS)	Decantation	Tex-217-F, Part III	During stockpiling operations, from completed stockpile, or before mixing	Each 10,000 CY	Sample in accordance with Tex-221-F.

TABLE IA – ASPHALT-TREATED BASE (Plant-Mix)					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (C)**	**FREQUENCY OF SAMPLING (D)**	**REMARKS**
ASPHALT BINDER	Compliance with Item 300		Sampling port nearest the storage tank.	1 per project, per grade, per source	Test a minimum of 1 sample taken from the project. Sample binder in accordance with Tex-500-C, Part II. Verify that the binder is from a preapproved source when it arrives at the project, and that the lab number on the shipping ticket is within the valid dates shown in the MTD QM test report or in the SiteManager Assistant. The Engineer must associate one QM sample per project in SiteManager.
TACK COAT	Compliance with Item 300		Distributor	1 per project, per grade, per source	Test a minimum of 1 sample taken from the project. Sample tack coat in accordance with Tex-500-C, Part III. Verify that the binder is from a preapproved source when it arrives at the project, and that the lab number on the shipping ticket is within the valid dates shown in the MTD QM test report or in the SiteManager Assistant. The Engineer must associate one QM sample per project in SiteManager.
COMPLETE MIXTURE	Gradation **(A)**	Tex-200-F, Part I	Plant Mix **(C)**	20,000 CY (25,000 ton)	Sample in accordance with Tex-222-F. Determine the gradation of the aggregate from the complete mixture tested in accordance with Tex-236-F.
	Laboratory Density **(A)**	Tex-126-E	Plant Mix **(C)**	20,000 CY (25,000 ton)	Sample in accordance with Tex-222-F.
	Percent Asphalt **(A)**	Tex-236-F	Plant Mix **(C)**	Each 1,500 CY (2,000 ton) or days production	Determine an asphalt content correction factor for ignition oven at a minimum of one per project. Sample in accordance with Tex-222-F.
	Indirect Tensile Strength—Dry	Tex-226-F	Plant Mix	1 per project, per design	Sample in accordance with Tex-222-F.
	Moisture Susceptibility	Tex-530-C	As directed by the Engineer	1 per project, per design	This test may be waived. Sample in accordance with Tex-222-F.

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MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (C)**	**FREQUENCY OF SAMPLING (D)**	**REMARKS**
ROADWAY	In-Place Air Voids **(A)**	Tex-207-F Part I or VI and Tex-227-F Part I or II or III	Roadway cores, as directed by the Engineer. **(C, D)**	Each 3,000 CY Min 1 per lift	Not required for ordinary compaction or when air void requirements are waived. Sample in accordance with Tex-222-F.
	Ride Quality	Tex-1001-S surface test Type A	On finished surface		Only required when shown on the plans.

TABLE IA – FOOTNOTES	
A	When this project acceptance test fails but the product is accepted, document the reasons for acceptance in SiteManager, in the remarks field, and on the Material Certification Letter at the end of the project.
B	Engineer will select any of these locations or any combinations thereof with the provision that at least one out of ten consecutive samples will be taken at the project site (from the windrow for treated and untreated bases and embankments when possible).
C	For acceptance testing, random sampling and testing is required to avoid patterned sampling routines. Examples of such sampling practices are as follows: • Soils/Flexible Base: For gradation, liquid limit, and plastic limit, vary sampling between stockpiling operations, completed stockpile, windrow, and project site. Vary the time of day sampling is performed. • Aggregates: Sample aggregates nearest the point of incorporation into the work. Vary sampling between stockpiling operations, completed stockpile, belt sampling, and if deemed necessary, railroad cars/trucks. Vary the time of day sampling is performed.
D	Each test performed, that is based on a quantity of material, is considered "or fraction thereof" for calculating number of tests.

TABLE II – SEAL COAT					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (C)**	**FREQUENCY OF SAMPLING (D)**	**REMARKS**
AGGREGATE	Surface Aggregate Classification **(A)**	Tex-612-J	Stockpile	1 per project, per source	Only required when shown on the plans. Verify the published value of the source, as listed on the current BRSQC, meets the project specifications. If not, sample and test at 1 per 20,000 CY before use. Sample in accordance with Tex-221-F. **(B)**
	Gradation **(A)**	Tex-200-F, Part I	Stockpile (at source or at point of delivery)	Each 1,000 CY	Rate may be reduced to each 2,000 CY if the Engineer approves a contractor quality control plan. Sample in accordance with Tex-221-F.
	L.A. Abrasion **(A)**	Tex-410-A	Stockpile	1 per project, per source	Verify the published value of the source, as listed on the current BRSQC, meets the project specifications. If not, sample and test at 1 per 20,000 CY before use. Sample in accordance with Tex-221-F. **(B)**
	Magnesium Soundness **(A)**	Tex-411-A	Stockpile	1 per project, per source	
	Pressure Slake **(A)**	Tex-431-A	Stockpile	Each 20,000 CY	Required only for lightweight aggregate. Verify the published value of the source, as listed on the current BRSQC, meets the project specifications. If not, sample and test at 1 per 20,000 CY before use. Sample in accordance with Tex-221-F.
	Freeze Thaw **(A)**	Tex-432-A	Stockpile	Each 20,000 CY	
	Unit Weight	Tex-404-A	Stockpile	Each 20,000 CY	
	24-hr. Water Absorption **(A)**	Tex-433-A	Stockpile	Each 20,000 CY	
	Crushed Face Count	Tex-460-A, Part I	Stockpile	Each 20,000 CY	Only required for crushed gravel. Sample in accordance with Tex-221-F.
	Deleterious Material **(A)**	Tex-217-F, Part I	Stockpile	Each 10,000 CY	Sample in accordance with Tex-221-F.
	Decantation **(A)**	Tex-406-A	Stockpile	Each 10,000 CY	
	Flakiness Index	Tex-224-F	Stockpile	Frequency as directed by the Engineer.	

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			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (C)**	**FREQUENCY OF SAMPLING (D)**	**REMARKS**
LRA AGGREGATE	Gradation **(A)**	Tex-200-F, Part I	Stockpile (at source or at point of delivery)	Each 3,000 tons	Rate may be reduced by MTD based on satisfactory test history. Sample in accordance with Tex-221-F.
	L.A. Abrasion **(A)**	Tex-410-A	Stockpile	Each 20,000 CY	Sample in accordance with Tex-221-F. **(B)**
	Magnesium Soundness **(A)**	Tex-411-A	Stockpile	Each 20,000 CY	
	Surface Aggregate Classification **(A)**	Tex-612-J, Tex-411-A	Stockpile	Each 20,000 CY	
	Unit Weight	Tex-404-A	Stockpile	Each 20,000 tons	Required only for lightweight aggregate. Sample in accordance with Tex-221-F.
	Deleterious Material **(A)**	Tex-217-F, Part I	Stockpile	1 per month, per grade	Rate may be reduced by MTD based on satisfactory test history. Sample in accordance with Tex-221-F.
	Decantation **(A)**	Tex-406-A	Stockpile	1 per month, per grade	
	Flakiness Index	Tex-224-F	Stockpile	1 per month, per grade	
	Micro Deval	Tex-461-A	Stockpile	1 per month	Rate may be reduced by MTD based on satisfactory test history. Sample in accordance with Tex-221-F.
	White Rock Count	Tex-220-F	Stockpile	Each 6,000 tons, per grade	Rate may be reduced by MTD based on satisfactory test history. Sample in accordance with Tex-221-F.

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			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (C)**	**FREQUENCY OF SAMPLING (D)**	**REMARKS**
LRA AGGREGATE (continued)	Naturally Impregnated Bitumen Content	Tex-236-F, Part I	Stockpile	Each 5,000 tons	Rate may be reduced by MTD based on satisfactory test history. Sample in accordance with Tex-221-F.
PRECOATED AGGREGATE	Asphalt Content	Tex-236-F	Stockpile	Frequency as directed by the Engineer when a target value is specified.	Sample in accordance with Tex-221-F.
	Gradation **(A)**	Tex-200-F, Part I	Stockpile (at source or at point of delivery)	Each 10,000 tons	Required only for LRA aggregate. Rate may be reduced by MTD based on satisfactory test history. Sample in accordance with Tex-221-F.
ASPHALT BINDER	Compliance with Item 300		Distributor	1 per project, per grade, per source	Test a minimum of 1 sample taken from the project. Sample asphalt binder in accordance with Tex-500-C, Part III. Verify that the binder is from a preapproved source when it arrives at the project, and that the lab number on the shipping ticket is within the valid dates shown in the MTD QM test report or in the SiteManager Assistant. The Engineer must associate one QM sample per project in SiteManager.

TABLE II – FOOTNOTES	
A	When this project acceptance test fails but the product is accepted, document the reasons for acceptance in SiteManager, in the remarks field, and on the Material Certification Letter at the end of the project.
B	Attach the corresponding QM test report for SiteManager projects to satisfy project sampling and testing requirements.
C	For acceptance testing, random sampling and testing is required to avoid patterned sampling routines. Examples of such sampling practices are as follows: • Aggregates: Sample aggregates nearest the point of incorporation into the work. Vary sampling between stockpiling operations, completed stockpile, belt sampling, and if deemed necessary, railroad cars/trucks. Vary the time of day sampling is performed.
D	Each test performed, that is based on a quantity of material, is considered "or fraction thereof" for calculating number of tests.

TABLE III – HYDRAULIC CEMENT CONCRETE – STRUCTURAL (Classes: C, F, H, S, CO, K, LMC, or SS)						
				PROJECT TESTS		
MATERIAL OR PRODUCT		TEST FOR	TEST NUMBER	LOCATION OR TIME OF SAMPLING (D)	FREQUENCY OF SAMPLING (E)	REMARKS
MINERAL AGGREGATE	COARSE AGGREGATE	Decantation **(B)**	Tex-406-A	From stockpile at concrete plant	Each 20,000 CY of concrete (per source)	Sample in accordance with Tex-400-A. When decant exceeds 1.5%, perform Tex-406-A, Part III to determine if higher decant values are allowed.
		Sieve Analysis **(A) (B)**	Tex-401-A		Each 1,000 CY of concrete (per source)	Sample in accordance with Tex-400-A. Test combined aggregate when used.
		Deleterious Materials **(B)**	Tex-413-A		1 per project, per source	Sample in accordance with Tex-400-A.
		Los Angeles Abrasion **(A) (B)**	Tex-410-A		1 per project, per source	Verify the value of the source, as listed on the current MPL for CRSQC, meets the project specifications. If not, sample and submit to MTD for testing before use in accordance with Tex-499-A. **(C)** Sample in accordance with Tex-400-A.
		Magnesium Soundness **(A) (B)**	Tex-411-A		1 per project, per source	
	FINE AGGREGATE	Sand Equivalent **(B)**	Tex-203-F	From stockpile at concrete plant	1 per project, per source	Sample in accordance with Tex-400-A. Test combined aggregate when used.
		Organic Impurities **(B)**	Tex-408-A		1 per project, per source	Sample in accordance with Tex-400-A.
		Sieve Analysis **(A) (B)**	Tex-401-A		Each 1,000 CY of concrete (per source)	Sample in accordance with Tex-400-A.
		Fineness Modulus **(B)**	Tex-402-A		1 per project, per source	Sample in accordance with Tex-400-A. Test combined aggregate when used. Test to confirm material variability when strength values are in question.
		Deleterious Material **(B)**	Tex-413-A		1 per project, per source	Sample in accordance with Tex-400-A. Test to confirm material variability when strength values are in question.
MINERAL AGGREGATE (continued)	FINE AGGREGATE (continued)	Acid Insoluble Residue **(A) (B)**	Tex-612-J	From stockpile at concrete plant	1 per project, per source	Only for concrete subject to direct traffic. Verify the value of the source, as listed on the current CRSQC, meets the project specifications. If not, sample and submit to MTD for testing before use in accordance with Tex-499-A. **(C)** Sample in accordance with Tex-400-A.

TABLE III – HYDRAULIC CEMENT CONCRETE – STRUCTURAL (Classes: C, F, H, S, CO, K, LMC, or SS)					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (D)**	**FREQUENCY OF SAMPLING (E)**	**REMARKS**
MIX DESIGN	Compliance with the Project Specification Items			All designs per class, per source	Verify whether cement, coal ash, slag cement, silica fume, natural pozzolan, and chemical admixture sources are listed on the MPLs. If not listed on the MPL, sample and submit to MTD for testing. **(C)** Water testing is contracted by the concrete supplier (commercial lab report to be reviewed by TxDOT). Sample in accordance with Tex-300-D for cement, in accordance with Tex-733-I for coal ash and natural pozzolan, in accordance with ASTM C989 for slag cement, and in accordance with ASTM C1240 for silica fume.
JOINT MATERIAL	Compliance with DMS-6310			1 per project, per source	Verify the source is listed on the MPL for joint sealers. If not, sample and submit to MTD for testing. **(C)** Sample in accordance with Tex-500-C.
CURING COMPOUND	Compliance with DMS-4650		Sampled at jobsite; tested by MTD. See Remarks.	When requested by MTD	Only products listed on the MPL for concrete curing compounds will be allowed. **(C)** When sample is requested by MTD, sample in accordance with Tex-718-I. Ensure container has been agitated and mixed before sampling.
EVAPORATION RETARDANTS	Compliance with DMS-4650				Only products listed on the MPL for evaporation retardants will be allowed.
REINFORCING STEEL	Compliance with the Project Specifications				Only materials from MTD-approved sources listed on the MPLs for reinforcing steel mills and seven-wire steel strand will be allowed. **(C)**
MECHANICAL COUPLERS	Compliance with DMS-4510	Tex-744-I	Sampled at jobsite; tested by MTD	3 couplers per lot (500 couplers) for each type, model, bar size, and grade	Only materials from MTD-approved sources listed on the MPL for mechanical couplers will be allowed.
LATEX	Compliance with DMS-4640				Verify the latex is listed on the MPL for chemical admixtures.

TABLE III – HYDRAULIC CEMENT CONCRETE – STRUCTURAL (Classes: C, F, H, S, CO, K, LMC, or SS)					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (D)**	**FREQUENCY OF SAMPLING (E)**	**REMARKS**
EPOXY	Compliance with DMS-6100, Unless Otherwise Specified		Sampled at jobsite if not preapproved by MTD	1 per batch or shipment	Verify the source is listed on the MPL for epoxies and adhesives. If not, sample in accordance with Tex-734-I and submit to MTD for testing.
CONCRETE	Compressive Strength **(A)**	Tex-418-A	At point of concrete placement	4 cylinders for each 60 CY per class, per design, per day For bridge railing and traffic railing: Testing may be reduced to 4 cylinders for each 180 CY per class, regardless of days	Sample in accordance with Tex-407-A. Making additional cylinders for 56-day testing should be considered when slow strength gain mixtures are being used, or when the approved mix design has a history of failing to meet design strength at 28 days. Test 2 cylinders at 7 days and if the average value is below the design strength as defined in Item 421, Table 8, test the remaining 2 cylinders at 28 days, or 56 days (with contractor agreement) if additional cylinders were not made. If the average value of the 2 cylinders tested at 7 days meets the minimum design strength listed in Item 421, Table 8, the remaining cylinders are not required to be tested. If the average value of the 7- and 28-day cylinders is below the design strengths, and 56-day cylinders were made, test the remaining set at 56 days.
CONCRETE (continued)	Slump	Tex-415-A	At point of concrete placement (continued)	1 test, each time strength specimens are cast	Sample in accordance with Tex-407-A. Perform slump and temperature tests on the same load from which strength test specimens are made. Perform entrained air test only when entrained air concrete is specified on the plans. Check temperature of every load for bridge slabs and mass concrete placements.
	Entrained Air **(A)**	Tex-416-A or Tex-414-A			
	Temperature of Concrete **(A)**	Tex-422-A			
ROADWAY	Bridge Deck or Culvert Top Slab Thickness and Depth of Reinforcement	Tex-423-A, Part II	During dry run and during concrete placement (Bridge decks and direct traffic culverts)	3 per Bay, per span	

TABLE III – FOOTNOTES	
A	When this project acceptance test fails but the product is accepted, document the reasons for acceptance in SiteManager, in the remarks field, and on the Material Certification Letter at the end of the project.
B	These Project Tests may be used for one or more projects being furnished concrete from the same plant during the same period.
C	Attach the corresponding QM test report for SiteManager projects to satisfy project sampling and testing requirements.
D	For acceptance testing, especially that which directly determines payment for the Contractor, sampling personnel should provide randomness in sampling by avoiding patterned sampling routines. Examples of such sampling practices are as follows: • Aggregates: Sample aggregates nearest the point of incorporation into the work. Vary sampling between stockpiling operations, completed stockpile, and if deemed necessary, railroad cars/trucks. Vary the time of day sampling is performed. • Concrete (structural): Always sample as near as practicable to the point of placement. For strength testing, vary the time of day or the number of truck from which the concrete is sampled.
E	Each test performed, that is based on a quantity of material, is considered "or fraction thereof" for calculating number of tests.

TABLE IV – HYDRAULIC CEMENT CONCRETE – NON-STRUCTURAL CONCRETE (Classes: A, B, or E)					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING (B)**	**FREQUENCY OF SAMPLING (C)**	**REMARKS**
MIX DESIGN	Compliance with the Project Specification			All designs per class, per source	Verify whether cement, coal ash, slag cement, silica fume, natural pozzolans, and chemical admixture sources are listed on the MPLs. If not listed on the MPL, sample and submit to MTD for testing. **(C)** Water testing is contracted by the concrete supplier (commercial lab report to be reviewed by TxDOT). Sample in accordance with Tex-300-D for cement, in accordance with Tex-733-I for coal ash and natural pozzolan, in accordance with ASTM C989 for slag cement, and in accordance with ASTM C1240 for silica fume.
CONCRETE	Compressive Strength **(A)**	Tex-418-A	At point of concrete placement	2 cylinders for each 180 CY per class, per design, per day	Sample in accordance with Tex-407-A. Strength will be determined by 7-day specimens.

TABLE IV – FOOTNOTES	
A	When this project acceptance test fails but the product is accepted, document the reasons for acceptance in SiteManager, in the remarks field, and on the Material Certification Letter at the end of the project.
B	For acceptance testing, especially that which directly determines payment for the Contractor, sampling personnel should provide randomness in sampling by avoiding patterned sampling routines. Examples of such sampling practices are as follows: • Concrete (Non-Structural): Always sample as near as practicable to the point of placement. For strength testing, vary the time of day or the number of trucks from which the concrete is sampled.
C	Each test performed, that is based on a quantity of material, is considered "or fraction thereof" for calculating number of tests.

TABLE V – GROUT (VARIOUS APPLICATIONS)						
				PROJECT TESTS		
MATERIAL OR PRODUCT		**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING**	**FREQUENCY OF SAMPLING**	**REMARKS**
ROCK/SOIL NAIL ANCHORS	MIX DESIGN	Compliance with Standard Specification Item 410 and Item 411			All designs, per source	Verify whether cement, coal ash, slag cement, silica fume, natural pozzolans, and chemical admixture sources are list on the MPLs. If not, sample and submit to MTD for testing. **(C)** Water testing is contracted by supplier (commercial lab report to be reviewed by TxDOT). Sample in accordance with Tex-300-D for cement, in accordance with Tex-733-I for coal ash and natural pozzolan, in accordance with ASTM C 989 for slag cement, and in accordance with ASTM C 1240 for silica fume.
	GROUT	Compressive Strength **(A) (B)**	Tex-418-A or Tex-442-A	At point of placement	1 test per 180 CY, per mix design	Sample in accordance with Tex-447-A or Tex-442-A. Strength will be determined by 7-day specimens. Cube strength based on average of 3 specimens (2-in. cubes). Cylinder strength based on average of 2 specimens (3"×6" cylinders).
MISCELLANEOUS APPLICATIONS	GROUT	Compressive Strength **(A) (B)**	Cylinders: Tex-418-A or Cubes: Tex-442-A (DMS-4675)	At point of placement	1 test per day, per product	Sample in accordance with Tex-447-A or Tex-442-A. Strength will be determined by 7-day specimens. Cube strength based on average of 3 specimens (2-in. cubes). Cylinder strength based on average of 2 specimens (3"×6" cylinders).
POST-TENSIONING	GROUT	Compressive Strength **(A) (B)**	Cylinders: Tex-418-A (DMS-4670)	At point of placement	1 test per day, per product	Sample in accordance with Tex-447-A. Compressive strength is based on average of 2 specimens (3"×6" cylinders). Test 2 cylinders at 7 days, and if the average value is below the design strength as defined in the Specification, then test the remaining 2 cylinders at 28 days.

TABLE V – FOOTNOTES	
A	When this project acceptance test fails but the product is accepted, document the reasons for acceptance in SiteManager, in the remarks field, and on the Material Certification Letter at the end of the project.
B	When a project test does not meet the specified strength requirements and a reduced pay factor is assigned, document the analysis on the Letter of Certification of Materials Used.
C	Attach the corresponding QM test report for SiteManager projects to satisfy project sampling and testing requirements.

TABLE VI – HYDRAULIC CEMENT CONCRETE PAVEMENT (Classes: P or HES)						
				PROJECT TESTS		
MATERIAL OR PRODUCT		**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING**	**FREQUENCY OF SAMPLING (D)**	**REMARKS**
MINERAL AGGREGATE	COARSE AGGREGATE	Decantation	Tex-406-A	From stockpile at concrete plant	Each 20,000 CY of concrete (per source)	Sample in accordance with Tex-400-A. When decant exceeds 1.5%, perform Tex-406-A, Part III to determine whether higher decan values are allowed.
		Sieve Analysis **(A)**	Tex-401-A		Each 20,000 CY of concrete (per source)	Sample in accordance with Tex-400-A. Test combined aggregate when used.
		Deleterious Materials	Tex-413-A		Each 20,000 CY of concrete (per source)	Sample in accordance with Tex-400-A.
		L.A. Abrasion **(A)**	Tex-410-A		1 per project, per source	Verify the value of the source, as listed on the current CRSQC, meets the project specifications. If not, sample and submit to MTD for testing before use in accordance with Tex-499-A. **(C)** Sample in accordance with Tex-400-A.
		Magnesium Soundness **(A)**	Tex-411-A			
	FINE AGGREGATE	Sand Equivalent	Tex-203-F	From stockpile at concrete plant	1 per project, per source	Sample in accordance with Tex-400-A. Test combined aggregate when used.
		Organic Impurities	Tex-408-A		1 per project, per source	Sample in accordance with Tex-400-A, only when air entrained concrete is specified.
		Sieve Analysis **(A)**	Tex-401-A		Each 20,000 CY, per source	Sample in accordance with Tex-400-A. Test combined aggregate when used.
		Fineness Modulus **(B)**	Tex-402-A			
		Deleterious Material **(B)**	Tex-413-A		Each 20,000 CY of concrete (each source)	Sample in accordance with Tex-400-A.
		Acid Insoluble **(A)**	Tex-612-J		1 per project, per source	Verify the value of the source, as listed on the current CRSQC, meets the project specifications. If not, sample and submit to MTD for testing before use in accordance with Tex-499-A. **(C)** Sample in accordance with Tex-400-A.

TABLE VI – HYDRAULIC CEMENT CONCRETE PAVEMENT (Classes: P or HES)					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING**	**FREQUENCY OF SAMPLING (D)**	**REMARKS**
MIX DESIGN	Compliance with Project Specifications			All designs, per class, per source	Verify if cement, coal ash, slag cement, silica fume, natural pozzolans, and chemical admixture sources are listed on the MPLs. If not, sample and submit to MTD for testing. **(C)** Water testing is contracted by the concrete supplier (commercial lab report to be reviewed by TxDOT). Sample in accordance with Tex-300-D for cement, in accordance with Tex-733-I for coal ash and natural pozzolan, in accordance with ASTM C 989 for slag cement, and in accordance with ASTM C 1240 for silica fume.
JOINT MATERIAL	Compliance with DMS-6310			1 per project, per source	Sample in accordance with Tex-500-C. Verify the source is listed on the MPL for joint sealers. If not, sample and submit to MTD for testing. **(C)**
CURING COMPOUND	Compliance with DMS-4650		Sampled at jobsite; tested by MTD. See remarks.	When requested by MTD	Only products listed on the MPL for concrete curing compounds will be allowed. **(C)** When sample is requested by MTD, sample in accordance with Tex-718-I. Ensure container has been agitated and mixed before sampling.
EVAPORATION RETARDANTS	Compliance with DMS-4650				Only products listed on the MPL for evaporation retardants will be allowed.
REINFORCING STEEL	Compliance with the Project Specifications				Only materials from MTD-approved sources listed on the MPL for reinforcing steel mills and seven-wire steel strand will be accepted. **(C)**
MULTIPLE PIECE TIE BARS	Compliance with DMS-4515	Tex-712-I	Sampled at jobsite; tested by MTD. See remarks.	1 per project, per size, per manufacturer	Only materials from MTD-approved sources listed on the MPL for multiple piece tie bars for concrete pavements will be allowed. Sample in accordance with Tex-711-I.
EPOXY	Compliance with DMS-6100		Sampled at jobsite, if not preapproved by MTD. See Remarks.	1 per project, per source	Verify the source is listed on the MPL for epoxies and adhesives. If not, sample and submit to MTD for testing. Sample in accordance with Tex-734-I.

TABLE VI – HYDRAULIC CEMENT CONCRETE PAVEMENT (Classes: P or HES)					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OR TIME OF SAMPLING**	**FREQUENCY OF SAMPLING (D)**	**REMARKS**
CONCRETE **(E)**	Strength **(A) (B)**	Tex-418-A	At point of concrete placement	4 cylinders for each 3,000 SY per class, per mix design	Sample in accordance with Tex-407-A. Select sample locations in accordance with Tex-435-A.
	Slump	Tex-415-A	At time and location when strength specimens are made	1 test, each time strength specimens are cast	Sample in accordance with Tex-407-A. Slump is not required for slip-formed pavement. Perform slump and temperature tests on the same load from which the strength specimens are made. Perform entrained air test only when entrained air concrete is specified on the plans.
	Entrained Air **(A)**	Tex-416-A or Tex-414-A			
	Temperature	Tex-422-A			
ROADWAY	Pavement Texture	Tex-436-A	Final riding surface of travel lanes	1 per day, per driving lane	Perform when carpet drag is the only surface texture required on the plans.
	Thickness	Tex-423-A, Part I	Center of paving machine	Every 500 ft.	Methods other than Tex-423-A may be shown on the plans.
	Ride Quality **(A)**	Tex-1001-S surface test Type B	Final riding surface of travel lanes		Engineer may verify contractor's results for surface test Type B. For traditional design-bid-build TxDOT projects, MTD has contracted with TTI to perform random ride verification at 10% frequency. Results from surface test Type A are not required to be reported.
	Depth of Joint Saw Cut	Tex-423-A, Part III	Within 24 hrs. after saw cutting or before joint sealing, whichever is sooner.	Every 500 ft. for longitudinal contraction joints or 10% of transverse contraction joints.	

TABLE VI – FOOTNOTES	
A	When this project acceptance test fails but the product is accepted, document the reasons for acceptance in SiteManager, in the remarks field, and on the Material Certification Letter at the end of the project.
B	When a project test does not meet the specified strength requirements and a reduced pay factor is assigned, document the analysis on the Letter of Certification of Materials Used.
C	Attach the corresponding QM test report for SiteManager projects to satisfy project sampling and testing requirements.
D	Each test performed, that is based on a quantity of material, is considered "or fraction thereof" for calculating number of tests.
E	Perform random sampling as specified in Tex-435-A, "Random Sampling of Hydraulic Cement Concrete for Rigid Pavements."

TABLE VII – HOT-MIX ASPHALT PAVEMENT (Items 341, 342, 344, 346, 347, and 348) (All testing as noted in Table VII may be waived for exempt production as defined by Specification.)					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION (Per Design)**	**FREQUENCY OF SAMPLING (E)**	**REMARKS**
COARSE AGGREGATE	L.A. Abrasion **(A)**	Tex-410-A	Stockpile **(B)**	1 per project, per source	Verify the published value of the source, as listed on the current MPL for BRSQC, meets the project specifications. If not, sample in accordance with Tex-221-F and submit to MTD for testing before use in accordance with Tex-499-A. **(C)**
	Magnesium Soundness **(A)**	Tex-411-A			
	Surface Aggregate Classification **(A)**	Tex-499-A			
	Micro-Deval	Tex-461-A		1 per aggregate source	Not required when the rated source soundness magnesium loss is 15 or less as listed on the current published BRSQC. If testing is required, sample in accordance with Tex-221-F.
FINE AGGREGATE	Sand Equivalent	Tex-203-F	Stockpiles, hot bins, or feeder belts	1 per aggregate source, per design	Does not apply to Item 342. Sample in accordance with Tex-221-F. The timing of when the test is performed is at the discretion of the Engineer.
ASPHALT BINDER	Compliance with Item 300 **(A)**		Sampling port nearest the storage tank	1 per project, per grade, per source	Test a minimum of 1 sample taken from the project. Sample binder at hot-mix plant in accordance with Tex-500-C, Part II. Verify that the binder is from a preapproved source when it arrives at the project, and that the lab number on the shipping ticket is within the valid dates shown in the MTD QM test report or in the SiteManager Assistant. The Engineer must associate 1 QM sample, per project in SiteManager.

TABLE VII – HOT-MIX ASPHALT PAVEMENT (Items 341, 342, 344, 346, 347, and 348) (All testing as noted in Table VII may be waived for exempt production as defined by Specification.)					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION (Per Design)**	**FREQUENCY OF SAMPLING (E)**	**REMARKS**
TACK COAT	Compliance with Item 300 **(A)**		Distributor	1 per project, per grade, per source	Test a minimum of 1 sample taken from the project. Sample tack coat in accordance with Tex-500-C, Part III. Verify that the binder is from a preapproved source when it arrives at the project, and that the lab number on the shipping ticket is within the valid dates shown in the MTD QM test report or in the SiteManager Assistant. The Engineer must associate 1 QM sample, per project in SiteManager.
MIX DESIGN	Compliance with applicable Specification	Tex-204-F	At source (if not approved)	Min 1 design per mix type and asphalt grade	Verify that aggregates, recycled asphalt pavement, recycled asphalt shingles, mineral filler, asphalt binder, anti-stripping additives, and warm mix systems are on the MPL where applicable and that they meet project specification requirements. Project sampling and testing may be conducted on individual materials as necessary for control.
COMPLETE MIXTURE	Asphalt Content (%) **(A)**	Tex-236-F	Engineer truck sample **(D)**	Min. 1 per lot	Sample in accordance with Tex-222-F. Determine correlation factors for ignition oven using Tex-236-F at a minimum of one per project. When Tex-236-F does not yield reliable results, use alternative methods for determining asphalt content, such as Tex-210-F (ASTM D2172/AASHTO T 164).
	Voids in Mineral Aggregates (VMA)	Tex-204-F	Truck sample plant produced **(D)**	1 per sublot	Sample in accordance with Tex-222-F. Contractor's required testing will be in accordance with specification requirements for the appropriate specification Item #. Does not apply to Item 342 and Item 348.
	Gradation **(A)**	Tex-200-F	Engineer truck sample **(D)**	Min. 1 per 12 sublots **(E)**	Sample in accordance with Tex-222-F. Determine correction factors for ignition oven using Tex-236-F at a minimum of one per project.

TABLE VII – HOT-MIX ASPHALT PAVEMENT (Items 341, 342, 344, 346, 347, and 348)

(All testing as noted in Table VII may be waived for exempt production as defined by Specification.)

			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION (Per Design)**	**FREQUENCY OF SAMPLING (E)**	**REMARKS**
COMPLETE MIXTURE (continued)	Moisture Susceptibility	Tex-530-C	Truck sample	1 per project	When shown on the plans. Sample in accordance with Tex-222-F.
	Indirect Tensile Strength—Dry	Tex-226-F		1 per project	Sample in accordance with Tex-222-F, unless waived by the Engineer. Does not apply to Items 342, 346, 347, and 348.
	Moisture Content	Tex-212-F, Part II	Engineer truck sample	1 per project	Sample in accordance with Tex-222-F.
	Lab-Molded Density **(A)**	Tex-207-F, Part I, Part VI, and Part VIII	Truck sample **(D)**	1 per sublot	Sample in accordance with Tex-222-F. Contractor's required testing will be in accordance with specification requirements for the appropriate Specification Item.
	Drain Down Test **(A)**	Tex-235-F	Engineer truck sample	1 per 12 sublots	Sample in accordance with Tex-222-F. Not required for Item 341, Item 344, and Item 347.
	Hamburg Wheel Test **(A)**	Tex-242-F	Engineer truck sample	1 per project	Sample in accordance with Tex-222-F. Sample during production. Does not apply to Item 342 PFC-C, Item 348 PFC-C, and Thin Bonded Friction Course – All Types.
	Cantabro Loss **(A)**	Tex-245-F	Engineer truck sample	1 per project	Sample in accordance with Tex-222-F. Sample during production. Does not apply to Items 341, 344, 346, and 347.
	Overlay Test **(A)**	Tex-248-F	Engineer truck sample	1 per project	Sample in accordance with Tex-222-F. Does not apply to Items 341, 342, 344, and 348.
ROADWAY	In-Place Air Voids **(A)**	Tex-207-F, Part I, Part VI, and Part VII	Roadway **(D)**	2 cores per sublot	Two cores taken per sublot and averaged. Sample in accordance with Tex-222-F. Does not apply to Items 342, 347, and 348.

TABLE VII – HOT-MIX ASPHALT PAVEMENT (Items 341, 342, 344, 346, 347, and 348) (All testing as noted in Table VII may be waived for exempt production as defined by Specification.)					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION (Per Design)**	**FREQUENCY OF SAMPLING (E)**	**REMARKS**
	Segregation Profile **(A)**	Tex-207-F, Part V	Roadway	1 per project	Not required when Contractor uses thermal imaging system. Does not apply to Items 342, 347, and 348.
	Joint Density **(A)**	Tex-207-F, Part VII	Roadway	1 per project	Does not apply to Items 342, 347, and 348.
	Thermal Profile	Tex-244-F	Immediately behind paver	1 per project	Not required when Contractor uses thermal imaging system.
	Ride Quality Test Type B **(A)**	Tex-1001-S	Final riding surface of travel lanes	1 per project	Engineer may verify Contractor's results for surface test Type B. For traditional design-bid-build TxDOT projects, MTD has contracted with TTI to perform random ride verification at 10% frequency. Results for surface test Type A are not required to be reported.
	Permeability	Tex-246-F	Roadway	1 per project	Does not apply to Items 341, 344, 346, and 348 Thin Bonded Friction Course – All Types.
FABRIC UNDERSEAL	Compliance with DMS-6220		Sampled, tested, and approved by MTD		Sampling must be in accordance with Tex-735-I. Verify the source is listed on the current MPL for silt fence, filter fabric, and fabric underseals. If not, sample and test before use in accordance with DMS-6220.

TABLE VII – FOOTNOTES	
A	When this project acceptance test fails but the product is accepted, document the reasons for acceptance in SiteManager, in the remarks field, and on the Material Certification Letter at the end of the project.
B	Sampling may be performed at the plant, quarry, or both. Aggregate properties may be re-tested at any time during the project. These project tests may be used for one or more projects furnishing hot mix with the same aggregate source.
C	Attach the corresponding QM test report for SiteManager projects to satisfy project sampling and testing requirements.
D	Perform random sampling as specified in Tex-225-F, "Random Selection of Bituminous Mixture Samples."
E	Each test performed, that is based on a quantity of material, is considered "or fraction thereof" for calculating number of tests.

TABLE VIII – HOT-MIX ASPHALT PAVEMENT (Item 334)					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION**	**FREQUENCY (Per Design) (F)**	**REMARKS**
COARSE AGGREGATE	L.A. Abrasion **(A)**	Tex-410-A	Stockpile **(B)**	1 per project, per source	Verify the published value of the source, as listed on the current MPL for BRSQC, meets the project specifications. If not, sample in accordance with Tex-221-F and submit to MTD for testing before use in accordance with Tex-499-A. **(C)**
	Magnesium Soundness **(A)**	Tex-411-A			
	Micro-Deval	Tex-461-A			Sample in accordance with Tex-221-F. Testing frequency may be reduced or eliminated based on a satisfactory test history.
	Surface Aggregate Classification **(A)**	Tex-499-A			Verify the published value of the source, as listed on the current MPL for BRSQC, meets the project specifications. If not, sample in accordance with Tex-221-F and submit to MTD for testing before use in accordance with Tex-499-A. SiteManager QM test documentation is accomplished by attaching an approved mix design.
COMBINED AGGREGATE	Sand Equivalent	Tex-203-F	Stockpiles, hot bins, or feeder belts	1 per project, per source	Sample in accordance with Tex-221-F. The timing of when the test is performed is at the discretion of the Engineer.
ASPHALT BINDER	Compliance with Item 300 **(A)**		Sampling port nearest the storage tank	1 per project, per grade, per source	Test a minimum of 1 sample taken from the project. Sample binder at hot-mix plant in accordance with Tex-500-C, Part II. Verify that the binder is from a preapproved source when it arrives at the project, and that the lab number on the shipping ticket is within the valid dates shown in the MTD QM test report or in the SiteManager Assistant. The Engineer must associate 1 QM sample, per project in SiteManager.

TABLE VIII – HOT-MIX ASPHALT PAVEMENT (Item 334)					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION**	**FREQUENCY (Per Design) (F)**	**REMARKS**
TACK COAT	Compliance with Item 300 **(A)**		Distributor	1 per project, per grade, per source	Test a minimum of 1 sample taken from the project. Sample tack coat in accordance with Tex-500-C, Part III. Verify that the binder is from a preapproved source when it arrives at the project, and that the lab number on the shipping ticket is within the valid dates shown in the MTD QM test report or in the SiteManager Assistant. The Engineer must associate 1 QM sample, per project in SiteManager.
MIX DESIGN	Compliance with applicable Specification	Tex-204-F	At source (if not approved)	Min 1 design per mix type and asphalt grade	Verify that aggregates, recycled asphalt pavement, recycled asphalt shingles, mineral filler, asphalt binder, anti-stripping additives, and warm mix systems are on the MPL where applicable and that they meet project specification requirements. Project sampling and testing may be conducted on individual materials as necessary for control.
COMPLETE MIXTURE	Asphalt Content **(A)**	Tex-236-F	Engineer truck sample **(D)**	Min. 1 per 5,000 tons	Sample in accordance with Tex-222-F. Determine correlation factors for ignition oven using Tex-236-F at a minimum of one per project.
	Voids in Mineral Aggregates (VMA)	Tex-204-F	Truck sample plant produced **(D)**	1 per 5,000 tons	Sample in accordance with Tex-222-F.
	Gradation **(A)**	Tex-200-F	Truck sample	Min. 1 per 5,000 tons	Sample in accordance with Tex-222-F. Determine correlation factors for ignition oven using Tex-236-F at a minimum of one per project.
	Boil Test	Tex-530-C		1 per project	Sample in accordance with Tex-222-F. The timing of when the test is performed is at the discretion of the Engineer.
COMPLETE MIXTURE (continued)	Moisture Content	Tex-212-F, Part II	Truck Sample	1 per 5,000 tons	Sample in accordance with Tex-222-F. Performed by MTD at the point of production for payment calculations.

This is a guide for minimum sampling and testing.
Testing frequency may need to be increased for high material variability or when test results approach specification limits.

TABLE VIII – HOT-MIX ASPHALT PAVEMENT (Item 334)					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION**	**FREQUENCY (Per Design) (F)**	**REMARKS**
	Hydrocarbon-Volatile Content	Tex-213-F		1 per 5,000 tons	Sample in accordance with Tex-222-F. The timing of when the test is performed is at the discretion of the Engineer.
	Lab-Molded Density **(A)**	Tex-207-F		1 per 5,000 tons	Sample in accordance with Tex-222-F.
	Hveem Stability **(A)**	Tex-208-F		1 per 5,000 tons	Sample in accordance with Tex-222-F. The timing of when the test is performed is at the discretion of the Engineer.
ROADWAY	Ride Quality Test Type B **(A)**	Tex-1001-S	Final riding surface of travel lanes		Engineer may verify Contractor's results for surface test Type B. For traditional design-bid-build TxDOT projects, MTD has contracted with TTI to perform random ride verification at 10% frequency. Results for surface test Type A are not required to be reported.

TABLE VIII – FOOTNOTES	
A	When this project acceptance test fails but the product is accepted, document the reasons for acceptance in SiteManager, in the remarks field, and on the Material Certification Letter at the end of the project.
B	Sampling may be performed at the plant, quarry, or both. Aggregate properties may be re-tested at any time during the project.
C	Attach the corresponding QM test report for SiteManager projects to satisfy project sampling and testing requirements.
D	Perform random sampling as specified in Tex-225-F, "Random Selection of Bituminous Mixture Samples."

TABLE IX – MICROSURFACING (Item 350)					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OF SAMPLING**	**FREQUENCY (Per Design)**	**REMARKS**
AGGREGATE	Magnesium Soundness **(A)**	Tex-411-A	Stockpile **(B)**	1 per project, per source	Verify the published value of the source, as listed on the current MPL for BRSQC meets the project specifications. If not, sample in accordance with Tex-221-F and submit to MTD for testing at 1 per project, per source. **(C)**
	Gradation	Tex-200-F, Part II		1 per project, per source	Sample in accordance with Tex-221-F.
	Crushed Face Count	Tex-460-A		1 per project, per source	Sample in accordance with Tex-221-F.
	Acid Insoluble **(A)**	Tex-612-J		1 per project, per source	Verify the value of the source, as listed on the current MPL for BRSQC, meets the project specifications. If not, sample and submit to MTD for testing before use in accordance with Tex-499-A. Sample in accordance with Tex-221-F. **(C)**
	Surface Aggregate Classification	Tex-499-A	Stockpile, or BRSQC **(B)**	1 per project, per source	Verify the published value of the source, as listed on the current MPL for BRSQC meets the project specifications. If not, sample in accordance with Tex-221-F and submit to MTD for testing at 1 per project, per source. **(C)**
COMBINED BLEND	Sand Equivalent	Tex-203-F	Stockpile **(B)**	1 per project, per source	Sample in accordance with Tex-221-F.
ASPHALT BINDER	Compliance with Item 300 **(A)**		Sampling port nearest the storage tank	1 per project, per grade, per source	Test a minimum of 1 sample taken from the project. Sample binder in accordance with Tex-500-C, Part II. Verify that the binder is from a preapproved source when it arrives at the project, and that the lab number on the shipping ticket is within the valid dates shown in the MTD QM test report or in the SiteManager Assistant. The Engineer must associate 1 QM sample, per project in SiteManager.

TABLE IX – MICROSURFACING (Item 350)					
			PROJECT TESTS		
MATERIAL OR PRODUCT	**TEST FOR**	**TEST NUMBER**	**LOCATION OF SAMPLING**	**FREQUENCY (Per Design)**	**REMARKS**
TACK COAT	Compliance with Item 300 **(A)**		Distributor	1 per project, per grade, per source	Test a minimum of 1 sample taken from the project. Sample tack coat in accordance with Tex-500-C, Part III. Verify that the binder is from a preapproved source when it arrives at the project, and that the lab number on the shipping ticket is within the valid dates shown in the MTD QM test report or in the SiteManager Assistant. The Engineer must associate 1 QM sample, per project in SiteManager.
MIX DESIGN	Compliance with applicable Specification	Tex-204-F	At source (if not approved)	Min 1 design per project	Submit to MTD for approval.
CEMENT	Compliance with DMS-4600				Verify the source is listed on the current MPL for cement. If not, sample and submit to MTD for testing before use in accordance with DMS-4600.
COMPLETE MIX	Asphalt Content	Tex-236-F	During production	1 per day	Sample in accordance with Tex-222-F. Determine correlation factors for ignition oven using Tex-236-F at a minimum of one per project.
	Gradation	Tex-200-F, Part II			Sample in accordance with Tex-222-F. Determine correlation factors for ignition oven using Tex-236-F at a minimum of one per project.

TABLE IX – FOOTNOTES	
A	When this project acceptance test fails but the product is accepted, document the reasons for acceptance in SiteManager, in the remarks field, and on the Material Certification Letter at the end of the project.
B	Sampling may be performed at the plant, quarry, or both. Aggregate properties may be re-tested at any time during the project. These project tests may be used for one or more projects furnishing hot mix with the same aggregate source.
C	Attach the corresponding QM test report for SiteManager projects to satisfy project sampling and testing requirements.
D	Each test performed, that is based on a quantity of material, is considered "or fraction thereof" for calculating number of tests.