

SAMPLING AND TESTING GUIDE FOR ACCEPTANCE AND VERIFICATION - Bituminous (HWY-LB)

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
01. ASPHALT CONCRETE	301, 401						
A. Asphalt Binder	702.01	1 every 6 months for each source/ asphalt plant	If less than 250 tons of asphalt concrete mix per project, Certificate of Compliance with test results	QC every 3 months, verification every 6 months	Plant line	2 qts.	
B. Aggregate	703.09						
(1) Gradation		1 per approximately every 1,000 tons of asphalt concrete mix	If less than 150 tons per project, visual inspection	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Plant conveyor belt, stockpile, or ignition oven	Approximately 10 lbs.	
(2) Sand Equivalent		1 per approximately every 2,500 tons of asphalt concrete mix	If less than 150 tons per project, none	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Plant conveyor belt or stockpile	Approximately 10 lbs.	
(3) Los Angeles Abrasion, Flat & Elongated Pieces, Absorption		1 per year per source, minimum	N/A	1 per year per source	Plant conveyor belt or stockpile	Approximately 30 lbs.	
(4) Complete Aggregate Test		When new source is proposed for use or when aggregate changed	N/A	When new source is proposed for use or when aggregate changed	Plant conveyor belt/ stockpile	Approximately 200 lbs.	
C. Uncompacted AC Mixture For Specific Gravity	301, 401	1 per approximately every 500 tons of asphalt concrete mix, minimum 1 per day	If less than 150 tons per project, none.	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	From jobsite roadway or off truck bed	Approximately 7 lbs.	
D. Uncompacted AC Mixture For Asphalt Content & Design Check	401	1 per approximately every 7,500 tons of asphalt concrete mix	If less than 150 tons per project, none	1 per project minimum	Plant - Off truck bed	Approximately 40 lbs.	
E. Compacted AC Cores (Mat)	301, 401	1 per approximately every 250 tons of asphalt concrete mix, minimum 3 per day	If less than 150 tons per project, none.	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - Pavement	4 in. diameter cores	
F. Compacted AC Cores (Joint)	401	1 per approximately every 1,500 lineal feet of paving on the second side of joint, minimum 1 per day	If less than 150 tons per project, none.	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - Pavement	6 in. diameter cores	
G. Joint Adhesive	401	Certificate of Compliance with test results, 1 per manufacturer batch, approximately every 6 months, min 1 per project	If less than 250 tons of asphalt concrete mix per project, Certificate of Compliance with test results	1 per project minimum	Jobsite - From application wand	1 qt.	
02. TACK COAT	407 702.04	1 per source, approximately every 3 months	If less than 250 tons of asphalt concrete mix per project, Certificate of Compliance with test results	1 per project minimum	Supplier's Plant - Storage tank before dilution	1 gal.	
03. SLURRY SEAL	404						

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A. Asphalt Emulsion	702.04	1 per project	If less than 500 gals. per project, Certificate of Compliance with test results	1 per project minimum	Storage tank at jobsite	2 gals	
B. Aggregate	703.11						
(1) Gradation		1 per approximately every 20,000 yd ² slurry seal	If less than 2,500 yd ² per project, visual inspection.	1 per project minimum	Jobsite	Approximately 10 lbs.	
(2) Sand Equivalent		1 per approximately every 50,000 yd ² slurry seal	If less than 2,500 yd ² per project, none	1 per project minimum	Jobsite	Approximately 5 lbs.	
04. UNTREATED PERMEABLE BASE	306						
A. Primer For Permeable Base Course	420 702.04	1 per source, approximately every 3 months (See Note 3)	If less than 500 gals. per project, Certificate of Compliance with test results	1 per project minimum	Storage tank before dilution	1 gal.	
05. PAVING FABRIC	412						
A. Asphalt Binder	702.01	Certificate of Compliance with test results (See Note 3)	N/A	N/A			
06. WATERPROOFING ASPHALT	503 705.06	Certificate of Compliance with test results	N/A	N/A			
07. WATERPROOFING PRIMER	503 705.06	Certificate of Compliance with test results	N/A	N/A			
08. ASPHALT SATURATED FABRIC	503 705.06	Certificate of Compliance with test results	N/A	N/A			
09. TRAFFIC PAINT	629 755.01	Certificate of Compliance with test results	N/A	N/A			
10. PAVEMENT MARKER BITUMINOUS ADHESIVE	629 755.03	Certificate of Compliance with test results, 1 per lot of markers	If less than 100 markers per project, Certificate of Compliance with test results	1 per project minimum		1/2 box per lot	
11. THERMOPLASTIC	629 755.05	Certificate of Compliance with test results	N/A	N/A			
12. PAVEMENT MARKING TAPE	629 755.04	Certificate of Compliance with test results	N/A	N/A			

SAMPLING AND TESTING GUIDE FOR ACCEPTANCE AND VERIFICATION - Geotechnical (HWY-LG)

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
13. CUT SUBGRADE	203						

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A. Gradation, Sand Equivalent, Proctor	203	1 per soil type	If less than 2500 ft ² per project, visual inspection,	1 per project	Jobsite - On roadbed	220 lbs.	
B. Compaction (See Note 6G)		Visual inspection and/or probe rod to determine stiffness of subgrade. Minimum of 1 field density compaction test per soil type, if determined necessary by the Engineer (HDOT).	If less than 2500 ft ² per project, visual inspection,	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	N/A	
14. EMBANKMENT FILLS & IMPORT BORROW	203						
A. Gradation, Sand Equivalent, Proctor	203	1 per soil type, approximately every 1,500 yd ³	N/A	1 per project	Jobsite - On roadbed	220 lbs.	
B. Compaction (See Note 6G)		1 every other lift per 10,000 yd ²	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	N/A	
15. STRUCTURAL BACKFILL	206						
A. Gradation, Proctor	703.20	1 per approximately every 1,500 yd ³ per type, per project	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	220 lbs.	
B. Sand Equivalent	703.20	1 per source per year	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	50 lbs.	
C. Compaction (See Note 6G)	206	1 every other lift per 1,000 ft ²	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	N/A	
16. TRENCH BACKFILL AND BED COURSE	206						
A. BED COURSE Gradation	703.17	1 per approximately every 1,500 yd ³ (or 2,000 tons), but not less than 1 per project	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	220 lbs.	
B. BED COURSE L.A. Abrasion	703.17	1 per material source per year	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	50 lbs.	
A. TRENCH BACKFILL Gradation, Proctor; Resistivity & pH as Required	703.21	1 per approximately every 1,500 yd ³ per type, per project	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	220 lbs.	
B. TRENCH BACKFILL Sand Equivalent	703.21	1 per material source per year	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	50 lbs.	
C. TRENCH BACKFILL Compaction (See Note 6G)	206	1 every other lift per 300 lin. ft	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	N/A	
17. AGGREGATE BASE COURSE	304						
A. Gradation, Plasticity Index, Proctor	703.06	1 per approximately every 1,500 yd ³ (or 2,000 tons) per material source but not less than 1 per project	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	220 lbs.	

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B. Sand Equivalent, L.A. Abrasion, Flat & Elongated Pieces, Crushed Particles	703.06	1 per material source per year	N/A	1 per material source	Jobsite - On roadbed	100 lbs.	
C. Compaction (See Note 6G)	304	1 every other lift per 1,000 ft ²	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	N/A	
18. AGGREGATE SUBBASE	305						
A. Gradation, Plasticity Index, Proctor	703.17	1 per approximately every 1,500 yd ³ (or 2,000 tons), but not less than 1	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	220 lbs.	
B. Sand Equivalent	703.17	1 per material source per year	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	50 lbs.	
C. Compaction (See Note 6G)	305	1 every other lift per 1,000 ft ²	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	N/A	
19. UNTREATED PERMEABLE BASE	306						
B. Coarse Aggregate and Filler	703.04						
(1) Gradation		1 per approximately every 2,500 yd ³ (or 3,000 tons) per material source per project	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Jobsite - On roadbed	220 lbs.	
(2) L.A. Abrasion, Flat & Elongated Pieces		1 per material source per year	N/A	1 per material source	Jobsite - On roadbed	220 lbs.	
20. PAVING FABRIC	412						
A. Paving Fabric	716.04	Certificate of Compliance and Certified test results	N/A	N/A			
21. UNDERDRAINS	605						
A. Perforated/Unperforated Pipe	706.12	Certificate of Compliance	N/A	N/A			
B. Permeable Separator	716.03	Certificate of Compliance	N/A	N/A			
C. Crushed Rock							
(1) Gradation, L.A. Abrasion	605 703.04	1 per 3,000 tons	If less than 500 tons per project, Certificate of Compliance	1 per project	Jobsite - On roadbed	150 lbs.	
22. GEOSYNTHETICS	412, 605 648, 716	Certificate of Compliance	N/A				
23. PLANTING SOIL	617						
A. Designation (USDA Classification)		1 per source of planting soil	N/A	N/A	Jobsite	50 lbs.	

SAMPLING AND TESTING GUIDE FOR ACCEPTANCE AND VERIFICATION - Structural (HWY-LS)

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
24. CONCRETE (PAVEMENT, STRUCTURAL AND MISCELLANEOUS)							

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
A. Cement (See Note 3)	701	Certificate of Compliance. Check samples of 1 for approximately every 5,000 yd ³ of concrete placed or as required for control	If concrete is used for incidental construction, Certificate of Compliance	N/A	Weigh hopper or in the feed line immediately in advance of the hopper or as determined by Central Laboratory	Approximately 30 lbs.	
B. Aggregate (See Note 3)	703.01						
(1) Fine & Coarse Aggregate	703.02						
(a) Gradation		1 for approximately every month or 1,000 yd ³ of concrete placed or as required for control	(See Note 4S)	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	Stockpile/(See Note 5S)	Approximately 50 lbs. (C.A.) (1 ea. 1/2 bag) 10 lbs. (F.A.) (1 ea. 1/5 bag)	
(b) Specific Gravity		When aggregate changed or as required for source information	N/A	N/A	Stockpile/(See Note 5S)	Approximately 10 lbs. (C.A.) (1 ea. 1/5 bag) 5 lbs. (F.A.) (1 ea. 1/5 bag)	
(c) Moisture		As required for information	N/A	N/A	Stockpile/(See Note 5S)	5 lbs. (C.A.) (1 ea. 1/5 bag)	
(2) Coarse Aggregate							
(a) Clay Lumps and Friable Particles; L.A. Abrasion; and Flat and Elongated Pieces		When aggregate changed or approximately once a year	N/A	N/A	Stockpile/(See Note 5S)	Approximately 200 lbs. (4 ea. 1/2 bag)	
(3) Fine Aggregate							
(a) Sand Equivalent		If required, 1 for approximately every month or 3,000 yd ³ of concrete placed or as required for control	(See Note 4S)	When required, 1 per 5,000 yd ³	Stockpile/(See Note 5S)	Approximately 5 lbs. (1 ea. 1/5 bag)	
(b) Clay Lumps and Friable Particles; Organic Impurities; and L.A. Abrasion on Parent Material for Manufactured Fines Only		When aggregate changed or approximately once a year	N/A	N/A	Stockpile/(See Note 5S)	Approximately 50 lbs. (1 ea. 1/2 bag)	
(4) Complete		When new source is proposed for use or when aggregate changed	N/A	N/A	Stockpile / (See Note 5S)	Annual or Start of a Project. Approximately 200 lbs. (C.A.) (4 ea. 1/2 bag) 100 lbs. (F.A.) (2 ea. 1/2 bag)	
C. Water (See Note 3)	712.01	1 per source. (Obviously suitable source as drinking water requires no sampling)	N/A	N/A	At point of use	Approximately 3 gals. - Use glass or plastic jugs w/ lined sealed lids	

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D. Admixture	711	When admixture is initially used in state work, Certificate of Compliance with test results	If previously used in other state work, Certificate of Compliance	N/A			Current Certificate of Compliance with test results dated within 1-year from the date of the approved concrete design.
25. CONCRETE (PAVEMENT, STRUCTURAL AND MISCELLANEOUS) CONT'D							
E. Concrete Mixture - Pavements	411						
(1) Compressive Strength (14-days)	601	1 set per half day or as required for control	1 set per half day of pour or as required for control.	1 per project	At point concrete deposited in the work	1 set of 3 - 4"x8" cylinders	
(2) Flexural Strength (14-days) and as required by Central Laboratory		1 set per half day or as required for control	1 set per half day of pour or as required for control. Cylinder samples only If less than 50 yd ³ total per project (approximately 2 buspads.)	1 per project.	At point concrete deposited in the work	1 set of 2 - 6"x6"x 21" beams (4"x8" cylinders per design mix after sampling beams on 3 consecutive pour dates and satisfactory flexural strength.) See Remarks.	Sample cylinders and beams for 3 consecutive pour days. Correlate compressive to flexural strength. Subsequent sampling with cylinders only unless otherwise specified.
(3) Yield, Cement Factor, and Unit Weight (See Note 3)		As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project		When yield test used for payment, 1 per project	At point concrete deposited in the work		
(4) Slump Test		When test specimen are fabricated or when consistency or uniformity is questionable	When test specimen are fabricated or when consistency or uniformity is questionable	1 per project (Observation)	At point concrete deposited in the work		
(5) Entrained Air		When entrained air is specified, 1 approximately every 300 yd ³ or as necessary for control or as required for control.	N/A	When entrained air is specified, 1 per project	At point concrete deposited in the work		
F. Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	503 504 507 508						

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(1) Compressive Strength (28 days)	500 511 601	1 set for approximately 300 yd ³ of concrete placed for concrete specified by class (< 4000 psi); 1 set for each 150 yd ³ and fractional thereof placed on any day or as required for acceptance for concrete specified by strength (≥ 4000 psi)	1 set per day of pour	1 per project	At point concrete deposited in the work	1 set of 3 - 4"x8" cylinders	
(2) Yield, Cement Factor, and Unit Weight (See Note 3)		As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project	N/A	When yield test used for payment, 1 per project	At point concrete deposited in the work		
(3) Slump Test		When test specimen fabricated or when consistency or uniformity is questionable	When test specimen are fabricated or when consistency or uniformity is questionable	1 per project (Observation)	At point concrete deposited in the work		
(4) Entrained Air		If entrained air is specified, 1 approximately every 300 yd ³ or as necessary for control or as required for control	N/A	When entrained air is specified, 1 per project	At point concrete deposited in the work.		
G. Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction including Controlled Low Strength Material (CLSM), Non-Shrink Grout and Mortars).	314 601 604 607						
(1) Compressive Strength (28 days)	608 609 610 621 622 623 640 649 712.04	1 set for each day when volume exceeds 25 yd ³ or as required for acceptance for concrete and grout specified by strength (> 4000 psi)	Concrete - Sample not required if total volume is less than 25 yd ³ in one day. For pour on separate days, sample per accumulative 100 yd ³ Grout -- No sample if total volume is less than 1 yd ³ in one day. Contact the Central Lab for accumulated volumes > 1 yd ³ .	1 per project. When total days run less than 25 yd ³ , none	At point concrete deposited in the work	Concrete - 1 set of 3 - 4"x8" cylinders. CLSM - 1 set of 2 - 6"x12" cylinders. Grout - 1 set of 3 2"x2" cubes.	CLSM - Store 6"x12" cylinders on site for 4-days. Deliver to the Lab in molds and Do not strip. (ASTM D4832 and D5971). Grout - Follow ASTM C109 or C1107 or Contact Central Lab for sampling method.
(2) Yield, Cement Factor, and Unit Weight (See Note 3)		As necessary to assure accuracy of mix design or as necessary for control	N/A	If yield test used for payment, one (1) per project	At point concrete deposited in the work		
(3) Slump Test		When test specimen are fabricated or when consistency or uniformity is questionable	N/A	1 per project (Observation)	At point concrete deposited in the work		
(4) Entrained Air		When entrained air is specified, 1 approximately every 300 yd ³ or as required for control	N/A	When entrained air is specified, 1 per project	At point concrete deposited in the work		

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26. CEMENT TREATED PERMEABLE BASE	309						
A. Cement (See Note 3)	701	Accepted by manufacturer's or supplier's Certificate of Compliance supplemented with check testing. Check sample for approximately every 5,000 yd ³ of concrete placed or as required for control	N/A	N/A	Weigh hopper or in the feed line immediately in advance of the hopper or as determined by Central Laboratory	Approximately 30 lbs.	
B. Aggregate (See Note 3)	703.02	1 per day or as required for control	N/A	1 to 1 for first 5 acceptance tests, 1 per 10 thereafter	(See Note 5S)	Approximately 250 lbs.	
27. CURING COMPOUND	411, 503 711.01	Certificate of Compliance	N/A	N/A			
28. JOINT FILLER	411, 503 705.01	Certificate of Compliance	N/A				
29. JOINT SEALER	411, 503 705.04	Certificate of Compliance	N/A	N/A			
30. RUBBER STOP	503 705.07	Certificate of Compliance	N/A	N/A			
31. METAL GUARDRAIL	606 710.04	Certificate of Compliance and Certified test results	N/A	N/A			
32. GUARDRAIL HARDWARE	710.08	Certificate of Compliance and Certified test results	N/A	N/A			
33. BRIDGE RAILINGS AND POST	507 710.09, 710.10	Certificate of Compliance and Certified test results	N/A	N/A			
34. NEOPRENE BEARING PAD	503 712.09	Certificate of Compliance and Certified test results	N/A	N/A			
35. VITRIFIED CLAY PIPE	625 706.08	Certificate of Compliance	N/A	N/A			
36. REINFORCED CONCRETE GUARDRAIL POST	606 710.06	Certificate of Compliance and Certified test results	N/A	N/A			
37. PAVEMENT MARKERS	629 755.02	Certificate of Compliance with Certified test results and 1 sample per batch. For Reflective Markers which conforms to ASTM D4280 Certificate of Compliance with Certified test results.	If less than 100 markers per project, Certificate of Compliance with Certified test results	1 for every 25,000 or less or 1 per batch	Jobsite or source	10 for non-reflective markers and 6 for reflective markers	
38. PAVEMENT MARKERS EPOXY	629 755.03	Certificate of Compliance	NA	NA			
39. PLASTIC (PVC) PIPE	625 706.09	Certificate of Compliance and Certified test results	N/A	N/A		PVC Pipe for sewer system. See Item 53 for Conduit, Electrical	
40. WOVEN FENCE	607 710.02	Certificate of Compliance and Certified test results	N/A	N/A			

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41. CONCRETE PIPE	603 706.02 706.17	Certificate of Compliance. 1 joint length for approximately every 50 joint lengths for 3 edge bearing load test. Inspected at plant and released by Central laboratory	If less than 100 lin. ft. per project, Certificate of Compliance		Strength tests usually performed at plant		
42. CORRUGATED METAL PIPE	603 707.02 707.03	Visual, accepted by manufacturer's or supplier's Certificate of Compliance. Inspected at plant and released by Central Laboratory		N/A	At fabrication point or at time of use		
43. REINFORCING STEEL	504 602 610 709.01	Sample each size up to Bar Size #8 for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. Bar Sizes #9 and larger are approved by fabricator's certified analysis (Certification of Compliance).	If less than 200 lbs. per project, Certificate of Compliance		Jobsite or source	3 specimen 36" long	Manufacturer's imprinted markings on samples must match certificate of compliance or fabricator's certified analysis
44. WIRE MESH REINFORCEMENT	602 709.01	Certificate of Compliance with Certified test results and 1 sample per type per lot	If less than 200 lbs. per project, Certificate of Compliance		Jobsite	3 feet x 3 feet from flat sheet	Flat sheet is required 709.01(C)
45. WIRE ROPE OR CABLE	709.02	Certificate of Compliance with Certified test results and 1 sample per type per lot	1 set per project	1 set per project	Jobsite	2 strands 4 ft. long	
46. STRUCTURAL PLATE ARCHES	707.08	Certificate of Compliance		N/A			
47. PRE-STRESSED STRANDS	504 709.03	Certificate of Compliance with Certified test results and 1 sample per type per lot	1 set per project	1 set per project	Jobsite	2 strands 4 ft. long	
48. STEEL PRODUCTS	602.02	Certificate of Compliance and Certified test results	N/A	N/A			
49. BARB WIRE	607 710.01	Certificate of Compliance	N/A	N/A			
50. BOLTS & HARDWARE	713.01 713.03 713.04	Certificate of Compliance and Certified test results	N/A	N/A			
51. BRICK	704	Certificate of Compliance	N/A	N/A			
52. CHAIN LINK FENCE	607						
A. Fabric	722	Certificate of Compliance and 1 sample per lot or per project	If less than 200 ft ² per project, Certificate of Compliance	1 sample per project or 1 sample per lot	Jobsite	3 ft. length, full height	

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B. Posts		Certificate of Compliance and 1 sample per lot or per project	If less than 30 lin. ft. per project, Certificate of Compliance	1 sample per project or 1 sample per lot	Jobsite	12 inch length section taken from each end of one full length post. Total of 2 sections per post	
C. Tension Wire		Certificate of Compliance and 1 sample per lot or per project	If less than 100 lin. ft. per project, Certificate of Compliance	1 per sample per project or 1 sample per lot	Jobsite	3 ft. length	
D. Tie Wire		Certificate of Compliance and 1 sample per lot or per project	If less than 25 lbs. per project, Certificate of Compliance	1 sample per project or 1 sample per lot	Jobsite	3 ft. length	
E. Fittings		Certificate of Compliance	N/A	N/A			

SAMPLING AND TESTING GUIDE FOR ACCEPTANCE AND VERIFICATION - HWY-LR

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53. CONDUITS	616.02, 622, 623, 712.27						
A. Steel Conduit		Certificate of Compliance and Certified test results	N/A	N/A			
B. Plastic Conduit		Certificate of Compliance	N/A	N/A			
C. Liquid-tight Flexible Metal Conduit and Fittings		Certificate of Compliance	N/A	N/A			
D. Rigid Steel Conduit PVC Coated		Certificate of Compliance	N/A	N/A			
54. ELECTRICAL CONDUCTOR WIRES AND CABLES	616.02, 622, 623, 760.04, 770.06	Certificate of Compliance and manufacturer's specifications	N/A	N/A			
55. PLANTING, SEED	619, 641	Certificate of Compliance, seed specifications, and Certified test results	N/A	N/A			
56. PRESERVATIVES FOR TIMBER	502 714.02	Certificate of Compliance and manufacturer's specifications	N/A	N/A			
57. SIGN POSTS - SQUARE TUBE, CHANNEL, SQUARE TUBE	630, 631, 632, 645, 750.02	Certificate of Compliance and Certified test results	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
58. SIGN AND ROUTE MARKER FASTENERS	630, 631, 632, 645, 750.03	Certificate of Compliance and Certified test results	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
59. SHEET ALUMINUM BACKING	630, 631, 632, 645, 750.01	Certificate of Compliance and Certified test results	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
60. RETROREFLECTIVE SHEETING AND REFLECTIVE MARKERS	630, 631, 632, 645, 750.01, 750.07	Certificate of Compliance and manufacturer's specifications/ designer's approval	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
61. LIGHT POLES	622, 760.01						
A. Aluminum poles with anchor base and bolts	622, 718.01, 760.01	Designer's Approval, Certificate of Compliance, manufacturer's specifications	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
B. Wood Poles	622, 714.02, 760.01	Designer's Approval, Certificate of Compliance, manufacturer's specifications	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
62. LUMINAIRE MAST ARM	622, 760.02	Designer's Approval, Certificate of Compliance, manufacturer's specifications	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
63. LUMINAIRES FOR ROADWAY, UNDERPASS, SIGN, AND PEDESTRIAN STAIRWAY LIGHTING	622, 760.03	Designer's Approval, Certificate of Compliance, manufacturer's specifications	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
64. PHOTOELECTRIC CONTROL UNIT FOR ROADWAY LIGHTING SYSTEMS	622, 760.07	Designer's Approval, Certificate of Compliance, manufacturer's specifications	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
65. TRAFFIC SIGNAL STANDARDS	623, 770.01						
A. Type I: Shaft, anchor base and bolts	623, 718.01, 770.01	Designer's Approval, Certificate of Compliance, manufacturer's specifications	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
B. Type II: Mast arm, shaft, anchor base and bolts	623, 718.01, 760.03	Designer Approval, Certificate of Compliance	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
66. TRAFFIC SIGNAL HEADS	623, 770.02	Designer's Approval, Certificate of Compliance, manufacturer's specifications,	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.

MATERIALS/TESTS	SPECIFICATION NO. (See Note 1)	ACCEPTANCE SAMPLING & TESTING	SAMPLING & TESTING FOR SMALL QUANTITIES	VERIFICATION SAMPLING & TESTING (ONLY if specified in contract, See Note 2)	SAMPLE LOCATION	SAMPLE SIZE	REMARKS
67. CONTROLLER EQUIPMENT	623, 770.05	Designer's Approval, Certificate of Compliance, manufacturer's specifications	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
68. FIBER OPTIC CABLE	647.02	Certificate of Compliance /Designer Approval	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.
68. DETECTABLE WARNINGS	650.03	Certificate of Compliance, manufacturer's specifications, and designer's approval	N/A	N/A			Added for additional review documents when required document(s) can't be produced/submitted.

Note 1. Specification Nos. shown are the common references encountered in most construction projects. For non-standard items, consult the Materials Testing & Research Branch.

Note 2. Sampling and testing performed by the State or County to validate contractor test data when Contractor Quality Control sampling and testing are used in the Materials Acceptance Program. This is allowed only when specified in the contract documents and approved by FHWA for federal aid projects. When the Contractor Quality Control (QC) test data is utilized by HDOT or its designated agent in the acceptance determination, HDOT or its designated agent shall perform verification sampling and testing. The Contractor's QC sampling and testing frequency shall not be less than the acceptance sampling and testing frequency. The verification testing by HDOT or its agent should be performed at a frequency of 1 to 1 for the first 5 QC tests, and not less than 10 percent of the acceptance frequency in the quality assurance plan thereafter. If statistical comparisons of the QC test data against HDOT or its agent's test data indicates dissimilarity, the verification sampling and testing frequency should revert back to 1 to 1.

Note 3. Not required if the same source is being used on other projects and test is being made. Not necessary to duplicate the test for the sake of the record. The actual test results may be used anywhere they are applicable. (Established Source with Acceptable Quality Control/System Basis)

Note 4S. When gradation is being determined by a qualified plant technician at the plant, the guide schedule for gradation and sand equivalent as sampled by the plant inspector may be reduced to approximately 1/5. However, the schedule should be supplemented with the contractor's quality control results.

Note 5S. One of the following locations listed in order of preference: (a) Belt from weigh hopper to central or transit mixer; (b) Belt which feeds batch plant bins immediately preceding the weigh hopper, (c) Discharge gate of weigh hopper, (d) Discharge gates of bins feeding the weigh hopper at the batch plant. The location and method of sampling are to be determined and agreed upon by the Engineer and the Contractor. Once selected, the location and method of sampling are not to be changed during the life of the project, or so long as there is no change in Plant's configuration or operation.

Note 6G. The field compaction testing frequency for soils and aggregate materials is provided as a preliminary guide and should be project specific, finalized and documented by the Project Engineer. If necessary, consult the HDOT project Geotechnical Engineer or Materials Testing and Research Branch for the recommended testing frequency.

Compact each lift to approximately 6 inches thick. Perform density test every other lift. For every fifty (50) field compaction tests, performed by nuclear gauge method or e-gauge method OR every 6 months, whichever comes first, perform one sand cone test (in accordance with HDOT TM 1-00 and TM 3-00) side by side testing with e-gauge or nuclear gauge. Test result should be within 3% compaction.

If there is uncertainty of testing frequency, perform compaction test every other lift per 300 lineal ft or 1,000 ft²

Submit a sample card of compaction testing monthly and at the end of the project. The following shall be provided in each sample card:

1. pdf file of compaction summary of the month for record,
2. Excel file of compaction summary of the month for data consolidation. All numbering shall be sequential and cumulative throughout the project.
3. Sand cone test results.
4. If e-gauge or nuclear gauge is used, include additional information as indicated in HWY-L website and/or e-gauge or nuclear gauge guide.
5. All maximum density test results used in the sample card from Laboratory Proctor Tests.