

## Master Material Certification List

**PROJECT NUMBER/NAME:**

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For HWY-LB all COC's require test results.

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APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)												
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT							
			<b>203</b>	<b>EXCAVATION AND EMBANKMENT</b>				<b>LS</b>							
LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		203.02	Excavated Material										
LAB	One lab sample per soils type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		203	Subgrade										
LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		203.02	Selected Material										
LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		203.02	Borrow Excavated Material										
			<b>204</b>	<b>EXCAVATION AND BACKFILL FOR MISCELLANEOUS FACILITES</b>				<b>LS</b>							
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.20	Structure Backfill Material										
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.21	Trench Backfill Material										
COC/APL		LG		716.03	Geotextiles for Underdrain Applications										
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		717	Cullet and Cullet-Made Materials										
			<b>205</b>	<b>EXCAVATION AND BACKFILL FOR BRIDGE AND RETAINING STRUCTURES</b>				<b>LS</b>							
COC, LAB	One lab sample per source.	LG		703.18	Filter Material										

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT							
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.20	Structure Backfill Material										
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		717	Cullet and Cullet-Made Materials										
			<b>206</b>	<b>EXCAVATION AND BACKFILL FOR DRAINAGE STRUCTURES</b>				<b>CY</b>							
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.20	Structure Backfill Material										
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.21	Trench Backfill Material										
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		717	Cullet and Cullet-Made Materials										
			<b>207</b>	<b>DITCH AND CHANNEL EXCAVATION</b>				<b>CY or LS</b>							
LAB		LG		203.02	Excavated Material										
			<b>209</b>	<b>TEMPORARY WATER POLLUTION, DUST, AND EROSION CONTROL</b>				<b>LS or FA</b>							
COC/APL		LG		716.08	Silt Fences										
DA		LR		209.02	Slope Drains										
DA		LR		209.02	Mulches										
DA		LR		209.02	Grass										
DA		LR		209.02	Fertilizer and soil conditioners										
DA		LR		209.02	Hydro-mulching										
DA		LR		209.02	Berms										

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT							
			<b>301</b>	<b>Hot Mix Asphalt Base Course</b>				<b>TON</b>							
LAB	One per project for each mix type. If the design requirements are modified after the Engineer accepts the job-mix-formula, a new job-mix-formula must be submitted before using mix produced from the modified design.	LB		301.02 (B)	Approved Mix Design										
COC-LAB, APL	For Non APL products: Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB		702.01	Asphalt Cement (Oahu Only)										
COC-LAB	Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB		702.01	Asphalt Cement										
COC-LAB, APL	For Non APL products: Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 3 months	LB		702.04	Emulsified Asphalt (Oahu Only)										
COC-LAB	Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 3 months	LB		702.04	Emulsified Asphalt										

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB	1 per approximately every 500 tons of asphalt concrete, minimum one per day	LB		301.03 in accordance with Subsection 401.03	Samples of Uncompacted Mix for Specific Gravity				
LAB	1 per approximately every 250 tons of asphalt concrete, minimum three per day	LB		301.03 in accordance with Subsection 401.03	Samples of Compacted AC Cores				
COC-LAB	1 per approx 1000 tons of asphalt concrete	LB		703.03	Aggregate for Hot Mix Asphalt Base Course				
COC	Certificate of Compliance with Test Results	LB		703.15	Filler				
COC	Certificate of Compliance with Test Results	LB		712.03	Hydrated Lime				
			<b>304</b>	<b>AGGREGATE BASE COURSE</b>				<b>TON or CY</b>	
COC/APL, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.06	Aggregate for Untreated Base				
			<b>305</b>	<b>AGGREGATE SUBBASE COURSE</b>				<b>TON or CY</b>	
COC/APL, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.17	Aggregate for Subbase				
			<b>306</b>	<b>UNTREATED PERMEABLE BASE COURSE</b>				<b>LS</b>	
COC, LAB	One lab sample per approx. every 2,500 cu. yd. per type.	LG		703.04	Coarse Aggregate / Filler				
			<b>312</b>	<b>Hot Mix Glassphalt Base Course</b>				<b>TON</b>	

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LAB	One per project for each mix type. If the design requirements are modified after the Engineer accepts the job-mix-formula, a new job-mix-formula must be submitted before using mix produced from the modified design.	LB		312.02 (B)	Approved Mix Design				
COC-LAB, APL	For Non APL products: Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB		702.01	Asphalt Cement (Oahu Only)				
COC-LAB	Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB		702.01	Asphalt Cement				
COC-LAB, APL	For Non APL products: Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 3 months	LB		702.04	Emulsified Asphalt (Oahu Only)				
COC-LAB	Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 3 months	LB		702.04	Emulsified Asphalt				

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LAB	1 per approximately every 500 tons of asphalt concrete, minimum one per day	LB		312.03 in accordance with Subsection 401.03	Samples of Uncompacted Mix for Specific Gravity				
LAB	1 per approximately every 250 tons of asphalt concrete, minimum three per day	LB		312.03 in accordance with Subsection 401.03	Samples of Compacted AC Cores				
LAB, COC	1 per approx 1000 tons of asphalt concrete	LB		703.03	Aggregate for Hot Mix Asphalt Base Course				
COC	Certificate of Compliance with Test Results	LB		703.15	Filler				
COC	Certificate of Compliance with Test Results	LB		717.01	Cullet and Cullet-Aggregate Mixtures on Construction Materials				
COC	Certificate of Compliance with Test Results	LB		717.02	Cullet Materials for Roadways				
			<b>313</b>	<b>PERMEABLE SEPARATOR</b>				<b>INCIDENTAL</b>	
COC/APL		LG		716.02	Geotextiles for Permeable Separator Applications				
			<b>314</b>	<b>Controlled Low Strength Materials (CLSM) For Utilities and Structures</b>				<b>INCIDENTAL</b>	
LAB Samples, COC	Certificate of Compliance. Check samples of 1 for approximately every 5,000 yd3 of concrete placed or as required for control. <u>Location:</u> Weigh hopper or in the feed line immediately in advance of the hopper. <u>Size:</u> Approximately 30 lbs. <u>Small Qty:</u> If concrete is used for incidental construction, Certificate of Compliance.	LS		701.01	Portland Cement				

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LAB Samples (Oahu Only). LAB (Other Districts)	Fine Aggregates (F.A.): <b>(1)a. Gradation</b> - 1 for approximately every month or 1,000 yd3 of concrete placed or as required for control. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 10 lbs. (F.A.). <u>Small Qty:</u> See Note 2. <u>Verification Sampling:</u> 1 to 1 for first 5 acceptance tests, 1 per 10 thereafter <b>(1)b. Specific Gravity</b> - When aggregate changed or as required for source information. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 5 lbs. (F.A.). <b>(3)(a) Sand Equivalent</b> - If required, 1 for approximately every month or 3,000 yd3 of concrete placed or as required for control. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 2 lbs. <u>Small Qty:</u> See Note 2. <u>Verification Sampling:</u> When required, 1 per 5,000 yd3. <b>(3)(b)</b> Clay Lumps and Friable Particles; Organic Impurities; and L.A. Abrasion on Parent Material for Manufactured Fines Only - When aggregate changed or as required for source information. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 50 lbs. <b>(3)(c)</b> Complete -When new source is proposed for use or when aggregate changed. <u>Location:</u> Stockpile/See Note 3. <u>Size:</u> Approximately 100 lbs. *Verification Sampling Cont.: See Note 4.	LS		703.01	Fine Aggregate for Concrete-PCC				
COC		LS		601.03	Mix Design- PCC				

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LAB	1 set for each day when volume exceeds 25 yd3 or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 Set of 2- 6"x12" cyl. for each test age. <u>Small Qty:</u> If concrete is less than 25 yd3, 1 per accumulative 100 yd3. None if total days run less than 25 yd3. <u>Verification Sampling:</u> 1 per project. When total days run less than 25 yd3, none	LS		314.20	CLSM specimens				
			<b>401</b>	<b>Hot Mix Asphalt (HMA) Pavement, Mix No. IV</b>			<b>TON</b>		
LAB	One per project for each mix type. If the design requirements are modified after the Engineer accepts the job-mix-formula, a new job-mix-formula must be submitted before using mix produced from the modified design.	LB		401.02 (B)	Approved Mix Design				
COC-LAB, APL	For Non APL products: Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB		702.01	Asphalt Cement (Oahu Only)				
COC-LAB	Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB		702.01	Asphalt Cement				



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COC-LAB	Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 3 months	LB	702.04	Emulsified Asphalt					
LAB	1 per approximately every 500 tons of asphalt concrete, minimum one per day	LB	401.03 (F) (1)	Samples of Uncompacted Mix for Specific Gravity					
LAB	1 per approximately every 250 tons of asphalt concrete, minimum three per day	LB	401.03 (F) (1)	Samples of Compacted AC Cores					
COC-LAB	1 per approx 1000 tons of asphalt concrete	LB	703.09	Aggregate for Hot Mix Asphalt Pavement					
COC	Certificate of Compliance with Test Results	LB	703.15	Filler					
COC	Certificate of Compliance with Test Results	LB	712.03	Hydrated Lime					
			<b>404</b>	<b>Slurry Seal</b>			<b>SY</b>		
LAB	One per project for each mix type. If the design requirements are modified after the Engineer accepts the job-mix-formula, a new job-mix-formula must be submitted before using mix produced from the modified design.	LB	401.02 (B)	Approved Mix Design					

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COC-LAB	Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 3 months	LB		702.04	Emulsified Asphalt				
COC-LAB	1 per approximately every 20,000 square yards of slurry seal	LB		703.11	Aggregate for Slurry Seal				
COC	Certificate of Compliance with Test Results	LB		703.15	Filler				
			<b>407</b>	<b>Tack Coat</b>			<b>INCIDENTAL</b>		
COC-LAB, APL	For Non APL products: Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 3 months	LB		702.04	Emulsified Asphalt (Oahu Only)				
LAB, COC	Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 3 months	LB		702.04	Emulsified Asphalt				
			<b>411</b>	<b>Portland Cement Concrete Pavement (PCCP)</b>			<b>CY, SY</b>		
LAB, COC	Concrete Mixture - Pavements	LS		601.00	Structural Concrete				

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			ITEM NO.	ITEM		APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
COC		LS	601.03	Mix Design- PCC					
COC		LS	705.01	Joint Filler					
COC	Certificate of Compliance with Test Results	LS	705.04	Joint Sealer					
LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location</u> : Jobsite or source. <u>Sample Size</u> : 3 specimen 36" long. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS	709.01	Reinforcing Steel					
COC		LS	711.01	Curing Materials					
LAB, COC	Certificate of Compliance with Test Results	LS	709.01	Dowels					

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APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)														
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT									
									LAB	(1) <b>Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. (2) <b>Flexural Strength</b> - 1 set per half day or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x6x21" beams for each test age. <u>Small Qty:</u> 1 set per half day of pour or as required for control. <u>Verification Sample:</u> 1 per project. (3) <b>Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. (4) <b>Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). (5) <b>Entrained Air</b> -When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.	LS	411.02	Concrete Mixtures-Specimens				
									LAB	See Sec. 411.03(T) for primary and secondary unit location and quantities	LS	411.03(T)	Concrete cores				
									COC		LS	712.02	Epoxy-Resin Adhesive				
COC		LS	Incidental	Bond Breaker (Roof Paper, Miscellaneous)													

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT		
			<b>412</b>	<b>Paving Fabric</b>			<b>SY</b>			
COC-LAB, APL	For Non APL products: Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB		702.01	Asphalt Cement (Oahu Only)					
COC-LAB	Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB		702.01	Asphalt Cement					
COC/APL		LG		716.04	Geotextiles for Paving Applications					
			<b>414</b>	<b>Reconstruction of Weakened Pavement Areas</b>			<b>TON</b>			
LAB	One per project for each mix type. If the design requirements are modified after the Engineer accepts the job-mix-formula, a new job-mix-formula must be submitted before using mix produced from the modified design.	LB		301.02 (B)	Approved Mix Design					
COC-LAB, APL	For Non APL products: Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB		702.01	Asphalt Cement (Oahu Only)					

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COC-LAB	Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB		702.01	Asphalt Cement										
COC-LAB	1 per approx 1000 tons of asphalt concrete.	LB		703.03	Aggregate for Hot Mix Asphalt Base Course										
COC	Certificate of Compliance with Test Results	LB		703.15	Filler										
COC/APL, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703	Aggregate UTB / Subbase										
LAB	One lab sample per soils type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		203	Subgrade										
			<b>501</b>	<b>Steel Structures</b>				<b>LB OR LS</b>							
DA, COC		LS		708.01(A)	Red Primer Paint										
DA, COC		LS		708.02	Zinc Paints and Primers										
COC	Certificate of Compliance with Test Results	LS		712.09	Bearing Devices and Related Materials										
COC	Certificate of Compliance with Test Results	LS		712.10	Zinc Coating										
COC	Certificate of Compliance with Test Results	LS		713.01	Structural Steel										
COC	Certificate of Compliance with Test Results	LS		713.02	Welded Stud Shear Connectors										
COC	Certificate of Compliance with Test Results	LS		713.07	Steel Forging and Steel Shaftings										
COC	Certificate of Compliance with Test Results	LS		713.08	Steel Castings										
COC	Certificate of Compliance with Test Results	LS		713.09	Grey Iron Castings										
COC	Certificate of Compliance with Test Results	LS		713.10	Malleable Iron Castings										
COC	Certificate of Compliance with Test Results	LS		718.01	Standard Fasteners										
COC	Certificate of Compliance with Test Results	LS		718.02	High-Strength Bolts and Studs										
			<b>502</b>	<b>Timber Structure</b>				<b>LB or LS</b>							

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			ITEM NO.	ITEM		APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
DA	Designer's Approval with Certificate of Inspection	LR	714.01	Structural timber and lumber					
COC		LR	714.02	Timber Preservatives					
DA		LR	714.03	Hardware for Timber Structures					
			<b>503</b>	<b>Concrete Structures</b>			<b>LS, CY, EA</b>		
COC	Certificate of Compliance with Test Results	LB	705.05	Flashing Compound					
COC	Certificate of Compliance with Test Results	LB	705.06	Waterproofing					
LAB, COC	Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	LS	601.00	Structural Concrete					
COC		LS	705.01	Joint Filler					
COC	Certificate of Compliance with Test Results	LS	705.04	Joint Sealer					
COC	Certificate of Compliance with Test Results	LS	705.05	Flashing Compound					
COC	Certificate of Compliance with Test Results	LS	705.06	Waterproofing					
COC		LS	705.07	Waterstops					
LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location</u> : Jobsite or source. <u>Sample Size</u> : 3 specimen 36" long. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS	709.01	Reinforcing Steel					
LAB, COC	Certificate of Compliance with Test Results	LS	709.01(E)	Dowels					
COC, APL (White, Br. Deck Only)		LS	711.01	Curing Materials					
COC		LS	711.03	Admixtures					
COC		LS	712.02	Epoxy-Resin Adhesive					
LAB, COC		LS	712.04	Grout					
COC	Certificate of Compliance with Test Results	LS	712.09	Bearing Devices and Related Materials					

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COC - LAB			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB									
COC									
DA									
COC		LS	712.11	Abrasive Coating					
COC		LS	601.03	Mix Design Structural and Miscellaneous					
LAB	(1) <b>Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. (2) <b>Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. (3) <b>Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). (4) <b>Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.	LS	503.02	Concrete Mixtures-Specimens					
COC		LS		Incidental	Bond Breaker (Roof Paper, Miscellaneous)				
			<b>504</b>	<b>Prestressed Concrete Members</b>			LS, CY, EA		
LAB, COC	Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	LS	601.00	Structural Concrete					



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APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)														
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT									
									LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location</u> : Jobsite or source. <u>Sample Size</u> : 3 specimen 36" long. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS	709.01	Reinforcing Steel				
									LAB, COC	Certificate of Compliance with Certified test results and 1 sample per type per lot. <u>Location</u> : Jobsite. <u>Sample Size</u> : 2 strands 4-1/2 ft. long. <u>Small Qty</u> : 1 set per project. <u>Verification Sample</u> : 1 set per project.	LS	709.03	Prestressing Steel				
									COC		LS	711.03	Admixtures				
COC		LS	712.02	Epoxy-Resin Adhesive													
LAB, COC		LS	712.04	Grout													
COC		LS	601.03	Mix Design- PCC													

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COC - LAB			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB									
COC									
DA									
LAB	<p><b>(1) Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. <b>(2) Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. <b>(3) Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). <b>(4) Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.</p>	LS	504.02	Concrete and Grout Mixtures-Specimens					
			505	Piling			LF, EA, LS, FA		

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APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)						
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
COC	(1) <b>Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. (2) <b>Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. (3) <b>Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). (4) <b>Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.	LS	505.02(A-B)	Portland Cement Concrete Piles					
COC	Certificate of Compliance with Test Results	LS	505.02(C)	Steel Piles					
COC	Certificate of Compliance with Test Results	LS	505.02(E)	Steel Shells					
			<b>506</b>	<b>Bearing and Expansion Plates</b>		LS			
COC	Certificate of Compliance with Test Results	LS	712.09(D)	Bronze and Stainless Steel Expansion Plate					
			<b>507</b>	<b>Railings</b>		LS, LF, EA			
LAB, COC	Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	LS	601.00	Structural Concrete					

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LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location</u> : Jobsite or source. <u>Sample Size</u> : 3 specimen 36" long. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS		602.00	Reinforcing Steel				
COC	Certificate of Compliance with Test Results	LS		710.09	Aluminum Bridge Railing				
COC	Certificate of Compliance with Test Results	LS		710.10	Steel Bridge Railing				
COC	Certificate of Compliance with Test Results	LS		710.11	Steel Pipe for railing				
COC		LS		715.01	Aluminum				
COC		LS		715.02	Contacts With Dissimilar Materials				
COC		LS		601.03	Mix Design- PCC				

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB	(1) <b>Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. (2) <b>Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. (3) <b>Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). (4) <b>Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.	LS	507.02	Concrete Mixtures-Specimens					
			<b>508</b>	<b>Cement Rubble Masonry</b>		<b>LS, CY</b>			
LAB, COC	Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction )	LS		601.00	Structural Concrete				
LAB, COC		LS		712.04	Portland Cement -Grout				

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For HWY-LB all COC's require test results.

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APL - COC	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)						
COC - LAB			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB									
COC									
DA									
LAB	<p>Fine Aggregates (F.A.): <b>(1)a. Gradation</b> - 1 for approximately every month or 1,000 yd<sup>3</sup> of concrete placed or as required for control. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 10 lbs. (F.A.). <u>Small Qty:</u> See Note 2. <u>Verification Sampling:</u> 1 to 1 for first 5 acceptance tests, 1 per 10 thereafter <b>(1)b. Specific Gravity</b> - When aggregate changed or as required for source information. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 5 lbs. (F.A.). <b>(3)(a) Sand Equivalent</b> - If required, 1 for approximately every month or 3,000 yd<sup>3</sup> of concrete placed or as required for control. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 2 lbs. <u>Small Qty:</u> See Note 2. <u>Verification Sampling:</u> When required, 1 per 5,000 yd<sup>3</sup>. <b>(3)(b)</b> Clay Lumps and Friable Particles; Organic Impurities; and L.A. Abrasion on Parent Material for Manufactured Fines Only - When aggregate changed or as required for source information. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 50 lbs. <b>(3)(c)</b> Complete -When new source is proposed for use or when aggregate changed. <u>Location:</u> Stockpile/See Note 3. <u>Size:</u> Approximately 100 lbs. *Verification Sampling Cont.: See Note 4.</p>	LS		703.01	Fine Aggregate -Grout				
COC		LS		712.02	Epoxy-Resin Adhesive				

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB	(1) <b>Compressive Strength</b> (28 days, 7 days) - 1 set for each day when volume exceeds 25 yd3 or as required for acceptance for concrete specified by strength. <u>Location</u> : At point concrete deposited in the work. <u>Size</u> : 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty</u> : If concrete is less than 25 yd3, 1 per accumulative 100 yd3. None if total days run less than 25 yd3. <u>Verification Sample</u> : 1 per project. When total days run less than 25 yd3, none. (2) <b>Yield, Cement Factor, and Unit Weight (See Note 1)</b> - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location</u> : At point concrete deposited in the work. <u>Verification Sample</u> : When yield test used for payment, 1 per project. (3) <b>Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location</u> : At point concrete deposited in the work. <u>Verification Sample</u> : 1 per project (Observation). (4) <b>Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location</u> : At point concrete deposited in the work. <u>Verification Sample</u> : When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.	LS		508.02	Concrete Mixtures-Specimens				
			<b>511</b>	<b>DRILLED SHAFTS</b>				<b>LS, EA, LF</b>	
COC		LG		511.02	Crosshole Sonic Log (CSL) Test Access Tube				
LAB, COC	Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	LS		601.00	Portland Cement Concrete (PCC)				

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location</u> : Jobsite or source. <u>Sample Size</u> : 3 specimen 36" long. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS		709.01	Reinforcing Steel				
COC		LS		511.02(C)	Casing				
LAB, COC		LS		712.04	Grout				
COC		LS		712.02	Epoxy-Resin Adhesive				
LAB		LG / LS		511.03	Concrete Cores				
COC		LS		711.03	Admixtures				
COC		LS		601.03	Mix Design- PCC				



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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB	(1) <b>Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. (2) <b>Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. (3) <b>Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). (4) <b>Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.	LS	511.02	Concrete Mixtures-Specimens					
			<b>601</b>	<b>Structural Concrete</b>		<b>INCL.</b>			
LAB Samples, COC	Certificate of Compliance. Check samples of 1 for approximately every 5,000 yd3 of concrete placed or as required for control. <u>Location:</u> Weigh hopper or in the feed line immediately in advance of the hopper. <u>Size:</u> Approximately 30 lbs. <u>Small Qty:</u> If concrete is used for incidental construction, Certificate of Compliance.	LS	701.01	Portland Cement					

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APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)						
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB	<p><b>Fine &amp; Course Aggs (F.A.) &amp; (C.A.): (1)(a) Gradation</b> - 1 for approx. every month or 1,000 yd3 of concrete placed or as required for control. <u>Location:</u> See Note 3. <u>Size:</u> approx. 50 lbs (C.A.) &amp; 10 lbs. (F.A.). <u>Small Qty:</u> See Note 2. <u>Verification Sampling:</u> 1 to 1 for first 5 acceptance tests, 1 per 10 thereafter <b>(1)(b) Specific Gravity</b> - When aggregate changed or as required for source information. <u>Location:</u> See Note 3. <u>Size:</u> approx. 10 lbs. (C.A.) &amp; 5 lbs. (F.A.). <b>(1)(c) Moisture</b> - As required for information. <u>Location:</u> See Note 3. <u>Size:</u> approx. 10 lbs. (C.A.) <b>(2)(a) Course Aggs. Clay Lumps and Friable Particles; L.A. Abrasion; and Flat and Elongated Pieces</b> - When aggregate changed or approx. once a year. <u>Location:</u> See Note 3. <u>Size:</u> approx. 50 lbs. (C.A.) <b>(3)(a) Sand Equivalent</b> - If required, 1 for approx. every month or 3,000 yd3 of concrete placed or as required for control. <u>Location:</u> See Note 3. <u>Size:</u> approx. 2 lbs. <u>Small Qty:</u> See Note 2. <u>Verification Sampling:</u> When required, 1 per 5,000 yd3. <b>(3)(b)</b> Clay Lumps and Friable Particles; Organic Impurities; and L.A. Abrasion on Parent Material for Manufactured Fines Only - When aggregate changed or as required for source information. <u>Location:</u> See Note 3. <u>Size:</u> approx. 50 lbs. <b>(3)(c) Complete</b> -When new source is proposed for use or when aggregate changed. <u>Location:</u> Stockpile/<u>See Note 3. Size:</u> approx. 200 lbs. (C.A.) and 100 lbs. (F.A.). *Verification Sampling Cont.: See Note 4.</p>	LS	703.01,703.02	Aggregates, Fine & Coarse	or when required. Complete test annually.				
COC		LS	711.03	Admixtures					
COC		LS	712.02	Epoxy-Resin Adhesive					
			<b>602</b>	<b>Reinforcing Steel</b>			<b>LS, LB, INCIDENTAL</b>		

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APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)									
			ITEM NO.	ITEM				APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location</u> : Jobsite or source. <u>Sample Size</u> : 3 specimen 36" long. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS		709.01	Reinforcing Steel							
LAB, COC	Each 10 tons or fraction thereof. <u>Location</u> : Jobsite. <u>Sample Size</u> : 3 feet x 3 feet. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS		709.01(C)	Reinforcing Steel;Wire Mesh Reinforcing							
LAB, COC	See Sec. 602.03(E)(3)(b) for certification requirements. Submit spliced samples for testing. Contact Lab for length and quantities.	LS		602.03	Bar Splice							
			<b>603</b>	<b>Culverts and Storm Drains</b>					<b>INCIDENTAL</b>			
COC	Certificate of Compliance with Test Results	LB		708.05	Asphalt Paint - Protective Coating							
LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		206	Excavation and Backfill							
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.16	Bed Course Material for Crushed Rock Cradle							
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.20	Structure Backfill Material							
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.21	Trench Backfill Material							

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT										
									COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		717.03	Cullet Materials for Utility Structures				
									COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		717.04	Cullet Materials for Drainage Systems				
									LAB, COC	Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	LS		601.00	Structural Concrete				
COC		LS		601.03	Mix Design- PCC													

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COC - LAB			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB									
COC									
DA									
LAB	<p><b>(1) Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. <b>(2) Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. <b>(3) Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). <b>(4) Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.</p>	LS	603.02	Concrete Mixtures-Specimens					
COC		LS	705.01	Joint Filler For Pipe					
COC		LS	705.02	Joint Mortar For Pipe					
COC		LS	705.03	Flexible Water Tight Gasket					

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			ITEM NO.	ITEM				APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
COC, LAB (Mfr. Insp.)	1 joint length for approximately every 50 joint lengths for 3 edge bearing load test. Inspected at plant and released by Central laboratory. <u>Location:</u> Strength tests usually performed at plant. <u>Small Qty:</u> If less than 100 lin. ft. per project, Certificate of Compliance. <u>See Amendment:</u> to Sec. 706 for Plant Certification requirements.	LS		706.02	Reinforced Concrete Pipe							
COC		LS		706.10	High Density Polyethylene Pipe							
COC	Visual, accepted by manufacturer's or supplier's Certificate of Compliance. Inspected at plant and released by Central Laboratory. <u>Location:</u> At fabrication point or at time of use	LS		707.02	Corrugated Metal Pipe and Pipe Arch							
COC		LS		707.03	Bituminous Coated Corrugated Metal Pipe Arch							
COC		LS		707.06	Structural Aluminum Plate for Pipe, Pipe Arch							
COC	Certificate of Compliance with Test Results	LS		707.08	Structural Steel Plate for Pipe, Pipe Arch and Arch							
COC		LS		707.12	Spiral Rib Metal Pipe							
COC		LS		707.13	Spiral Rib Metal Coupling Band							
COC		LS		712.02	Epoxy-Resin Adhesive							
LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location:</u> Jobsite or source. <u>Sample Size:</u> 3 specimen 36" long. <u>Small Qty:</u> If less than 200 lbs. per project, Certificate of Compliance.	LS		709.01	Reinforcing Steel							
			<b>604</b>	<b>Manholes, Inlets and Catch Basins</b>					<b>EA</b>			
COC	Certificate of Compliance with Test Results	LB		705.06 (C)	Asphalt							

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APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)												
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT							
COC	Certificate of Compliance with Test Results	LB	702.07	Asphalt Filler											
LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG	206	Excavation and Backfill											
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG	703.20	Structure Backfill Material											
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG	703.21	Trench Backfill Material											
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG	717.04	Cullet Materials for Drainage Systems											
LAB, COC	Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	LS	601.00	Structural Concrete											
COC		LS	601.03	Mix Design- PCC											

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB	(1) <b>Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. (2) <b>Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. (3) <b>Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). (4) <b>Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.	LS	604.02	Concrete Mixtures-Specimens					
LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location:</u> Jobsite or source. <u>Sample Size:</u> 3 specimen 36" long. <u>Small Qty:</u> If less than 200 lbs. per project, Certificate of Compliance.	LS	709.01	Reinforcing Steel					
LAB, COC		LS	701.01	Portland Cement -Mortar					



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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB, COC	Fine Aggregates (F.A.): <b>(1)a. Gradation</b> - 1 for approximately every month or 1,000 yd <sup>3</sup> of concrete placed or as required for control. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 10 lbs. (F.A.). <u>Small Qty:</u> See Note 2. <u>Verification Sampling:</u> 1 to 1 for first 5 acceptance tests, 1 per 10 thereafter <b>(1)b. Specific Gravity</b> - When aggregate changed or as required for source information. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 5 lbs. (F.A.). <b>(3)(a) Sand Equivalent</b> - If required, 1 for approximately every month or 3,000 yd <sup>3</sup> of concrete placed or as required for control. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 2 lbs. <u>Small Qty:</u> See Note 2. <u>Verification Sampling:</u> When required, 1 per 5,000 yd <sup>3</sup> . <b>(3)(b)</b> Clay Lumps and Friable Particles; Organic Impurities; and L.A. Abrasion on Parent Material for Manufactured Fines Only - When aggregate changed or as required for source information. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 50 lbs. <b>(3)(c)</b> Complete -When new source is proposed for use or when aggregate changed. <u>Location:</u> Stockpile/See Note 3. <u>Size:</u> Approximately 100 lbs. *Verification Sampling Cont.: See Note 4.	LS		703.01	Fine Aggregate- Mortar				
COC		LS		712.01	Water				
COC		LS		704.01	Clay or Shale Brick				
COC		LS		704.02	Concrete Brick				
COC		LS		705.01	Joint Filler				
COC		LS		705.08	Mortar for Manhole				
COC		LS		712.04	Non- Shrink Grout				
COC		LS		712.06	Precast Concrete Unit				
COC		LS	Amendment	712.07	Frames, Grates, Covers and Ladder Rungs				

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
COC		LS	712.02	Epoxy-Resin Adhesive					
COC		LS	711.01	Curing Materials					
COC		LS	601.03	Mix Design- CLSM					
LAB	1 set for each day when volume exceeds 25 yd3 or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 Set of 2- 6"x12" cyl. for each test age. <u>Small Qty:</u> If concrete is less than 25 yd3, 1 per accumulative 100 yd3. None if total days run less than 25 yd3. <u>Verification Sampling:</u> 1 per project. When total days run less than 25 yd3, none	LS	604.02	CLSM specimens					
			<b>605</b>	<b>UNDERDRAINS</b>			<b>LS, LF, EA</b>		
COC/APL, LAB	One lab sample per approx. every 2,500 cu. yd. per type.	LG	703.04	Coarse Aggregate / Filler					
COC/APL		LG	706.12	Perforated Plastic Pipe					
COC/APL		LG	716.03	Geotextiles for Underdrain Applications					
LAB, COC	Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction )	LS	601.00	Structural Concrete					
COC		LS	601.03	Mix Design- PCC					

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LAB, COC		LS		612.02	Grouted Rubble Paving				
LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location</u> : Jobsite or source. <u>Sample Size</u> : 3 specimen 36" long. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS		709.01	Reinforcing Steel				
COC		LS		712.10	Zinc Coating				
			<b>606</b>	<b>GUARDRAIL</b>			<b>LS, EA</b>		
LAB, COC	Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction )	LS		601.00	Structural Concrete				
COC		LS		601.03	Mix Design- PCC				

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									LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location:</u> Jobsite or source. <u>Sample Size:</u> 3 specimen 36" long. <u>Small Qty:</u> If less than 200 lbs. per project, Certificate of Compliance.	LS	709.01	Reinforcing Steel				
									COC		LS	705.01	Joint Filler				
COC	Certificate of Compliance with Test Results	LS	709.02	Wire Rope and Wire Cable													
COC	Certificate of Compliance with Test Results	LS	710.04	Metal Beam Rails, End Sections, Terminal Connectors													
COC	Certificate of Compliance with Test Results	LS	710.07	Guardrail Posts													
COC	Certificate of Compliance with Test Results	LS	710.08	Guardrail Hardware													
			<b>607</b>	<b>Chain Link Fence And Gates</b>			<b>LS, LF, EA</b>										
LAB, COC	Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction )	LS	601.00	Structural Concrete													
COC		LS	601.03	Mix Design- PCC													

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LAB, COC		LS		722.00	Chainlink Fence Materials					
COC		LS		712.10	Zinc Coating					
			<b>610</b>	<b>REINFORCED CONCRETE DRIVEWAYS</b>				<b>LS, SY</b>		
LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		203	Excavation and Backfill					
COC/APL, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.06	Aggregate Base					
LAB, COC	Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction )	LS	650psi flex	601.00	Structural Concrete					
COC		LS		601.03	Mix Design- PCC					

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB	(1) <b>Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. (2) <b>Flexural Strength</b> - 1 set per half day or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x6x21" beams for each test age. <u>Small Qty:</u> 1 set per half day of pour or as required for control. <u>Verification Sample:</u> 1 per project. (3) <b>Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. (4) <b>Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). (5) <b>Entrained Air</b> -When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.	LS		607.02	Concrete Mixtures-Specimens				
LAB, COC	Each 10 tons or fraction thereof. <u>Location:</u> Jobsite. <u>Sample Size:</u> 3 feet x 3 feet. <u>Small Qty:</u> If less than 200 lbs. per project, Certificate of Compliance.	LS	Sheet not Roll	709.01(C)	Welded Wire Fabric Reinforcement				
COC		LS		711.01	Curing Materials				

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COC		LS	712.02	Epoxy-Resin Adhesive					
			<b>611</b>	<b>HAND-LAID RIPRAP</b>			<b>LS, CY</b>		
COC		LG	716.06	Geotextile for Stabilization Applications					
LAB	One lab sample per source.	LG	611.02	Stones					
			<b>612</b>	<b>GRouted RUBBLE PAVING</b>			<b>LS, CY</b>		
LAB	One lab sample per source.	LG	612.02	Stones					
LAB, COC		LS	612.01	Grouted Rubble Paving					
LAB, COC		LS	701.01	Portland Cement- Mortar					
LAB, COC	<p>Fine Aggregates (F.A.): <b>(1)a. Gradation</b> - 1 for approximately every month or 1,000 yd<sup>3</sup> of concrete placed or as required for control. <u>Location: See Note 3.</u> <u>Size:</u> Approximately 10 lbs. (F.A.). <u>Small Qty: See Note 2.</u> <u>Verification Sampling:</u> 1 to 1 for first 5 acceptance tests, 1 per 10 thereafter <b>(1)b. Specific Gravity</b> - When aggregate changed or as required for source information. <u>Location: See Note 3.</u> <u>Size:</u> Approximately 5 lbs. (F.A.). <b>(3)(a) Sand Equivalent</b> - If required, 1 for approximately every month or 3,000 yd<sup>3</sup> of concrete placed or as required for control. <u>Location: See Note 3.</u> <u>Size:</u> Approximately 2 lbs. <u>Small Qty: See Note 2.</u> <u>Verification Sampling:</u> When required, 1 per 5,000 yd<sup>3</sup>. <b>(3)(b)</b> Clay Lumps and Friable Particles; Organic Impurities; and L.A. Abrasion on Parent Material for Manufactured Fines Only - When aggregate changed or as required for source information. <u>Location: See Note 3.</u> <u>Size:</u> Approximately 50 lbs. <b>(3)(c) Complete</b> -When new source is proposed for use or when aggregate changed. <u>Location: Stockpile/See Note 3.</u> <u>Size:</u> Approximately 100 lbs. <u>*Verification Sampling Cont.: See Note 4.</u></p>	LS	703.01	Fine Aggregate-Mortar					

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LAB									
COC									
DA									
COC									
		LS		712.02	Epoxy-Resin Adhesive				
			<b>613</b>	<b>Centerline And Reference Survey Monuments</b>				<b>LS, EA</b>	
LAB, COC	Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction )	LS		601.00	Structural Concrete				
COC		LS		601.03	Mix Design- PCC				
LAB	1 set for each day when volume exceeds 25 yd3 or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 Set of 2- 6"x12" cyl. for each test age. <u>Small Qty:</u> If concrete is less than 25 yd3, 1 per accumulative 100 yd3. None if total days run less than 25 yd3. <u>Verification Sampling:</u> 1 per project. When total days run less than 25 yd3, none	LS		613.02	Concrete Mixtures-Specimens				
COC		LS		707.10	Zinc-Coated Pipe and Fittings				
COC		LS		755.03	Adhesives for Pavement Markers				
COC	Certificate of Compliance with Test Results	LS		713.01	Structural Steel				
			<b>614</b>	<b>Street Survey Monuments</b>				<b>LS, EA</b>	
LAB, COC	Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction )	LS		601.00	Structural Concrete				
COC		LS		601.03	Mix Design- PCC				



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For HWY-LB all COC's require test results.

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APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)						
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB	1 set for each day when volume exceeds 25 yd3 or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 Set of 2- 6"x12" cyl. for each test age. <u>Small Qty:</u> If concrete is less than 25 yd3, 1 per accumulative 100 yd3. None if total days run less than 25 yd3. <u>Verification Sampling:</u> 1 per project. When total days run less than 25 yd3, none	LS		614.02	Concrete Mixtures-Specimens				
COC		LS		713.09	Gray Iron Castings				
COC		LS		614.02	Zinc -Coated Cast Iron Frames and Covers				
COC		LS		614.02	Zinc -Coated Standard Weight Pipe				
			<b>616</b>	<b>IRRIGATION SYSTEM</b>				<b>LS, EA, LF, CY</b>	
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.21	Trench Backfill Material				
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		717.04	Cullet Materials for Drainage Systems				
DA		LR		616.02	PVC pipe and fittings				
DA		LR		616.02	Drip tubes and fittings				
DA		LR		706.14	Drip tubes and fittings - polyethylene pipe				
DA		LR		616.02	Sprinkler heads				
DA		LR		616.02	Springs for sprinkler risers				
DA		LR		616.02	Valves				
DA		LR		616.02	Pressure regulator				

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			ITEM NO.	ITEM		APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
DA		LR	616.02	Backflow preventor					
DA		LR	616.02	Valve box and cover					
DA		LR	616.02	Pump, motor, and motor controller					
DA		LR	616.02	Switching Tensiometer					
DA		LR	616.02	Rain sensor switch					
DA		LR	616.02	Automatic controller					
DA		LR	616.02	Controller enclosure					
DA		LR	616.02	Master satellite control system					
DA		LR	616.02	Cables, wires, and conductors					
DA		LR	616.02	Circuit breakers					
DA		LR	616.02	Panel boards					
DA		LR	616.02	Safety switches					
DA		LR	616.02	Snap switches					
DA		LR	616.02	Meter and service equipment cabinets					
DA		LR	616.02	Transformers					
DA		LR	616.02	Meter sockets					
DA		LR	616.02	Ground rods					
DA		LR	616.02	Receptacles					
LAB, COC	Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction )	LS	601.00	Structural Concrete					
COC		LS	601.03	Mix Design- PCC					

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LAB	1 set for each day when volume exceeds 25 yd3 or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 Set of 2- 6"x12" cyl. for each test age. <u>Small Qty:</u> If concrete is less than 25 yd3, 1 per accumulative 100 yd3. None if total days run less than 25 yd3. <u>Verification Sampling:</u> 1 per project. When total days run less than 25 yd3, none	LS		616.02	Concrete Mixtures-Specimens					
DA		LR		707.10	Zinc-coated Pipe and Fittings					
DA		LR		707.11	Copper Service Pipe and Appurtenances					
DA		LR		712.06(B)	Concrete Pull Box					
DA		LR		616.02	Frame And Cover					
				<b>617</b>	<b>PLANTING SOIL</b>				<b>LS, CY</b>	
COC, LAB	One lab sample per source.	LG		617.02	Imported Planting Soil					
				<b>619</b>	<b>Planting</b>				<b>LS, EA</b>	
DA		LR		619.02	Plant material - trees					
DA		LR		619.02	Plant material - shrubs					
DA		LR		619.02	Plant material - vines					
DA		LR		619.02	Plant material - groundcover					
DA		LR		619.02	Plant material - grass					
DA		LR		619.02	Hydro-mulch					
DA		LR		619.02	Herbicides					
DA		LR		619.02	Decorative boulders					
DA		LR		619.02	Plastic Header					
DA		LR		619.02	Tree guard					

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			ITEM NO.	ITEM		APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
DA		LR	619.02	Root control barrier					
DA		LR	619.02	Fertilizer					
DA		LR	619.02	Mulch and Soil Amendments					
DA		LR	619.02	Stakes					
DA		LR	619.02	Hose and wire ties					
DA		LR	619.02	Guy wires					
DA		LR	619.02	Turnbuckles					
DA		LR	619.02	Markers					
DA		LR	619.02	Weed blocking Geotextiles					
			<b>620</b>	<b>DUST CONTROL</b>				<b>INCIDENTAL</b>	
DA, COC, LAB		LG/LR	620.02	Geobinder					
			<b>622</b>	<b>ROADWAY AND SIGN LIGHTING SYSTEM</b>				<b>LS, EA</b>	
LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG	204	Excavation and Backfill					
LAB, COC	Each 10 tons or fraction thereof. Location: Jobsite. Sample Size: 3 feet x 3 feet. Small Qty: If less than 200 lbs. per project, Certificate of Compliance.	LS	709.01(c)	Welded Wire Fabric Reinforcement					
DA		LR	712.06(B)	Precast concrete pull box					
COC		LR	712.27	Conduits					
DA		LR	760.01	Light poles - aluminum					
DA		LR	760.01	Light poles - wood					
DA		LR	760.02	Luminaire mast arms					
DA		LR	760.03	Luminaires for roadway, underpass, sign, and pedestrian					
COC		LR	760.04	Cables and wires for roadway lighting system					
DA		LR	760.05	Disconnect and protective devices					

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
DA		LR	760.06	Waterproof connectors for roadway lighting				
DA		LR	760.07	Photoelectric control				
LAB, COC	Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	LS	601.00	Structural Concrete				
COC		LS	601.03	Mix Design- PCC				
LAB	<p><b>(1) Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. <b>(2) Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. <b>(3) Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). <b>(4) Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.</p>	LS	622.02	Concrete Mixtures-Specimens				

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT		
LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location</u> : Jobsite or source. <u>Sample Size</u> : 3 specimen 36" long. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS		709.01	Reinforcing Steel					
COC	Certificate of Compliance with Test Results	LS		622.02	Structural Steel Anchor Bolts (Line 44)					
COC	Certificate of Compliance with Test Results	LS		622.02	Structural Steel Plates (Line 44)					
COC	Certificate of Compliance with Test Results	LS		622.02	Exposed Anchor Bolts (Line 45)					
COC	Certificate of Compliance with Test Results	LS		622.02	Exposed Washers (Line 46)					
COC		LS		601.03	Mix Design- CLSM					
LAB	Certificate of Compliance. Check samples of 1 for approximately every 5,000 yd3 of concrete placed or as required for control. <u>Location</u> : Weigh hopper or in the feed line immediately in advance of the hopper. <u>Size</u> : Approximately 30 lbs. <u>Small Qty</u> : If concrete is used for incidental construction, Certificate of Compliance.	LS		622.02	CLSM specimens					
			<b>623</b>	<b>TRAFFIC SIGNAL SYSTEM</b>				<b>LS, EA</b>		
LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		204	Excavation and Backfill					
DA		LR		712.06(B)	Precast concrete pull box					
COC		LR		712.27	Conduits					
DA		LR		770.01	Traffic signal standards - Type I					
DA		LR		770.01	Traffic signal standards - Type II					

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
DA		LR	770.01	Traffic signal standards - Type III					
DA		LR	770.02	Traffic signal heads					
DA		LR	770.03	Dual indication unit (fiberoptics)					
DA		LR	770.04	Pedestrian signal					
DA		LR	770.05	Controller equipment					
DA		LR	770.06	Signal loop cable					
DA		LR	770.06	Home run cable					
DA		LR	770.06	Inter-connect cable					
DA		LR	770.06	Detector loop cable					
DA		LR	770.06	Signal drop cable					
DA		LR	770.06	Electrical service cable					
DA		LR	770.06	Preemption detector cable					
DA		LR	770.06	Ground wire					
DA		LR	770.07	Epoxy sealer					
DA		LR	770.08	Hot applied rubberized sealant					
DA		LR	770.09	High performance detector loop sealant					
DA		LR	770.10	Approach-only microwave detector					
DA		LR	770.11	Preemption detectors					
LAB, COC	Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	LS	601.00	Structural Concrete					
COC		LS	601.03	Mix Design- PCC					

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT									
									LAB	(1) <b>Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. (2) <b>Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. (3) <b>Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). (4) <b>Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.	LS	623.02	Concrete Mixtures-Specimens				
									LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location:</u> Jobsite or source. <u>Sample Size:</u> 3 specimen 36" long. <u>Small Qty:</u> If less than 200 lbs. per project, Certificate of Compliance.	LS	709.01	Reinforcing Steel				
									COC	Certificate of Compliance with Test Results	LS	623.02	Structural Steel Anchor Bolts (Line133)				



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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
COC	Certificate of Compliance with Test Results	LS	623.02	Exposed Anchor Bolts (Line 133)					
COC	Certificate of Compliance with Test Results	LS	623.02	Exposed Washers (Line135)					
COC		LS	601.03	Mix Design- CLSM					
LAB	Certificate of Compliance. Check samples of 1 for approximately every 5,000 yd3 of concrete placed or as required for control. <u>Location:</u> Weigh hopper or in the feed line immediately in advance of the hopper. <u>Size:</u> Approximately 30 lbs. <u>Small Qty:</u> If concrete is used for incidental construction, Certificate of Compliance.	LS	623.02	CLSM specimens					
			<b>624</b>	<b>Water System</b>			<b>INCIDENTAL</b>		
COC	Certificate of Compliance with Test Results	LB	705.06 (C)	Asphalt					
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG	717.03	Cullet Materials for Utility Structures					
LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG	204	Excavation and Backfill					
COC/APL, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG	703.06	Aggregate for Untreated Base					
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG	703.20	Structure Backfill Material					

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For HWY-LB all COC's require test results.

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APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)						
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.21	Trench Backfill Material				
LAB, COC	Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction )	LS		601.00	Structural Concrete				
COC		LS		601.03	Mix Design- PCC				
LAB	<b>(1) Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. <b>(2) Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. <b>(3) Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). <b>(4) Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.	LS		624.02	Concrete Mixtures-Specimens				

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location</u> : Jobsite or source. <u>Sample Size</u> : 3 specimen 36" long. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS		709.01	Reinforcing Steel				
COC		LS		706.18	Concrete Cylinder Pipe				
COC		LS		707.01	Ductile Iron Pipe, Fittings and Special Castings for Water System				
COC		LS		707.11	Copper Service Laterals and Appurtenances				
COC		LS	Amendment	712.07	Frames, Grates, Covers and Ladder Rungs				
COC		LS		601.03	Mix Design- CLSM				
LAB	Certificate of Compliance. Check samples of 1 for approximately every 5,000 yd3 of concrete placed or as required for control. <u>Location</u> : Weigh hopper or in the feed line immediately in advance of the hopper. <u>Size</u> : Approximately 30 lbs. <u>Small Qty</u> : If concrete is used for incidental construction, Certificate of Compliance.	LS		624.02	CLSM specimens				
			<b>625</b>	<b>SEWER SYSTEM</b>				<b>LS, LF, CF</b>	
LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		204	Excavation and Backfill				
COC, LAB	One lab sample per source.	LG		703.16	Bedcourse Materials for Crushed Rock Cradle				
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.20	Structure Backfill Material				

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.21	Trench Backfill Material				
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		717.03	Cullet Materials for Utility Structures				
LAB, COC	Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	LS		601.00	Structural Concrete				
COC		LS		601.03	Mix Design- PCC				

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT									
									LAB	(1) <b>Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. (2) <b>Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. (3) <b>Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). (4) <b>Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.	LS	625.02	Concrete Mixtures-Specimens				
									LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location:</u> Jobsite or source. <u>Sample Size:</u> 3 specimen 36" long. <u>Small Qty:</u> If less than 200 lbs. per project, Certificate of Compliance.	LS	709.01	Reinforcing Steel				
									COC		LS	705.02	Joint Mortar For Pipe				

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
		LS		705.11	Jointing Compound For Sewer Pipe				
COC	1 joint length for approximately every 50 joint lengths for 3 edge bearing load test. Inspected at plant and released by Central laboratory. <u>Location</u> : Strength tests usually performed at plant. <u>Small Qty</u> : If less than 100 lin. ft. per project, Certificate of Compliance.	LS		706.02(B)	RCP for Sewer System				
COC		LS		706.08	Vitrified Clay Pipe (VCP) and Fittings for Sewer System				
COC		LS		706.09	PVC for Sewer System				
COC		LS		707.01(A)	Cast Iron Pipe and Pipe Fittings for Sewer System				
COC		LS		707.01(B)	Ductile Iron Pipe, Fittings and Special Castings for Water System				
				<b>626</b>	<b>Manholes and Valve Boxes for Water and Sewer Systems</b>			<b>LS, EA</b>	
COC	Certificate of Compliance with Test Results	LB		705.06 (C)	Asphalt				
COC	Certificate of Compliance with Test Results	LB		702.07	Asphalt Filler				
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		717.03	Cullet Materials for Utility Structures				
LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		204	Excavation and Backfill				
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.20	Structure Backfill Material				
COC, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.21	Trench Backfill Material				

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LAB, COC	Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	LS		601.00	Structural Concrete				
COC		LS		601.03	Mix Design- PCC				
LAB	(1) <b>Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. (2) <b>Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. (3) <b>Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). (4) <b>Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.	LS		626.02	Concrete Mixtures-Specimens				

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COC		LS		704.00	Masonry Units				
COC		LS		705.01	Joint Filler				
LAB, COC		LS		705.08	Mortar For Manhole				
LAB, COC		LS		712.04(A)	Non- Shrink Grout				
COC		LS		712.06	Concrete Precast Units				
COC		LS	Amendment	712.07	Frames, Grates, Covers and Ladder Rungs				
			<b>628</b>	<b>Shotcrete</b>			<b>CY, SY</b>		
LAB, COC	Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	LS		601.00	Structural Concrete				
COC		LS		628.03	Mix Design- PCC				
LAB	See Sec. 628.03(D) for Test Panel and Core Specimens.	LS		628.02	Concrete Mixtures-Specimens				
LAB, COC	Each 10 tons or fraction thereof. <u>Location</u> : Jobsite. <u>Sample Size</u> : 3 feet x 3 feet. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS		709.01(C)	Reinforcing Steel; Wire Mesh Reinforcing				
COC		LS		712.02	Epoxy-Resin Adhesive				
			<b>629</b>	<b>Pavement Markings</b>			<b>LS, EA</b>		
COC-LAB	Certificate of Compliance with Test Results, Sample	LB		755.03	<b>Bituminous</b> Adhesives for Pavement Markers				



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COC	Certificate of Compliance with Test Results	LB		755.04	Preformed Pavement Marking Tape				
COC	Certificate of Compliance with Test Results	LB		755.05	Retroreflective Thermoplastic Compound Pavement Markings				
COC	Certificate of Compliance with Test Results	LB		755.01	White and Yellow Traffic Paint				
COC	Certificate of Compliance with Test Results	LB		755.01	Glass Beads				
LAB, COC		LS		755.02	Pavement Markers				
COC		LS		755.03	Epoxy Adhesive for Pavement Markers				
			<b>630</b>	<b>Traffic Control Guide Signs</b>			<b>LS</b>		
COC		LR		750.01	Signs - retroreflective sheeting				
COC		LR		750.01	Signs - sheet aluminum backing				
COC		LR		750.02	Sign posts - pipe, channel, square tube				
COC		LR		750.03	Fasteners for signs and route markers				
COC		LR		750.04	Ground mounted destination and expressway sign supports				
COC		LR		750.05	Overhead expressway sign supports				
LAB, COC	Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	LS		601.00	Structural Concrete				
COC		LS		601.03	Mix Design- PCC				

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LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location:</u> Jobsite or source. <u>Sample Size:</u> 3 specimen 36" long. <u>Small Qty:</u> If less than 200 lbs. per project, Certificate of Compliance.	LS	709.01	Reinforcing Steel					
DA, COC		LS	708.02-03	Zinc Paints and Primers					

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT		
			<b>631</b>	<b>Traffic Control Regulatory, Warning, and Miscellaneous Signs</b>				<b>LS</b>		
COC		LR	750.01	Signs - retroreflective sheeting						
COC		LR	750.01	Signs - sheet aluminum backing						
COC		LR	750.02	Sign posts - pipe, channel, square tube						
COC		LR	750.03	Bolts, metal washers, nuts, post clips						
			<b>632</b>	<b>Markers</b>				<b>LS</b>		
COC		LR	632.03	Object Marker						
COC		LR	750.01	Signs - retroreflective sheeting						
COC		LR	750.01	Signs - sheet aluminum backing						
COC		LR	750.02	Sign posts - pipe, channel, square tube						
COC		LR	750.03	Fasteners for signs and route markers						
COC		LR	750.07	Reflector marker						
COC	Certificate of Compliance with Test Results	LR	750.08	Flexible delineator posts and reflectors						
			<b>633</b>	<b>Falsework Lighting</b>				<b>LS</b>		
DA		LR	633.02	Lampholder						
DA		LR	633.02	150-Watt (minimum) lamp						
DA		LR	633.02	100-Watt (minimum) lamp						
			<b>634</b>	<b>PORTLAND CEMENT CONCRETE SIDEWALKS</b>				<b>LS, SY</b>		
COC/APL, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG	703.06	Aggregate for Untreated Base						
LAB, COC	Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction )	LS	601.00	Structural Concrete						
COC		LS	601.03	Mix Design- PCC						

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For HWY-LB all COC's require test results.

\* APL = Approved Product List, COC = Certification of Compliance, LAB = Laboratory Sample, DA = Designer approval

APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)							
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT		
LAB	1 set for each day when volume exceeds 25 yd3 or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 Set of 2- 6"x12" cyl. for each test age. <u>Small Qty:</u> If concrete is less than 25 yd3, 1 per accumulative 100 yd3. None if total days run less than 25 yd3. <u>Verification Sampling:</u> 1 per project. When total days run less than 25 yd3, none	LS		634.02	Concrete Mixtures-Specimens					
LAB, COC	Each 10 tons or fraction thereof. <u>Location:</u> Jobsite. <u>Sample Size:</u> 3 feet x 3 feet. <u>Small Qty:</u> If less than 200 lbs. per project, Certificate of Compliance.	LS	Sheet not Roll	709.01	Welded Wire Fabric Reinforcement					
COC		LS		705.01	Joint Filler					
COC		LS		712.02	Epoxy-Resin Adhesive					
COC		LS		711.01	Curing Materials					
			<b>635</b>	<b>Hot Mix Asphalt (HMA) Sidewalks (HMA Pavement Mix No. V)</b>				<b>LS</b>		
LAB	One per project for each mix type. If the design requirements are modified after the Engineer accepts the job-mix-formula, a new job-mix-formula must be submitted before using mix produced from the modified design.	LB		401.02 (B)	Approved Mix Design					

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
COC-LAB, APL	For Non APL products: Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB		702.01	Asphalt Cement (Oahu Only)				
COC-LAB	Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB		702.01	Asphalt Cement				
COC-LAB, APL	For Non APL products: Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 3 months	LB		702.04	Emulsified Asphalt (Oahu Only)				
COC-LAB	Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 3 months	LB		702.04	Emulsified Asphalt				
COC-LAB	1 per approx 1000 tons of asphalt concrete	LB		703.09	Aggregate for Hot Mix Asphalt Pavement				
COC	Certificate of Compliance with Test Results	LB		703.15	Filler				
COC	Certificate of Compliance with Test Results	LB		712.03	Hydrated Lime				
COC/APL, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.06	Aggregate for Untreated Base				

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APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)					
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
			<b>637</b>	<b>SLOTTED DRAINS</b>		<b>LS, LF</b>		
COC, LAB		LG	717.03	Cullet Materials for Utility Structures				
COC, LAB		LG	717.04	Cullet Materials for Drainage Systems				
LAB		LG	206	Excavation and Backfill				
COC, LAB		LG	703.20	Structure Backfill Material				
COC, LAB		LG	703.21	Trench Backfill Material				
LAB, COC	Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	LS	601.00	Structural Concrete				
COC		LS	601.03	Mix Design- PCC				

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APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)						
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB	(1) <b>Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. (2) <b>Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. (3) <b>Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). (4) <b>Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.	LS	637.02	Concrete Mixtures-Specimens					
COC		LS	707.02	Corrugated Metal Pipe and Pipe Arch					
COC		LS	707.03	Bituminous Coated Corrugated Metal Pipe and Pipe Arch					
			<b>638</b>	<b>Portland Cement Concrete Curb and Gutter</b>			<b>LS, LF</b>		

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APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)						
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
COC-LAB, APL	For Non APL products: Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB	702.01	Asphalt Cement (Oahu Only)					
LAB, COC	Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB	702.01	Asphalt Cement					
COC/APL, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG	703.06	Aggregate for Untreated Base					
LAB, COC	Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction )	LS	601.00	Structural Concrete					
COC		LS	601.03	Mix Design- PCC					
LAB	1 set for each day when volume exceeds 25 yd3 or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 Set of 2- 6"x12" cyl. for each test age. <u>Small Qty:</u> If concrete is less than 25 yd3, 1 per accumulative 100 yd3. None if total days run less than 25 yd3. <u>Verification Sampling:</u> 1 per project. When total days run less than 25 yd3, none	LS	638.02	Concrete Mixtures-Specimens					



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APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)							
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT		
LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location</u> : Jobsite or source. <u>Sample Size</u> : 3 specimen 36" long. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS		709.01	Reinforcing Steel					
COC		LS		705.01	Joint Filler					
COC		LS		712.05	Precast Concrete Curb, Gutter					
COC		LS		712.02	Epoxy-Resin Adhesive					
COC		LS		711.01	Curing Materials					
			<b>639</b>	<b>Asphalt Concrete Curb and Gutter (HMA Pavement Mix No. V)</b>				<b>LS</b>		
LAB	One per project for each mix type. If the design requirements are modified after the Engineer accepts the job-mix-formula, a new job-mix-formula must be submitted before using mix produced from the modified design.	LB		401.02 (B)	Approved Mix Design					
COC-LAB, APL	For Non APL products: Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB		702.01	Asphalt Cement (Oahu Only)					
COC-LAB	Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 6 months	LB		702.01	Asphalt Cement					

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APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)							
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT		
COC-LAB, APL	For Non APL products: Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 3 months	LB		702.04	Emulsified Asphalt (Oahu Only)					
COC-LAB	Certificate of Compliance with Test Results, Sample - 1 per source, approximately every 3 months	LB		702.04	Emulsified Asphalt					
COC-LAB	1 per approx 1000 tons of asphalt concrete	LB		703.09	Aggregate for Hot Mix Asphalt Pavement					
COC	Certificate of Compliance with Test Results	LB		703.15	Filler					
COC	Certificate of Compliance with Test Results	LB		712.03	Hydrated Lime					
COC/APL, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.06	Aggregate for Untreated Base					
			<b>640</b>	<b>LINED DRAINAGE DITCH AND CONCRETE SPILLWAYS</b>				<b>LS, LF</b>		
LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		207	Excavation and Backfill					
LAB, COC	Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction )	LS		601.00	Structural Concrete					
COC		LS		601.03-628.03	Mix Design- PCC and Shotcrete					

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT		
LAB	1 set for each day when volume exceeds 25 yd3 or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 Set of 2- 6"x12" cyl. for each test age. <u>Small Qty:</u> If concrete is less than 25 yd3, 1 per accumulative 100 yd3. None if total days run less than 25 yd3. <u>Verification Sampling:</u> 1 per project. When total days run less than 25 yd3, none	LS		640.02	Concrete Mixtures-Specimens					
LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location:</u> Jobsite or source. <u>Sample Size:</u> 3 specimen 36" long. <u>Small Qty:</u> If less than 200 lbs. per project, Certificate of Compliance.	LS		709.01	Reinforcing Steel					
COC		LS		711.01	Curing Materials					
COC		LS		712.02	Epoxy-Resin Adhesive					
			<b>641</b>	<b>Hydro-Mulch Seeding</b>				<b>LS, SF</b>		
COC	Certificate of Compliance with Germination Test Results.	LR		641.02	Seed					
DA		LR		641.02	Fertilizer					
DA		LR		641.02	Mulch					
DA		LR		641.02	Soil and mulch tackifier					
			<b>645</b>	<b>Work Zone Traffic Control</b>				<b>FA</b>		
COC	Certificate of Compliance with Test Results	LB		755.04	Preformed Pavement Marking Tape					
COC		LR		750.01	Signs - retroreflective sheeting					
COC		LR		750.01	Signs - sheet aluminum backing					

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APL - COC COC - LAB LAB COC DA	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)						
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
COC		LR	750.02	Sign posts - pipe, channel, square tube					
COC		LR	750.03	Fasteners for signs and route markers					
COC		LR	750.07	Reflector marker					
COC	Certificate of Compliance with Test Results	LR	750.08	Flexible delineator posts and reflectors					
DA		LR	750.09	Traffic delineators					
			<b>646</b>	<b>GEOCOMPOSITE DRAIN</b>			<b>LS</b>		
COC/APL		LG	706.12	Perforated Plastic Pipe					
COC/APL		LG	716.05	Geotextiles for Geocomposite Drain Applications					
LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG	204	Excavation and Backfill					
			<b>647</b>	<b>Fiber Optic Cable</b>			<b>LS</b>		
DA		LR	647.02	Fiber optic cable					
			<b>649</b>	<b>Pressure Grout</b>			<b>CY</b>		
LAB Samples, COC	Certificate of Compliance. Check samples of 1 for approximately every 5,000 yd <sup>3</sup> of concrete placed or as required for control. <u>Location:</u> Weigh hopper or in the feed line immediately in advance of the hopper. <u>Size:</u> Approximately 30 lbs. <u>Small Qty:</u> If concrete is used for incidental construction, Certificate of Compliance.	LS	701.01	Portland Cement					
LAB, COC		LS	649.02	Portland Cement - Grout/Mortar					

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB, COC	Fine Aggregates (F.A.): <b>(1)a. Gradation</b> - 1 for approximately every month or 1,000 yd <sup>3</sup> of concrete placed or as required for control. <u>Location: See Note 3. Size: Approximately 10 lbs.</u> (F.A.). <u>Small Qty: See Note 2. Verification Sampling: 1 to 1 for first 5 acceptance tests, 1 per 10 thereafter</u> <b>(1)b. Specific Gravity</b> - When aggregate changed or as required for source information. <u>Location: See Note 3. Size: Approximately 5 lbs.</u> (F.A.). <b>(3)(a) Sand Equivalent</b> - If required, 1 for approximately every month or 3,000 yd <sup>3</sup> of concrete placed or as required for control. <u>Location: See Note 3. Size: Approximately 2 lbs. Small Qty: See Note 2. Verification Sampling: When required, 1 per 5,000 yd<sup>3</sup>. <b>(3)(b)</b> Clay Lumps and Friable Particles; Organic Impurities; and L.A. Abrasion on Parent Material for Manufactured Fines Only - When aggregate changed or as required for source information. <u>Location: See Note 3. Size: Approximately 50 lbs.</u> <b>(3)(c) Complete</b> -When new source is proposed for use or when aggregate changed. <u>Location: Stockpile/See Note 3. Size: Approximately 100 lbs.</u> *Verification Sampling Cont.: <u>See Note 4.</u></u>	LS	703.01	Fine Aggregate - Grout/Mortar					
COC		LS	601.03	Mix Design- PCC					
			<b>650</b>	<b>CURB RAMPS</b>			<b>LS, EA</b>		
COC/APL, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG	703.06	Aggregate for Untreated Base					
COC + DA		LR	650.03	Detectable warning mats					
LAB, COC	Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction )	LS	601.00	Structural Concrete					

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For HWY-LB all COC's require test results.

\* APL = Approved Product List, COC = Certification of Compliance, LAB = Laboratory Sample, DA = Designer approval

APL - COC COC - LAB LAB COC DA COC	APL No. or No. of Samples	REVIEWING Office	PROPOSAL SCHEDULE (Master Material Certification List / Project Summary of Materials)						
			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
		LS		601.03	Mix Design- PCC				
LAB	1 set for each day when volume exceeds 25 yd3 or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 Set of 2- 6"x12" cyl. for each test age. <u>Small Qty:</u> If concrete is less than 25 yd3, 1 per accumulative 100 yd3. None if total days run less than 25 yd3. <u>Verification Sampling:</u> 1 per project. When total days run less than 25 yd3, none	LS		650.02	Concrete Mixtures-Specimens				
LAB, COC		LS		705.01	Joint Filler				
LAB, COC	Each 10 tons or fraction thereof. <u>Location:</u> Jobsite. <u>Sample Size:</u> 3 feet x 3 feet. <u>Small Qty:</u> If less than 200 lbs. per project, Certificate of Compliance.	LS	Sheet not Roll	709.01(C)	Reinforcing Steel/Welded Wire Fabric Reinforcement				
COC		LS		711.01	Curing Materials				
COC		LS		712.02	Epoxy-Resin Adhesive				
			<b>653</b>	<b>Concrete Culvert Lining</b>			<b>INCIDENTAL</b>		
COC	Certificate of Compliance with Test Results	LB		ASTM D 1227 Type IV	Emulsified Asphalt Coating				
COC/APL, LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		703.06	Aggregate for Untreated Base				
LAB, COC	Concrete Mixture - Miscellaneous Concrete (Concrete for Incidental Construction )	LS		601.00	Structural Concrete				
COC		LS		601.03	Mix Design- PCC				

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COC - LAB			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB									
COC									
DA									
LAB	1 set for each day when volume exceeds 25 yd3 or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 Set of 2- 6"x12" cyl. for each test age. <u>Small Qty:</u> If concrete is less than 25 yd3, 1 per accumulative 100 yd3. None if total days run less than 25 yd3. <u>Verification Sampling:</u> 1 per project. When total days run less than 25 yd3, none	LS		653.02	Concrete Mixtures-Specimens				

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB	Fine Aggregates (F.A.): <b>(1)a. Gradation</b> - 1 for approximately every month or 1,000 yd <sup>3</sup> of concrete placed or as required for control. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 10 lbs. (F.A.). <u>Small Qty:</u> See Note 2. <u>Verification Sampling:</u> 1 to 1 for first 5 acceptance tests, 1 per 10 thereafter <b>(1)b. Specific Gravity</b> - When aggregate changed or as required for source information. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 5 lbs. (F.A.). <b>(3)(a) Sand Equivalent</b> - If required, 1 for approximately every month or 3,000 yd <sup>3</sup> of concrete placed or as required for control. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 2 lbs. <u>Small Qty:</u> See Note 2. <u>Verification Sampling:</u> When required, 1 per 5,000 yd <sup>3</sup> . <b>(3)(b)</b> Clay Lumps and Friable Particles; Organic Impurities; and L.A. Abrasion on Parent Material for Manufactured Fines Only - When aggregate changed or as required for source information. <u>Location:</u> See Note 3. <u>Size:</u> Approximately 50 lbs. <b>(3)(c)</b> Complete -When new source is proposed for use or when aggregate changed. <u>Location:</u> Stockpile/See Note 3. <u>Size:</u> Approximately 100 lbs. *Verification Sampling Cont.: See Note 4.	LS		703.01	Fine Aggregate for Concrete				
LAB, COC	Each 10 tons or fraction thereof. <u>Location:</u> Jobsite. <u>Sample Size:</u> 3 feet x 3 feet. <u>Small Qty:</u> If less than 200 lbs. per project, Certificate of Compliance.	LS		709.01(C)	Reinforcing Steel/Welded Wire Fabric Reinforcement				
DA, COC		LS		708.02	Zinc Paints				
COC		LS		711.01	Curing Materials				
COC		LS		719.00	Macro-Synthetic Fibers for Concrete Reinforcement				
COC		LS		653.02	Epoxy (Line 34)				
				<b>654</b>	<b>Restrainers</b>		<b>LS</b>		



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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB, COC	Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	LS		601.00	Structural Concrete				
COC		LS		601.03	Mix Design- PCC				
LAB	(1) <b>Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. (2) <b>Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. (3) <b>Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). (4) <b>Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.	LS		654.02	Concrete Mixtures-Specimens				

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location</u> : Jobsite or source. <u>Sample Size</u> : 3 specimen 36" long. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS		709.01(A)	Bar Reinforcement				
COC	Certificate of Compliance with Certified test results and 1 sample per type per lot. <u>Location</u> : Jobsite. <u>Sample Size</u> : 2 strands 4-1/2 ft. long. <u>Small Qty</u> : 1 set per project. <u>Verification Sample</u> : 1 set per project.	LS		709.02	Wire Rope or Wire Cable				
COC		LS		709.03(B)	Bars				
COC		LS		712.02	Epoxy - Resin Adhesive				
COC		LS		712.04(A)	Non - Shrink Grout				
COC		LS		712.12	Sheating				
COC		LS		712.13	Corrosion - Inhibiting Grease				
COC	Certificate of Compliance with Test Results	LS		713.01(A)(1)	Structural Steel				
			<b>655</b>	<b>DUMPED RIPRAP</b>			<b>LS</b>		
COC		LG		716.06	Geotextiles for Stabilization Applications				
LAB	One sample per source.	LG		655.02	Stones				
LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		206	Excavation and Backfill				
			<b>656</b>	<b>Drilling Holes and Installing Dowel Reinforcing Bars</b>			<b>EA</b>		

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location</u> : Jobsite or source. <u>Sample Size</u> : 3 specimen 36" long. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS		709.01	Reinforcing Steel				
COC		LS		712.02	Epoxy - Resin Adhesive				
COC		LS		712.04(B)	Epoxy Grout				
			<b>693</b>	<b>TERMINAL IMPACT ATTENUATOR</b>				<b>LS, EA</b>	
LAB	One lab sample per approx. every 1,500 cu. yd. per type. Field compaction tests per Sampling and Testing Guide for Acceptance and Verification.	LG		204	Excavation and Backfill				
LAB, COC	Concrete Mixture - Bridges & Major Structures (R.C.B., P.C.C., Arch Culverts, & Retaining Walls)	LS		601.00	Structural Concrete				
COC		LS		601.03	Mix Design- PCC				
COC	Certificate of Compliance with Test Results	LS		693.01	Terminal Impact Attenuator (End Treatment)				

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COC - LAB			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB									
COC									
DA									
LAB	<p><b>(1) Compressive Strength</b> (28 days, 7days), when required by Central Laboratory - 1 set for approximately 300 yd3 of concrete placed for concrete specified by class; 1 set for each 150 yd3 and fractional thereof placed on any day or as required for acceptance for concrete specified by strength. <u>Location:</u> At point concrete deposited in the work. <u>Size:</u> 1 set of 2 - 6"x12" cylinders for each test age. <u>Small Qty:</u> 1 set per day of pour. <u>Verification Sample:</u> 1 per project. <b>(2) Yield, Cement Factor, and Unit Weight</b> (See Note 1) - As necessary to assure accuracy of mix design or as necessary for control. When yield test used for payment, 1 per project. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When yield test used for payment, 1 per project. <b>(3) Slump Test</b> - When test specimen are fabricated or when consistency or uniformity is questionable. <u>Location:</u> At point concrete deposited in the work. <u>Small Qty:</u> When test specimen are fabricated or when consistency or uniformity is questionable. <u>Verification Sample:</u> 1 per project (Observation). <b>(4) Entrained Air</b> - When entrained air is specified, 1 approximately every 300 yd3 or as necessary for control or as required for control. <u>Location:</u> At point concrete deposited in the work. <u>Verification Sample:</u> When entrained air is specified, 1 per project. *Verification Sampling Cont.: See Note 4.</p>	LS	693.02	Concrete Mixtures-Specimens					
LAB, COC	<p>Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location:</u> Jobsite or source. <u>Sample Size:</u> 3 specimen 36" long. <u>Small Qty:</u> If less than 200 lbs. per project, Certificate of Compliance.</p>	LS	709.01	Reinforcing Steel					
			<b>701</b>	<b>Hydraulic Cement</b>		<b>INCIDENTAL</b>			

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT							
LAB Samples, COC	Certificate of Compliance. Check samples of 1 for approximately every 5,000 yd3 of concrete placed or as required for control. <u>Location:</u> Weigh hopper or in the feed line immediately in advance of the hopper. <u>Size:</u> Approximately 30 lbs. <u>Small Qty:</u> If concrete is used for incidental construction, Certificate of Compliance.	LS		701.01	Portland Cement										
			<b>703</b>	<b>AGGREGATES</b>			<b>INCIDENTAL</b>								
COC, LAB		LG		703.04 (A)	Aggregate for Untreated Permeable Base - Coarse Aggregate										
COC, LAB		LG		703.04 (B)	Aggregate for Untreated Permeable Base - Filler										
COC/APL, LAB		LG		703.06	Aggregate for Untreated Base										
COC/APL, LAB		LG		703.17	Aggregate for Subbase										
COC, LAB		LG		703.16	Bed Course Material for Crushed Rock Cradle										
COC, LAB		LG		703.18	Filter										
COC, LAB		LG		703.20	Structure Backfill Material										
COC, LAB		LG		703.21	Trench Backfill Material										

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COC - LAB			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
LAB									
COC									
DA									
LAB, COC	Fine Aggregates (F.A.): <b>(1)a. Gradation</b> - 1 for approximately every month or 1,000 yd <sup>3</sup> of concrete placed or as required for control. <u>Location: See Note 3. Size: Approximately 10 lbs.</u> (F.A.). <u>Small Qty: See Note 2. Verification Sampling: 1 to 1 for first 5 acceptance tests, 1 per 10 thereafter</u> <b>(1)b. Specific Gravity</b> - When aggregate changed or as required for source information. <u>Location: See Note 3. Size: Approximately 5 lbs.</u> (F.A.). <b>(3)(a) Sand Equivalent</b> - If required, 1 for approximately every month or 3,000 yd <sup>3</sup> of concrete placed or as required for control. <u>Location: See Note 3. Size: Approximately 2 lbs. Small Qty: See Note 2. Verification Sampling: When required, 1 per 5,000 yd<sup>3</sup>.</u> <b>(3)(b)</b> Clay Lumps and Friable Particles; Organic Impurities; and L.A. Abrasion on Parent Material for Manufactured Fines Only - When aggregate changed or as required for source information. <u>Location: See Note 3. Size: Approximately 50 lbs.</u> <b>(3)(c)</b> Complete -When new source is proposed for use or when aggregate changed. <u>Location: Stockpile/See Note 3. Size: Approximately 100 lbs.</u> *Verification Sampling Cont.: <u>See Note 4.</u>	LS	703.01	Fine Aggregates For Concrete					
			<b>704</b>	<b>Masonry Units</b>			<b>INCIDENTAL</b>		
COC		LS	704.01	Clay or Shale Bricks					
COC		LS	704.02	Concrete Brick					
			<b>705</b>	<b>Joint Materials For Concrete Structures</b>			<b>INCIDENTAL</b>		
COC		LS	705.01	Joint Filler					
COC		LS	705.02	Joint Mortar For Pipe					
COC		LS	705.03	Flexible Water Tight Gasket					
COC	Certificate of Compliance with Test Results	LS	705.04	Joint Sealer					

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COC		LS		705.05	Flashing Compound					
COC		LS		705.06	Waterproofing					
COC		LS		705.07	Waterstop					
COC		LS		705.08	Mortar for Manhole					
COC		LS		705.11	Jointing Compound for Sewer Pipe					
COC		LS		705.12	Expanded Polystyrene and Hardboard					
				<b>706</b>	<b>CONCRETE, CLAY AND PLASTIC PIPE</b>			<b>INCIDENTAL</b>		
COC/APL		LG		706.12	Perforated Plastic Pipe					
COC		LS	Amendment	706.02	RCP for Drainage Pipe					
LAB Precast Plant	1 joint length for approximately every 50 joint lengths for 3 edge bearing load test. Inspected at plant and released by Central laboratory. <u>Location:</u> Strength tests usually performed at plant. <u>Small Qty:</u> If less than 100 lin. ft. per project, Certificate of Compliance. <u>See Amendment:</u> to Sec. 706 for Plant Certification requirements.	LS		706.02	RCP Visual Inspection and Load Test					
COC		LS	C&C Env. Serv	706.08	Vitrified Clay Pipe (VCP) and Fittings for Sewer System					
COC		LS	C&C Env. Serv	706.09	PVC Pipe for Sewer System					
COC		LS		706.10	High Density Polyethylene Pipe					
COC		LS		706.18	Concrete Cylinder Pipe					
				<b>707</b>	<b>Metal Pipe</b>			<b>INCIDENTAL</b>		
COC		LS	C&C Env. Serv	707.01(A)	Cast Iron Pipe and Fittings for Sewer System					
COC		LS		707.01(B)	Ductile Iron Pipe, Fittings and Special Castings for Water System					
COC		LS		707.02	Corrugated Metal Pipe and Pipe Arch					
MFR Plant		LS		707.02	Pipe Visual Inspection and at Manufacturer's Plant					
COC		LS		707.03	Bituminous Coated Corrugated Metal Pipe and Pipe Arch					

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT	
COC		LS	707.06	Structural Aluminum Plate for Pipe					
COC	Certificate of Compliance with Test Results	LS	707.08	Structural Steel Plate for Pipe, Pipe Arch and Arch					
LAB, COC	Certificate of Compliance with Test Results	LS	707.10	Zinc-Coated Steel Pipe					
COC		LS	707.11	Copper Service Pipe					
COC		LS	707.12	Spiral Rib Metal Pipe					
COC		LS	707.13	Spiral Rib Coupling Band					
			<b>708</b>	<b>Paints</b>			<b>INCIDENTAL</b>		
DA, COC		LS	708.01	Bridge Paint					
DA, COC		LS	708.02	Zinc Paints and Primers					
			<b>709</b>	<b>Reinforcing Steel, Wire Rope and Prestressing Steel</b>			<b>INCIDENTAL</b>		
LAB, COC	Sample each size for each brand and additional samples as necessary. Approved together with fabricator's certified analysis. <u>Location</u> : Jobsite or source. <u>Sample Size</u> : 3 specimen 36" long. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS	709.01(A)	Reinforcing Steel					
LAB, COC	Each 10 tons or fraction thereof. <u>Location</u> : Jobsite. <u>Sample Size</u> : 3 feet x 3 feet. <u>Small Qty</u> : If less than 200 lbs. per project, Certificate of Compliance.	LS	709.01(C)	Welded Wire Fabric Reinforcement					
LAB, COC	Certificate of Compliance with Test Results	LS	709.01(E)	Dowels					
LAB, COC	Certificate of Compliance with Certified test results and 1 sample per type per lot. <u>Location</u> : Jobsite. <u>Sample Size</u> : 2 strands 4-1/2 ft. long. <u>Small Qty</u> : 1 set per project. <u>Verification Sample</u> : 1 set per project.	LS	709.02	Wire Rope or Wire Cable					
LAB, COC		LS	709.03	Prestressing Steel					



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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT			
						710	Guardrail Materials				INCIDENTAL
						711	Concrete Curing Materials And Admixtures				INCIDENTAL
COC	Certificate of Compliance with Test Results	LS	710.04	Metal Beam Rails							
COC	Certificate of Compliance with Test Results	LS	710.07	Guardrail Posts							
COC	Certificate of Compliance with Test Results	LS	710.84	Guardrail Hardware							
COC	Certificate of Compliance with Test Results	LS	710.09	Aluminum Bridge Railing							
COC	Certificate of Compliance with Test Results	LS	710.11	Steel Bridge Railing							
COC	Certificate of Compliance with Test Results	LS	710.10	Steel Pipe for Railing							
			711	Concrete Curing Materials And Admixtures				INCIDENTAL			
COC, APL (White, Br. Deck Only)		LS	711.01	Curing Materials							
COC		LS	711.03	Admixtures							
			712	Miscellaneous				INCIDENTAL			
COC		LS	712.01	Water							
COC		LS	712.02	Epoxy-Resin Adhesive							
COC		LS	712.03	Hydrated Lime							
LAB, COC		LS	712.04(A)	Non- Shrink Grout							
LAB, COC		LS	712.04(B)	Epoxy Grout							
COC		LS	712.05	Precast Concrete Curb, Gutter							
COC		LS	712.06(A)	Precast Reinforced Concrete Manhole Section							
DA		LR	712.06(B)	Precast concrete pull box							
COC		LS	Amendment 712.07	Frames, Grates, Covers and Ladder Rungs							
COC	Certificate of Compliance with Test Results	LS	712.09	Bearing Devices and Related Materials							
COC	Certificate of Compliance with Test Results	LS	712.09	Bronze and Stainless Steel Bearing And Expansion Plate							
COC		LS	712.10	Zinc Coating							
COC		LS	712.11	Abrasive Coating							
COC		LS	712.12	Sheathing							

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			ITEM NO.	ITEM		APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
COC		LS	712.13	Corrosion-Inhibiting Grease					
COC		LS	BWS 712.24	Valves and Appurtenances					
COC		LS	BWS 712.26	Hydrants and Appurtenances					
			<b>713</b>	<b>Structural Steel And Related Materials</b>			<b>INCIDENTAL</b>		
COC	Certificate of Compliance with Test Results	LS	713.01(A)	Carbon Structural Steel					
COC	Certificate of Compliance with Test Results	LS	713.01(B)	High-Strength Low- Alloy Structural Steel					
COC	Certificate of Compliance with Test Results	LS	713.01(C)	High-Strength Low- Alloy Structural Steel For Welding					
COC	Certificate of Compliance with Test Results	LS	713.01(D)	High-Strength Low- Alloy Structural Steel For Riveted or Bolted					
COC	Certificate of Compliance with Test Results	LS	713.02	Welded Stud Shear Connectors					
COC	Certificate of Compliance with Test Results	LS	713.07	Steel Forgings and Steel Shafting					
COC	Certificate of Compliance with Test Results	LS	713.08	Steel Castings					
COC	Certificate of Compliance with Test Results	LS	713.09	Gray Iron Castings					
COC	Certificate of Compliance with Test Results	LS	713.10	Malleable Iron Castings					
			<b>715</b>	<b>Aluminum</b>			<b>INCIDENTAL</b>		
COC		LS	715.01	Aluminum					
COC		LS	715.02	Contracts with Dissimilar Materials					
			<b>716</b>	<b>GEOTEXTILES</b>			<b>INCIDENTAL</b>		
COC/APL		LG	716.02	Geotextiles for Permeable Separator Applications					
COC/APL		LG	716.03	Geotextiles for Underdrain Applications					
COC/APL		LG	716.04	Geotextiles for Paving Applications					
COC/APL		LG	716.05	Geotextiles for Geocomposite Drain Applications					
COC/APL		LG	716.06	Geotextiles for Stabilization Applications					
COC/APL		LG	716.07	Geotextiles for Permanent Erosion Control Applications					
COC/APL		LG	716.08	Geotextiles for Temporary Silt Fence Applications					
			<b>717</b>	<b>CULLET AND CULLET-MADE MATERIALS</b>			<b>INCIDENTAL</b>		
COC, LAB		LG/ LB	717.01	Cullet and Cullet-Agregate Mixtures as Construction Materials					

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
COC, LAB		LG	717.03	Cullet Materials for Utility Structures				
COC, LAB		LG	717.04	Cullet Materials for Drainage Systems				
			<b>718</b>	<b>Steel Fasteners</b>			<b>INCIDENTAL</b>	
COC	Certificate of Compliance with Test Results	LS	718.01	Anchor Bolts, Anchor Bolt Nuts & Anchor Bolt Washers				
COC	Certificate of Compliance with Test Results	LS	718.01	High-Strength Bolts and Studs				
			<b>722</b>	<b>Chain Link Fence Materials</b>			<b>INCIDENTAL</b>	
LAB, COC	1. Fabric -Certificate of Compliance with Certified test results and 1 sample per lot or per project. <u>Location:</u> Jobsite. <u>Sample Size:</u> 3 ft. length, full height. <u>Small Qty:</u> If less than 200 ft2 per project, Certificate of Compliance with Certified test results. <u>Verification Sample:</u> 1 sample per project or 1 sample per lot.	LS	722.01A	Chain Link Fence Materials				
LAB, COC	2. Post -Certificate of Compliance with Certified test results and 1 sample per lot or per project. <u>Location:</u> Jobsite. <u>Sample Size:</u> 12 inch length each end. <u>Small Qty:</u> If less than 30 lin. ft. per project, Certificate of Compliance with Certified test results. <u>Verification Sample:</u> 1 sample per project or 1 sample per lot	LS	722.01A	Chain Link Fence Materials				

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			ITEM NO.	ITEM		APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
LAB, COC	3. Tension Wire -Certificate of Compliance with Certified test results and 1 sample per lot or per project. <u>Location:</u> Jobsite. <u>Sample Size:</u> 3 ft. length. <u>Small Qty:</u> If less than 100 lin. ft. per project, Certificate of Compliance with Certified test results. <u>Verification Sample:</u> 1 sample per project or 1 sample per lot.	LS		722.01A	Chain Link Fence Materials				
LAB, COC	4. Tie Wire -Certificate of Compliance with Certified test results and 1 sample per lot or per project. <u>Location:</u> Jobsite. <u>Sample Size:</u> 3 ft. length. <u>Small Qty:</u> If less than 25 lbs. per project, Certificate of Compliance with Certified test results <u>Verification Sample:</u> 1 sample per project or 1 sample per lot.	LS		722.01A	Chain Link Fence Materials				
LAB, COC	5. Fittings - Certificate of Compliance with Certified test results	LS		722.01A	Chain Link Fence Materials				
			<b>755</b>	<b>Pavement Marking Materials</b>			<b>INCIDENTAL</b>		

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			ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT				
			LAB, COC, APL (3M Only)	Certificate of Compliance with Certified test results and 1 sample per batch. <u>Location</u> : Jobsite or source. Size: 10 for non-reflective markers and 6 for reflective markers. <u>Small Qty</u> : If less than 100 markers per project, Certificate of Compliance with Certified test results. See additional sampling requirements under Sec. 755.02(B) Non-reflective and 755.02(C) Reflective markers. <u>Verification Sample</u> : 1 for every 10,000 or less or 1 per batch.	LS		755.02	Pavement Markers Non and Reflective (various types)				
			COC		LS		755.03(A)	Epoxy Adhesives for Pavement Markers				

## Master Material Certification List

### NOTES

- Note 1: 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 2: 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 3: 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 4: 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 5: Item Nos. shown are the common references encountered in most construction projects. For unusual items, consult the Materials Testing & Research Branch.
- Note 6: 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 Resident Engineer. If necessary, consult the HDOT project Geotechnical Engineer or Materials Testing and Research Branch for the recommended testing frequency.