



## Summary of Submittals AC 150/5370-10F

### General Provisions

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	60-01	All materials and products	-	-	-	Statements addressing origin, composition and manufacturer of all materials and products	Engineer Check for General Conformance	Submit once for each material or product used on the project.
Contractor	100-02b	Contractors Quality Control Program	Contractors Quality Control Program with a Quality Control Testing Plan		Submit 10 days prior to Preconstruction Meeting	-	-	-

### P-155 Lime Treated Subgrade

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	155-2.1	Hydrated Lime	Quality	Source	Approved by Engineer	High Calcium quicklime, low calcium quicklime or hydrated lime	ASTM C-51	-
Contractor	155-2.3	Water	AASHTO T-26 or potable	Source	One per source	AASHTO T-26 or potable	AASHTO T-26 or potable	-
QA	155-3.1	Lime Treated Subgrade	Application Rate	In-Place	One per 500 SY	5-7% (+0.5%)	-	Rate per Geotechnical report

### P-157 Cement Kiln Dust (CKD) Treated Subgrade

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	157-2.1	Cement Kiln Dust	Quality	Source	Approved by Engineer	Contain a minimum of 40% CaO	-	-
Contractor	157-2.3	Water	AASHTO T-26 or potable	Source	One per source	AASHTO T-26 or potable	AASHTO T-26 or potable	-
QA	155-3.1	CKD Treated Subgrade	Application Rate	In-Place	One per 500 SY	0 to +2%	-	Rate per Geotechnical report

**P-158 Fly Ash Treated Subgrade**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	158-2.1	Fly Ash	Class C CaO	Source	Certification or approved source	≥ 25%		Submit source of materials to Engineer for review and approval
Contractor	158-2.2	Water	AASHTO T 26 or potable	Source	One per Source	AASHTO T 26 or potable	AASHTO T 26	-

**P-207 Recycled Bituminous Aggregate Base Course**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
QA	207-2.3	Flyash	CaO	Source	Approved by Engineer	Class "C" designation Minimum 25% CaO	ASTM C 618	Section 3.3, 5, 6 & 8
QA	207-2.4	Water	AASHTO T 26 or potable	Source	One per Source	AASHTO T 26 or potable	AASHTO T 26	

**P-219 Recycled Concrete Aggregate Base Course**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	219-2.1	Recycled Concrete Aggregate Base Course	Gradation	Source	One per source	Refer to Table 1 under Section 219-2.1b		

**P-304 Cement Treated Base Course**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	304-2.1	Aggregate	LA Abrasion	Source	One per source	<40	ASTM C131	
Contractor	304-2.1	Aggregate	Soundness	Source	One per source	< 13 %	ASTM C 88	
Contractor	304-2.1	Aggregate	Gradation	Source	One per source	P304-Table 1	ASTM C136 / ASTM D422	
Contractor	304-2.1	Fine Fraction	Atterburg	Source	One per source	LL < 25 and PI < 6	ASTM D 4318	

## P-401 Plant Mix Bituminous Pavements

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	401-2.1	Coarse Aggregate	LA Abrasion	Source	one	< 40 surface	ASTM C 131	
Contractor	401-2.1	Coarse Aggregate	Soundness	Source	one	Sodium Sulfate < 10% or Magnesium Sulfate < 13% after 5 cycles	ASTM C 88	CA material retained on No 4
Contractor	401-2.1	Coarse Aggregate	Angularity	Source	one	> 60K 70% 2 FF, 85% 1FF < 60K 50% 2FF, 65% 1FF		
Contractor	401-2.1	Coarse Aggregate	Flat & Elongated	Source	one	< 8% flat & elongated	ASTM D 4791	0.20902778
Contractor	401-2.1	Fine Aggregate	Atterburg	Source	one	PI < 6 and LL < 25	ASTM D 4318	
Contractor	401-2.1	Fine Aggregate	Atterburg	Source	one	>45	ASTM D 2419	
Contractor	401-2.4 d	Bituminous Material	AASHTO M 320			PG ___ / ___ (as specified in contract)	AASHTO M320	
Contractor	401-2.4	Materials	Summary of above tests	Source	one	CA: % Wear Soundness Unit Wt % Fractured Faces FA: Liquid Limit PI Sand Equivalent Bituminous Material: Temp/Viscosity Mixing & Compaction		
Contractor	401-3.2	Job Mix	Mix Design		project	- % passing combined && all stockpiles, % by wt of each stockpile and Plot on 45 power curve -% AC -Grade AC -# blows -Mixing & Compact temp -Temp of mix from mixer -Temp/viscosity for AC -plot of stability, flow, air voids, vma, unit wt vs ac - % natural sand -% FF, % Flat & Elongated -TSR -anti-strip requirements -date mix developed		Note Job Mix must be approved in writing prior to production Mix design must be from same construction season prepared by an accredited laboratory If sources of material change then a new mix design is required.
Contractor	401-3.5	Testing Laboratory	Certification			Qualifications of Personnel Listing of Equipment Copy of Lab QC	ASTM D 3666 AASHTO AMRL ASTM D 3666	

### P-401SP Plant Mix Bituminous Pavements – Super Pave

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	SP401-2.1	Coarse Aggregate	LA Abrasion	source	one	< 40	ASTM C 131	
Contractor	SP401-2.1	Coarse Aggregate	Soundness	source	one	Sodium Sulfate < 10% or Magnesium Sulfate < 13% after 5 cycles	ASTM C 88	CA material retained on No 4
Contractor	SP401-2.1	Coarse Aggregate	Angularity	source	one	85% 1FF 80% 2 FF		Fractured faces shall be created by crushing
Contractor	SP401-2.1	Coarse Aggregate	Flat & Elongated	source	one	< 8% flat & elongated	ASTM D 4791	0.20902778
Contractor	SP401-2.1	Fine Aggregate	Atterburg	source	one	PI < 6 and LL < 25	ASTM D 4318	
Contractor	SP401-2.1	Fine Aggregate	Atterburg	source	one	>42	ASTM D 2419	material passing #8 < 50% natural sand
Contractor	SP401-2.4	Materials	Summary of above tests	source	one	CA: % Wear Soundness Unit Wt % Fractured Faces Coarse Aggregate Angularity FA: Liquid Limit & PI Sand Equivalent Fine Aggregate Angularity Bituminous Material: Temp/Viscosity Mixing & Compaction		
Contractor	SP401-3.2	Job Mix	Mix Design		project	- % passing combined & all stockpiles, % by wt of each stockpile and Plot on 45 power curve -% AC and Grade AC -# Ndes, Nini, Nmax -Mixing & Compaction temp -Temp of mix from mixer -Temp/viscosity for AC -combined gradion on 45 PCurve -plot of %Gmm@Nin, Ndes and Nmax, AirVoids and VMA vs AC content - % natural sand passing No 8 -% FF, % Flat & Elongated -TSR -anti-strip requirements -Dust to asphalt ratio -date mix developed		Note Job Mix must be approved in writing prior to production Mix design must be from same construction season prepared by an accredited laboratory
Contractor	401-3.5	Testing Laboratory	Certification			Qualifications of Personnel Listing of Equipment Copy of Lab QC	ASTM D 3666 AASHTO AMRL ASTM D 3666	

### P-403SP Plant Mix Bituminous Pavements (Base, Leveling or Surface Course) – Super Pave

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	403-2.1	Coarse Aggregate	LA Abrasion	source	one	< 40 surface <50 base/leveling	ASTM C 131	
Contractor	403-2.1	Coarse Aggregate	Soundness	source	one	Sodium Sulfate < 10% or Magnesium Sulfate < 13% after 5 cycles	ASTM C 88	CA material retained on No 4
Contractor	403-2.1	Coarse Aggregate	Angularity	source	one	> 60K 70% 2 FF, 85% 1FF < 60K 50% 2FF, 65% 1FF		
Contractor	403-2.1	Coarse Aggregate	Flat & Elongated	source	one	< 8% flat & elongated	ASTM D 4791	0.20902778
Contractor	403-2.4	Materials	Summary of above tests	source	one	CA: % Wear Soundness Unit Wt % Fractured Faces FA: Liquid Limit PI Sand Equivelant Bituminous Material: Temp/Viscosity Mixing & Compaction		
Contractor	403-3.2	Job Mix	Mix Design		project	- % passing combined && all stockpiles, % by wt of each stockpile and Plot on 45 power curve -% AC -Grade AC -# blows -Mixing & Compaction temp -Temp of mix from mixer -Temp/viscosity for AC -plot of stability, flow, air voids, vma, unit wt vs ac - % natural sand -% FF, % Flat & Elongated -TSR -antistrip requirements -date mix developed		Note Job Mix must be approved in writing prior to production Mix design must be from same construction season prepared by an accredited laboratory If sources of material change then a new mix design is required.
Contractor	403-3.5	Testing Laboratory	Certification			Qualifications of Personel Listing of Equipment Copy of Lab QC	ASTM D 3666 AASHTO AMRL ASTM D 3666	

**P-501 Portland Cement Concrete**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	501-3.1	Concrete	Mix Design	Lab	One per source	650 psi flexural strength Developed within the last 90 days - minimum of 21 days prior to placement	ASTM C 78 ASTM C 1077 Requires Certified Lab	
Contractor	501-2.1a	Aggregate	Alkali Silica Reactivity	Source	One per source	Modified Test - One reading every 3-4 days and at 28 days with the Mean expansion $\leq 0.10\%$ at 30 days	ASTM 1567 ASTM C 1260	
Contractor	501-2.1c	Coarse Aggregate	flat or elongated aggregate	Source	One per source	<8% by weight of flat or elongated pieces	ASTM D 4791	
Contractor	501-2.1c	Coarse Aggregate	wear	Source	One per source	<40%	ASTM C 131 ASTM C 535	
Contractor	501-2.1c	Coarse Aggregate	Disintegration Cracking	Source	One per source	Current written certification ASTM C 666 test > 95	ASTM C 666	
Contractor	501-2.2	Cement	Certification	Source	One per source	refer to spec for requirements associated with total alkalis	ASTM C 150 Type IP or IPF	
Contractor	501-2.3a	Fly Ash	Certification	Source	One per source	max < 6%	ASTM C 618, Class F	
Contractor	501-2.4	Pre-molded Joint Filler	Certification	Source	One per source		ASTM D 1751	
Contractor	501-2.5	Steel Reinforcement	Certification	Source	One per source	welded steel wire fabric furnished in flat sheets only	ASTM A 185	
Contractor	501-2.7	Dowel Bars	Certification	Source	One per source	MIL-DTL 24441/20A. SSPC Paint 5 or SSPC Paint 25 Sleeves for dowel bars shall be metal or approved material allowing 2-3 inches of cover	ASTM A 615 ASTM A 996 ASTM A 714, Class 2, Type S, Grade I, II, or III, bare finish	
Contractor	501-2.7	Tie Bars	Certification	Source	One per source	Grade 40, 50 or 60 Bars requiring bending shall be Grade 40	ASTM A 615 ASTM A 996	
Contractor	501-2.8	Water	Certification	Source	One per source		AASHTO T 26 or potable	

**P-605 Joint Sealing Filler**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	605-2.1	Joint Sealers	Certification	Source	One per source		ASTM D 6690 Type II	

**P-610 Structural Portland Cement**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	610-2.1, 3.2	Concrete	Mix Design or Comply with P-501	Lab	One per source	3,500 @ 28 days - Concrete not less than 564 lbs/cy Air- 4-6%; Slump <4"	ASTM C31 ASTM C39 ASTM C231 ASTM C143	
Contractor	610-2.2	Coarse Aggregate	Durability	Source	One per source	Durability > 95	ASTM C666	
Contractor	610-2.2	Coarse Aggregate	Gradation	Source	One per source	610-2.3 Table 1 NDOR Class E	ASTM C33 ASTM C 136	
Contractor	610-2.3	Fine Aggregate	Gradation	Source	One per source	610-2.3 Table 2 NDOR Class B	ASTM C33 ASTM C 136	
Contractor	610-2.4	Cement	Certification	Source	One per source		ASTM C 150 Type IP or IPF	
Contractor	610-2.5	Water	Certification	Source	One per source		AASHTO T 26 or potable	
Contractor	610-2.6	Chemical Admixtures	Certification	Source	One per source	Water reducing Type A or Water reducing and retarding Type D	ASTM C 494 or ASTM C 260	
Contractor	610-2.6	Fly Ash	Certification	Source	One per source		ASTM C 618	
Contractor	610-2.8	Pre-molded Joint Filler	Certification	Source	One per source		ASTM 1751	
Contractor	610-2.10	Cover materials for curing	Certification	Source	One per source		ASTM C 171 ASTM C 309, Type 2	

**P-620 Runway & Taxiway Painting**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	620-2.1, 2.2a	Paint	Certification	Source	One per source		Fed. Spec. TT-P-1952E, Type I	
Contractor	620-2.3	Reflective Media	Certification	Source	One per source		Fed. Spec. TT-B-1325D, Type I, Gradation A	
Contractor	620-3.5	Preparation and Materials	Certification	Project	One per source	Contractor Certification that surface prepared IAW manufacturer's instructions and equipment is appropriate for the material.		(Include copies of paint manufacture's application and surface preparation guidelines)

**P-701 Pipe for Storm**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	701-2.2	Reinforced Concrete Pipe	Certification	Source	One per source		ASTM C506	
Contractor	701-2.3	Concrete	Mix Design	Lab	One per source	2,000 psi @ 28 days	ASTM C 94	
Contractor	701-2.4	Rubber Gaskets	Certification	Source	One per source		ASTM C 443 ASTM F 477 ASTM D 1056	
Contractor	701-2.5	Joint Mortar	Certification	Source	One per source		ASTM C 150 Type I, ASTM C 144	
Contractor	701-2.6	Joint Filler	Certification	Source	One per source		ASTM D 1190	
Contractor	701-2.7	Plastic Gasket	Certification	Source	One per source		ASSHTO M 198 Type B	

**P-701 Pipe Underdrains for Airports**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	705-2.2	Corrugated Polyethylene Drainage Tubing	Certification	Source	One per source	perforated pipe - min inlet area of 1.0 sq in/ft with a max slot length of 1.25 inches and max slot width of 0.125 inches	AASHTO M 252 ASTM F405	
Contractor	705-2.3	Joint Mortar	Certification	Source	One per source		ASTM C 150 Type I, ASTM C 144	
Contractor	705-2.4	Elastomeric Seals	Certification	Source	One per source		ASTM F 477	
Contractor	705-2.5	Porous Backfill	Certification	Source	One per source	NDOR Table 1033.02A, Class B		
Contractor	705-2.7	Filter Fabric	Certification	Source	One per source	Meet the requirements listed in Table 1	AASHTO M 288-99, Class 2	



**P-108 Underground Power Cable**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	108-2.2	Cable	Certification	Source	One per source	As shown on plans The wire shall be rated as operational when water-logged	FAA L-824 A-A-59544	
Contractor	108-2.3	Counterpoise	Certification	Source	One per source	No. 6	ASTM B3 and B8; ASTM D 33	
Contractor	108-2.3	Ground rod	Certification	Source	One per source	Copper, 8' x 5/8"		
Contractor	108-2.4	Cable Connections	Certification	Source	One per source	See Spec		
Contractor	108-2.4	Tape	Certification	Source	One per source			

**P-109 Airport Transformer Vault and Vault Equipment**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	109-1.1	Regulator	Certification	Source	One per source	10 kW ferroresonant regulator 3 brightness steps and integral S1 cutout		
Contractor	109-2.2 thru 2.18	Vault and Pre-fabricated metal housing	Certification	Source	One per source	Refer to Spec		

**P-110 Underground Electrical Duct Banks and Conduit**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	110-2.2	Steel Conduit	Certification	Source	One per source		UL 6, 514B, 1242	
Contractor	110-2.3	Plastic Conduit	Certification	Source	One per source		W-C-1094 UL 651 ASTM D 3035 SCR 11	

**P-115 Electrical Manholes and Junction Structures**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	115-2.3	Junction Cans or Boxes	Certification	Source	One per source	L-867 Class 1 and covers shall be 3/8" thick		

**P-125 Airport Lighting Systems**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	125-2.8	Light Base and Transformer Housings	Certification	Source	One per source	L-867, Class 1, Size B AC 150/5345-42 12-inch diameter 24" depth		
Contractor	125-2.9	Isolation Transformers	Certification	Source	One per source	L-830 AC 150/5345-4		
	125-2.10b	Runway and Taxiway Lights	Certification	Source	One per source	Quartz	FAA L-861 FAA L-861SE FAA L-861T	
	125-2.11	Runway and Taxiway Signs	Certification and Two (2) Instruction Manuals	Source	One per source	access for replacement from the top Signs - Size1, Style 2, Class 3, Mode 1	FAA L-858 R	

**T-901 Seeding**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	901-2.1	Seed mix	Certification	Source	One per source	Table in Spec.	Fed Spec A-A-2671	
Contractor	901-2.3	Fertilizer	Certification	Source	One per source	16-48-0; 18-46-0	Fed Spec A-A-1909	

**T-908 Mulching**

Responsibility	Specification Reference	Material	Tests Required	Sampling Locations	Minimum Test Frequency	Requirements	Test Procedure	Notes
Contractor	908-2.1f	Soil Retention Blanket	Certification	Source	One per source	ECTC Table 1 or Table 2		Erosion Control Technology Council