Project 0-6658: Task 4 - Data Collection Plans

FIELD TESTING AND DATA COLLECTION SEQUENCE FOR THE HWY SECTIONS

(a) HMA OVERLAY CONSTRUCTION SECTIONS - NEW HMA OVER EXISTING HMA

Tests Prior to Construction & Selection of Test Sections		Tests During Construction		Tests Just After Construction		Periodic Performance Evaluation Tests (Twice Per Year; Just after Summer & Winter)	
#	Test/Activity	#	Test/Activity	#	Test/Activity	#	Test/Activity
1	Gather all existing data (design, plans, structural, etc)	1	Pictures	1	Pictures	1	Pictures
2	Crack mapping	2	Record construction method (MTD, truck type (tipper or belly dump], etc)	2	Check & remark the test sections	2	Visual crack surveys
3	Take pictures	3	Temperatures (Gun and/or IR bar)	3	Coring (& augering if needed)	3	Rut measurements (straightedge)
4	GPR and video (thickness, defects, etc)	4	Record compaction pattern (number of passes, roller wweight, etc)	4	~~GPR?? (uniformity of new Overlay)~~	4	Other distresses like bleeding
5	FWD	5	Density (Nuclear gauge or PQI)	5	Profiles	5	Profiles
6	Profiles	6	Measure final HMA mat thickness			6	FWD
7	Selection & marking of 2No. × 500ft Test Sections with Cracking (outside lanes)	7	Collect plant-mix material & raw materials (aggregates & binders) for lab testing			7	Skid (summer) - PMIS
		8	QC/QA charts from TxDOT				
						8	GPR and/or coring as needed

(b) EXISTING PAVEMENT SECTIONS

I would prefer that this is almost never done, except when some of the data was collected in the past (i.e. perpetual pavements)

Intital Tests & Selection of Test Sections		Tests During Construction		Tests Just After Construction		Periodic Performance Evaluation Tests (Twice Per Year; Just after Summer & Winter)	
#	Test/Activity	#	Test/Activity	#	Test/Activity	#	Test/Activity
1	Gather all existing data (design, plans, structural, etc)	-	-	-	-	1	Pictures
2	Run GPR [video] & FWD	-	-	-	-	2	Visual crack surveys
3	Selection & mark of 2No.× 500ft homogeneous Test Sections (outside lanes)	-	-	-	-	3	Rut measurements (straightedge)
4	Select & mark sampling points & limits on the Test Sections	-	-	-	-	4	Other distresses like bleeding
5	Take pictures	-	-	-	-	5	Profiles
6	Profiles & rut measurements	-	-	-	-	6	FWD
7	Crack measurements (visual)	-	-	-	-	7	Skid (summer) - PMIS
8	DCP/PSPA/DCP measurements if required	-	-	-	-	8	GPR and/or coring as needed
9	Measure & record other distresses as well (e.g., bleeding)	-	-	-	-		
10	Coring & material sampling including (HMA, base, soil, etc) for lab testing						
11	Core height, bore holes, and/or probes for layer thicknesses if needed!	-	-	-	-		

(C) NEW, RECONSTRUCTION, OR FULL-DEPTH RECLAMATION

Intital Tests & Selection of Test Sections		Tests During Construction for Each Layer		Tests Just After Construction		Periodic Performance Evaluation Tests	
#	Test/Activity	#	Test/Activity	#	Test/Activity	#	Test/Activity
1	Initial lab design report including UCS	1	Collect samples of subgraded material (soil)	1	GPR & video	1	Pictures
2	Initial structural design report	1	Collect samples of stabilized layers and cement used	2	FWD	2	Visual crack surveys
		2	Collect amples of flexible base layer (if any)	3	Profile	3	Rut measurements (straightedge)
		3	Samples of plant mix and raw materials (aggregates and binders)	4	Pictures of pavement condition	4	Other distresses like bleeding
		4	QC/QA charts from TxDOT	5	Cores (if needed)	5	Profiles
				6	Select and mark test sections (2 No. × 500 ft)	6	FWD
						7	Skid (summer) - PMIS
						8	GPR and/or coring as needed

(d) HMA OVERLAY CONSTRUCTION SECTIONS - NEW HMA OVER EXISTING PCC

Tests Prior to Construction & Selection of Test Sections		Tests During Construction		Tests Just After Construction		Periodic Performance Evaluation Tests (Twice Per Year; Just after Summer & Winter)	
#	Test/Activity	#	Test/Activity	#	Test/Activity	#	Test/Activity
1	Gather all existing data (design, plans, structural, etc)	1	Pictures	1	Pictures	1	Pictures
2	Run GPR [video] & FWD (LTE)	2	Record construction method (MTD, truck type (tipper or belly dump], etc)	2	Check & remark the test sections	2	Visual crack surveys
3	Take pictures	3	Temperatures (Gun and/or IR bar)	3	Coring	3	Rut measurements (straightedge)
4	Measure joint/crack spacing, width	4	Record compaction pattern (number of passes, roller wweight, etc)	4	~~GPR~~	4	Other distresses like bleeding
5	Distress survey - spalling, patches, etc	5	Density (Nuclear gauge or PQI)	5	Profiles	5	Profiles
6	Profiles	6	Measure final HMA mat thickness			6	FWD
7	Selection & marking of 2No. × 500ft Test Sections with Cracking (outside lanes)	7	Collect plant-mix material for lab testing			7	Skid (summer) - PMIS
						8	GPR and/or coring as needed

Note
To optimize resources, all field tests will preferably be conducted as one operation.