NDOR SiteManager Materials Management

Standard Operating Procedures

Concrete Placement

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Modification Tracking Summary

Summary of Changes	Date	Author
Standard Operating Procedures and Instructions document created	8-19-11	Andi Clark
Updated Roles & Responsibilities	5-23-2012	Andi Clark

1. Introduction and Purpose:

This document is intended to be used in conjunction with the existing training materials provided by NDOR (Nebraska Department of Roads), M&R (Materials & Research) Division. Questions concerning initialization of the SMGR (SiteManager) application are addressed in this existing training material.

1.1 Purpose:

The purpose of this document is to define the responsibilities of the inspection team during:

- Pre-placement for purposes of this document, pre-placement is defined as that period of time prior to the initial placement of concrete.
- Placement for purposes of this document, placement is defined as the period during active construction.
- Post-placement for purposes of this document, post placement is defined the period after active construction is completed.

1.2 Roles and Responsibilities:

As of the publication date of this document, roles and responsibilities are defined as follows:

SiteManager Staff: 402.479.4760, DOR.SiteManagerMaterials@nebraska.gov.

Portland Cement Concrete Engineer: Wallace Heyen, 402.479-4677, Wally.Heyen@nebraska.gov

Highway Project Engineer Review Analyst: Lieska Halsey, 402.479.3861, Lieska.Halsey@nebraska.gov

NDOR Aggregate Laboratory Manager: Jim Beason, 402.479.4749, James.Beason@nebraska.gov

NDOR Chemical Laboratory Manager: Jasmine Dondlinger, 402.479.4874, Jasmine.Dondlinger@nebraska.gov

NDOR Portland Cement Concrete Assessment Section Manager:

• Tim Krason, 402.479.4709, Tim.Krason@nebraska.gov

M&R Profilograph and Coring Staff:

- Jeremy Weigel, 402.479.4757, <u>Jeremy.Weigle@nebraska.gov</u>.
- Josh Kalin, 402.479.3864, <u>Josh.Kalin@nebraska.gov</u>.

NDOR QA Managers:

- District 1, Lincoln: Ron Vajgrt, 402.479.4543, Ron.Vajgrt@nebraska.gov.
- District 2, Omaha: Gary Mangen, 402.595.2534, ext 286, Gary.Mangen@nebraska.gov.
- District 3 and 8: Mike Reynolds, 402.370.3476, ext 219, Mike.Reynolds@nebraska.gov.
- District 4 and 7: Calvin Splattstoesser, 308.385.6271, ext 218, Cal.Splattstoesser@nebraska.gov.
- District 5, 6, 7 and 8: Rodney McNeel, 308-535-8111, ext 226, Rodney.McNeel@nebraska.gov.

1.3 Definitions:

Field Personnel: The certified NDOR, consultant, or LPA (Local Public Agency) field inspector(s) assigned.

Central Laboratory: Dependent on the material and agreement, this will be the NDOR central laboratory, an NDOR qualified consultant, or LPA laboratory.

Branch Laboratory: Dependent on the material and agreement, this will be the NDOR central laboratory, an NDOR qualified consultant, or LPA laboratory.

Inspection Team: The inspection team is defined as any individual employed or enjoined by the state, local project administration, and consulting firm. It is the responsibility of the inspecting agency to determine which laboratory (NDOR Central, NDOR Branch, or NDOR qualified consultant or LPA) will perform the testing on a specific material. This responsibility extends to obtaining and delivering the sample to the appropriate laboratory.

Responsible Charge: A representative of the LPA who is a full time public employee.

1.4 Authentication:

Class (Corresponding Aggregate Class) – Field Performed Testing ~ Coming Soon!

Standard Operating Procedures for Documentation for Concrete Acceptance Based on Maturity Curves ~ Coming Soon!

Hot Point Joint Standard Operating Procedures. ~ Coming Soon!

LPA Chapter 12 Checklists, <u>http://www.nebraskatransportation.org/gov-aff/lpa/lpa-checklists/index.html#chap12</u>

NDOR Approved Products List, http://www.dor.state.ne.us/mat-n-tests/aplist.htm

NDOR Final Review Process Manual, <u>S:\Final Review Manual</u>.

NDOR Material Management Guidance, <u>http://www.dor.state.ne.us/mat-n-tests/matmanguidance.htm</u>

NDOR Materials Sampling Guide, http://www.dor.state.ne.us/mat-n-tests/sampguide.htm

NDOR Qualified Material Vendor List, http://www.dor.state.ne.us/mat-n-tests/index.htm

Ready Mix Producers List, <u>http://www.dor.state.ne.us/mat-n-tests/pdfs-docs/gravrock2010.pdf</u>

Rock & Gravel Producers List, <u>http://www.dor.state.ne.us/mat-n-tests/pdfs-docs/gravrock2010.pdf</u>

NDOR Standard Test Methods Manual, <u>http://www.roads.nebraska.gov/mat-n-tests/NDR%20Standard%20Test%20Methods/index.pdf</u>

Qualified Consultant Laboratories, <u>http://www.dor.state.ne.us/mat-n-tests/pdfs-docs/qualconsullabs.pdf</u>

SMGR Active Materials List, http://www.dor.state.ne.us/mat-n-tests/pdfs-docs/matlist.pdf

SiteManager Instructions for PCC Plant and Field Performed Tests, S:\SMG\Materials\Instructions\Concrete\Site Manager Plant & Field Inspection-Steps.pptx

Smoothness Verification Standard Operating Procedures and Instructions, <u>http://www.nebraskatransportation.org/mat-n-tests/pdfs-</u> <u>docs/Materials_Management_Guidance/Asphalt/SOP_AC_and_PC_Pavement_Smoothness_Ver</u> <u>ification_Testing.pdf</u>

1.5 Abbreviations:

ACI: American Concrete Institute APL: Approved Products List (d2s): Two Standard Deviations IA: Independent Assurance

- LPA: Local Public Agency
- MSG: NDOR Materials Sampling Guide
- M&R: NDOR Materials & Research
- NDOR: Nebraska Department of Roads
- PCC: Portland Cement Concrete
- PM: Project Manager
- QA: Quality Assurance
- RC: Responsible Charge RDL: Required Document List
- RTF: Report Template Facility
- SCL: SMGR Sampling Checklist
- SMGR: SiteManager

2. Pre-Placement:

2.1 Inspection Team Responsibilities:

The inspection team is responsible for these activities:

2.1.1 Review Specification Requirements:

Review the NDOR Standard Specifications for Highway Construction, Informational Proposals/Special Provisions, project plans, MSG (Materials Sampling Guide), and RDL (Required Document List) for PCC (Portland Cement Concrete) requirements. For more information, refer to <u>NDOR Materials Sampling Guide</u>.

The RC (Responsible Charge) is responsible to review and complete the appropriate LPA Chapter 12 Construction Checklists. For more information, refer to <u>LPA Chapter 12</u> <u>Checklists</u>.

2.1.2 Verify Portland Cement Concrete Inspector Certification Credentials:

Verify and document the technician certification requirements for the type of work performed. Notify the NDOR QA (Quality Assurance) Manager if an IA (Independent Assurance) is required. Certified personnel changes throughout the life of the project will require documentation.

2.1.2.1 PCC Field Technician Requirements:

Technicians are required to be qualified in these levels of certification:

- ACI (American Concrete Institute) PCC Field Technician Level I
- NDOR PCC Field Technician Level I

2.1.2.2 PCC Plant Inspector Requirements:

Technicians are required to be qualified in these levels of certification:

- ACI PCC Field Technician Level
- NDOR PCC Plant Inspector Level II
- NDOR Portland Cement Sampler Certification

2.1.3 Verify Non-NDOR Branch Laboratory Credentials:

The list of Nebraska qualified branch laboratories is maintained on the NDOR M&R website. See Nebraska Qualified Consultant and LPA Laboratories list. For more information, refer to <u>Qualified Consultant Laboratories</u>.

2.1.4 Verify Ready Mix Plant Certification Credentials:

Review the NDOR Qualified Material Vendor Ready Mix Producer List to assess the current standing of the ready mix plant(s). For more information, refer to <u>NDOR Qualified</u> <u>Material Vendor Ready Mix Producer List</u>.

- If the ready mix plant is not certified, contact the M&R PCC Engineer, prior to usage.
- If the plant certification has expired, see NDOR MSG Policy 7, Policy for Certification of Ready Mix Plants. For more information, refer to <u>NDOR Materials</u> <u>Sampling Guide</u>.

• If the plant is using wash water, refer to MSG Section 15, Mixing Water Quality. . For more information, refer to <u>NDOR Materials Sampling Guide</u>.

2.1.5 Material Requirements:

Review all materials requirements for a given contract to determine the documentation procedures.

- The complete list of SMGR active materials is maintained online. For more information, refer to <u>SMGR Active Material List</u>.
- If a product is not on the NDOR APL (Approved Products List) and is anticipated for use on the project, contact the M&R PCC Engineer, prior to usage. For more information, refer to <u>NDOR Approved Products List</u>.

2.1.5.1 Cement/Blended Cement

Review MSG Policy 4, Acceptance Policy for Cement and Blended Cements. For more information, refer to <u>NDOR Materials Sampling Guide</u>.

2.1.5.2 Concrete Admixtures:

Review NDOR APL for acceptable admixtures. For more information, refer to NDOR Approved Products List.

2.1.5.3 White Pigmented Curing Compound (if applicable):

Review NDOR APL for acceptable curing compounds.

In accordance with the MSG, the Field Inspector will document and authorize a sample record in SMGR. For more information, refer to <u>NDOR Materials</u> <u>Sampling Guide</u> and <u>NDOR Approved Products List</u>.

2.1.5.4 Aggregates:

Review NDOR Nebraska Qualified Vendor Lists for acceptable aggregates. For more information, refer to <u>Rock & Gravel Producers List</u>.

- PCC Field Technician Requirements:
 - Identify the source of aggregate to be used on the project and sample the aggregate according to the MSG. Enter the sample information into SMGR. Refer to the MSG for sample rate for gradation and quality tests: For more information, refer to <u>NDOR</u> <u>Materials Sampling Guide</u>.
- PCC Plant Inspector Requirements:
 - The plant inspector will create a sample record in SMGR. This record shall be designated as a verification sample. A SMGR sample identification tag will accompany the sample to the NDOR Central Lab. The tag will include the sample identification number. For more information, refer to <u>Sample Identification Numbering</u> <u>Scheme</u>.
 - NDOR Central laboratory will conduct gradation verification and quality tests, and will complete and authorize the sample record. For more information, refer to SiteManager Aggregate – Field Performed Test SOP. ~ Coming Soon!

Sample	e ID No.: (Fill all spac	es)	
Year	SiteManager User #	Dist.	Sample #
Project	No.:		
Contrac	t No.:		
Project	Mar.:		
Vumba	of Itame	of	
Numbe			
Comme	nts:		

The SMGR Sample Identification Tag is represented here.

Figure 1, SiteManager Sample Identification Tag

3. Placement:

The construction inspection team is responsible for these activities:

3.1 Specification Requirements:

Review the NDOR Standard Specifications for Highway Construction, Informational Proposals/Special Provisions, project plans, MSG, and RDL for PCC requirements. For more information, refer to NDOR Materials Sampling Guide.

3.2 Verify Portland Cement Concrete Inspector Certification Credentials:

The PCC inspector(s) was verified as part of the pre placement activities. Should the PCC inspector(s) change, the inspector certification credentials will be verified.

3.3 Verify Ready Mix Plant Certification Credentials:

If the ready mix plant has changed, review the NDOR Qualified Material Vendor Ready Mix Producer List to assess the current standing of the ready mix plant(s). For more information, refer to <u>Ready Mix Producers List</u>.

3.4 Material Requirements:

3.4.1 Sampling and Testing Frequency:

Verify sampling and testing frequency of air tests and cylinders as required by MSG Section 15, Portland Cement Concrete for Pavement, Base Course, and Pavement Patching, and Section 16, Portland Cement Concrete for Structures, Culverts, and Miscellaneous Construction, for all concrete placement. For more information, refer to NDOR Materials Sampling Guide.

3.4.2 Documentation:

3.4.2.1 Batch Tickets:

Collect batch tickets on the project. These batch tickets will be retained in the field inspection team project file.

3.4.2.2 PCC Testing:

- If there is a single inspector that performs both the plant and field test, the tester will complete the entire proportioning report template.
- When plant and field inspection duties are divided, the plant inspector will create the sample record and the field inspector will document the results for the type of work and curing methods used.

<u>PCC Plant and Field Performed Test, PCX002001</u>: Plant and field personnel will use this template as a record of concrete proportioning and structure information. For more information, refer to <u>SiteManager</u> Instructions for PCC Plant and Field Performed Tests.

Wailace Heyen, Portland Cement Concrete Engineer Version: 20110727 arget Weight Cement Concrete Engineer Version: 20110727 arget Weight Cement Price Portland Cement Portland Cement Batch Weight / Lbs Wet Weight Per C.Y. Batch Weight / Lbs Water at Aggregate Portland Cement	NDOR MR		I	PCC	Plant	and Fie	ld	Perfor	med '	Tests	Template: PCX002001	
arget Weight Cement Ash Fume SCM Fine Cement Ash Fine Cement Cement Ash Fume SCM Fine Cement Cement Cement Ash Fume SCM Fine Cement Cement Cement Ash Fume SCM Fine Cement C	∦allace He	yen, Portla	nd Cemer	nt Concr	ete Engir	neer					Version: 20110727	
per C.Y. Batch Weight / Lbs Wet Weight Batch Weight / Lbs Magregate Aggregate Portland Cement Ibs .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .00 1.00 1.00 .0 .0 .00 1.00 1.00 1.00 .0 .0 .00 1.00 1.00 1.00 .0 .0 .00 1.00 1.00 .0 .0 .0 .00 1.00 1.00 .0 .0 .0<	arget Weigh of Cement	nt				Cer	tified	Ready Mi	x Plant I	nspector:		
Ibs .0 <t< th=""><th>per C.Y.</th><th>Cement</th><th>Batc Fly Ash</th><th>h Weigh Silica Fume</th><th>t / Lbs Other SCM</th><th>Water at Mixer</th><th></th><th>Wet Age Fine</th><th>Weight gregate Co</th><th>oarse</th><th>Portland Cement</th><th></th></t<>	per C.Y.	Cement	Batc Fly Ash	h Weigh Silica Fume	t / Lbs Other SCM	Water at Mixer		Wet Age Fine	Weight gregate Co	oarse	Portland Cement	
Specific Gravity Free Moisure % Fly Silica Other Aggregate 1.00 1.00 </th <th>lbs</th> <th>0.</th> <th>0.</th> <th>.0</th> <th>0. 0</th> <th>0.</th> <th>lbs Ibe</th> <th>). 1</th> <th>lbs</th> <th>.0 lbs</th> <th>Mill Location and Type</th> <th></th>	lbs	0.	0.	.0	0. 0	0.	lbs Ibe). 1	lbs	.0 lbs	Mill Location and Type	
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1.00 1.00	Como	Hy nt Ash	Silica (Other SCM	Aggreg	jate		Ag	gregate			
Value Cubic Yards Cement Per % of Required Water/Cement Silica Fume gal gal gal Other SCM Time % Air Slump Unit Weight Calc. Unit Weight Concrete Temp	1.0		1.00	1.00	1.00	1.00		.0		.0	Plant Location and Class	
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Admixtures Per 100 lbs of Cement Air Entraining Agent				Admixtur	es Per 10	DO Ibs of Ce	ment				Air Entraining Agent	
Admixture Qty-oz Admixture Qty-oz Type A - Water Reducer		Admixtur	e	()ty-oz		Adr	nixture		Qty-oz	Type A - Water Reducer	
Type B - Betarrier											Type R - Retarder	
Concrete Structure Group Required Used Wasted PSI		oncrete St	ructure	ſ	iroun	Required		llsed	Waster	Required		
.0 CY .0 .0 Type C - Accelerator		onerete of			Toup	.0 (Y.	.0	HUSICU	.0	Type C - Accelerator	
.0 CY .0 .0 Type D - Water Reducer & Retar	Station	ing (Rec	(hariur			.00	Y	.0		.0	Type D - Water Reducer & Ret	arde
Type E - Water Reducer &		ing (not	lanca)								Type E - Water Reducer &	
Method of Cure Work Type F - Water Reducer, High Range	Metho	od of Cure	₩o Cul	ırk inders							Type F - Water Reducer, High Range	
Comments: Type G - Water Reducer, High	Commen	ts:	-,.								Type G - Water Reducer, High	
											Banne & Betamer	

Figure 2, Template – Portland Cement Concrete Proportioning Report

Small Quantities of Non-Critical Materials - Field, MSF002001:

This will be used by field personnel for authorizing small quantities of PCC as outlined in the MSG Section 27, Note 1, Sampling and Testing Small Quantities of Noncritical Materials. For more information, refer to <u>NDOR</u> <u>Materials Sampling Guide</u>.

	Small Quantities of Non-Critical Materials	
	Field Performed Tests	
NDOR M&R	Templat Version:	e ID: MSF002001 20080226
THIS IS TO	I CERTIFY THAT:	
All (Mat nor	of the Items listed below have been declared to be " Small Quantities of Non-Critical erials" as defined in the "Materials Sampling Guide". The basis for waiving the State's nal, established sampling and testing policies and procedures is one of the following:	
a) Accorrece rece nom	epted on the basis of visual examination and knowledge that these sources have ntly furnished similar material which was found to be satisfactory under the State's al sampling and testing procedures.	
(b) Acc that	epted on the basis of notarized Certifications by the producers or suppliers stating the material complies with the specification requirements.	
Comments:]	

Figure 3, Template – Small Quantities of Non-Critical Materials

Portland Cement Concrete Missing in Action (MIA) Cylinders - Field,

PCF001001: This will be used by the field personnel to report when cylinders are missing or damaged during construction. Field personnel will complete and authorize the sample record.

		Portland C	ement I	Concrete Missing) Cylinders	:
NDOR M&R Wallace Heyer	n, Portland Ce	ement Concrete En	gineer	T GHOINIGU TOST		Template ID: PCF001001 Version: 20080226
			0	Lost Destroyed		
	Comments:			Damaged		



Mainline Pavement/Structure Maturity Report - Field, PCF002001:

Field personnel will create and authorize the sample record.

For more information, refer to the SOP for Documentation for Concrete Acceptance Based on Maturity Curves. ~ Coming Soon!

Section of Pavement to Open or Structural Unit Sta. to Sta. or Structure: Probe #: Date Placed: 00/0 Time Placed: 00/0 Time Target TIF Value Reached: 00/0 Date Target TIF Value Reached: 00/0 TIF Value Reached: 00/0 TIF Value Reached: 00/0 Target TIF Value: Maturity Curve Number: Comments:	or Form Remo	val or Loadii	ng
Sta. to Sta. or Structure: 0 Probe #: 00/0 Date Placed: 00/0 Time Placed: 00/0 Time Target TIF Value Reached: 00/0 Date Target TIF Value Reached: 00/0 TIF Value Reached: 00/0 TIF Value Reached: 0 Maturity Curve Number: 0 Comments: 0	00 00/00/00		
Probe #: 00/0 Date Placed: 00/0 Time Placed: 00 Date Target TTF Value Reached: 00/0 Date Target TTF Value Reached: 00/0 TTF Value Reached: 0 Target TTF Value: Maturity Curve Number: Comments: 0	00 00/00/00	00/00/00	
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Date Target TTF Value Reached: 00/0 TTF Value Reached: Target TTF Value: Maturity Curve Number: Comments:) 00:00	00:00	00:00
TTF Value Reached: Target TTF Value: Maturity Curve Number: Comments:	00 00/00/00	00/00/00	00/00/00
Target TTF Value: Maturity Curve Number: Comments:			
Maturity Curve Number: Comments:			
Comments:			

Figure 5, Template – Mainline Pavement/Structure Maturity Report

Pavement Repair Maturity Summary Report - Field, PCF003001:

Field personnel will create and authorize the sample record.

For more information, refer to SOP for Documentation for Concrete Acceptance Based on Maturity Curves. ~ Coming Soon!

Pavement Repair -	Maturity Summa	ry Report
DOR M&R allace Heyen, Portland Cement Concrete Engineer		Template ID: PCF003001 Version: 20090508
Date Placed		
Sta. to Sta. or Location		
Time Placed	00:00	
Initial Temp		
Date of Opening		
Time of Opening	00:00	
Opening Temp		
TTF @ Opening*		
Date of Acceptance		
Time of Acceptance	00:00	
Acceptance Temp		
TTF @ Acceptance*		
TTF Target (Opening)		
TTF Target (Accept)		
* TTF = ((Average Temp) + 10) x Elapsed	Time	
Comments:		

Figure 6, Template - Pavement Repair - Maturity Summary Report

PCC Laboratory Performed Tests (4x8), PCL004003 – Central Lab: Field personnel will send the sample, including sample identification tag, to the laboratory for testing.

Consultant or LPA labs responsible for conducting compressive strength testing will be prequalified by NDOR and must appear on the List of Nebraska Qualified Laboratories. For more information, refer to <u>NDOR</u> <u>Materials Sampling Guide</u> and <u>Nebraska Qualified Laboratories</u>.

Using the sample identification number from the submitted sample, the laboratory technician will access the existing field generated sample record and enter the sample date, minimum compressive strength requirements, break date, age and machine load.

Once all testing is performed on the cylinders, laboratory personnel will complete and authorize the sample record.



Figure 7, Template – Portland Cement Concrete Compressive Strength (4x8)

3.4.2.3 Aggregate Testing:

The field PCC plant inspector will document the test results using the SMGR test templates:

<u>Aggregate – Field Performed Testing:</u> These templates will be used by the field PCC plant inspector for gradation acceptance.

- C33 Fine Sand, AGF019001
- Class A (Silica Fume Fine) Aggregate, AGF001001
- Class B (47B Fine) Aggregate, AGF002001 (see Figure 8)
- Class C (AX and BX) Aggregate, AGF003001
- Class E (47B Coarse) Aggregate, AGF005001
- Class F (Silica Fume Coarse) Aggregate, AGF006001
- Coarse Aggregate for Precast Prestressed Concrete, AGF016001
- Fine Aggregate for Precast Prestressed Concrete, AGF013001

The field NDOR PCC plant inspector will choose one of the following four Type of Gradation Test dropdown values when completing the test template:

- 1. Field Acceptance
- 2. Re-Sample
- 3. Re-Test
- 4. Verification

For more information, refer to SiteManager Aggregate – Field Performed Test ~ Coming Soon!

Dry Weight Wash Test - Sieve Analysis of Sample (Spacer Sieves Were Used Were Not Used) Total Passing Percent 1 1/2 1 3/4 1/2 3/8 1 Passing % 1 2 30 200 Retained Passing % 5pecifications: 100 77/97 50/70 16/40 6 77/97 50/70 16/40 6 77/97 50/70 16/40 77/97 50/70 16/40 77/97 50/70 16/40 77/97 50/70 16/40 77/97 50/70 16/40 77/97 50/70 16/40 7/797 50/70 16/40 7/797 50/70 16/40 7/797 50/70 16/40 7/797 50/70 16/40 8 8 8 9 9 <th>Lindemann, Geote</th> <th>chnical E</th> <th>Ingineer</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Version: 2</th> <th>20111019</th>	Lindemann, Geote	chnical E	Ingineer							Version: 2	20111019	
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Figure 8, Template – Class B (47B Fine) Aggregate, AGF002001.

This template representation is for illustration purposes only. Each Aggregate class is captured by a unique template.

<u>Aggregate – Laboratory Performed Testing:</u> These templates will be used by the central laboratory for gradation verification and quality testing for acceptance.

- C33 Fine Sand, AGL019001
- Class A (Silica Fume Fine) Aggregate, AGL001001
- Class B (47B Fine) Aggregate, AGL002001 (see Figure 9)
- Class C (AX and BX) Aggregate, AGL003001
- Class E (47B Coarse) Aggregate, AGL005001
- Class F (Silica Fume Coarse) Aggregate, AGL006001
- Coarse Aggregate for Precast Prestressed Concrete, AGL016001
- Fine Aggregate for Precast Prestressed Concrete, AGL013001

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Retained										
Passing %										
Specificatio	ns:	100				77/97	50/70		16/40	0/3.0
		Test					Results	Spec		
	Colorme	tric								
	Bulk Sp	ecific Gra	vity (SSE))						
	Absorpt	ion %								
	Clay Lur	nps %						0.5 Max		
	LA Abra	sion			(Method)				
	Sodium	Sulfate %						10 Max		
	Sand Ec	uivalent								
* Accepted	based on	previous	tests							
Fineness M	odulus		3/4	3/8	4	8	16	30	50	100
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Comments:										

Figure 9, Template – Class B (47B Fine) Aggregate, AGL002001

This template representation is for illustration purposes only. Each Aggregate class is captured by a unique template.

3.4.2.4 Reinforcing Steel Testing:

The field inspector verifies the reinforcing steel is compliant. For more information, refer to Standard Operating Procedures for Reinforcing Steel. ~ Coming Soon!

3.4.2.5 .Hot Pour Joint Sealant and Preformed Joint Filler:

The field inspector verifies the Hot Pour Joint Sealant and Preformed Joint Filler are compliant. Review the <u>NDOR Approved Products List</u>. For more information, see Hot Point Joint Standard Operating Procedures. ~ Coming Soon!

3.4.2.6 Schedule Final Acceptance Coring and Smoothness Testing for Pavement:

The field inspection team will request coring and smoothness testing.

On NDOR projects, final acceptance cores and smoothness testing will be performed by the M&R Profilograph and Coring Staff.

On LPA projects, the LPA/consultant lab is responsible for final acceptance coring, while final smoothness verification testing will be performed by the M&R Profilograph and Coring Staff.

For more information on smoothness, refer to <u>Smoothness Verification Standard</u> <u>Operating Procedures and Instructions</u>.

4. Post-Placement:

4.1 Final Review Process:

The Construction Field Inspector is responsible for maintaining all original correspondence and documentation. In addition, the field inspector shall follow the NDOR Final Review Manual for project specific archiving procedures. For more information, refer to <u>NDOR Final Review Manual</u>.