



NORTH CAROLINA Department of Transportation



Materials and Tests Unit

2020 AGC-DOT Workshops

Todd W. Whittington, PE – State Materials Engineer

Todd Whittington, PE
 State Materials Engineer
 919.329.4000
twhittington@ncdot.gov

Brian Hunter, PE
 State Laboratory Operations Manager
 919.329.4030
bhunter@ncdot.gov

Clark Morrison, PhD, PE
 State Pavement Design Engineer
 919.329.4018
cmorrison@ncdot.gov

[VACANT]
 State Field Operations Manager

Laboratory Operations

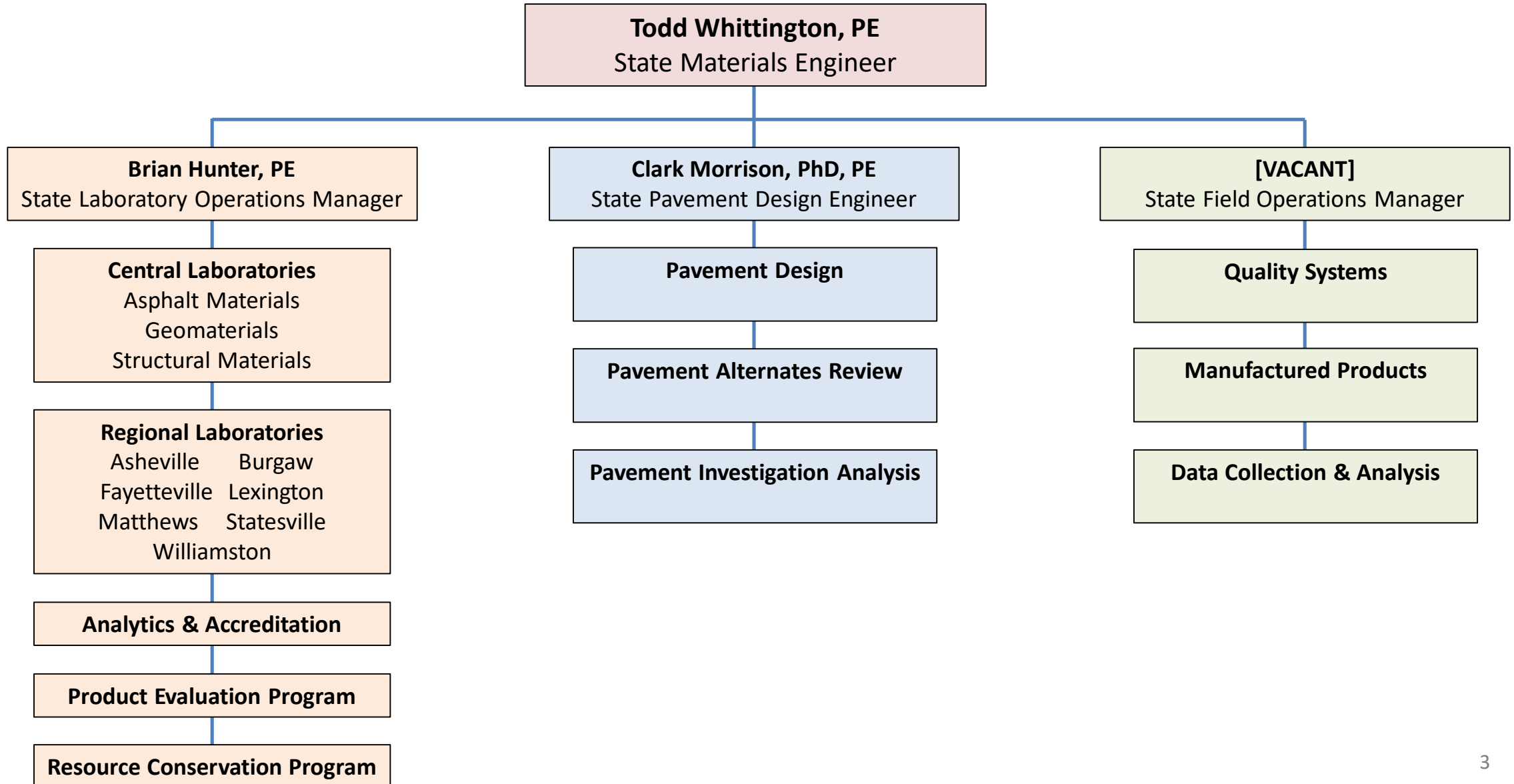
- Material Samples Testing
- QC/QA Programs
- Mix Designs (Asphalt & Concrete)
- Specification Development
- Test Procedure Manuals
- Establish Acceptance Criteria
- Private Laboratory Approval
- Testing Equipment Calibration
- Product Approvals
- Approved Lists
- Resource Conservation Tracking

Pavement Design

- Pavement Design – Asphalt & PCCP
(Central & Division-Let)
- Pavement Treatment Options
- Training on Pavement Design
- Pavement Alternate Scope & Review
- Life Cycle Cost Analysis
- Municipal Pavement Design Review
- Roadway History & Traffic Data
- Pavement Investigation Analysis

Field Operations

- Project Materials Testing/Inspection
- Technician Certification/Assessments
- Facility Approval/Auditing
- Manufactured Products Approval
- Pipe, Precast, Prestressed
- Gray Iron Castings, Guardrail, Signs
- Coatings & Welding Certification/Inspection
- Pipe & Drilled Shaft Inspections
- Pavement Investigation
(DCP, Coring, & FWD)
- Pavement Preservation Training



Product Evaluation Program (PEP)

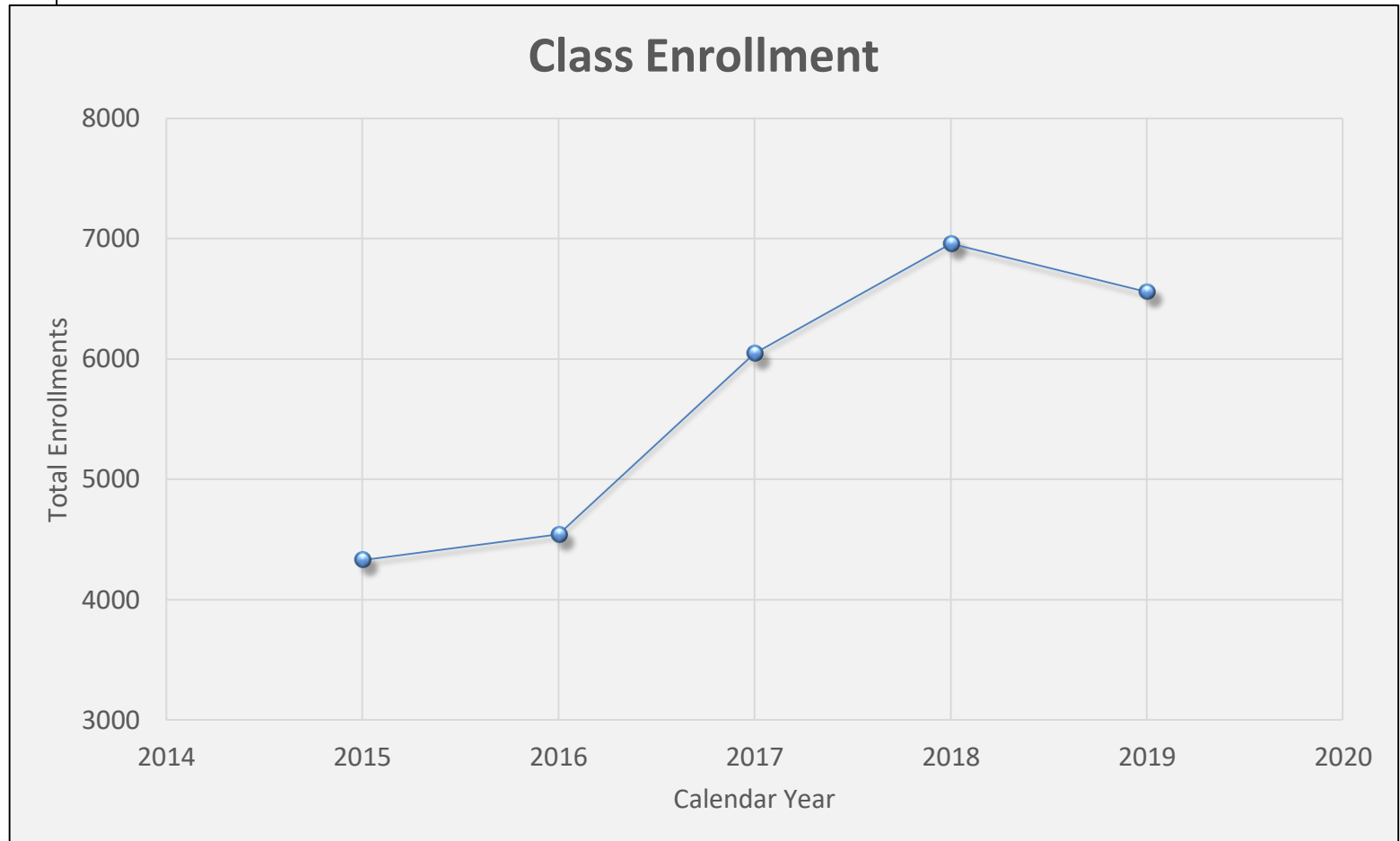
- Comprehensive Evaluation of Products
 - Seek Out New Products, Innovations & Technologies
 - Maintain Approved Products List (APL)
 - Cataloging of Performance of New Technologies
- Benefits
 - One Resource for All Product-Related Information
 - Product-Related Support for Field Personnel
 - The APL is a Vetted List of Products

Resource Conservation Program (RCP)

- Promote and Manage the Use of Recycled and Solid Waste Products and Materials
 - Track Use of Recycled Materials and Products by NCDOT
 - NC General Statutes and Specifications
- Benefits
 - Divert Construction Waste from Landfills
 - Reuse or Recycle Construction Materials
 - Potential Cost Savings

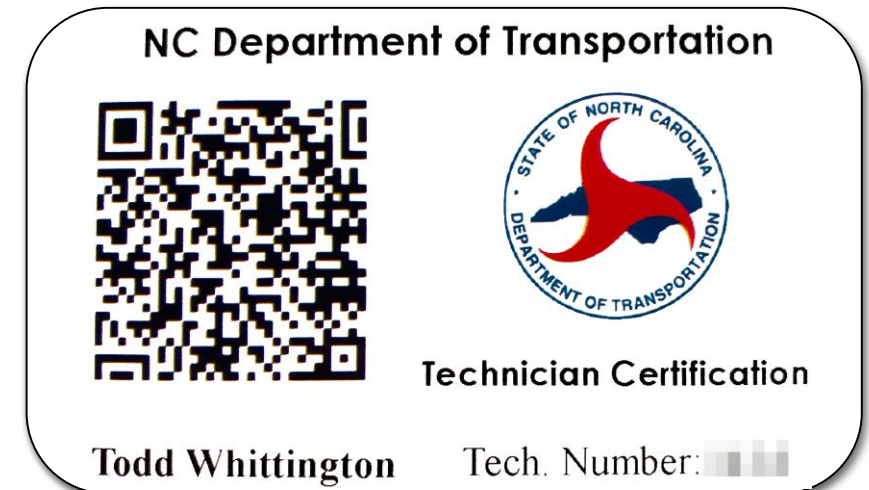
Technician Certification

Asphalt Density Gauge Testing
Asphalt Plant Mix Testing
Asphalt Plant Mix Quality Control
Asphalt Mix Design
Asphalt Roadway Inspection
Concrete Field Testing
Concrete Batching
Concrete Mix Design
Concrete Pavement Inspection
Field Welding Inspection
Structural Coatings Inspection
ABC Sampling
Aggregate QC/QA Sampling & Testing
Borrow Pit Sampling
Chemical Stabilized Subgrade Inspection
Conventional Density Testing
Nuclear Density - Base, FDR, & Select Materials
Nuclear Safety & Hazardous Materials Training



Why Do We Certify Technicians?

- 23 CFR 637
 - “Quality Assurance Procedures for Construction”
- Evaluate Knowledge & Expertise
- Assess Technician Proficiency
- Importance of Real-World Training



Verifying Technician Credentials

NCDOT NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Connecting people, products, and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina.

Business DMV New

Business »
Technician Certification

Technician:
 Technician Number:
 Certification Type:
 Division/Unit:
 Expiration Date: (From) (To)
 Reports To:
 Other Company:
 Office Location:
 Producer/Supplier:

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Business » Technician Certification »
Technician Certification Detail

Technician: Todd Whittington
 Technician Number: 1414
 Division/Unit: M&T
 Reports To:
 Office Location: Field Section, Central
 Producer/Supplier:
 Other Company:

Certification	Cert Date	Cert Exp	Old Cert Number	Cert Number	Status	Comments
Concrete Batch Technician (Batching)	5/6/1999	12/31/2003		PCB-1414	Expired	
Concrete Field Technician (Testing)	5/6/1999	12/31/2003		PCT-1414	Expired	
Concrete Mix Design Technician (Design)	5/6/1999	12/31/2003		PCD-1414	Expired	
HMA Independent Assessment	2/18/2006	2/18/2007		IAI-1414	Expired	TEST
	12/31/2075			IAP-1414	Active	Test of Completion

<https://apps.ncdot.gov/vendor/approvedproducts/Technician.aspx>

New ABC Acceptance Process

- Establish Initial Quality at the Source
 - Establish quality of aggregate at quarry
 - Establish proficient construction methods on roadway
 - Maintain material quality throughout all operations
 - Acceptance on roadway determined by density results
- Promote Communication and Accountability Amongst ALL Parties Involved

History

- New Process DOT & Industry Partnering to Develop for the Past 7+ Years
- Began Testing Reliability in Summer 2018
 - Pilot projects with large tonnages of mainline ABC
 - Random samples to track material through the process
 - Samples from Quarry + Samples from Roadway
 - Marked trucks
 - Checking for effects from: loading, hauling, and placing operations

Implementation

- Will Begin Using on State-Funded Projects Only
 - Data-gathering to determine overall logistics of New Process
 - Will seek FHWA approval for use on ALL projects
- Hold “Pre-Placement Meetings” to Discuss Process Prior To Placement
 - Include personnel from the quarry

Start Up

- Roadway Verification (RV) Samples from the Project
 - Sample from 2500-ton lots
 - Once 3 consecutive lots meet specifications, RV sampling becomes optional
 - As long as there are no *Changes in Operations*
- Quality Control (QC) Samples from the Quarry
 - Quarry Sampling/Testing remains essentially the same
 - As long as material remains within specifications

Material Outside of Specifications

- Quarry Check Samples
- Roadway Check Samples
- Revert to RV's Every 2500-ton Lot
 - Until achieve 3 consecutive passing lots

Questions ?

