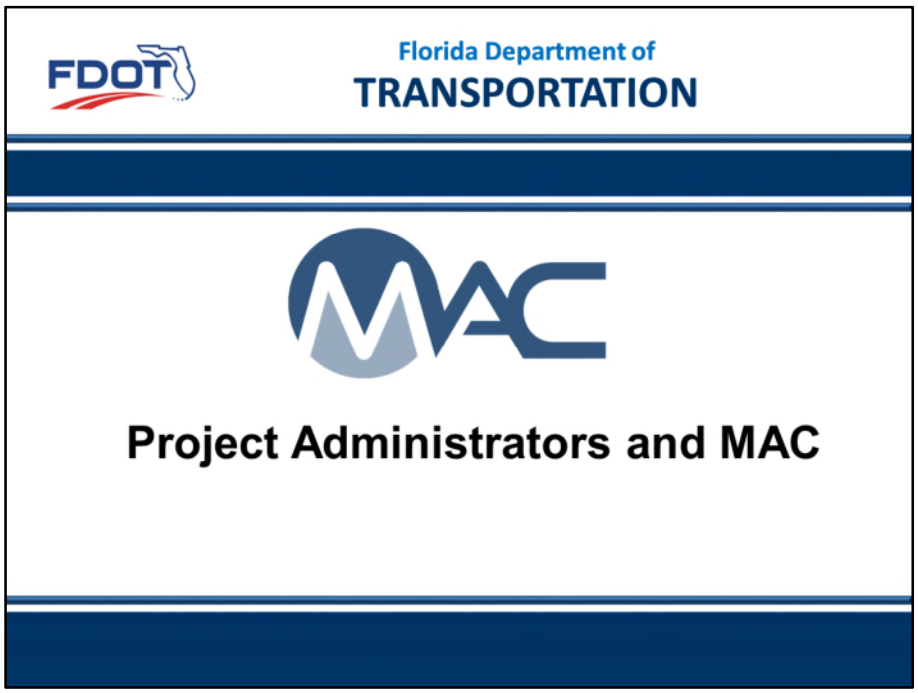
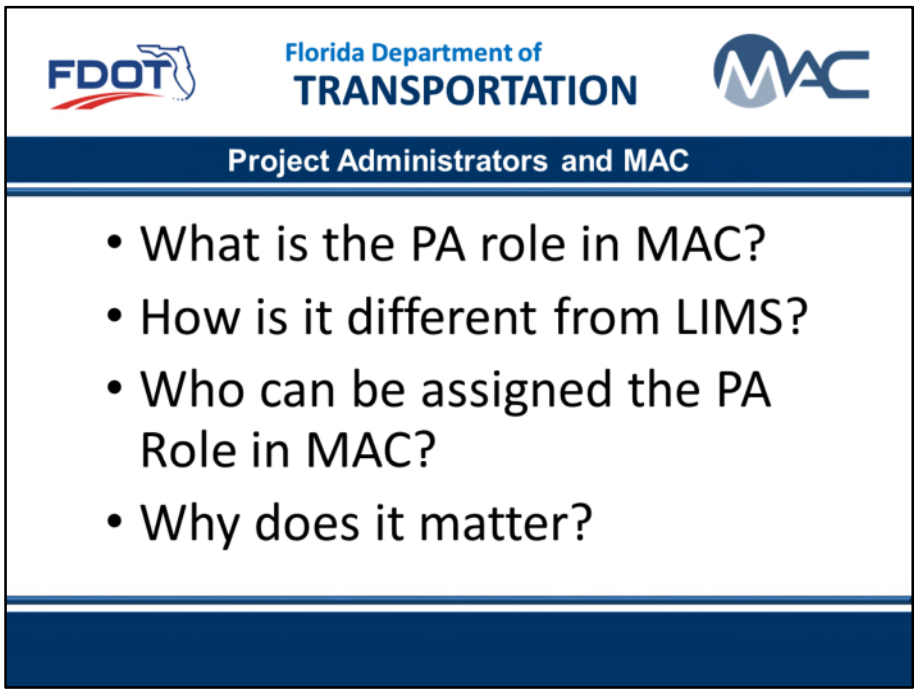
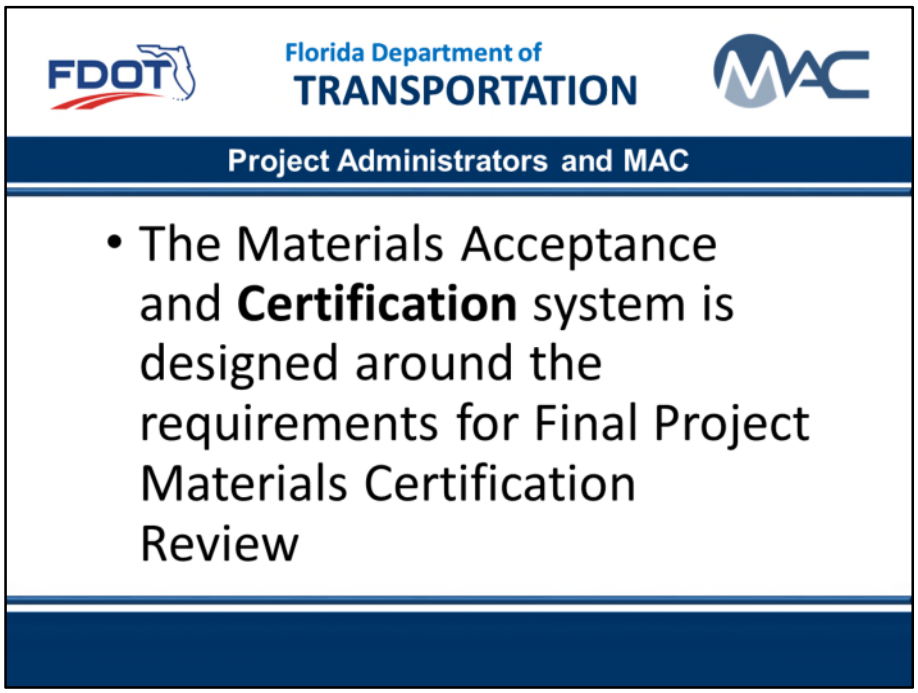


Welcome to the MAC video for the Project Administrator's role in MAC. This video is intended to provide general guidance to users with the PA role. There are other videos with instructions for the PA role functions. For example, there is a video for FDOT Review of Contractor Quality Control Plans which describes the PA's role in reviewing and accepting or rejecting Contractor QC Plans. There is also a video for Sample Finalization and Comparison Package Building which describes the functionality of the PA Role related to Sample Life Cycle.

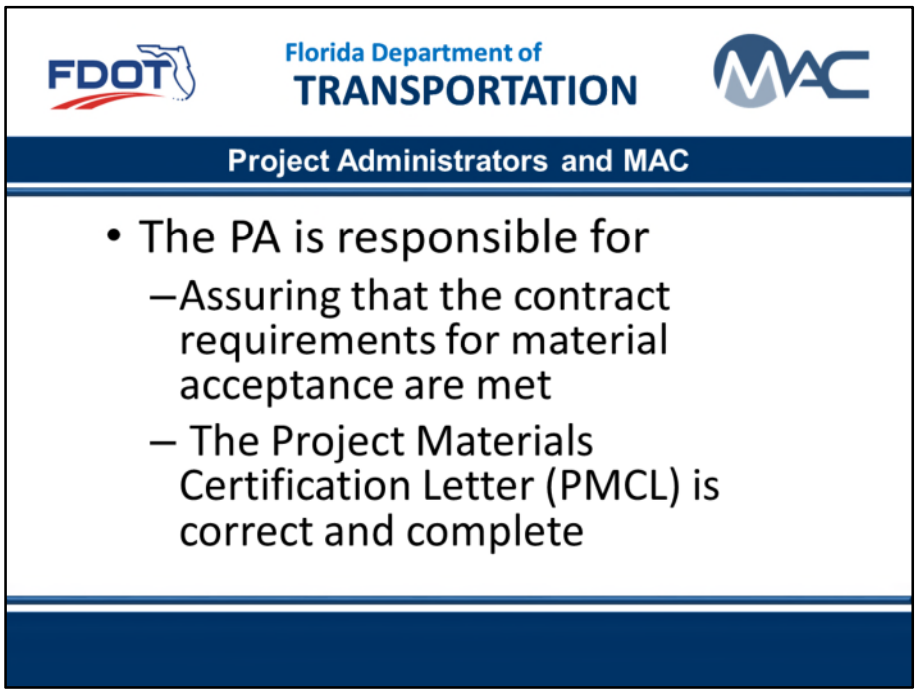
Those videos focus on the "How" of MAC. This optional video provides detailed background instructions on the "WHY of MAC.



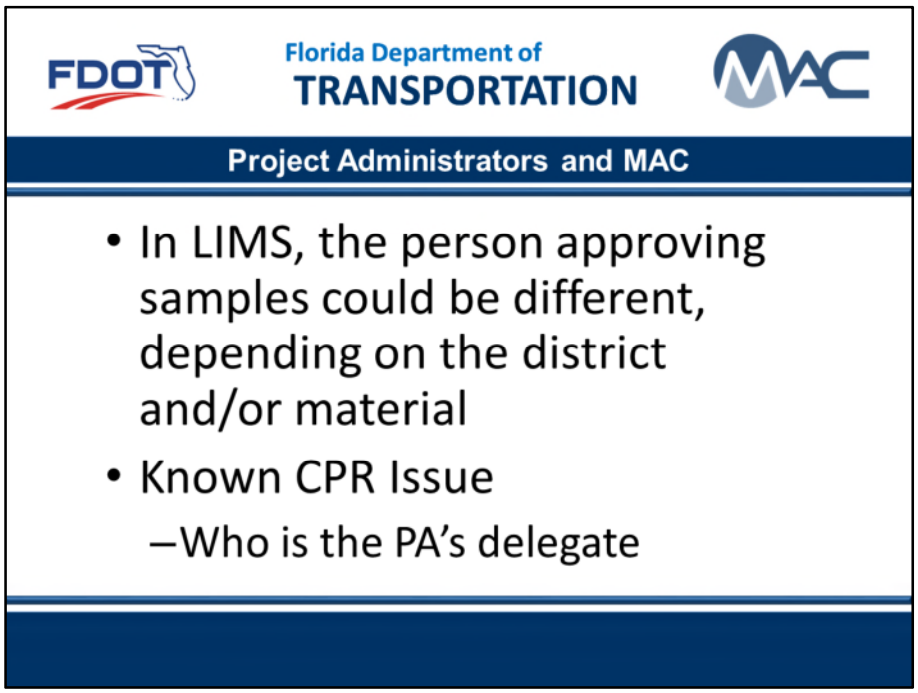
This video will convey basic materials concepts for the PA and describe how the PA role in MAC is different from LIMS.
It will explain who can be assigned the PA role.
It will demonstrate how the PA role is vital to the Final Project Materials Certification Review.



The Materials Acceptance and Certification System is designed around the Final Project Materials Certification Review. Almost all data, even program data may ultimately impact project samples and the Final Project Materials Certification Review. The Certification Review (known as the MC Review) is the Certification in Materials Acceptance and **Certification** system.

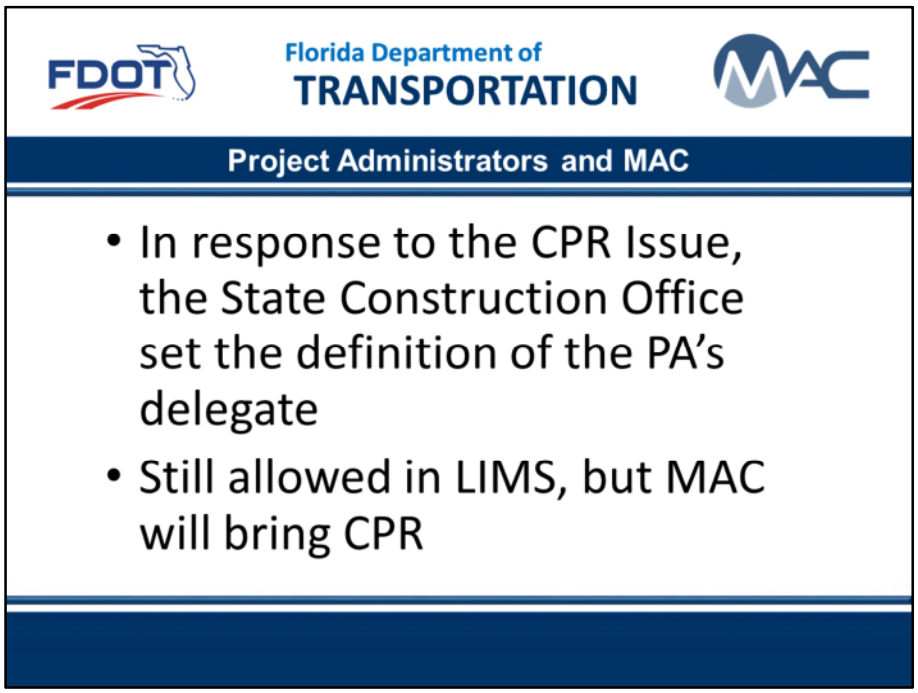


The PA is responsible for assuring that the contract requirements for materials acceptance are met. This is done through:
Finalizing project samples
Building Comparison packages
Both of these MAC functions together are equivalent to the LIMS
Sample approval process
Responding to MC Review issues
Making recommendations for material acceptance resolution (known as MAR) & providing documentation for MAR issues



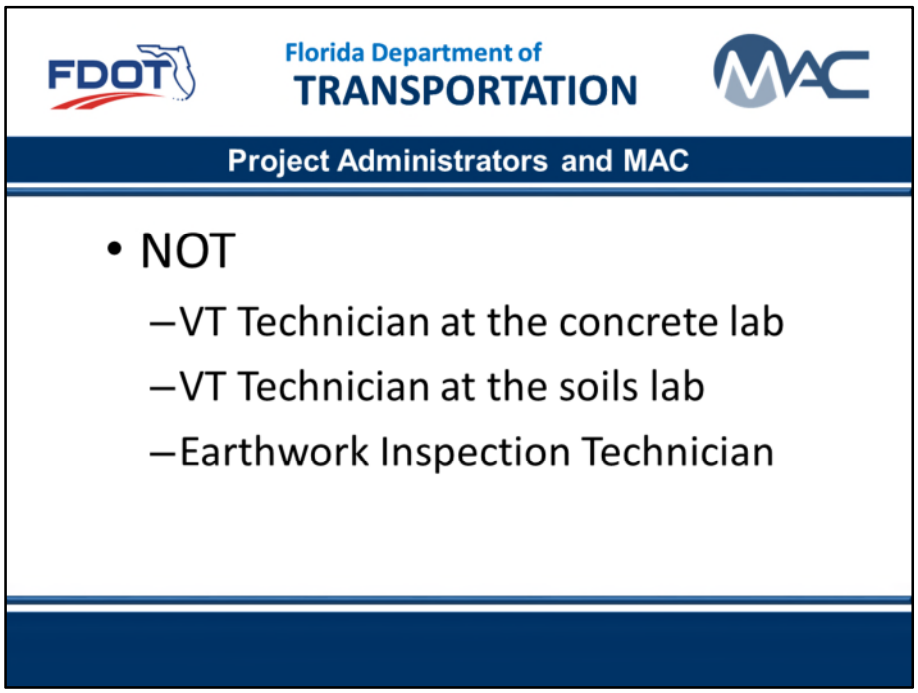
Speaking of LIMS Sample approval, in LIMS, the person approving samples could be different, depending on the district and/or material. In any case where the samples are not being approved by the PA, it is being performed by the PA's delegate.

Responsibilities that were handled by other users in LIMS will now be performed by the PA. This is in response to a CPR issue related to who should approve samples in LIMS.

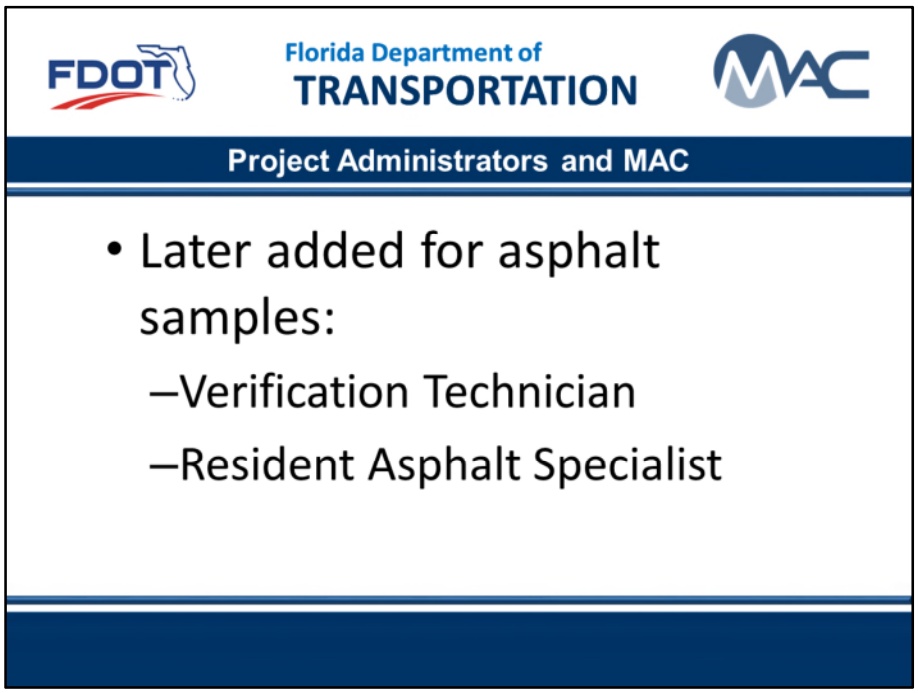


The State Construction Office has set a new definition for who can be the PA's delegate in MAC.
The current non-CPR issue has been allowed to continue in LIMS, but will be addressed in MAC.

The definition of the PA's delegate is now restricted to a Contract Specialist or Head Inspector. No one else.

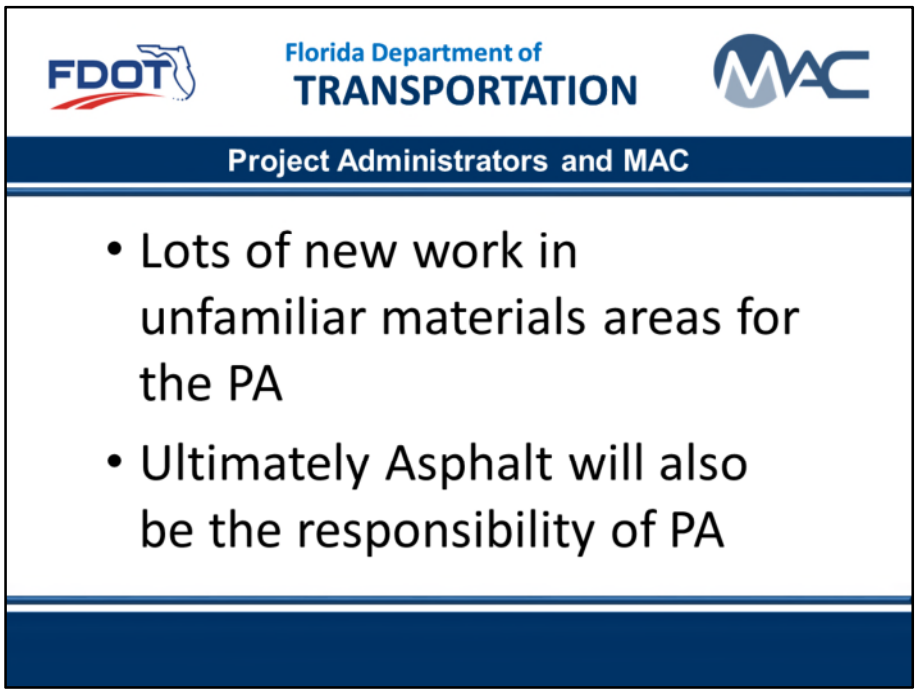


This means that some users, like the Verification Technician working in the structural concrete Verification Lab will not be assigned the MAC Role of PA and will not have the functionality in MAC to finalize concrete samples and to create concrete comparison packages. The same is true for soils samples and the Verification Technician at the soils lab.



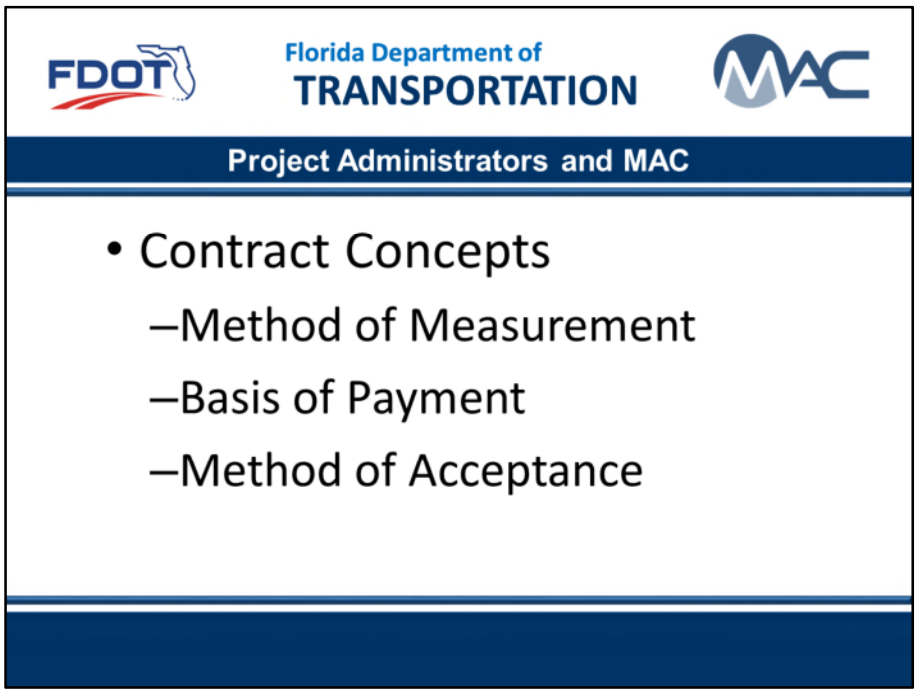
Since the original definition was set, the State Construction Office has expanded it to include Asphalt Verification Technicians and/or Resident Asphalt Specialists.

In each district, the District Construction Engineer and District Materials and Research Engineer together will determine if the role may be assigned to Asphalt VTs, Resident Asphalt Specialists or both.



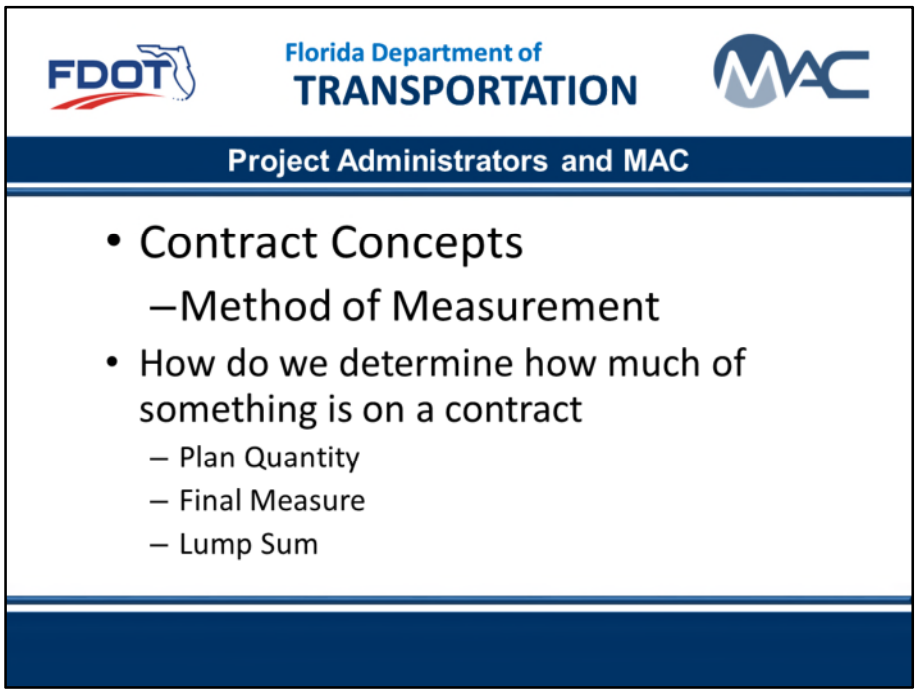
The addition of the delegates for asphalt samples is in recognition of the fact that MAC is bringing a lot of new work to some PAs. Also other new applications besides MAC are being implemented at the same time, like Project Solve. Add the fact that MAC replaces the Asphalt Plant Worksheet and that's a lot of new information for the PA all at once.

After the PAs have had time to absorb some of these changes, the asphalt sample process will be transitioned from the delegates of Asphalt VTs and/or RAS's to the PA and the official delegates, Contract Specialists and Head Inspectors.



So what is the PA looking for in MAC? What areas need to be focused on?
There are 3 basic contract concepts employed by the Department that the PA should be familiar with. In many cases they are inter-related. So knowing all 3 will help with materials acceptance.

The concepts are:
Method of Measurement
Basis of Payment
Method of Acceptance

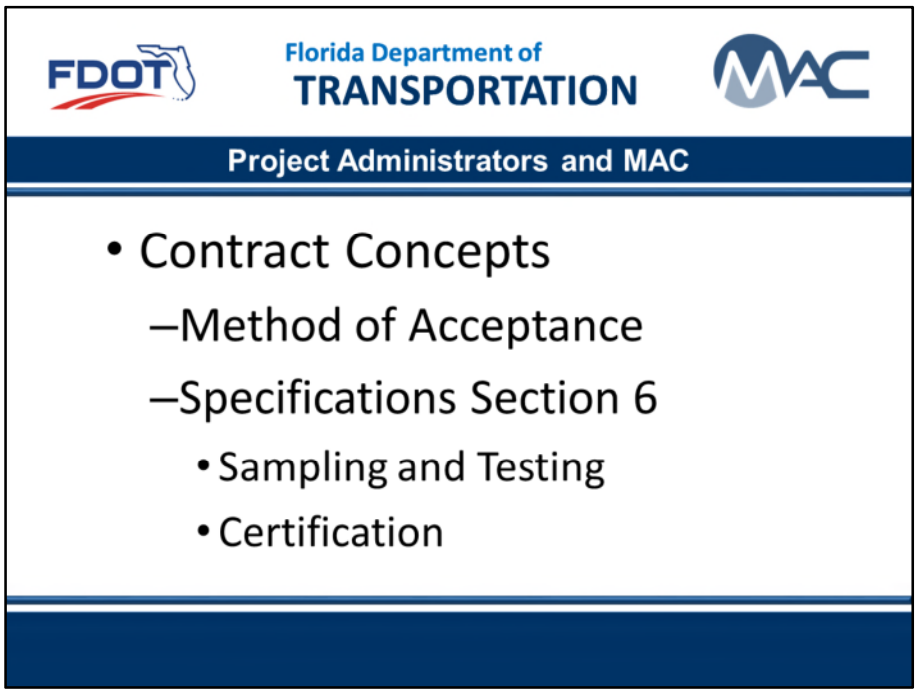


Method of Measurement – How do we determine how much of something is on the contract

Plan Quantity
Final Measure
Lump Sum

Here is an example of Method of Measurement that sounds more like basis of payment. We'll see this one again later. This is an example of an "included in the cost" phrase


FDOT
Florida Department of
TRANSPORTATION
MAC
Project Administrators and MAC
• Contract Concepts
–Basis of Payment
• How we pay for something on the contract

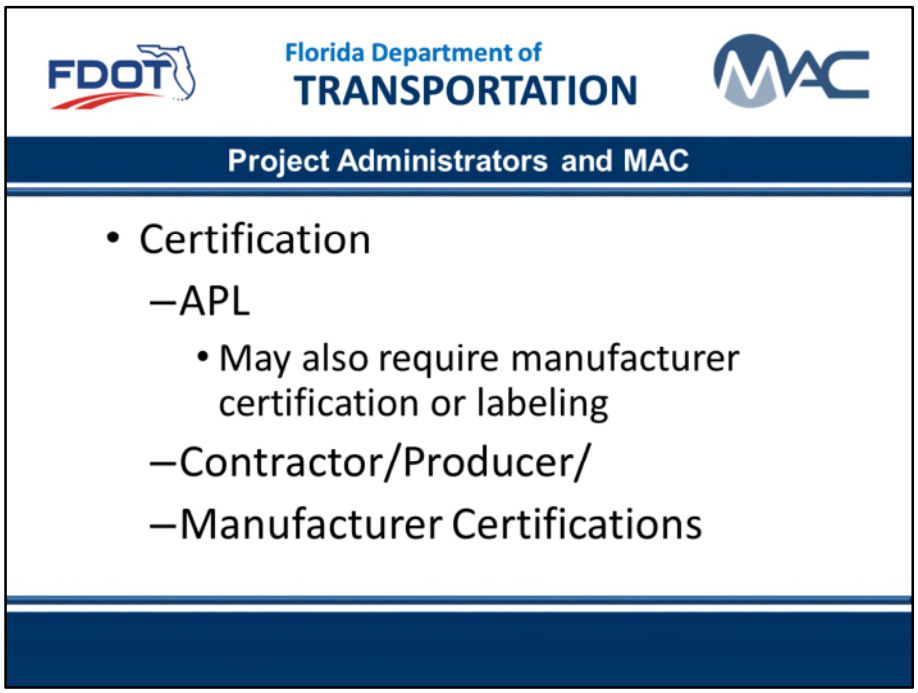


Method of Acceptance – How do we know what we are measuring and paying for is good in terms of **material quality**

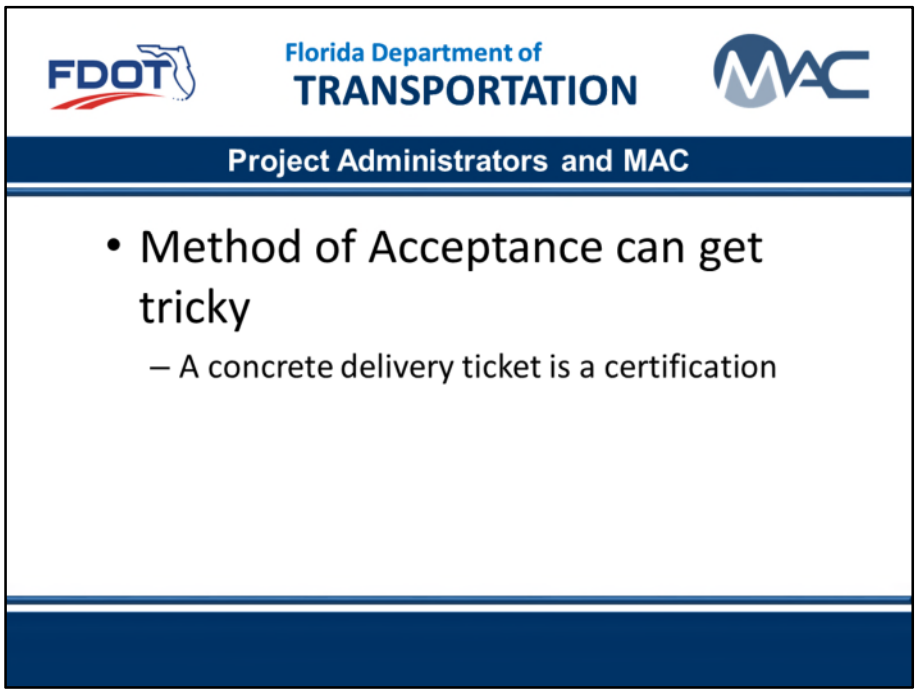
- Sampling and Testing
- Certification – which includes
  - APL
  - Contractor Certifications
    - Delivery Tickets
    - Installation Certifications
  - Producer / Manufacturer Certifications

That's it.

Either someone is sampling and testing or someone is certifying.

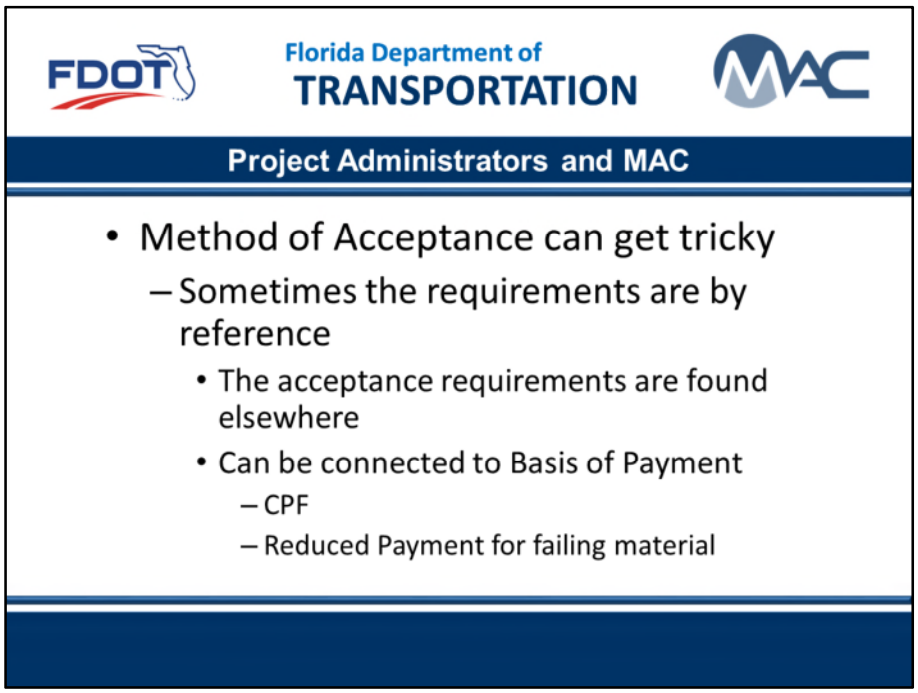


And sometimes there are multiple certification requirements – for example, APL items that also require a manufacturer or contractor certification or have specific label requirements.

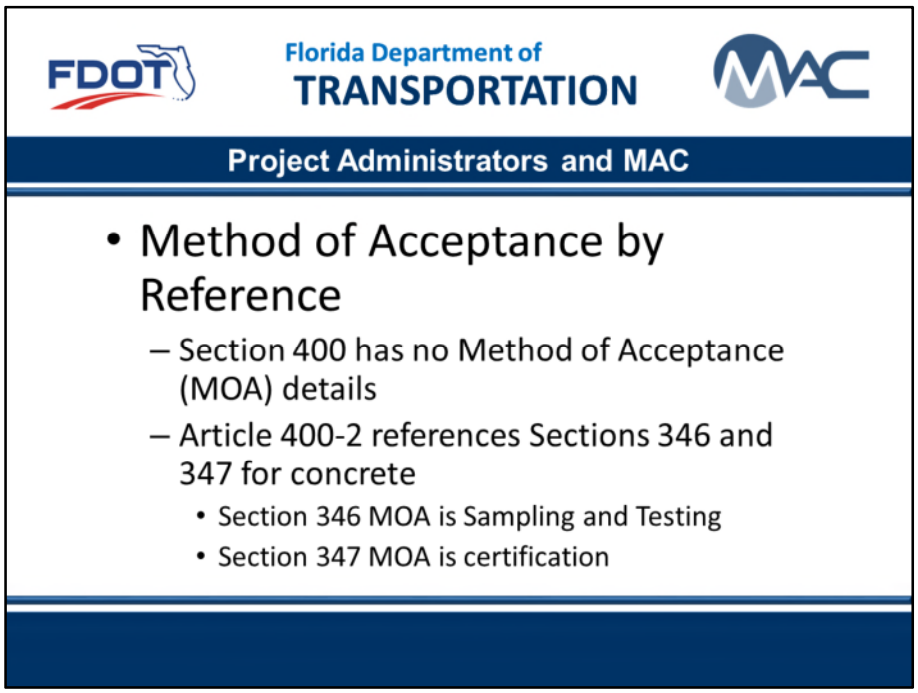


Concrete delivery ticket is a certification and is part of acceptance for structural concrete.

It IS the acceptance for non-structural concrete.

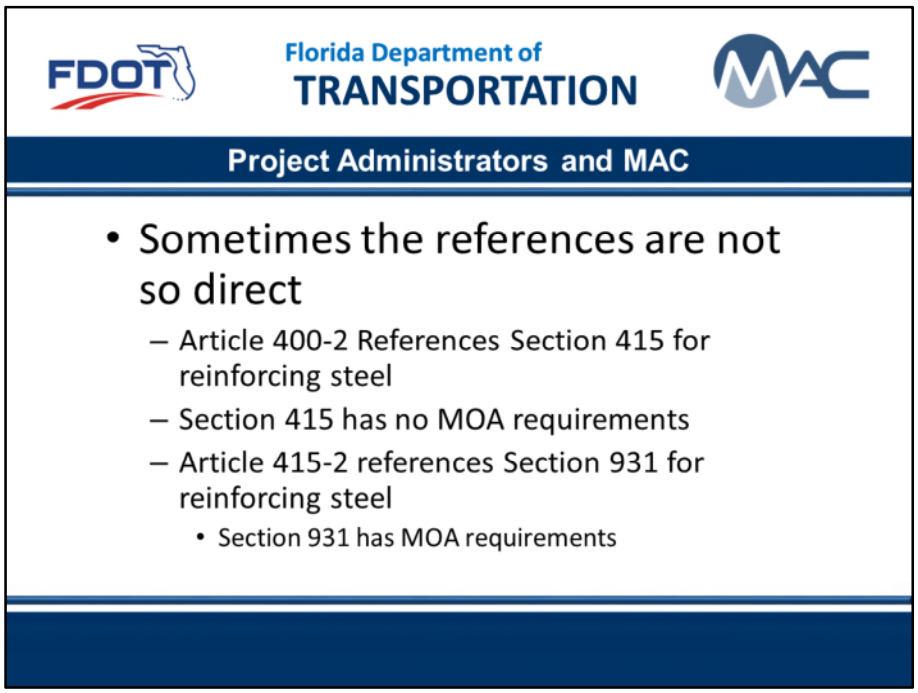


Method of acceptance isn't always a straightforward subarticle in the Specifications. In fact it almost never is. It can hide in thinks like the Materials Article in a Specification Section, references in method of measurement or basis of payment language or even standard indexes. It can also be project specific in the form of plan notes and change orders.



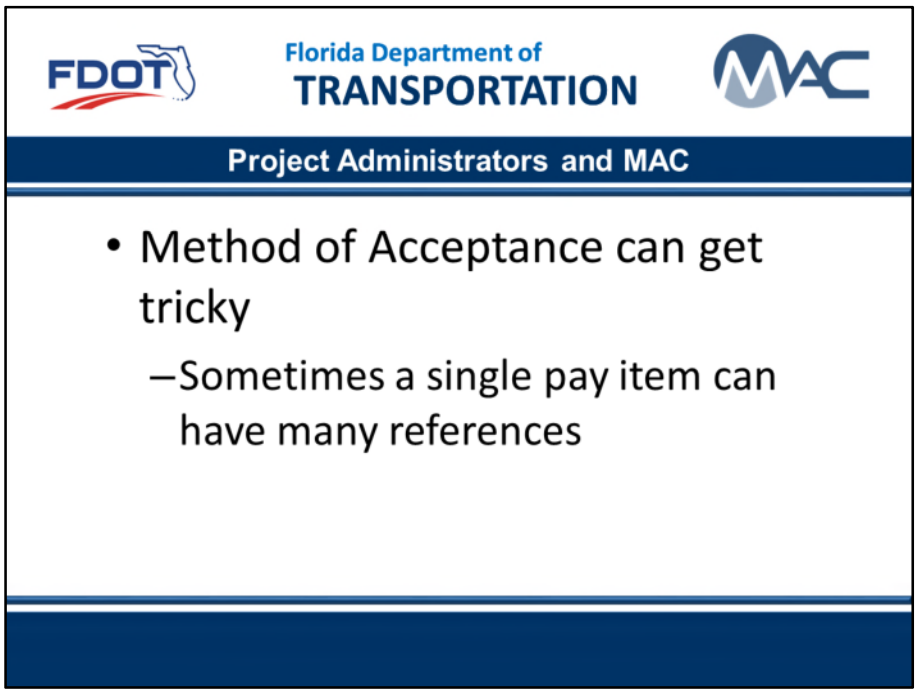
Here is an example of direct reference through the use of the Materials Article in a Specification Section.

Section 400 does not have a method of acceptance subarticle. Because of the reference to Section 346 and 347 in the Materials Article it requires that the material used in Section 400 must meet the requirements of 346 or 347.

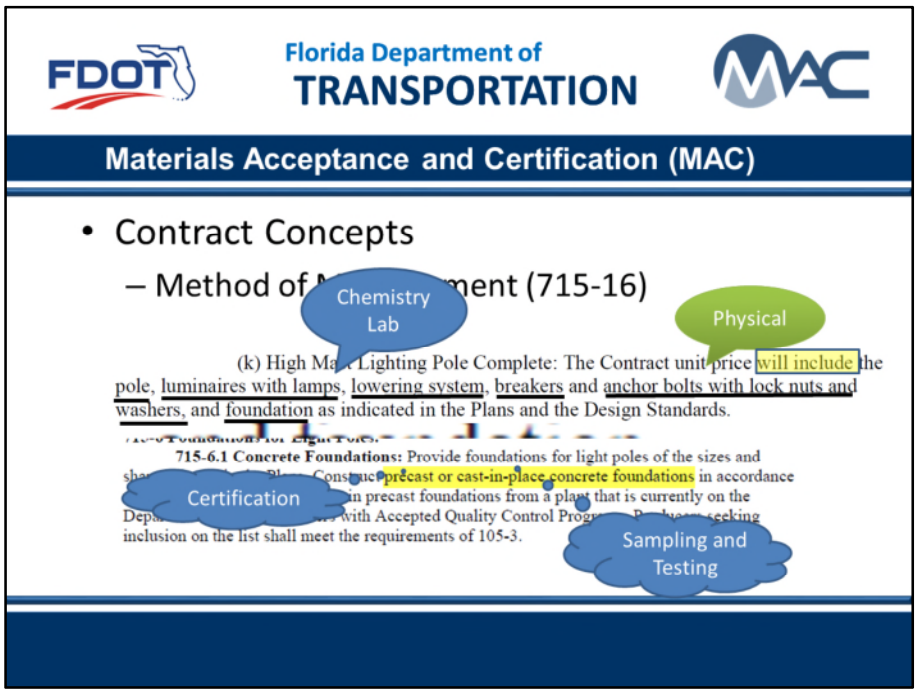


Sometimes it is not so direct. Section 400 also references Section 415 in the Materials Article for Reinforcing for Concrete. But if we go to Section 415, there are no method of acceptance requirements in Section 415 and it references Section 931 in the 415 Materials Article.

Section 931 Accessory Materials for Concrete Pavement and Concrete Structures is where we see things like sampling and testing requirements including the definition of a lot size. There are also certified mill analysis requirements.

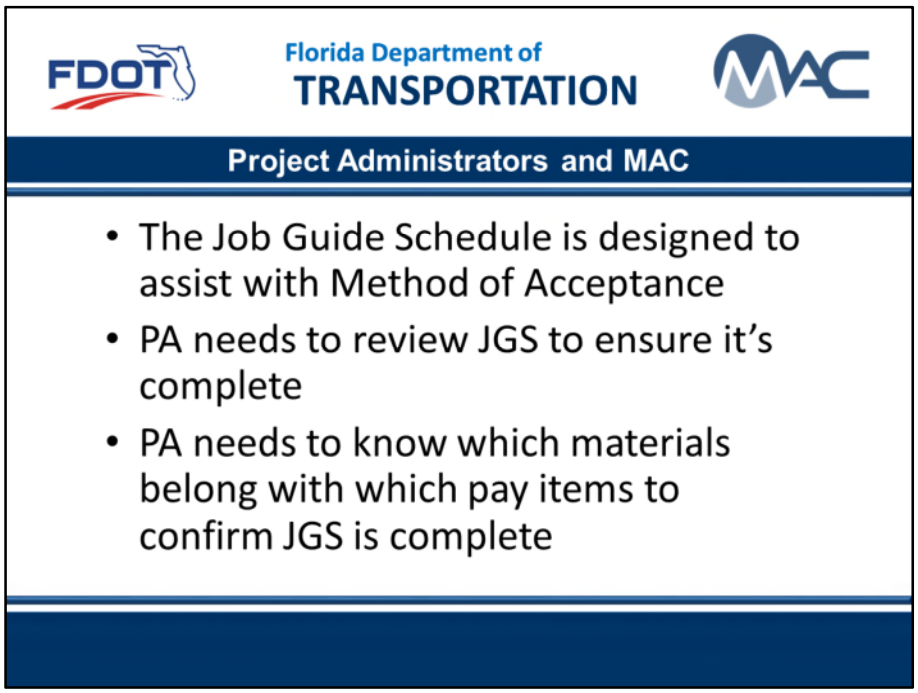


Here's that example we saw earlier

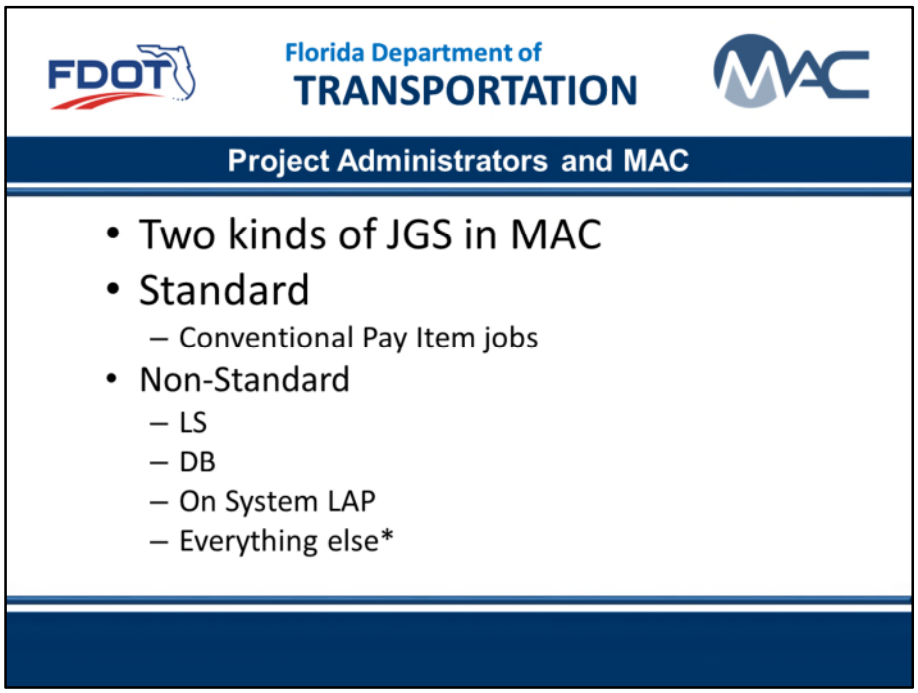


Here is an the example of a method of measurement This is a good example of our struggle when it comes to matching up pay items to materials.
Included:
Poles, Luminaires with lamps, Lowering Systems, Breakers
These are all under the Chemistry Lab because they are aluminum.
Anchor bolts with lock nuts and washers are under the Physical Lab because the bolt, nuts and washers are steel.

The Foundation is structural concrete and the method of acceptance is in a different place in the Section. The foundation can be precast or cast in place. If it's precast, the method of acceptance is a certification statement from the producer. If it is cast in place, it's sampling and testing.



Because these requirements are peppered all through FDOT contract documents, the Job Guide Schedule is intended to gather those requirements in one source for convenience. Does that mean the project personnel don't need to review the contract documents?
NO! Especially during the initial implementation period. As we will see in few minutes, there are a lot of background relationships that need to be in place and at first, some of these connections will be missed. The State Materials Office is relying on the PAs to assist with ensuring the JGS is 100% complete.

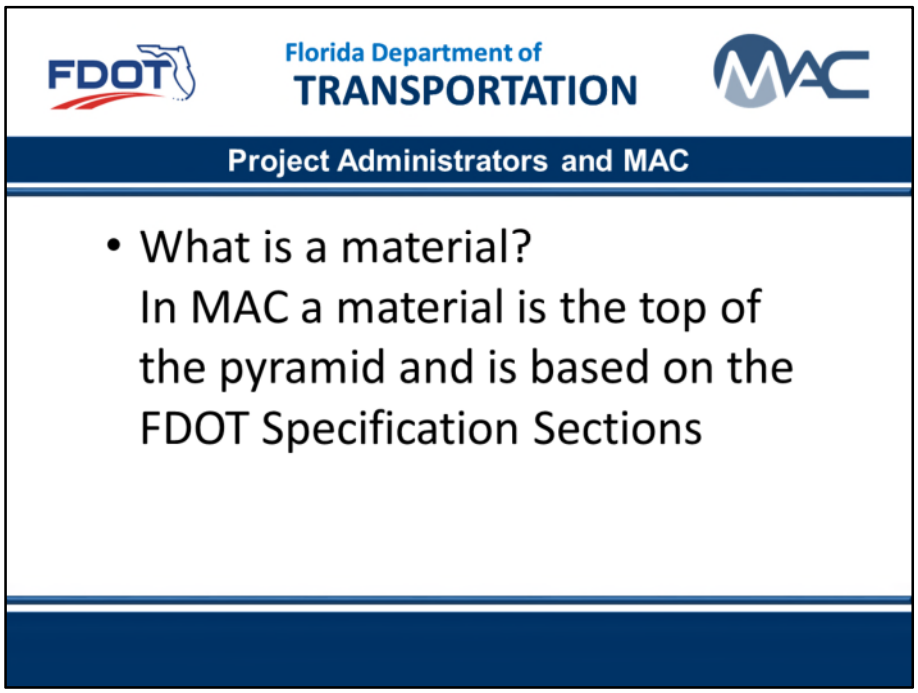


Depending on the pay items on you contract, you will have one of two types of JGS's in MAC.

Standard JGS

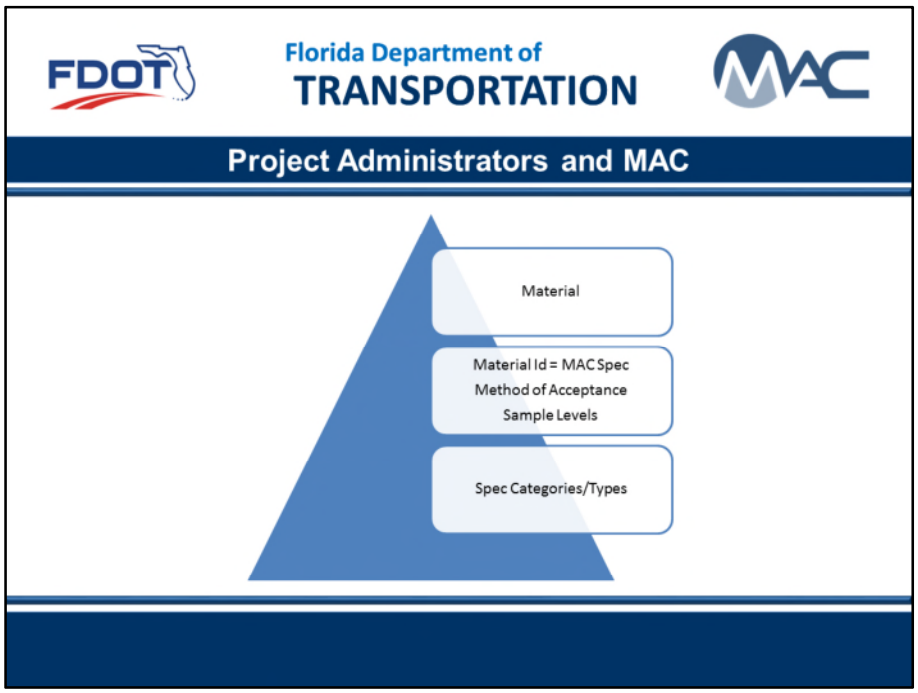
Non-standard JGS

Before we get into how the Standard JGS is created, we need to define some MAC terms – Material and Material Id.



To understand how the JGS is built, the PA needs to know the difference between a Material and a Material Id in MAC.

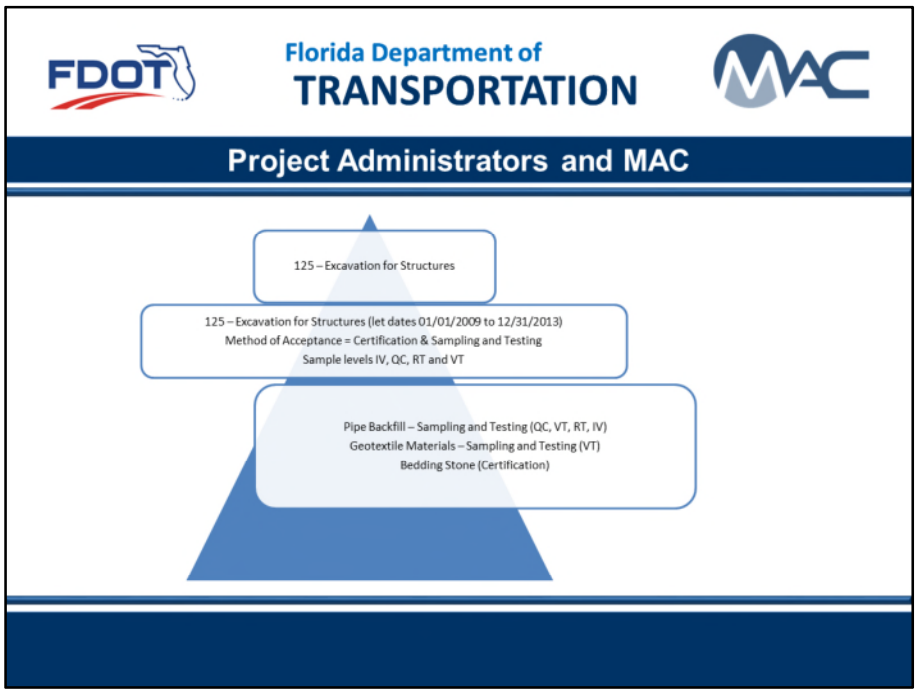
A material is the top of the pyramid. This is another difference from LIMS to MAC. In LIMS materials or material ids were based on old CQR codes. In MAC, materials are not the same as material ids. Materials are the Material number and descriptive title only. The MAC Spec Material Ids are based on the actual Specification Section or other governing document that houses the method of acceptance language for the material.



From the Material top of the pyramid, we branch off for Supplemental Specifications. Now we're talking MAC Material Ids.
Off the Supplemental Specification entries are branches for Workbook Editions

There isn't a workbook edition for every Specification Section for every workbook. If the basic method of acceptance requirements don't change, a MAC Spec workbook edition can span multiple FDOT workbooks.
Method of Acceptance – two types
Then for Sampling and Testing MOA – Sample levels and MAC Spec Categories and types

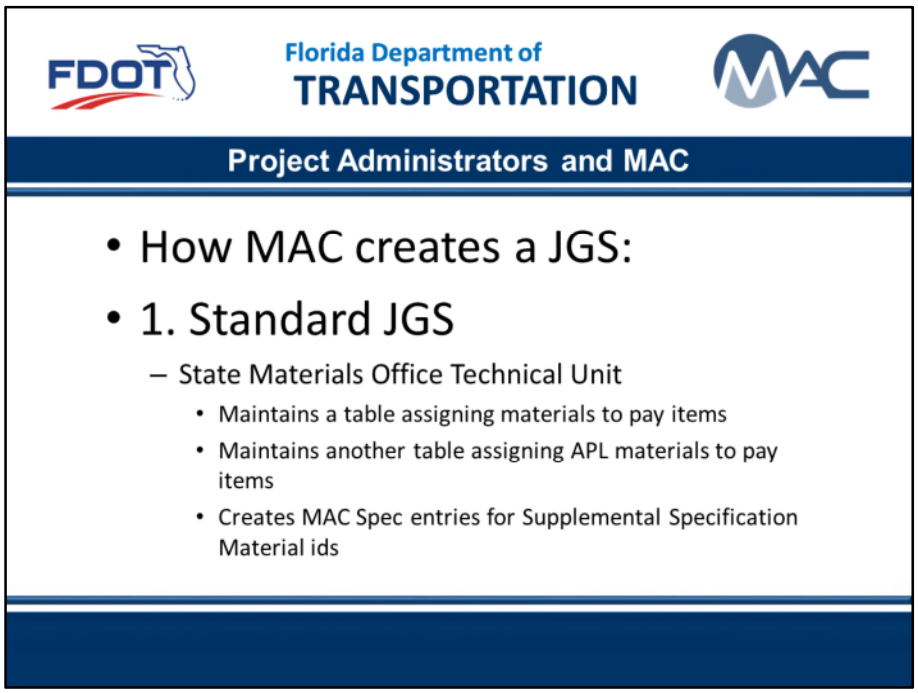
Categories are a way to break down a specific MAC Spec further and is usually driven by MOA requirements. Types is a further breakdown of categories. Not all MAC Specs will have types and the categories and or types will be different for each MAC Spec. So there's no standard definition of what a category or type is. It's what makes sense for the specific governing document.



Here is a specific example of a familiar material.

The Material is 125 – Excavation for Structures.
The material id is 125 – Excavation for Structures. That's the same thing, so what is the difference. The Material is only the listing of 125 – Excavation for Structures. . The Material id has all the details. For example it has two methods of acceptance, one for certification and one for sampling and testing. The certification is a certified delivery ticket for the bedding stone from the aggregate production facility.

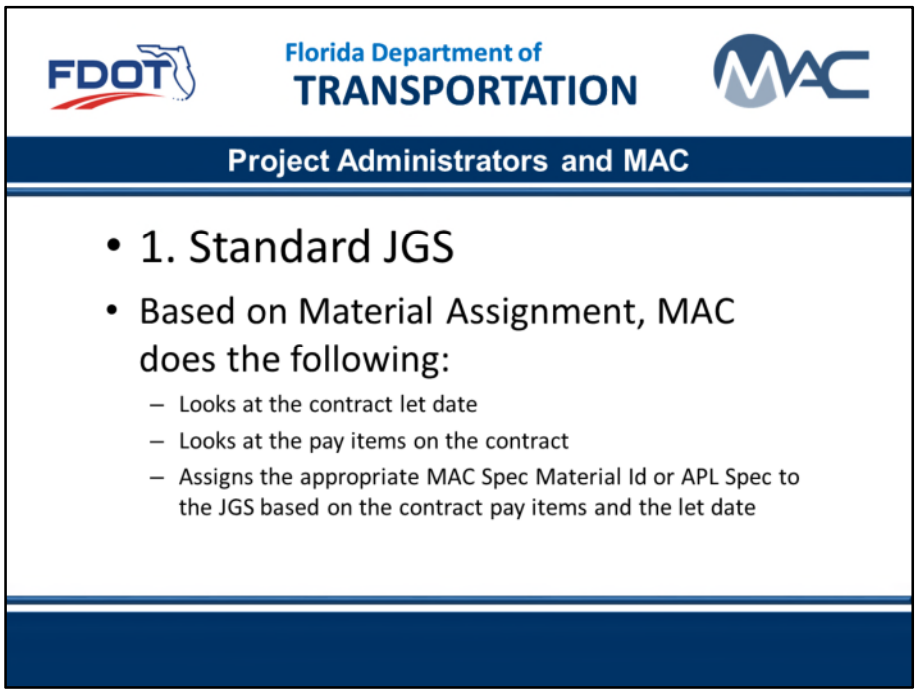
The sampling and testing has categories of
Pipe Backfill with sample levels of QC VT RT and IV
Geotextile Materials with a sample level of VT
There no types, just categories.



So, what MAC does do with those materials and how does it use them to create a standard JGS?

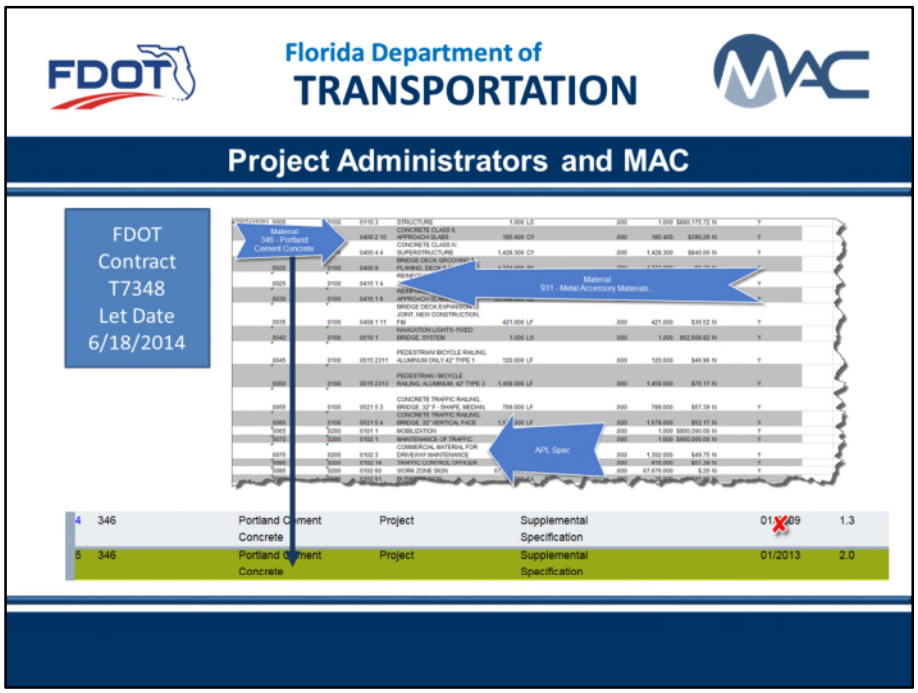
There are two tables in MAC that these materials get assigned to. One is the pay item table where the SMO technical unit assigns the material to the pay item. The other is the APL materials to pay items. They also create the entries for the MAC Spec Material Ids themselves.

Based on these assignments, MAC creates entries on the JGS for the Supplemental Specifications and APL items for those materials.



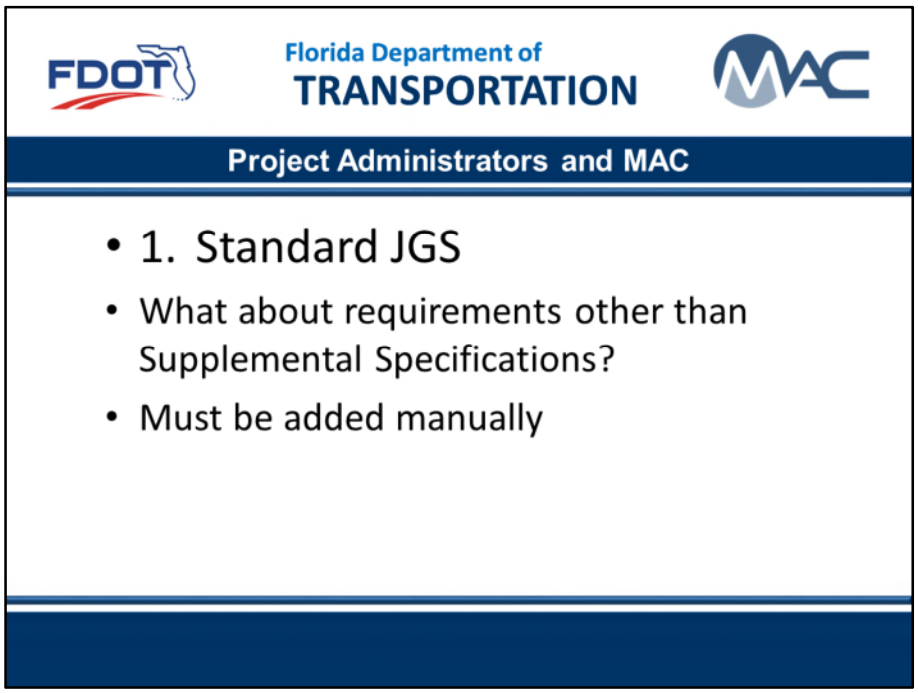
How does it know which ones?

It looks at the contract let date. It looks at the pay items on the contract. It assigns the MAC Spec or APL Spec to the JGS based on the pay items and the let date



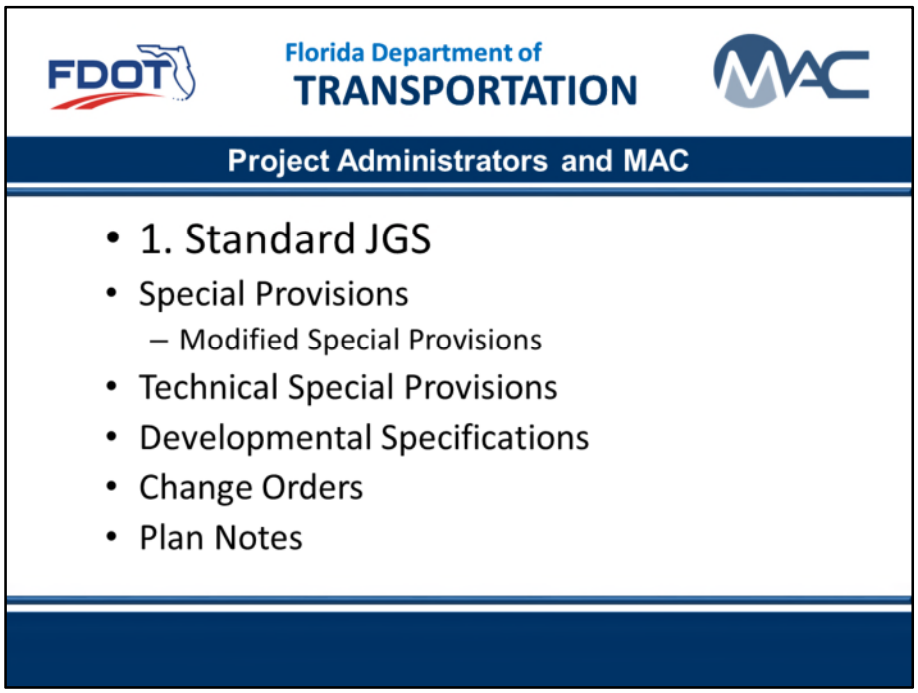
Here is a specific example for a contract let in June of 2014. Based on the pay items 400 2 10 and 400 4 4, MAC knows it needs 346 MAC Spec Material Id. 931 MAC Spec Material Id gets assigned because 415 pay items are assigned the 931 Material. It also knows from the 102 pay items to assign the APL Specs to the JGS.

From the let date logic, it knows to assign the workbook version of 346 that covers the 01/01/2013 forward and not the version that covers contracts let between 01/01/2009 – 12/31/2012.



You may be asking the question “What about Standard Specifications?”. The Standard Specifications are the Supplemental Specifications. Think of it in terms of workbooks. Supplemental Specifications are what is in the work book so that is what we base the MAC Spec Material Id entries on.

That explains how Supplemental Specifications get assigned. What about the other types of Spec? What about Change Orders and plan notes. There is no automatic process to add those materials. Even for Special Provisions with pay item usage notes, they don’t use this level of programming to get on a specific JGS. They must be added on a project by project basis.



What types of project specific requirements are we talking about?
Special Provisions (including modified Special Provisions), Technical Special Provisions, Developmental Specifications, Plan Notes and Change Orders that add to or modify the Supplemental Specification method of acceptance.

For these, the State Materials Office Technical Unit must create a MAC Spec Material Id for those requirements. These are assigned on a project by project basis.
Note that this only applies to changes to contract language modifying or adding to the method of acceptance requirements. If you have a Special Provision that revises the method of measurement or basis of payment, etc., these do not need to have a MAC Spec Material Id.

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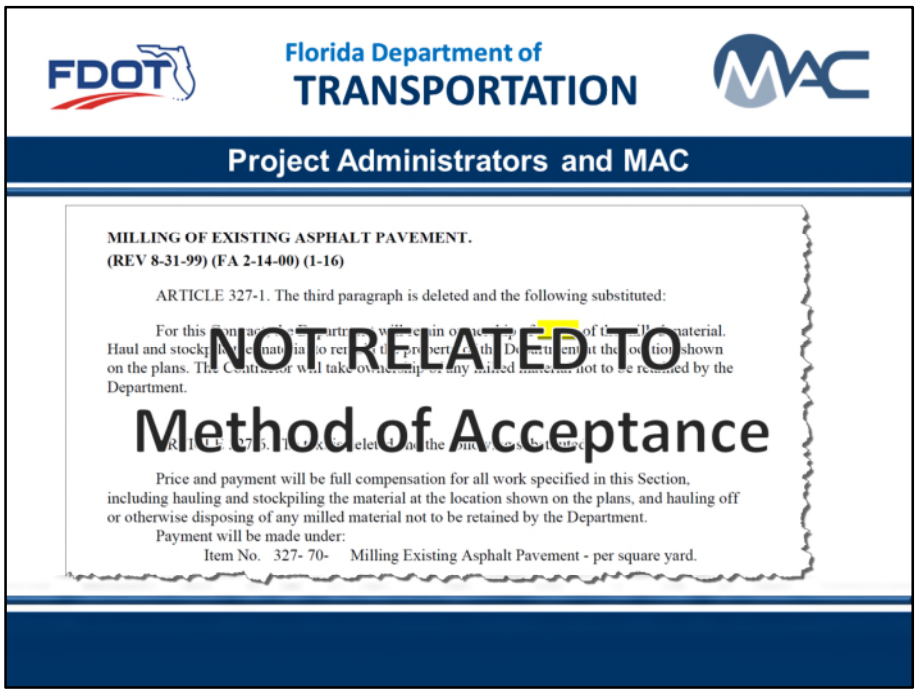

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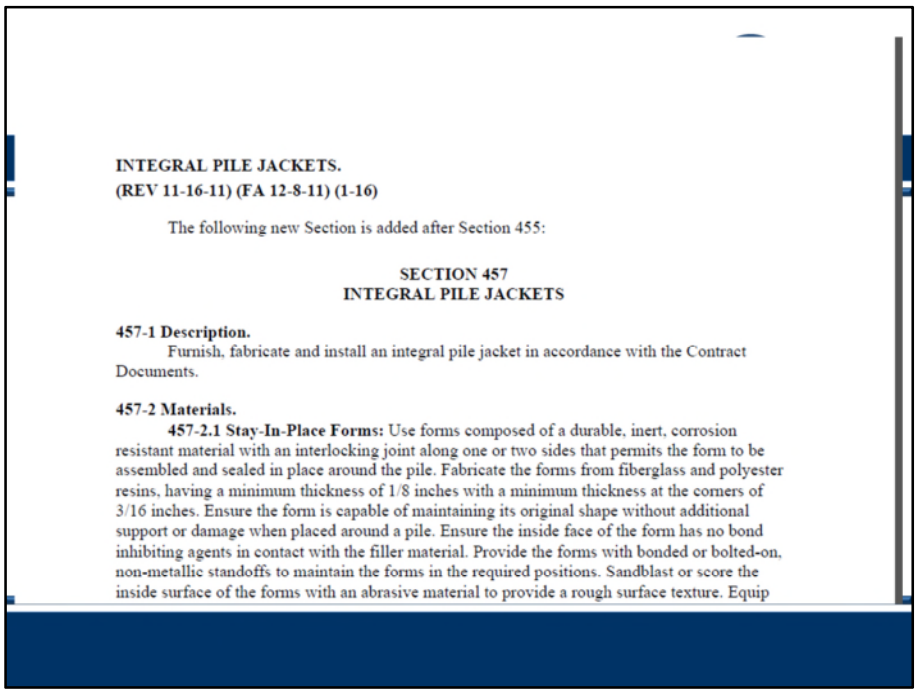


INTEGRAL PILE JACKETS.
(REV 11-16-11) (FA 12-8-11) (1-16)

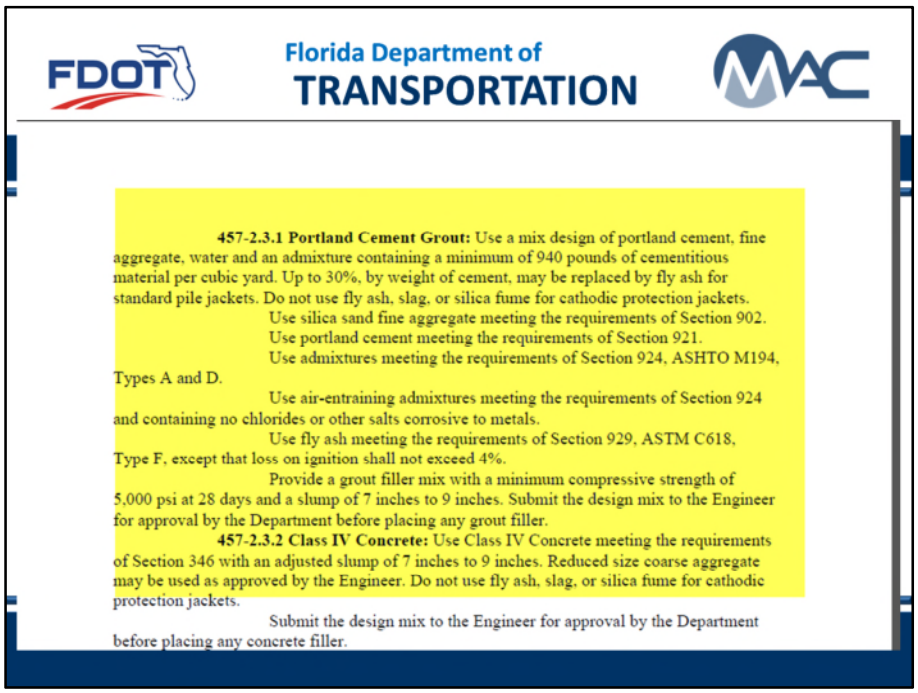
The following new Section is added after Section 455:

SECTION 457
INTEGRAL PILE JACKETS

457-1 Description.
Furnish, fabricate and install an integral pile jacket in accordance with the Contract Documents.

457-2 Materials.
457-2.1 Stay-In-Place Forms: Use forms composed of a durable, inert, corrosion resistant material with an interlocking joint along one or two sides that permits the form to be assembled and sealed in place around the pile. Fabricate the forms from fiberglass and polyester resins, having a minimum thickness of 1/8 inches with a minimum thickness at the corners of 3/16 inches. Ensure the form is capable of maintaining its original shape without additional support or damage when placed around a pile. Ensure the inside face of the form has no bond inhibiting agents in contact with the filler material. Provide the forms with bonded or bolted-on, non-metallic standoffs to maintain the forms in the required positions. Sandblast or score the inside surface of the forms with an abrasive material to provide a rough surface texture. Equip

This is an example of an SP **needing** a Project Specific MAC Spec and project Assignment.



457-2.3.1 Portland Cement Grout: Use a mix design of portland cement, fine aggregate, water and an admixture containing a minimum of 940 pounds of cementitious material per cubic yard. Up to 30%, by weight of cement, may be replaced by fly ash for standard pile jackets. Do not use fly ash, slag, or silica fume for cathodic protection jackets.

Use silica sand fine aggregate meeting the requirements of Section 902.

Use portland cement meeting the requirements of Section 921.

Use admixtures meeting the requirements of Section 924, ASHTO M194, Types A and D.

Use air-entraining admixtures meeting the requirements of Section 924 and containing no chlorides or other salts corrosive to metals.

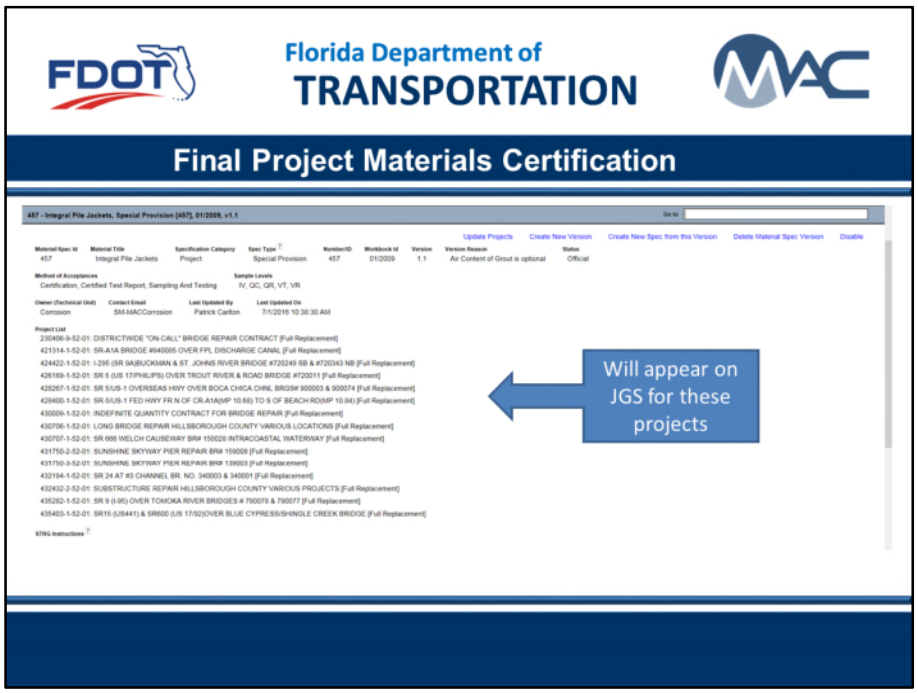
Use fly ash meeting the requirements of Section 929, ASTM C618, Type F, except that loss on ignition shall not exceed 4%.

Provide a grout filler mix with a minimum compressive strength of 5,000 psi at 28 days and a slump of 7 inches to 9 inches. Submit the design mix to the Engineer for approval by the Department before placing any grout filler.

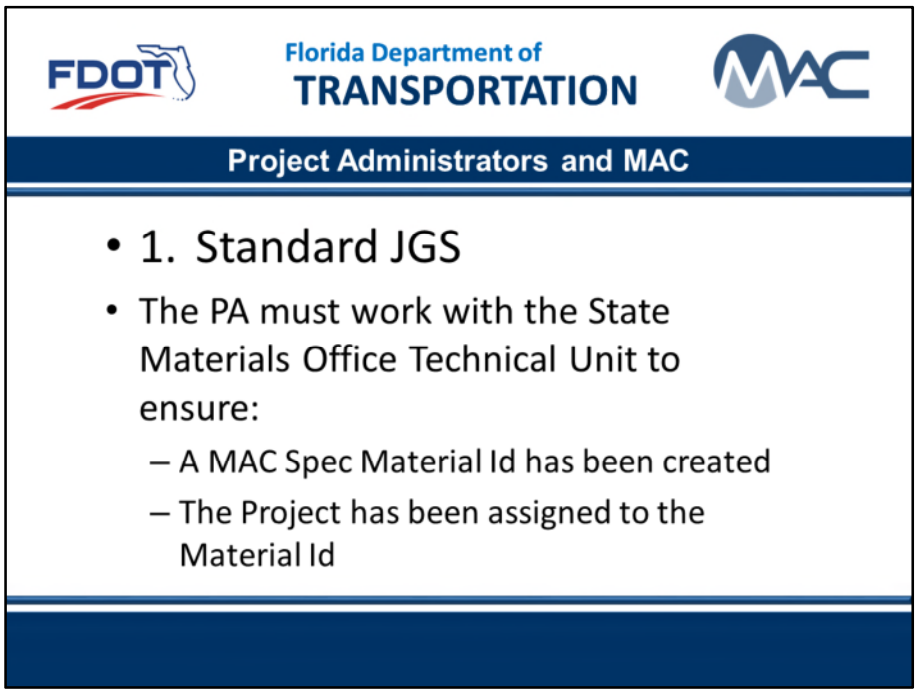
457-2.3.2 Class IV Concrete: Use Class IV Concrete meeting the requirements of Section 346 with an adjusted slump of 7 inches to 9 inches. Reduced size coarse aggregate may be used as approved by the Engineer. Do not use fly ash, slag, or silica fume for cathodic protection jackets.

Submit the design mix to the Engineer for approval by the Department before placing any concrete filler.

This is the specific method of acceptance language that describes the method of acceptance requirements. They are similar to Section 346, but not exactly the same so they need to have a different MAC Spec from Section 346 and the concrete samples under 457 need to be separate from 346 concrete samples.

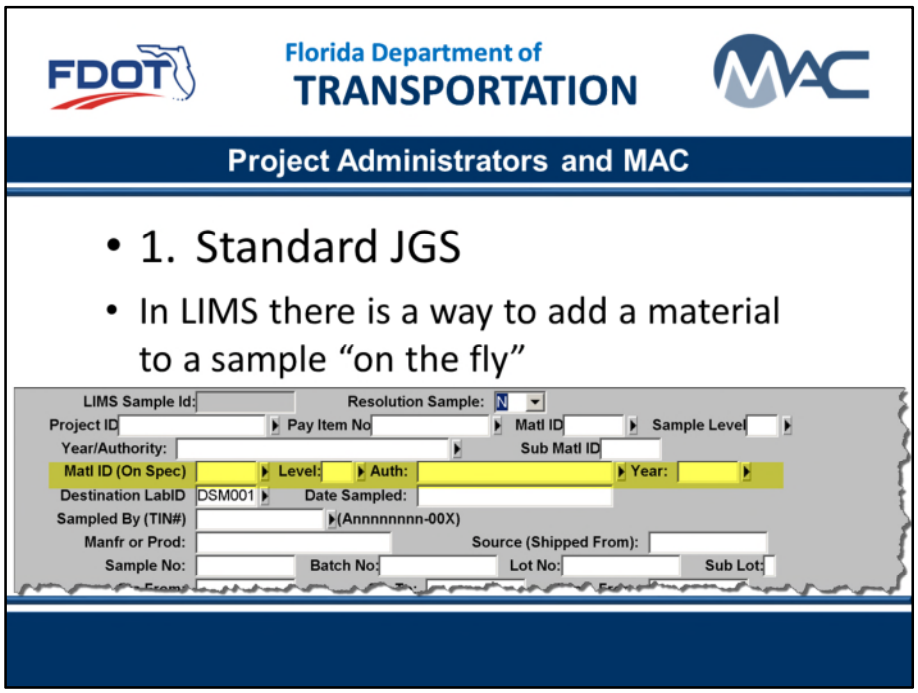


Here is the MAC Spec equivalent of the 457 Special Provision with project assignments.

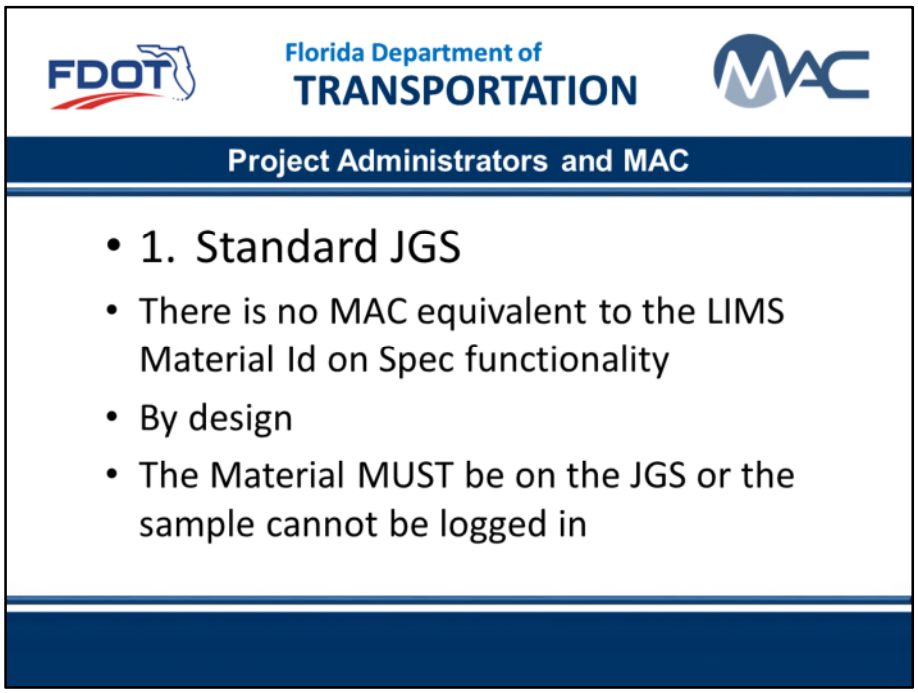


That shows you what must be done to get the entry on the JGS.

The PA MUST work with the appropriate State Materials Office Technical Unit to ensure:
The MAC Spec Material Id has been created – if not, it will need to be built. The SMO Technical Unit may need copies of the specific contract language.
Then ensure the Project has been assigned to the MAC Spec Material Id.



Why do you have to do this?
Because in LIMS there is a way to add a material to the contract on a sample "on the fly".
The process for contacting the SMO technical unit and having the project specific requirements is the same in LIMS as it is in MAC. This is not new. But as long as a LIMS material id existed, the data entry person could assign it directly on the sample on any project. This is more convenient, but it leads to samples being associated to the wrong acceptance requirements.



This functionality was intentionally not included in MAC. There is no “Material Id on Spec” feature. The PA MUST ensure that any project specific requirements are assigned ahead of time so that material is on the Job Guide Schedule. That way when it’s time to enter samples the material, the sample data entry personnel will have the entries needed to create the sample.

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Project Administrators and MAC

- 1. Standard JGS
- Do not wait until a material with project specific requirements is being placed and sampled
- TOO LATE

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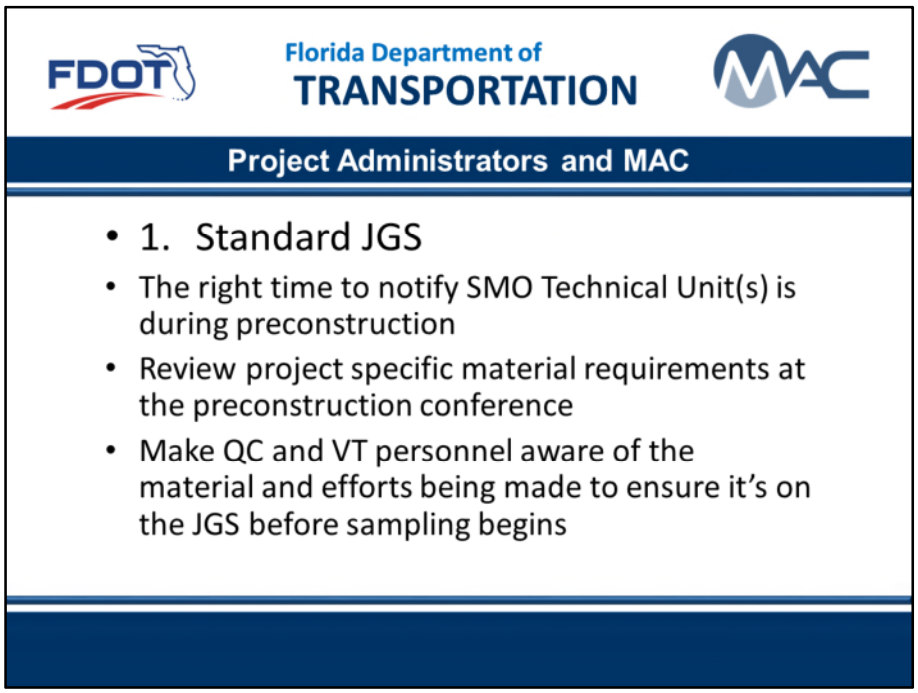
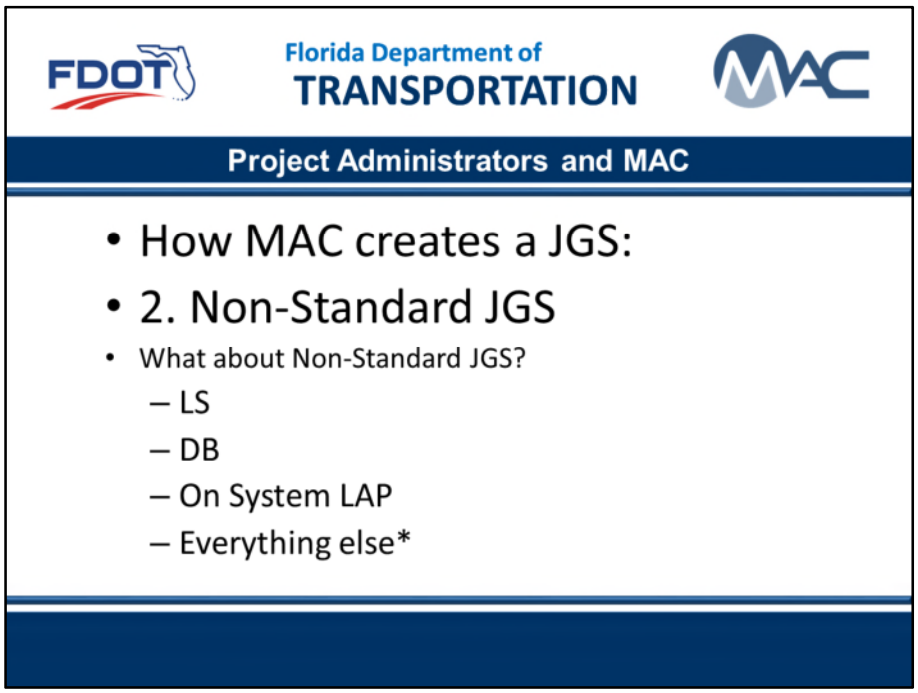
Project Administrators and MAC

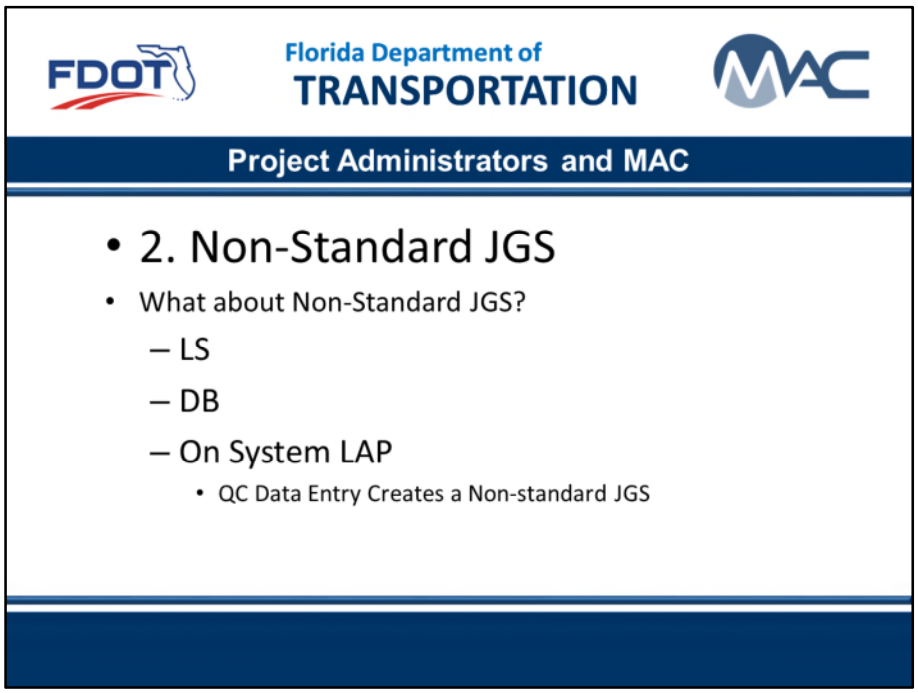
- 1. Standard JGS
- We may need time to:
- Review the contract
- Possibly discuss with EOR
- Build the MAC Spec Material Id if it doesn't already exist



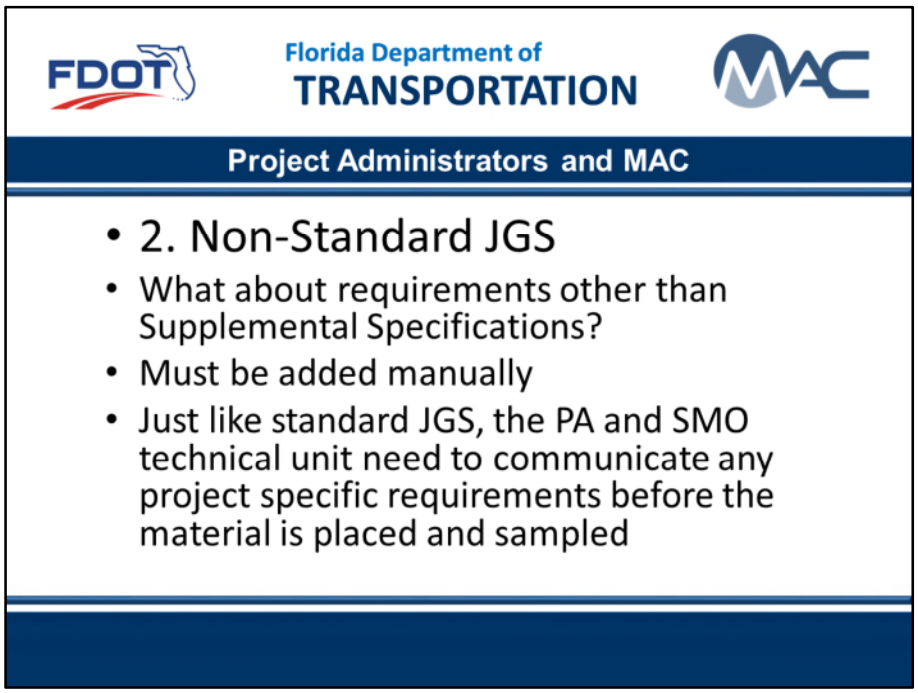
Please note that this is also the process for LIMS for project specific requirements. Most LIMS users don't know they are supposed to be doing this because Material Id on Spec allows them a workaround. However sometimes when this workaround is used, the wrong LIMS Spec was selected and the sample gets processed an analyzed under the wrong requirements. The MAC process of requiring the material to be on the JGS for sample login makes the users at all levels be more conscientious about ensuring the sample is being processed under the appropriate requirements.



What about contracts with only one pay item, like LS or DB? What about LAP contracts? What about other contract types?
There is a non-standard process in MAC for contracts without conventional pay items to have a JGS created.



Someone, usually a QC data entry person indicates the materials on the contract. This is for Lump Sum Contracts, Design Build Contracts and on system LAP contracts.



That takes care of the Supplemental Specifications. What about contract specific requirements?
Again the contract specific programming is used. The difference for non-standard JGS, is the project must be assigned to the MAC Spec Material Id to make the assignment available for the data entry person to select. In this case, the data entry person selects the specific Material Id.

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Project Administrators and MAC

- 2. Non-Standard JGS
- Everything else*
  - Non-standard JGS process will be used for all other FDOT contract types to determine if this process will work
    - Send feedback to MAC Application Coordinator if non-standard process is used
      - SCRAP, SCROP, CGIP, etc.

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Project Administrators and MAC

- 2. Non-Standard JGS
- Everything else*
- Contracts that don't go in MAC
  - LAP Off system
  - Non-FDOT contract (DEP, DOA)
  - If we're not certifying it, we don't need it in MAC
    - Except for FDOT contracts that would be certified except for FDOT policy (less than 250K, etc.)
      - They still go in MAC

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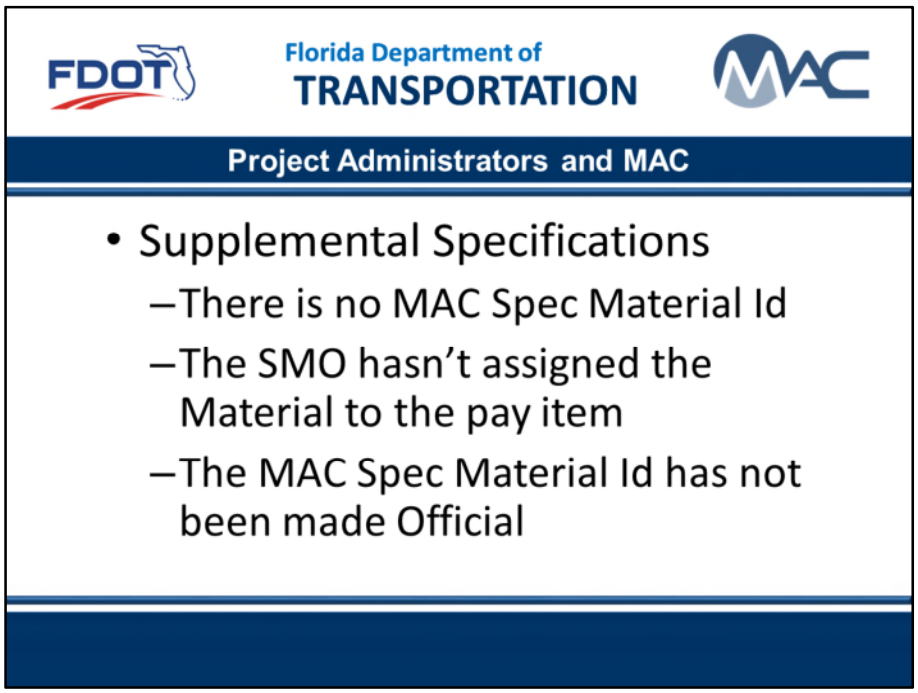
Project Administrators and MAC

- So you've reviewed the JGS and all the materials are there, but at login the MAC Spec Material Ids aren't showing up
- Why Not?



Supplemental Specifications

There is no MAC Spec Material Id

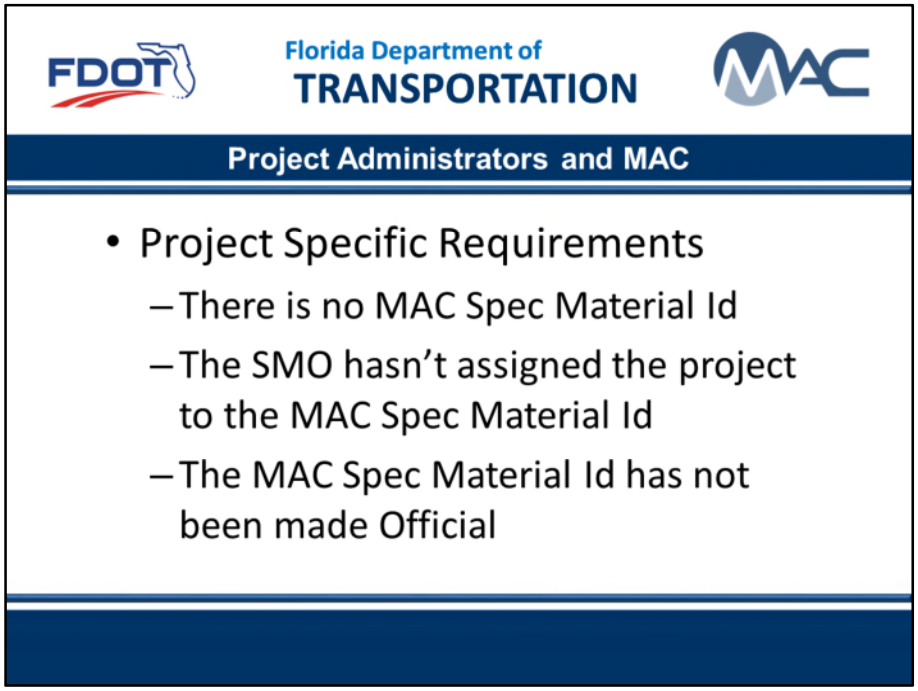
Implementation

Can happen when a new workbook comes on

The SMO hasn't assigned the Material to the pay item

The MAC Spec Material Id has not been made official. The SMO Technical Unit has created the MAC Spec Material Id Id but it is still in Draft status.

The PA should get with the SMO Technical Unit for any of these.



Project Specific Specifications

There is no MAC Spec Material Id

Implementation

Can happen when a new workbook comes on

The SMO hasn't assigned the project to the MAC Spec Material Id

The MAC Spec Material Id has not been made official. The SMO Technical Unit has created the MAC Spec Material Id but it is still in Draft status.

The PA should get with the SMO Technical Unit for any of these.

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- Now that we have all our materials on the JGS, we are ready to start sampling and testing and collecting certifications

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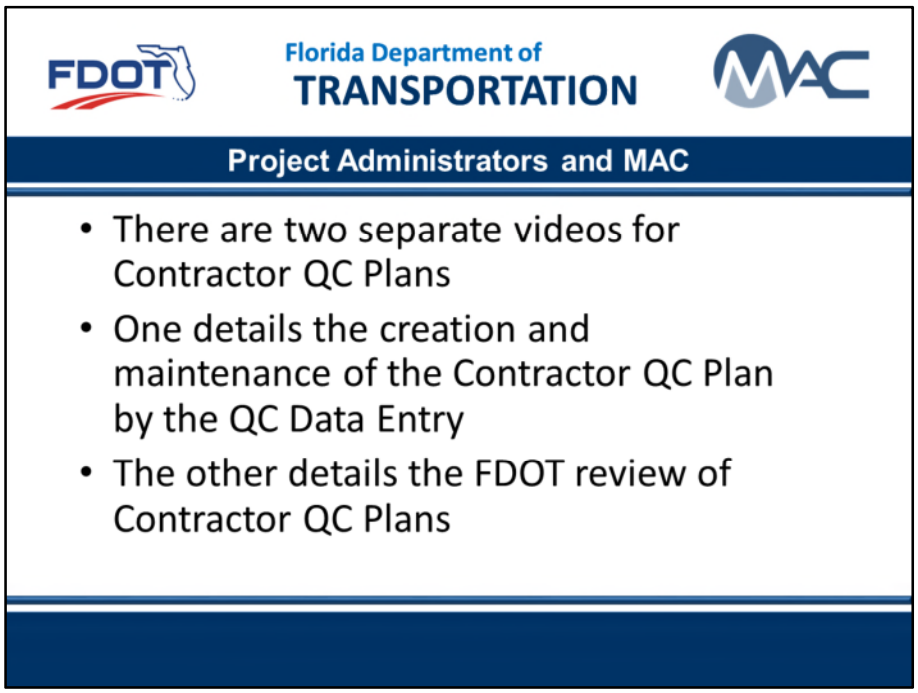
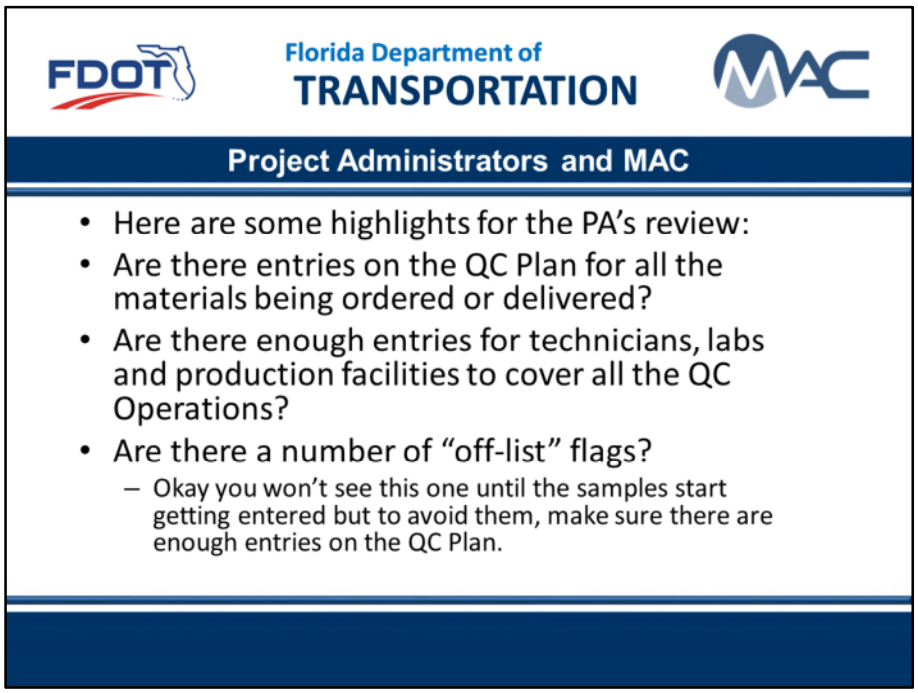
Project Administrators and MAC

- Besides JGS, there is one other MAC entry that impacts Sample Life Cycle
- The Contractor Quality Control Plan



Another thing the PA needs to do to prepare for the work to begin is review the initial Contractor QC Plan entry and ensure the Contractor is keeping the Contractor QC Plan up to date. There are instructions and a video with the details.



Here are some highlights:
Are all the materials that are being delivered or ordered listed? Are the sources provided?
Are there a number of "off-list" entries on samples? If so, it might be an indicator that the Contractor QCP is not being kept up to date.

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Project Administrators and MAC

- Now you have:
- A JGS
- A Contractor QC Plan
- Work has started
- Materials are being sampled and tested
- Certifications are being collected and reviewed

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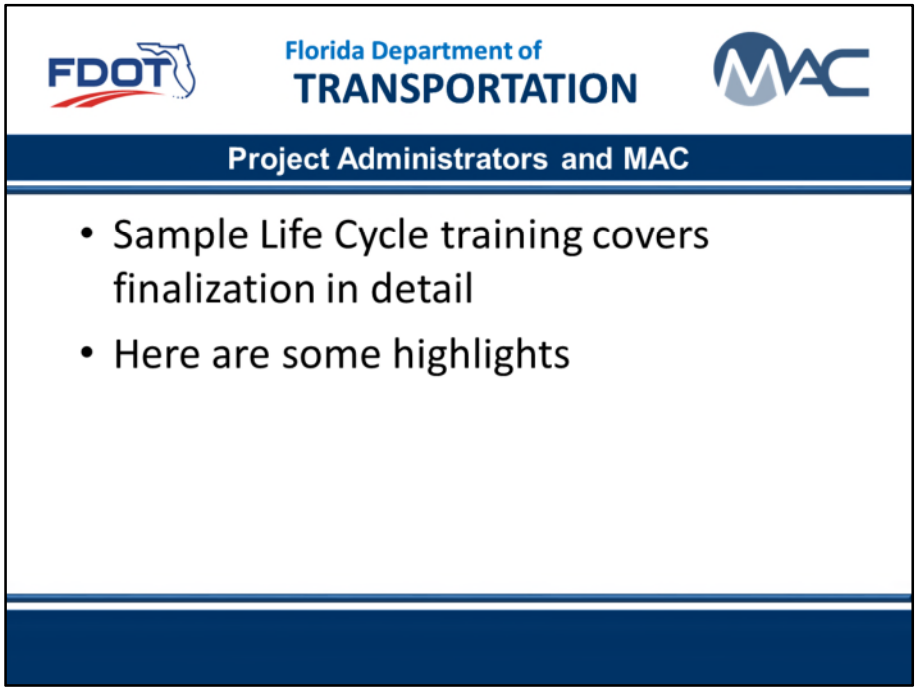
Project Administrators and MAC

- PA should:
- Review Sample status
  - Are samples being entered and processed timely?
  - VT no longer has to wait for QC to be done
- Finalize project samples – ALL Project Samples, even ones tested by SMO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MAC
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• Sample Life Cycle training covers finalization in detail
• Here are some highlights

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- Most project samples cannot be multi-finalized:

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- Why not?
- Because sample and test data are used in the comparison logic
- Before you put the samples in a comparison package, you need to verify that the sample and test data is correct and complete

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Project Administrators and MAC

- MAC Sample Finalization Guidelists for
  - Asphalt
    - PA role may be assigned to Asphalt VT or Resident Asphalt Specialists
    - Check with Local DAC
  - Earthwork
  - Concrete

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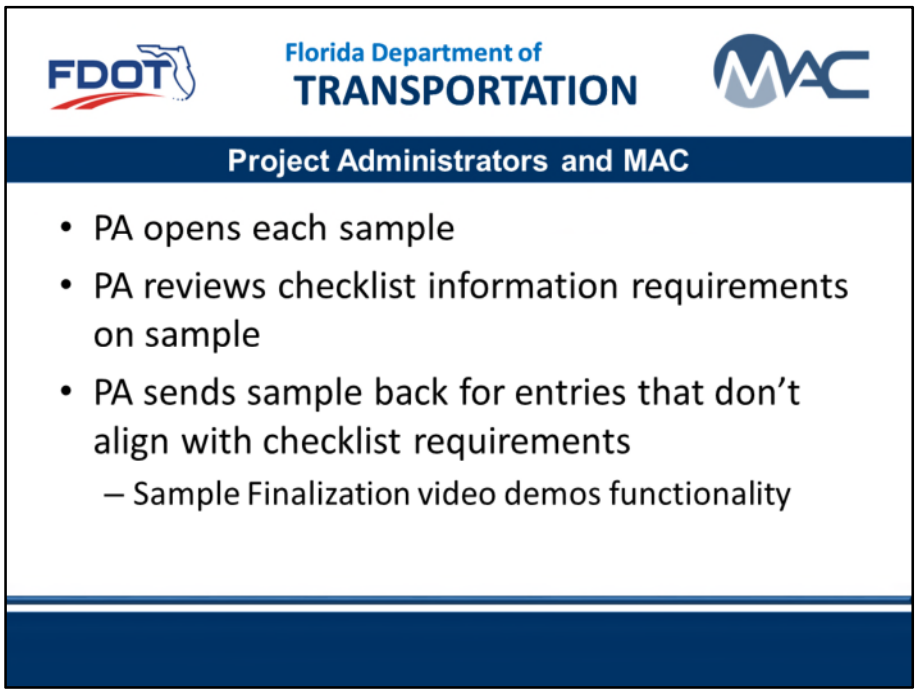
- Checklists are available on the MAC training website


State Materials Office / Programs and Services / MAC Development / Training

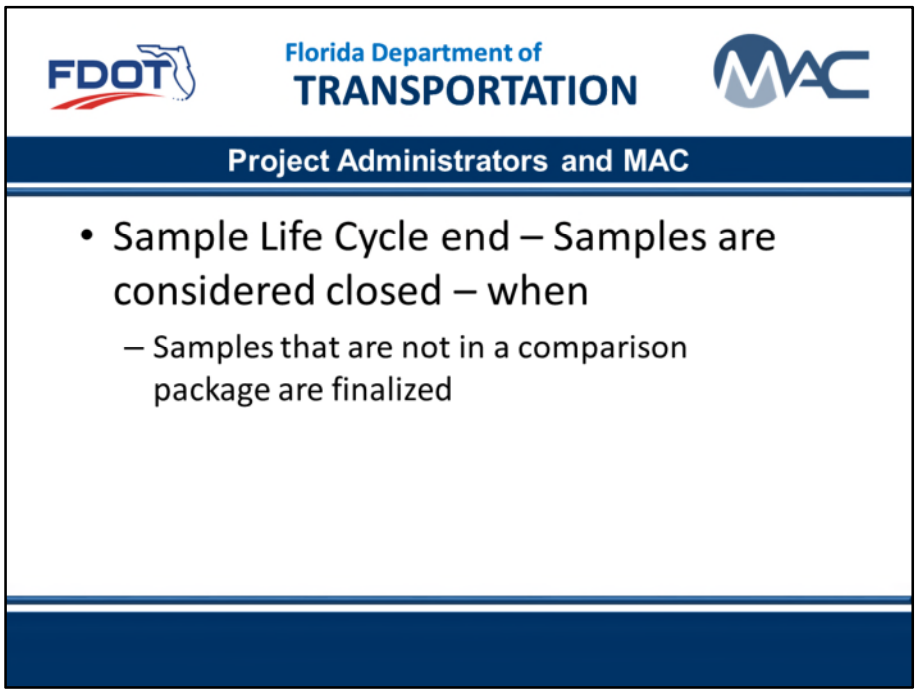
MAC Training

Access Instructions | Contacts | Documents for Industry | Presentations | Production Environment | Training

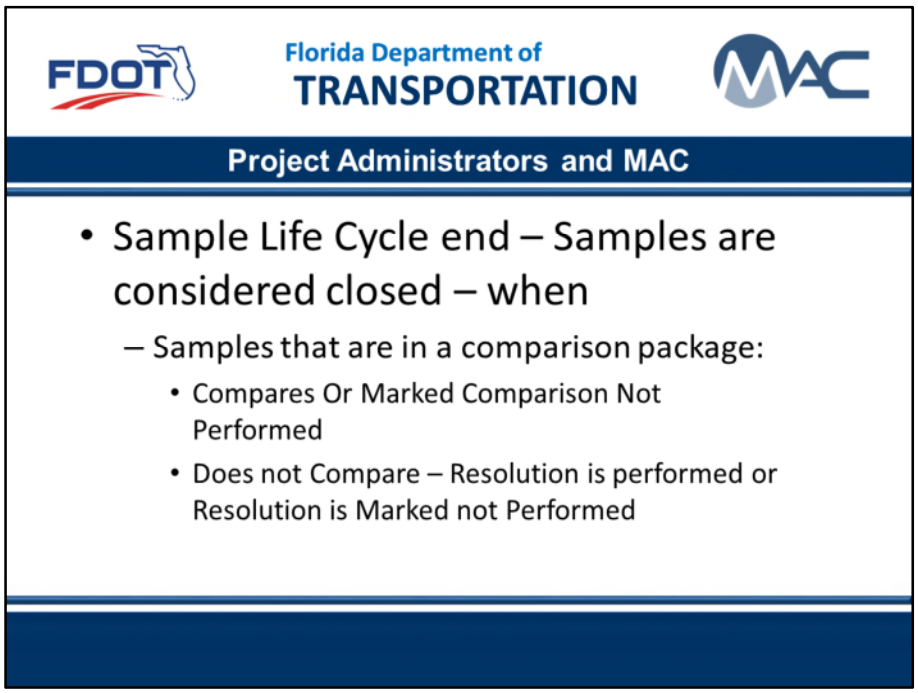
		Training Materials
01	Pre-Registration/Pre-Training	-- Company and System Role Definitions (PDF-107KB) -- Guidelines for the Project Administrator System Role (PDF-107KB) -- Registration Form -- What you need to do before class/What to bring to class (PDF-94.9KB) -- Master Schedule (XLSX-30KB)
02	Sample Life Cycle Information	-- Sample Life Cycle How To (PDF-3.24MB) -- Concrete Sample Information (PDF-541KB) -- Concrete Sample Data - Example (PDF-442KB) -- Soils Sample Information -- Soils Sample Data - Example -- Materials Certifications Findings and Materials Acceptance Resolution (MAR) (PDF-6.30MB)
03	Training and Practice Environments	-- Training Environment (For training preparation and sessions) -- Practice Environment (For attendees to practice skills learned in sessions after attending a session)
04	Sample Finalization Guide Lists	-- Sample Finalization for Asphalt (PDF-543KB) -- Sample Finalization for Structural Concrete Materials (PDF-474KB) -- Sample Finalization for Soils/Earthwork Materials (PDF-474KB)



PA opens each sample
PA reviews checklist information requirements on sample
PA sends sample back for entries that don't align with checklist requirements



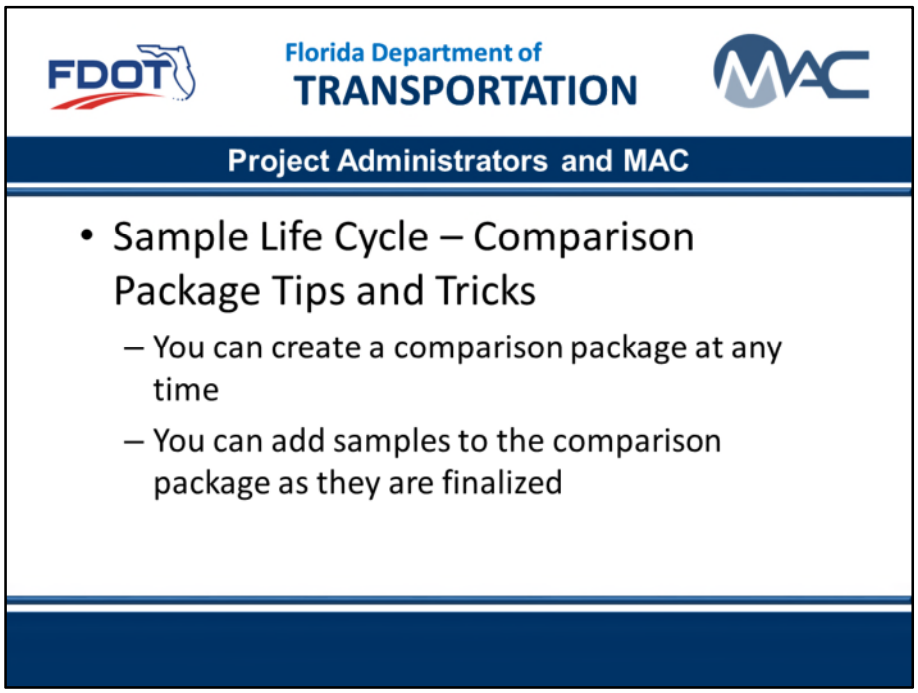
When is a sample closed in MAC? It depends on the sample
Samples that are not included in a comparison package (like reinforcing steel) are considered closed when they are finalized.



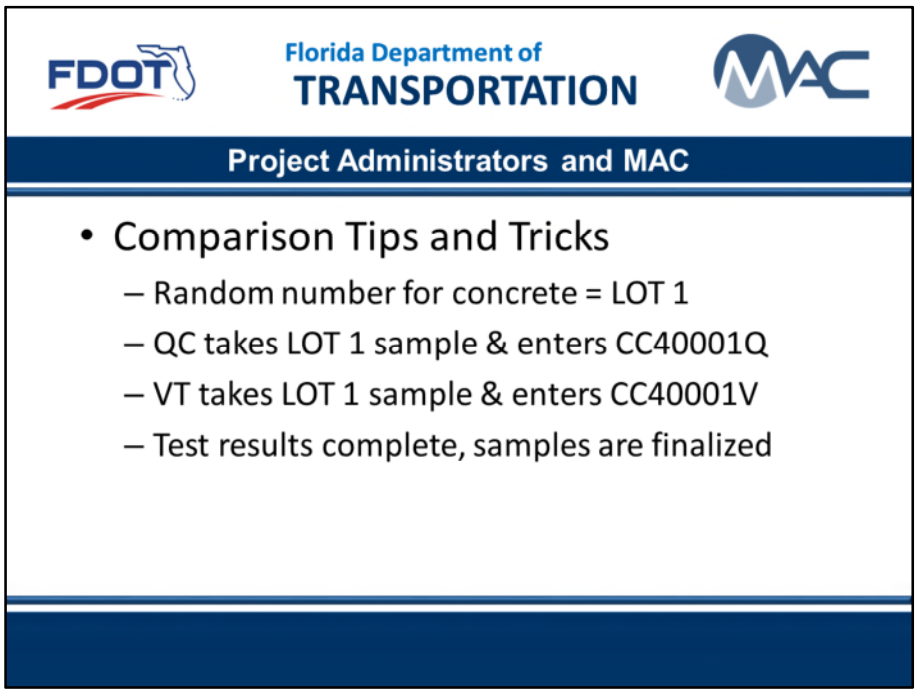
Samples that are in a comparison package are considered closed when they are in a comparison package and either
The comparison status is Compares or
The PA user indicates that the comparison was not performed

If the status is Does not Compare, the samples in the comparison package are not considered closed until the resolution is performed or the PA indicates the resolution was not performed

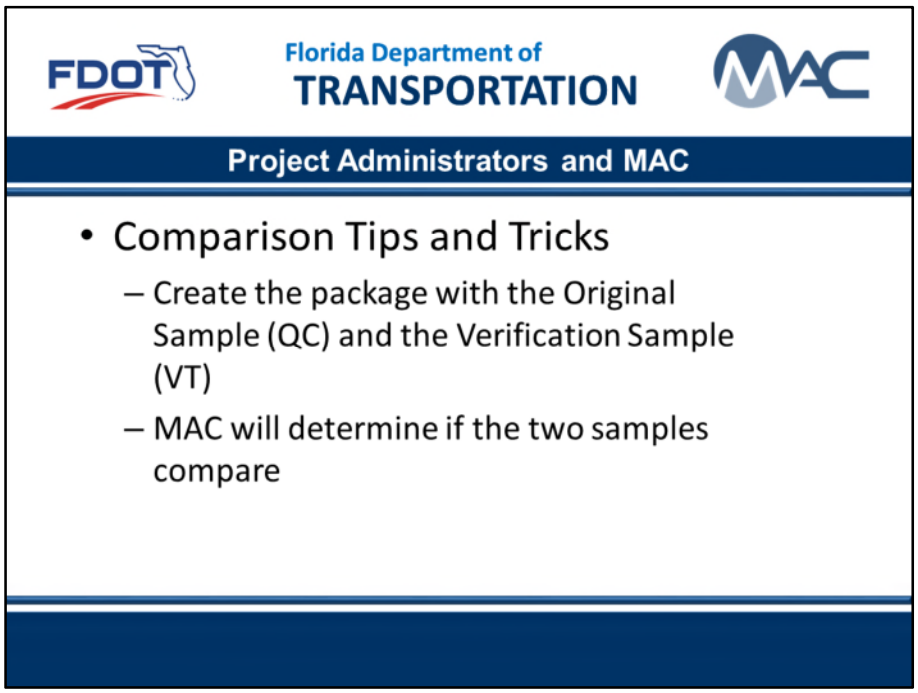
It is essential that the PA is creating comparison packages and running comparisons in a timely manner to ensure that if Resolution is needed, it is being performed within the time restraints for the material.



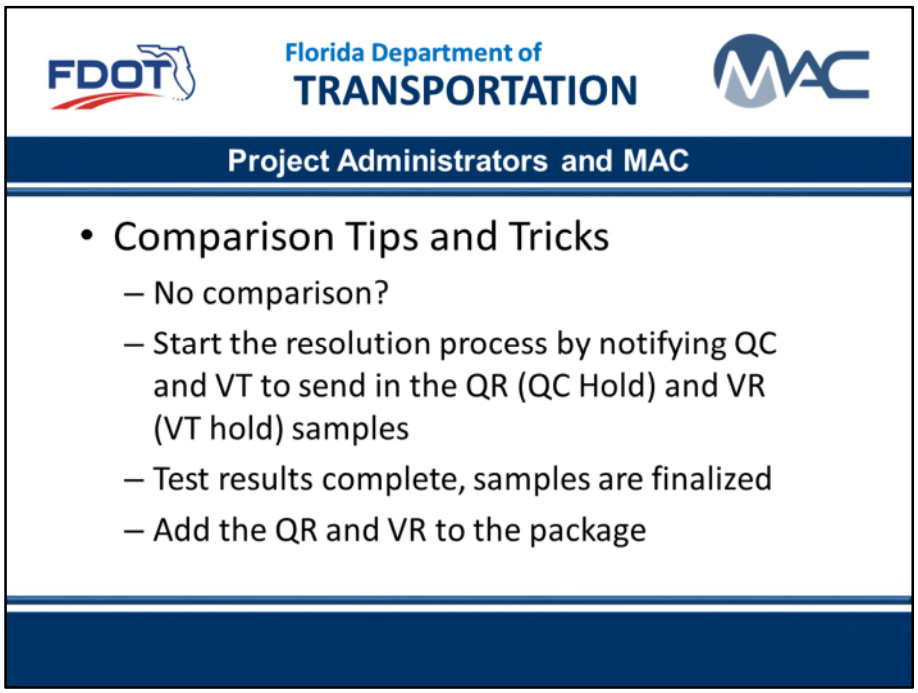
So do you have to have a full set of samples, Original, Verification and all associated samples to create a comparison package?
The answer is No, you can create a comparison package at any time and add additional samples to the comparison package as they are finalized.



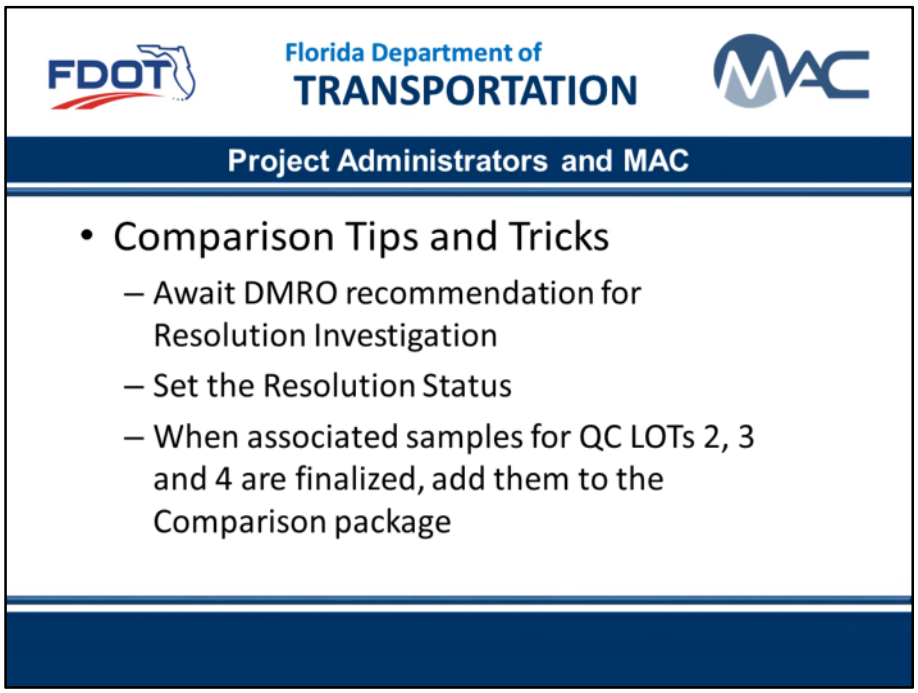
Let's look at a specific example, Say the random number for VT lot came up as LOT 1.
Wait for QC and VT to process the samples and submit them to FDOT for finalization.



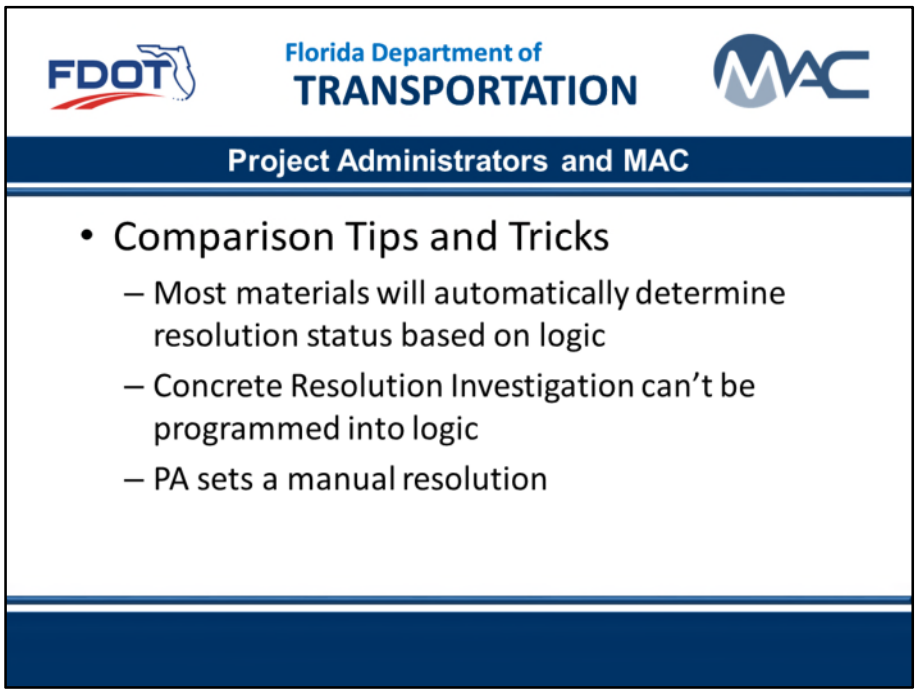
You can create a comparison package with just these samples. MAC will determine if resolution is needed. This means the PA can use MAC to determine the comparison status and still meet the resolution time limits. You don't have to wait for all four lots to be complete.



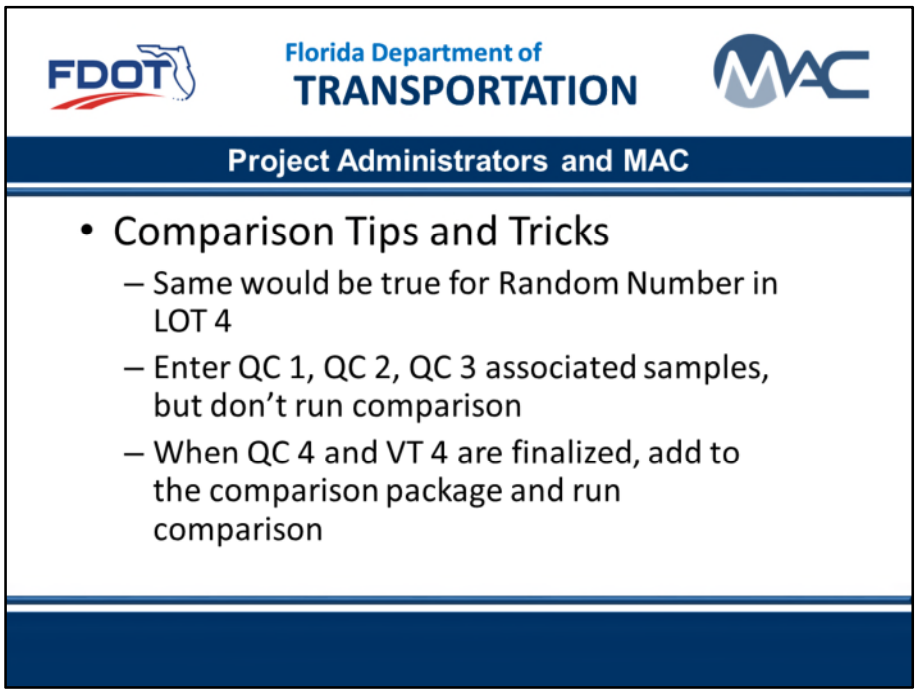
If MAC says that the QC and VT don't compare, now you have time to get the resolution process started. Notify QC to enter the QR sample level (this is the QC hold cylinder) and the VT to enter the VT sample level (this is the VT hold cylinder. When the QR and VR samples are finalized, you can add them to the comparison package. We still don't have the other QC samples for LOTs 2, 3, and 4 and that's okay.



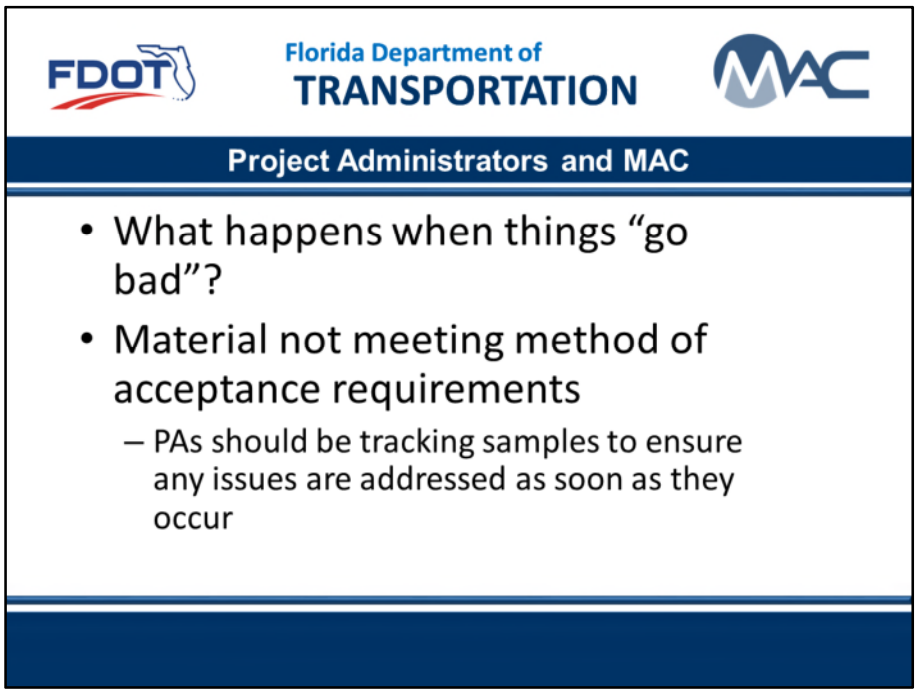
Because resolution for concrete requires a resolution investigation that is conducted by the DMRO, await for their notification. Note: this happens outside of MAC via phone call or email. When you get the resolution status, go back in the system and set it manually. Assuming there will be more LOTs of concrete, you still don't have the QC associated samples for this comparison package. It may be quite some time before the rest of the LOTs are placed. As they are finalized, you can go back into the comparison package and add them as associated samples so they can be considered closed.



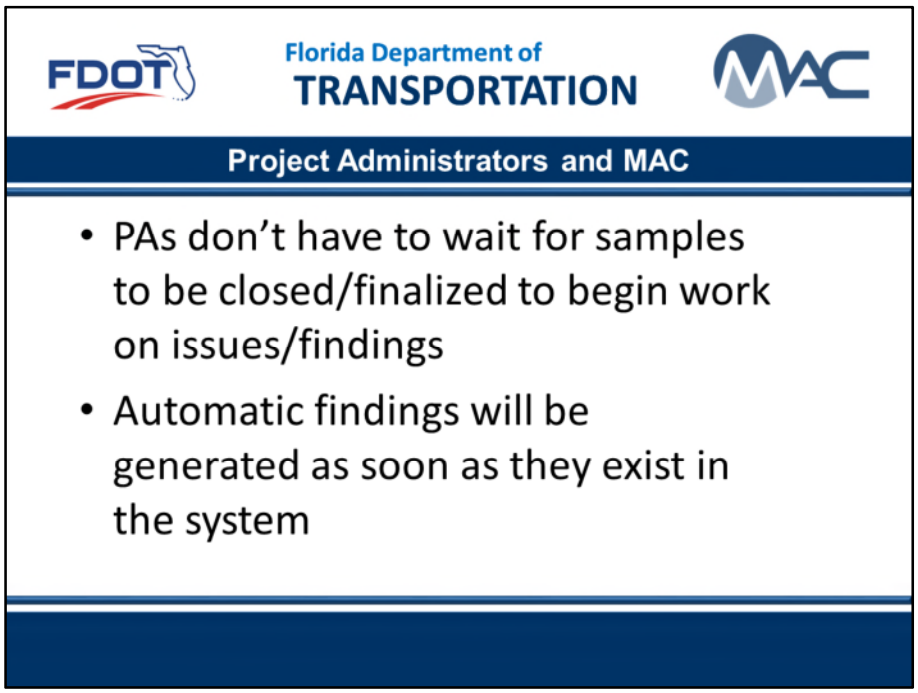
The manual resolution status applies to concrete only. Other materials have programming logic to determine the resolution status. There's no way to program MAC for any of the considerable number of items that could be in a resolution investigation and they are all optional. So it's a manual selection made by the PA.



Okay so what about when the random number says the VT sample should be taken in LOT 4. This is not as critical because it's not holding up resolution, but you can still add the samples to a comparison package so they can be considered closed. Just create the package and add the samples. But don't run comparison. The system won't let you anyway until you have a VT sample. When QC and VT for LOT 4 are available, add them to the package as the original and verification samples and run comparison.



The PA needs to be tracking samples to ensure that everything is going well according the materials acceptance requirements and reacting when materials acceptance requirements are not met. As soon as materials acceptance issues arise, the PA should be addressing them.



Some issues will appear as soon as the sample is created. This are known as automatic findings. The PA does not have to wait for the sample to be closed to begin documenting how the issue is addressed.

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Project Administrators and MAC

- Automatic findings are generated based on conditions
- If the condition goes away, the finding can be excluded

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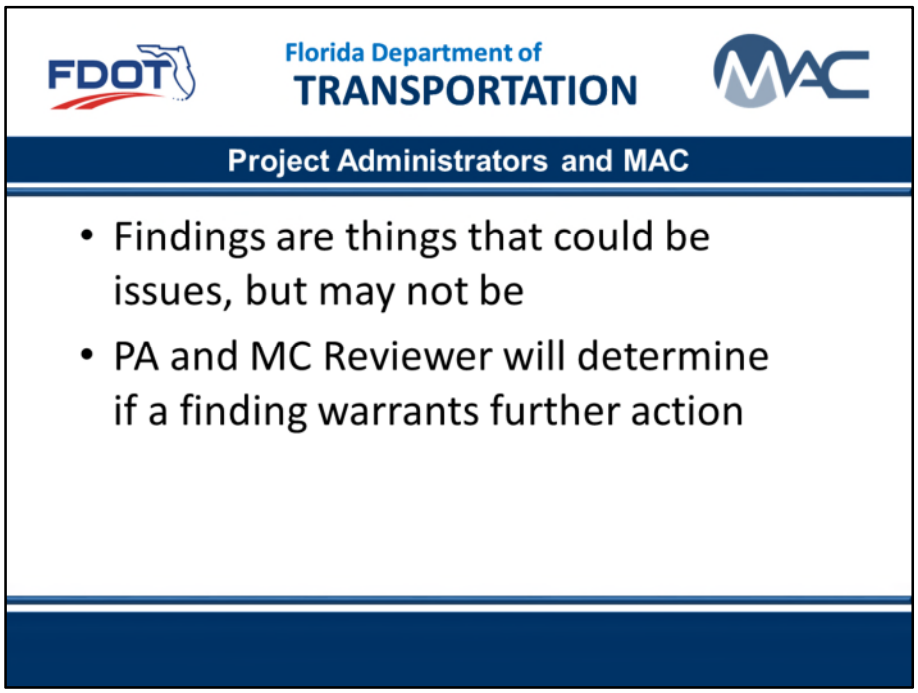
Project Administrators and MAC

- Materials Office Materials Certification personnel will generate the MC Review in MAC as soon as the contract begins
- This triggers the automatic findings



Not all findings will need the PA's response. The MC Reviewer may indicate that a finding is excluded even before the PA has a chance to respond. If a finding needs a PA's response, the MC Reviewer may decide the finding needs no further action based on the PA's response.

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Project Administrators and MAC

	1600013629/Test ASTM C143 Slump of Hydraulic Cement Concrete is not Qualified			Slump of Hydraulic Cement Concrete			
158	Tester [F12345678] on Sample 1600013629/Test ASTM C173/ASTM C231 Air Content of Freshly Mixed Concrete is not Qualified	System	1600013629 QC	ASTM	Submitted	7/7/2016	View Details
159	Tester [M12345678] on Sample 1600013629/Test ASTM C39 Compressive Strength is not Qualified	System	1600013629 QC	ASTM C39 Compressive Strength	Submitted	7/7/2016	View Details
160	Tester [F12345678] on Sample 1600013629/Test FM 5-501 - Early Sampling for W/C Ratio is not Qualified	System	1600013629 QC	FM 5-501 - Early Sampling for W/C Ratio	Submitted	7/7/2016	View Details
161	Sampler [T40052179] on Sample 1600013630 is not Qualified	System	1600013630 QC		Submitted	7/7/2016	View Details
162	Tester [F12345678] on Sample 1600013630/Test ASTM C1064 Temperature of Freshly Mixed Portland Cement Concrete is not Qualified	System	1600013630 QC	ASTM C1064 Temperature of Freshly Mixed Portland Cement Concrete	Submitted	7/7/2016	View Details
163	Tester [F12345678] on Sample	System	1600013630 QC	ASTM C143	Submitted	7/7/2016	View Details

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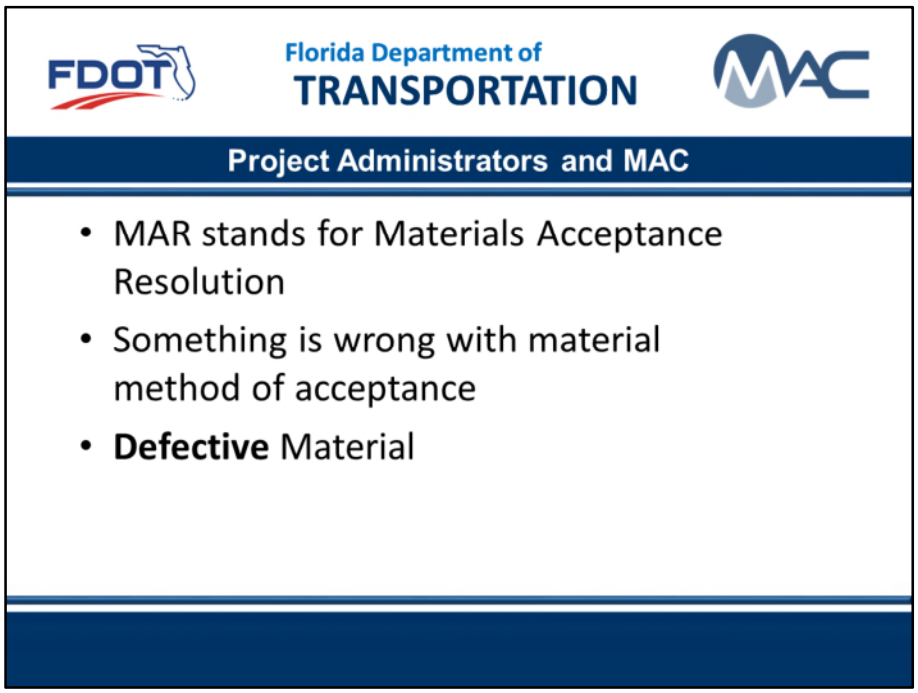
Project Administrators and MAC

- If the PA and MC Reviewer determine if a finding warrants further action
  - Promoted to MAR
- What is MAR?



Let’s discuss in more detail what makes a material defective.

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Project Administrators and MAC

- Defective Material is defined as any material not meeting the Specification requirements
  - Not just failing test results
  - That is not the only thing that makes a material defective

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Project Administrators and MAC

- Defective Material is defined as any material not meeting the Specification requirements
  - There are a lot of things that could "not meet the specifications" that has nothing to do with method of acceptance

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Project Administrators and MAC

- NOT A MAR
  - Inspection Items
    - Rebar Placement
    - Cross Slope
  - MOT Items
    - Not enough devices
    - Striping not sufficient

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Project Administrators and MAC

- Materials Acceptance Resolution (MAR)
- Is restricted to issues that would result in an Exception on the Project Materials Certification Letter
- What are Exceptions?

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Project Administrators and MAC

- There are 3 categories of PMCL Exceptions (MM 5.4)
- Material Acceptance
  - Failing Test Results
  - Issues promoted to MAR
  - Missing Reports

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Project Administrators and MAC

- Minimum Frequency
  - Not enough sampling and testing
  - Required tests not performed
  - Required comparisons not performed
  - Required Resolution not performed

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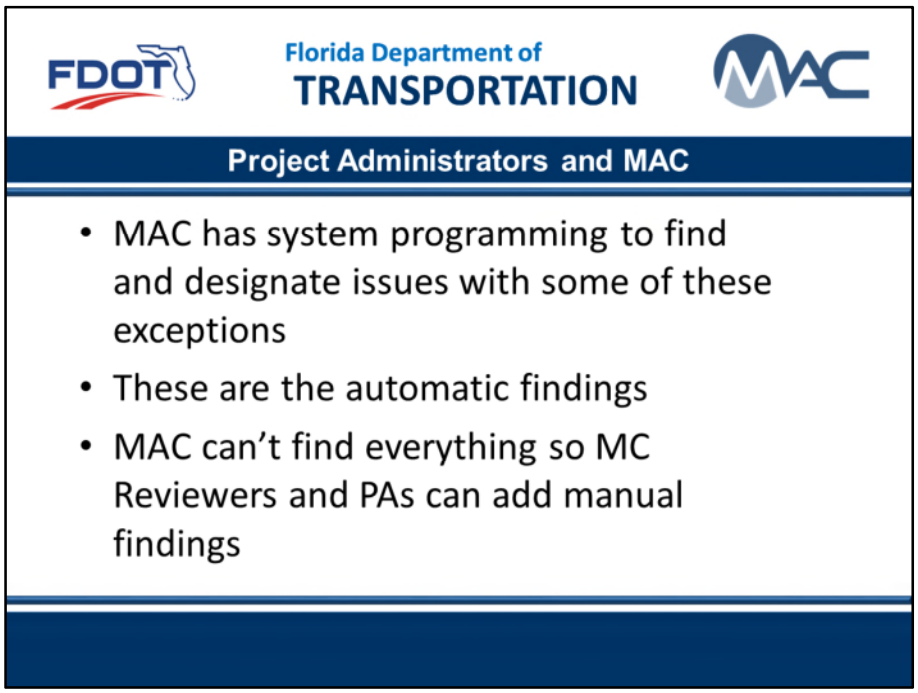
Project Administrators and MAC

- Qualifications
  - Unqualified Technicians
  - Unqualified Labs
  - Producers with QC Plans in any status other than Accepted*
    - Not always picked up by an automatic finding
    - Need a manual finding for some producers



Read from slide

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Project Administrators and MAC

- Speaking of Manual Findings
- The PA can create a manual finding at any time
- Manual findings created by the PA go right to MAR
- Manual findings can be connected to a system finding later

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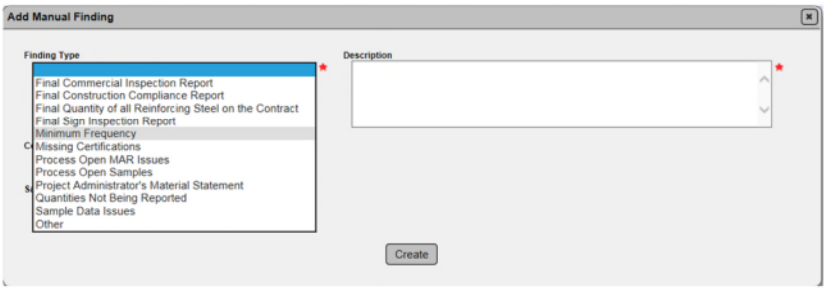
Project Administrators and MAC



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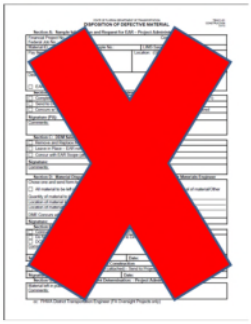
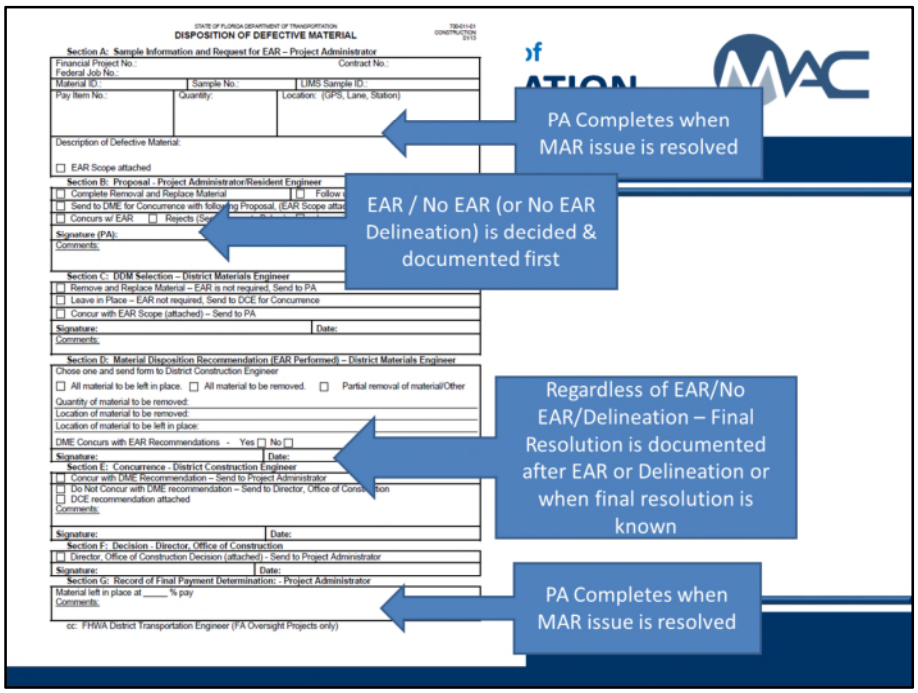
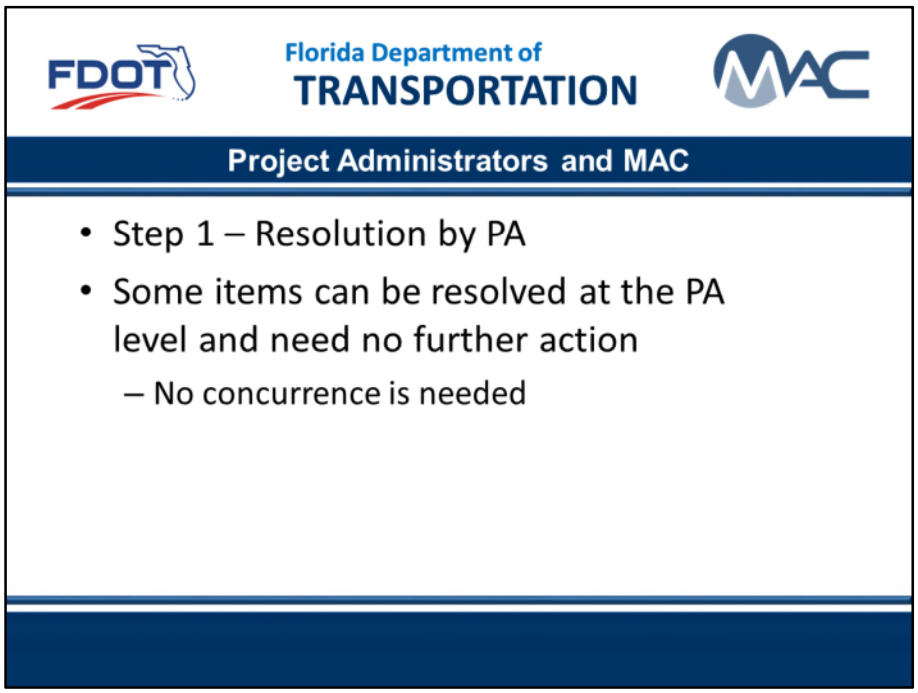
Project Administrators and MAC

- So how is a MAR issue processed?
- What about DDM/EAR?

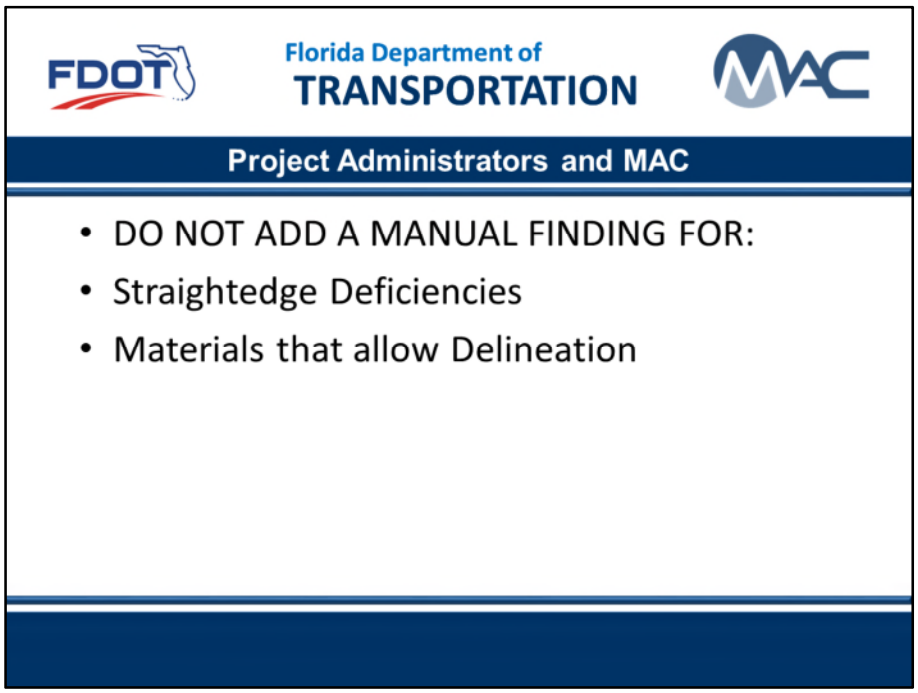




The form is replaced by an electronic process. The process does not match the form exactly but all the steps are in the process so the need for the form goes away. Like any process that moves from a paper process to an electronic process, some steps you may have done concurrently may now need to be documented in separate stages in the electronic process.



If PA selects any option besides EAR or No EAR
Of if for items that allow delineation, the PA selects any option besides EAR, No EAR or No EAR – Delineation,
The issue is complete. This recommendation becomes the final resolution and no additional steps are needed, like concurrence from the DCE and DMRE.



Before we go further, let's talk about 2 distinct types of automatic findings the PA must not create a manual finding for:
Straightedge Deficiencies
Materials that allow delineation, like asphalt

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Project Administrators and MAC

- Straightedge Deficiencies
- Materials that allow Delineation
  - These two automatic findings trigger specific functionality with the MAR process that you will not get when creating a manual finding

Florida Department of TRANSPORTATION

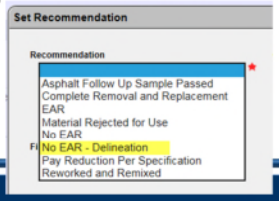
Project Administrators and MAC

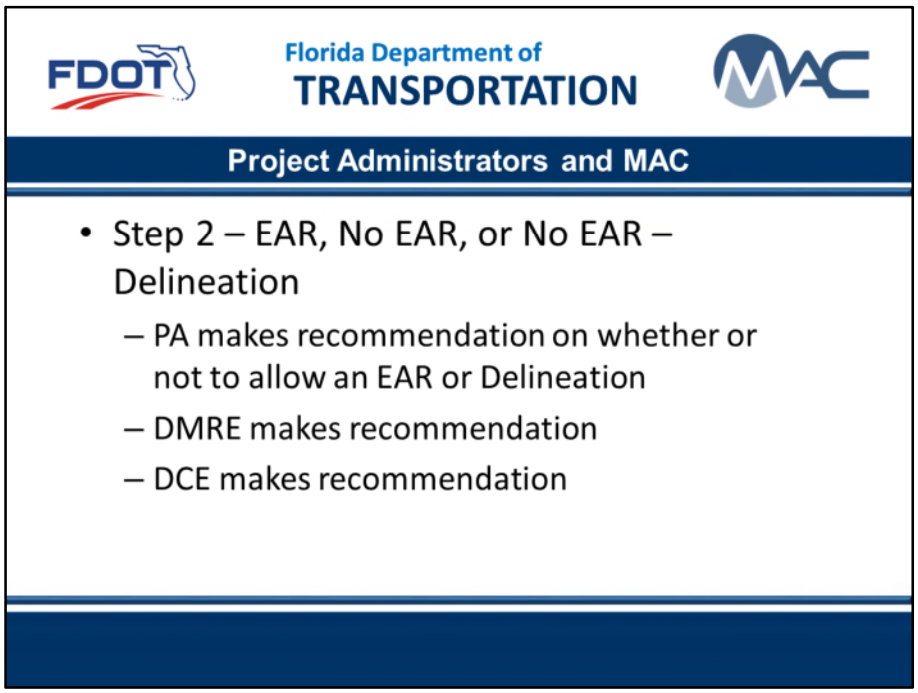
- Straightedge Deficiencies
  - Has a different flow with different roles based on CPAM Chapter 11
  - Resident Engineer instead of PA
  - District Bituminous Engineer instead District Materials and Research Engineer
  - Recommendation is Final Resolution

Florida Department of TRANSPORTATION

Project Administrators and MAC

- Materials that allow Delineation
  - Has the same flow with the same roles as other MARs except for Straightedge
  - The difference is the option for No EAR – Delineation will not show up for a manual finding



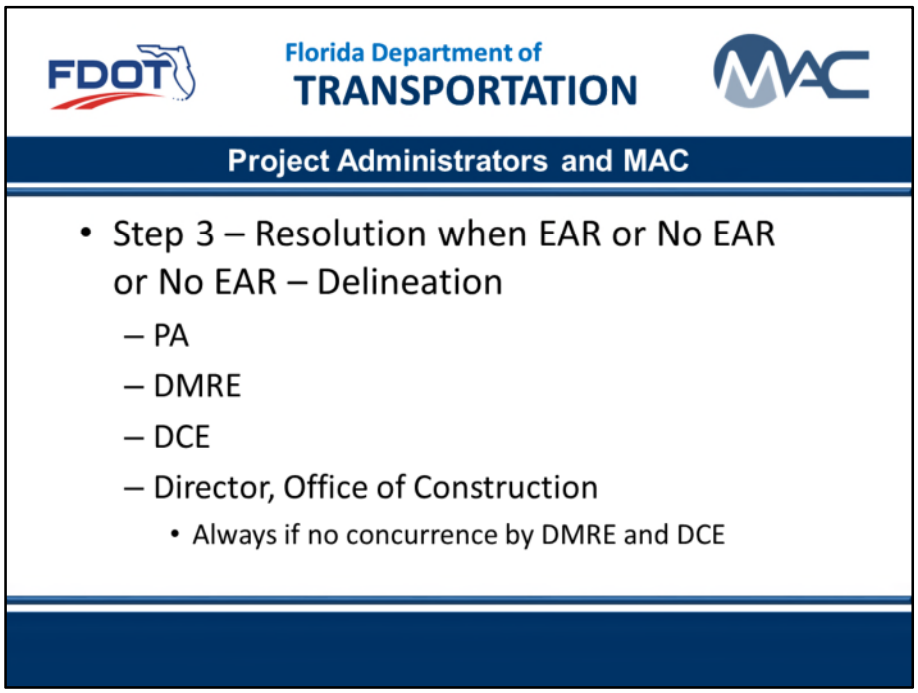


If the recommendation is EAR, No EAR or No – EAR delineation, then the issue goes to the DMRE and then the DCE for their recommendations. This recommendation establishes if an EAR will be performed or not or if delineation will be allowed. NEXT SLIDE TALKS ABOUT NON-CONCURRENCE.

Florida Department of TRANSPORTATION

Project Administrators and MAC

- Step 2 - EAR, No EAR, or No EAR – Delineation
  - If DMRE and DCE do not concur and PA and DCE say NO EAR
  - Director, Office of Construction makes final recommendation
    - Case where Construction requests lesser requirement, DOC breaks the tie
    - If Construction requires higher requirement and no concurrence, Contract Administration rules (EAR)
  - DCE's recommendation is final recommendation

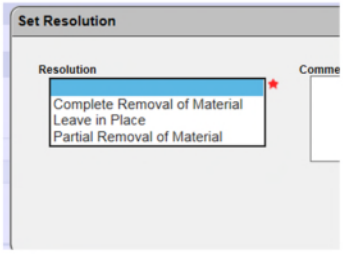


Once the decision to allow an EAR or delineation is made, then the action takes place
If No EAR, we're ready for the final resolution.
If EAR – Outside of MAC
PA forwards EAR scope to DMRE for review
DMRE returns scope to PA
Contractor performs EAR
PA receives EAR and attaches to MAR issue
Final Resolution is then provided.
If No EAR – Delineation
Contractor delineates material
Final Resolution is then provided.
PA recommends Final Resolution
Then DMRE
Then DCE
Always need concurrence or DOC breaks the tie

Florida Department of TRANSPORTATION

Project Administrators and MAC

- Step 3 – Resolution when EAR or No EAR or No EAR – Delineation
  - What is being resolved?
  - Disposition of Material
  - 3 choices



So what is the resolution? There are 3 options.

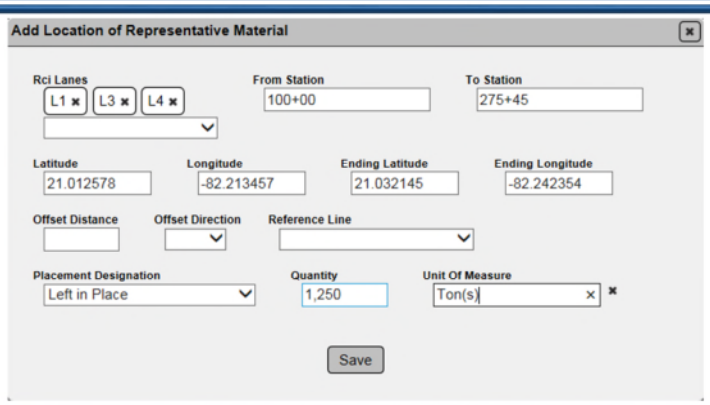
Florida Department of TRANSPORTATION

Project Administrators and MAC

- Step 4 – Location Information
- PA needs to ensure the location information is correct and complete
- For Complete Removal and Replacement & Leave in Place – one set of entries

Florida Department of TRANSPORTATION

Project Administrators and MAC



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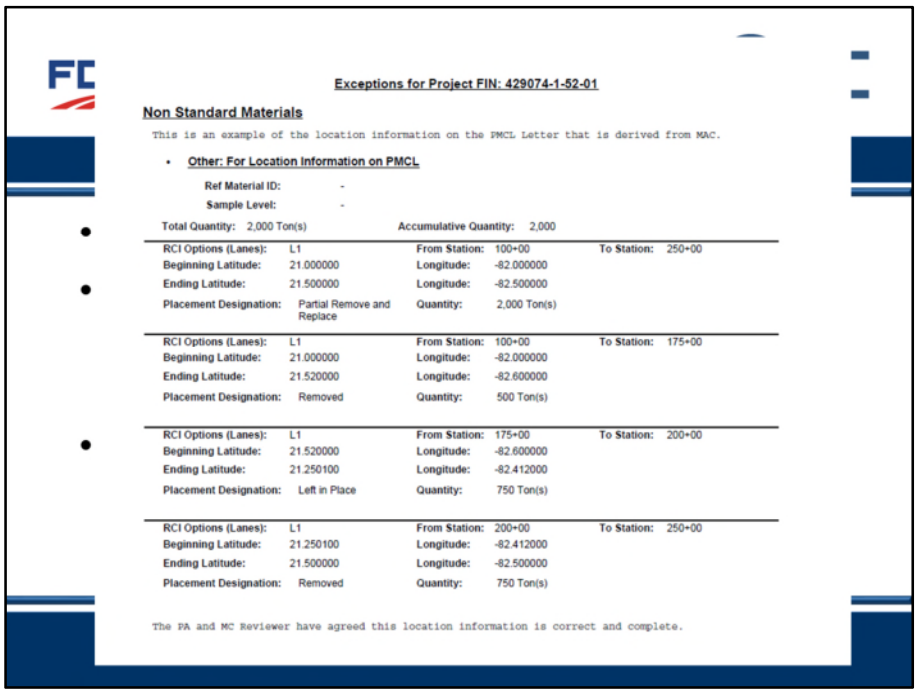
Project Administrators and MAC

- Step 4 – Location Information
- PA needs to ensure the location information is correct and complete
- For Partial Removal and Replacement, enter sub-locations for material that was removed and material that was replaced

Florida Department of TRANSPORTATION

Project Administrators and MAC

- Step 4 – Location Information
- MC Reviewer will notify PA if additional information is needed for location information
- This gets used on the PMCL so it needs to be right



Exceptions for Project FIN: 429074-1-52-01

Non Standard Materials

This is an example of the location information on the PMCL Letter that is derived from MAC.

- **Other: For Location Information on PMCL**

Ref Material ID: -

Sample Level: -

Total Quantity: 2,000 Ton(s) **Accumulative Quantity:** 2,000

RCI Options (Lanes):	L1	**From Station:**	100+00	**To Station:**	250+00
Beginning Latitude:	21.000000	**Longitude:**	-82.000000		
Ending Latitude:	21.500000	**Longitude:**	-82.500000		
Placement Designation:	Partial Remove and Replace	**Quantity:**	2,000 Ton(s)		

RCI Options (Lanes):	L1	**From Station:**	100+00	**To Station:**	175+00
Beginning Latitude:	21.000000	**Longitude:**	-82.000000		
Ending Latitude:	21.520000	**Longitude:**	-82.600000		
Placement Designation:	Removed	**Quantity:**	500 Ton(s)		

RCI Options (Lanes):	L1	**From Station:**	175+00	**To Station:**	200+00
Beginning Latitude:	21.520000	**Longitude:**	-82.600000		
Ending Latitude:	21.250100	**Longitude:**	-82.412000		
Placement Designation:	Left in Place	**Quantity:**	750 Ton(s)		

RCI Options (Lanes):	L1	**From Station:**	200+00	**To Station:**	250+00
Beginning Latitude:	21.250100	**Longitude:**	-82.412000		
Ending Latitude:	21.500000	**Longitude:**	-82.500000		
Placement Designation:	Removed	**Quantity:**	750 Ton(s)		

The PA and MC Reviewer have agreed this location information is correct and complete.

Florida Department of TRANSPORTATION

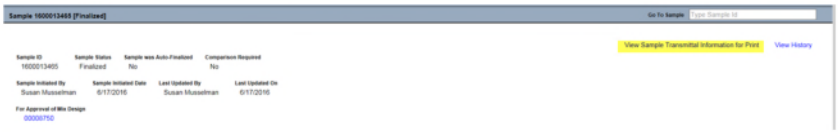
Project Administrators and MAC

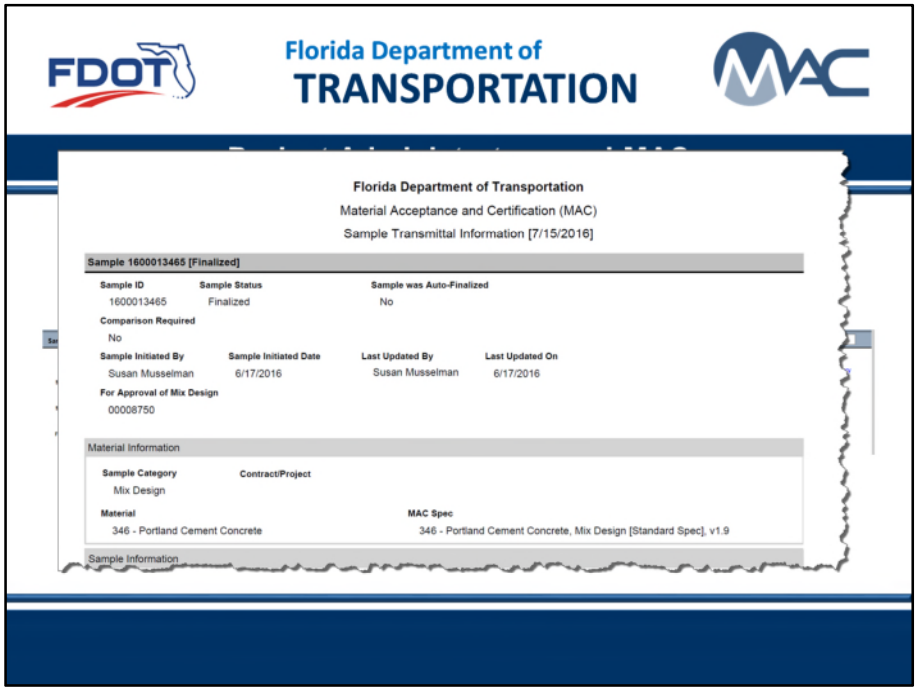
- Reports the PA can use for project sampling and testing requirements and tracking

Florida Department of TRANSPORTATION

Project Administrators and MAC

- Sample Transmittal Information
- On the sample record




Florida Department of
TRANSPORTATION
Florida Department of Transportation
Material Acceptance and Certification (MAC)
Sample Transmittal Information [7/15/2016]
Sample 1600013465 [Finalized]
Sample ID
1600013465
Sample Status
Finalized
Sample was Auto-Finalized
No
Comparison Required
No
Sample Initiated By
Susan Musselman
Sample Initiated Date
6/17/2016
Last Updated By
Susan Musselman
Last Updated On
6/17/2016
For Approval of Mix Design
00008750
Material Information
Sample Category
Mix Design
Contract/Project
Material
346 - Portland Cement Concrete
MAC Spec
346 - Portland Cement Concrete, Mix Design [Standard Spec], v1.9
Sample Information

Florida Department of TRANSPORTATION

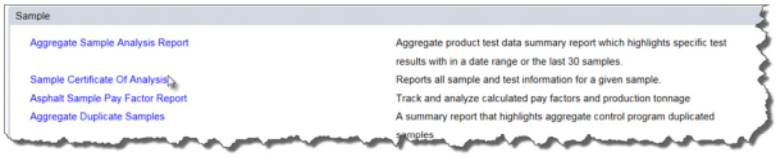
Project Administrators and MAC

- Sample Certificate of Analysis
- MAC Standard Reports

Florida Department of TRANSPORTATION

Project Administrators and MAC

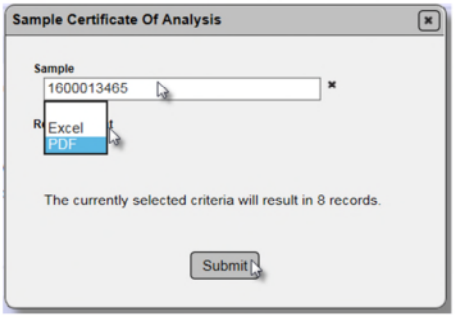
- Sample Certificate of Analysis
- MAC Standard Reports

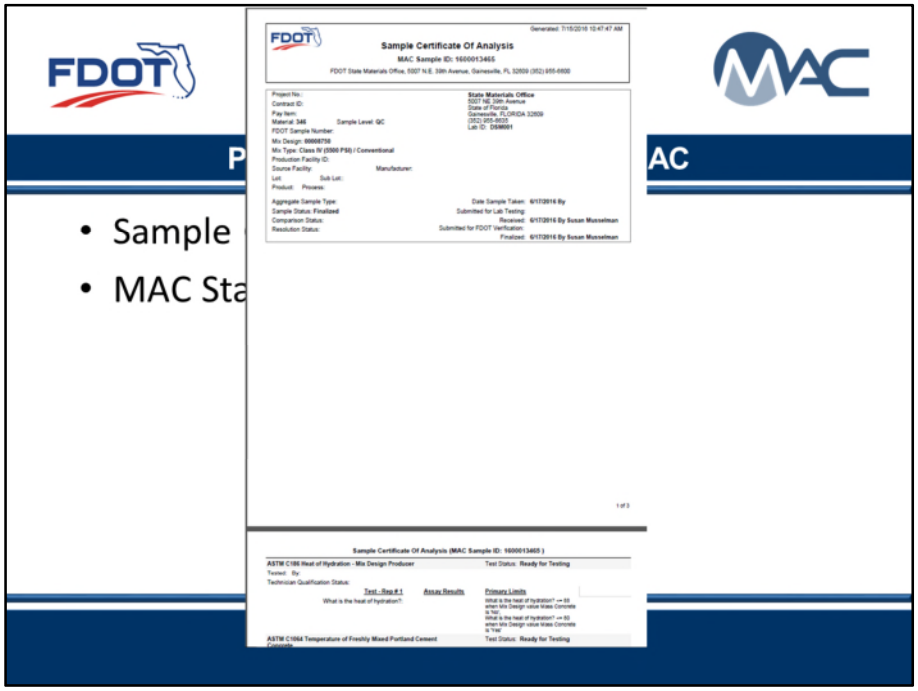


Florida Department of TRANSPORTATION

Project Administrators and MAC

- Sample Certificate of Analysis
- MAC

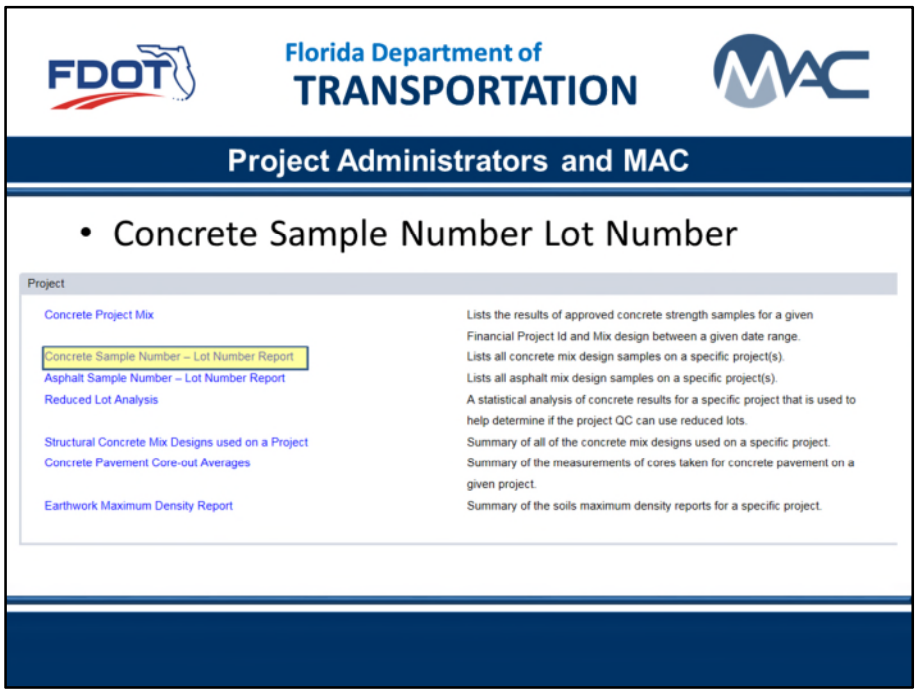



P
AC
• Sample
• MAC Sta
Sample Certificate Of Analysis
MAC Sample ID: 1600013465
Sample Certificate Of Analysis (MAC Sample ID: 1600013465)

Florida Department of TRANSPORTATION

Project Administrators and MAC

- Concrete Sample Number Lot Number Report
- Project Reports Tab


Florida Department of
TRANSPORTATION
Project Administrators and MAC
• Concrete Sample Number Lot Number
Project
Concrete Project Mix
Lists the results of approved concrete strength samples for a given Financial Project Id and Mix design between a given date range.
Concrete Sample Number – Lot Number Report
Lists all concrete mix design samples on a specific project(s).
Asphalt Sample Number – Lot Number Report
Lists all asphalt mix design samples on a specific project(s).
Reduced Lot Analysis
A statistical analysis of concrete results for a specific project that is used to help determine if the project QC can use reduced lots.
Structural Concrete Mix Designs used on a Project
Summary of all of the concrete mix designs used on a specific project.
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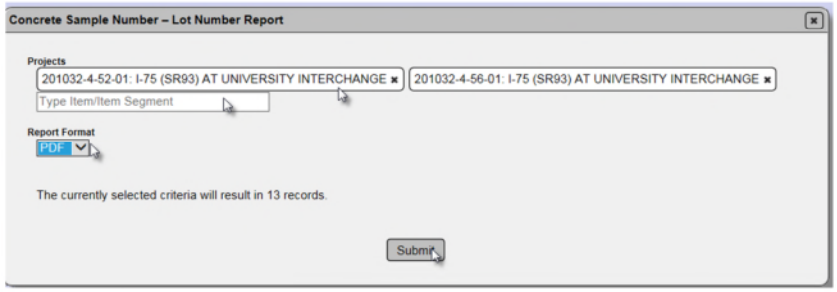
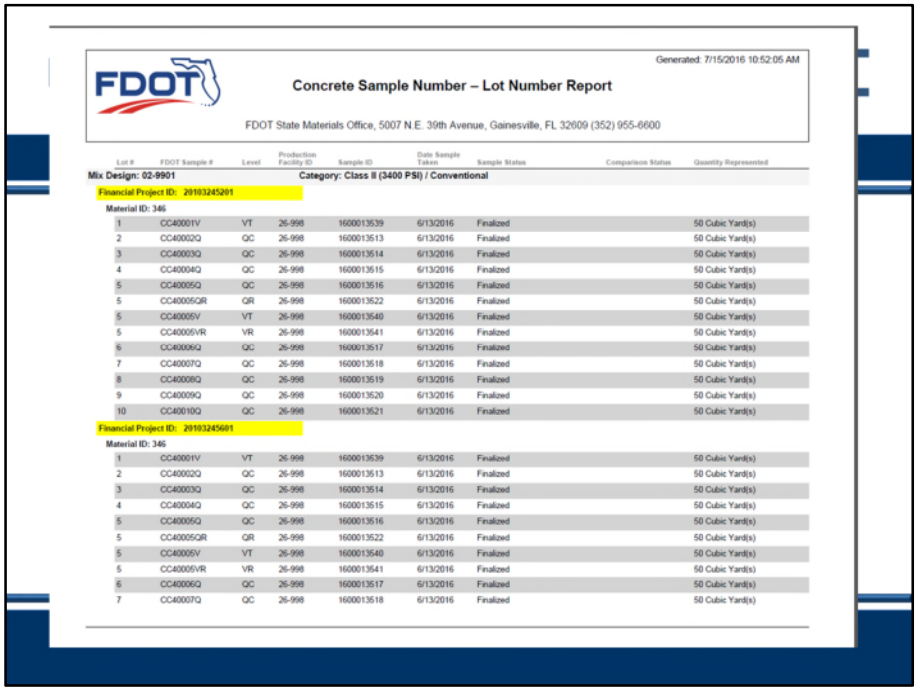
Summary of the measurements of cores taken for concrete pavement on a given project.
Earthwork Maximum Density Report
Summary of the soils maximum density reports for a specific project.

Florida Department of TRANSPORTATION

Project Administrators and MAC





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FDOT

Concrete Sample Number – Lot Number Report

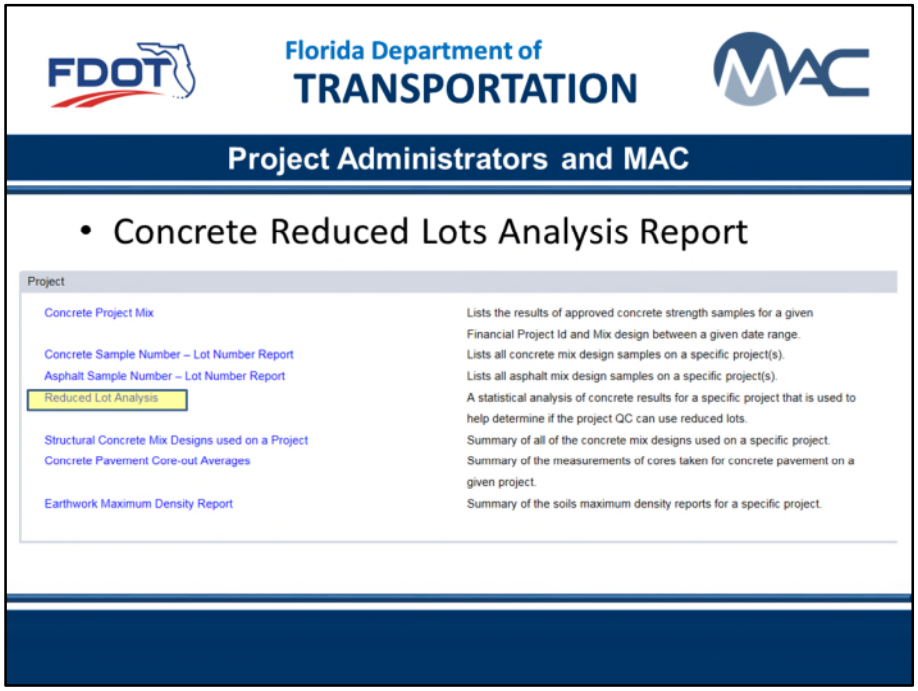
FDOT State Materials Office, 5007 N.E. 39th Avenue, Gainesville, FL 32609 (352) 955-6600

Lot #	FDOT Sample #	Level	Production Facility ID	Sample ID	Date Sample Taken	Sample Status	Comparison Status	Quantity Represented
Mix Design: 02-9901			**Category: Class II (3400 PSI) / Conventional**					
Financial Project ID: 20103245201								
Material ID: 346								
1	CC40001V	VT	26-998	1600013539	6/13/2016	Finalized		50 Cubic Yard(s)
2	CC40002Q	QC	26-998	1600013513	6/13/2016	Finalized		50 Cubic Yard(s)
3	CC40003Q	QC	26-998	1600013514	6/13/2016	Finalized		50 Cubic Yard(s)
4	CC40004Q	QC	26-998	1600013515	6/13/2016	Finalized		50 Cubic Yard(s)
5	CC40005Q	QC	26-998	1600013516	6/13/2016	Finalized		50 Cubic Yard(s)
5	CC40005QR	QR	26-998	1600013522	6/13/2016	Finalized		50 Cubic Yard(s)
5	CC40005V	VT	26-998	1600013540	6/13/2016	Finalized		50 Cubic Yard(s)
5	CC40005VR	VR	26-998	1600013541	6/13/2016	Finalized		50 Cubic Yard(s)
6	CC40006Q	QC	26-998	1600013517	6/13/2016	Finalized		50 Cubic Yard(s)
7	CC40007Q	QC	26-998	1600013518	6/13/2016	Finalized		50 Cubic Yard(s)
8	CC40008Q	QC	26-998	1600013519	6/13/2016	Finalized		50 Cubic Yard(s)
9	CC40009Q	QC	26-998	1600013520	6/13/2016	Finalized		50 Cubic Yard(s)
10	CC40010Q	QC	26-998	1600013521	6/13/2016	Finalized		50 Cubic Yard(s)
Financial Project ID: 20103245601								
Material ID: 346								
1	CC40001V	VT	26-998	1600013539	6/13/2016	Finalized		50 Cubic Yard(s)
2	CC40002Q	QC	26-998	1600013513	6/13/2016	Finalized		50 Cubic Yard(s)
3	CC40003Q	QC	26-998	1600013514	6/13/2016	Finalized		50 Cubic Yard(s)
4	CC40004Q	QC	26-998	1600013515	6/13/2016	Finalized		50 Cubic Yard(s)
5	CC40005Q	QC	26-998	1600013516	6/13/2016	Finalized		50 Cubic Yard(s)
5	CC40005QR	QR	26-998	1600013522	6/13/2016	Finalized		50 Cubic Yard(s)
5	CC40005V	VT	26-998	1600013540	6/13/2016	Finalized		50 Cubic Yard(s)
5	CC40005VR	VR	26-998	1600013541	6/13/2016	Finalized		50 Cubic Yard(s)
6	CC40006Q	QC	26-998	1600013517	6/13/2016	Finalized		50 Cubic Yard(s)
7	CC40007Q	QC	26-998	1600013518	6/13/2016	Finalized		50 Cubic Yard(s)

Florida Department of TRANSPORTATION

Project Administrators and MAC

- Concrete Reduced Lots Analysis Report
- Project Reports Tab


Florida Department of
TRANSPORTATION
Project Administrators and MAC
• Concrete Reduced Lots Analysis Report
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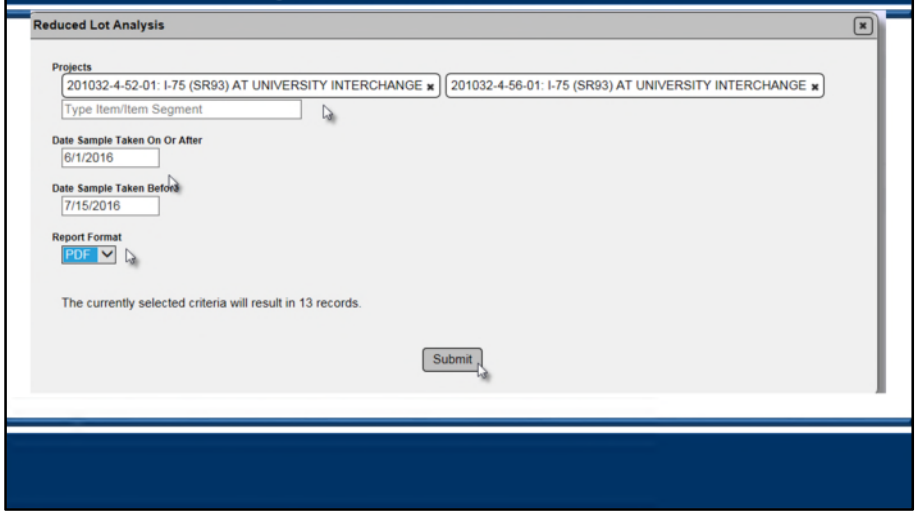
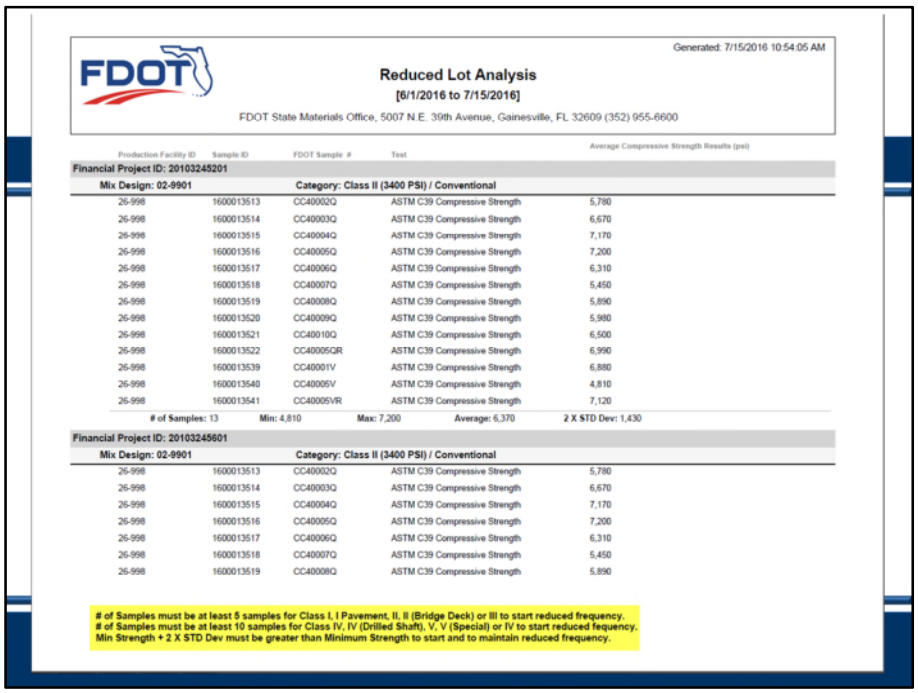
Florida Department of TRANSPORTATION

Project Administrators and MAC





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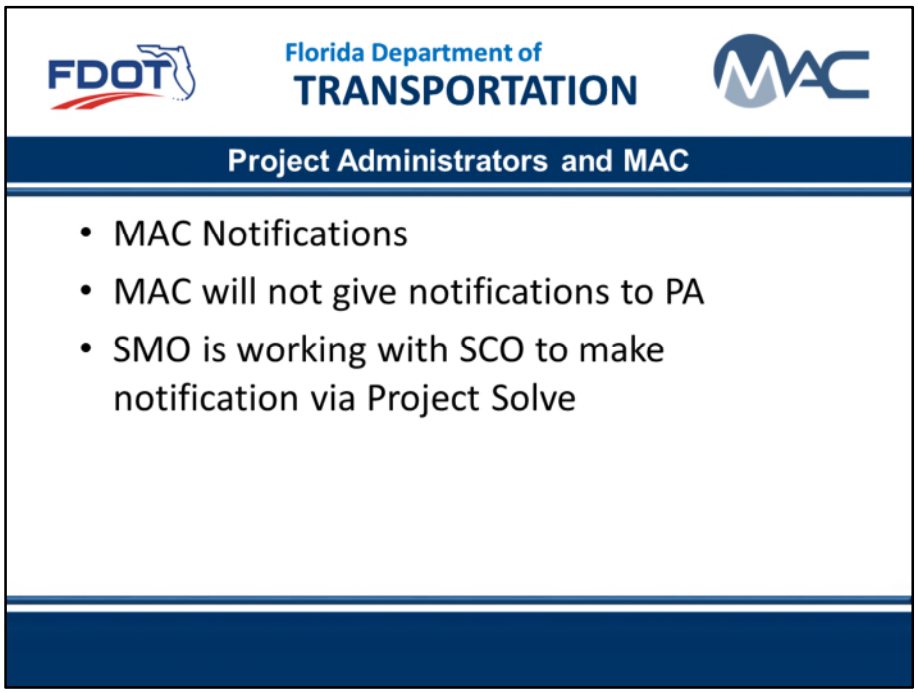
Reduced Lot Analysis

[6/1/2016 to 7/15/2016]

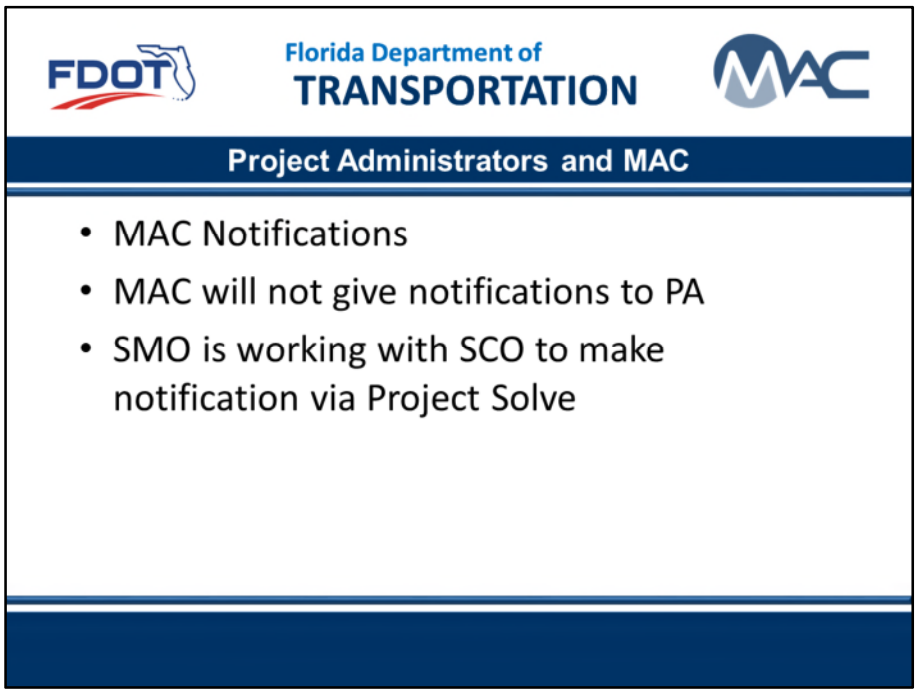
FDOT State Materials Office, 5007 N.E. 39th Avenue, Gainesville, FL 32609 (352) 955-6600

Production Facility ID	Sample ID	FDOT Sample #	Test	Average Compressive Strength Results (psi)
Financial Project ID: 20103245201				
Mix Design: 02-9901		**Category: Class II (3400 PSI) / Conventional**		
26-998	1600013513	CC40002Q	ASTM C39 Compressive Strength	5,780
26-998	1600013514	CC40003Q	ASTM C39 Compressive Strength	6,670
26-998	1600013515	CC40004Q	ASTM C39 Compressive Strength	7,170
26-998	1600013516	CC40005Q	ASTM C39 Compressive Strength	7,200
26-998	1600013517	CC40006Q	ASTM C39 Compressive Strength	6,310
26-998	1600013518	CC40007Q	ASTM C39 Compressive Strength	5,450
26-998	1600013519	CC40008Q	ASTM C39 Compressive Strength	5,890
26-998	1600013520	CC40009Q	ASTM C39 Compressive Strength	5,980
26-998	1600013521	CC40010Q	ASTM C39 Compressive Strength	6,500
26-998	1600013522	CC40005QR	ASTM C39 Compressive Strength	6,990
26-998	1600013539	CC40001V	ASTM C39 Compressive Strength	6,880
26-998	1600013540	CC40005V	ASTM C39 Compressive Strength	4,810
26-998	1600013541	CC40005VR	ASTM C39 Compressive Strength	7,120
# of Samples: 13	**Min: 4,810**	**Max: 7,200**	**Average: 6,370**	**2 X STD Dev: 1,430**
Financial Project ID: 20103245601				
Mix Design: 02-9901		**Category: Class II (3400 PSI) / Conventional**		
26-998	1600013513	CC40002Q	ASTM C39 Compressive Strength	5,780
26-998	1600013514	CC40003Q	ASTM C39 Compressive Strength	6,670
26-998	1600013515	CC40004Q	ASTM C39 Compressive Strength	7,170
26-998	1600013516	CC40005Q	ASTM C39 Compressive Strength	7,200
26-998	1600013517	CC40006Q	ASTM C39 Compressive Strength	6,310
26-998	1600013518	CC40007Q	ASTM C39 Compressive Strength	5,450
26-998	1600013519	CC40008Q	ASTM C39 Compressive Strength	5,890

# of Samples must be at least 5 samples for Class I, I Pavement, II, II (Bridge Deck) or III to start reduced frequency.
# of Samples must be at least 10 samples for Class IV, IV (Drilled Shaft), V, V (Special) or IV to start reduced fequency.
Min Strength + 2 X STD Dev must be greater than Minimum Strength to start and to maintain reduced frequency.

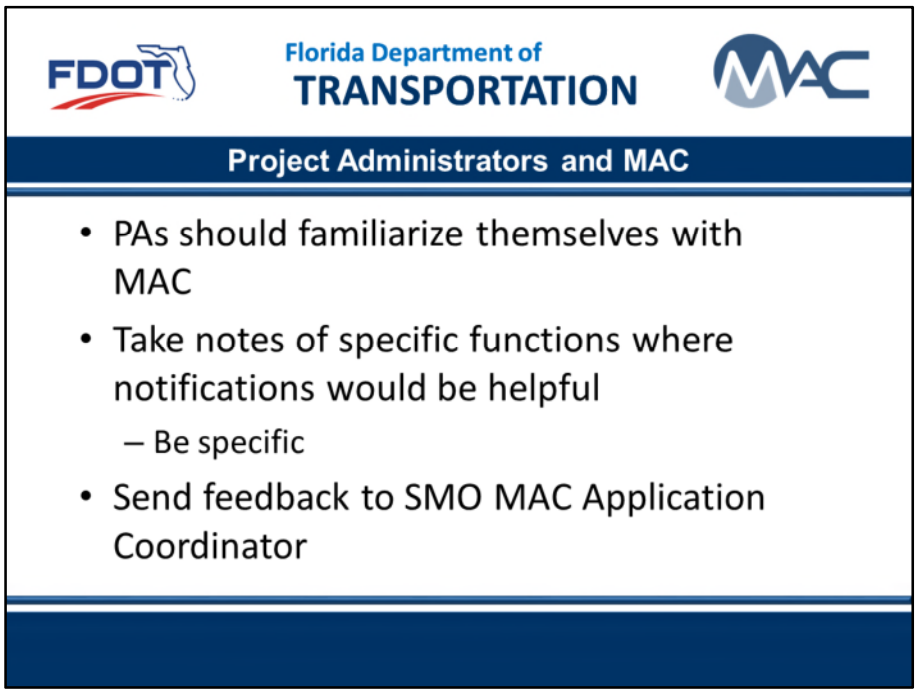


One final subject for the PAs is MAC notifications. Because MAC only knows the personnel with the role of PA, it is impossible at this time to provide meaningful notification to PAs. MAC doesn't know which of the personnel holding the role of PA PAs (delegates) are and it doesn't know which PA goes with which project.
SMO is working with SCO to create reports through project solve. Some of these notifications include:

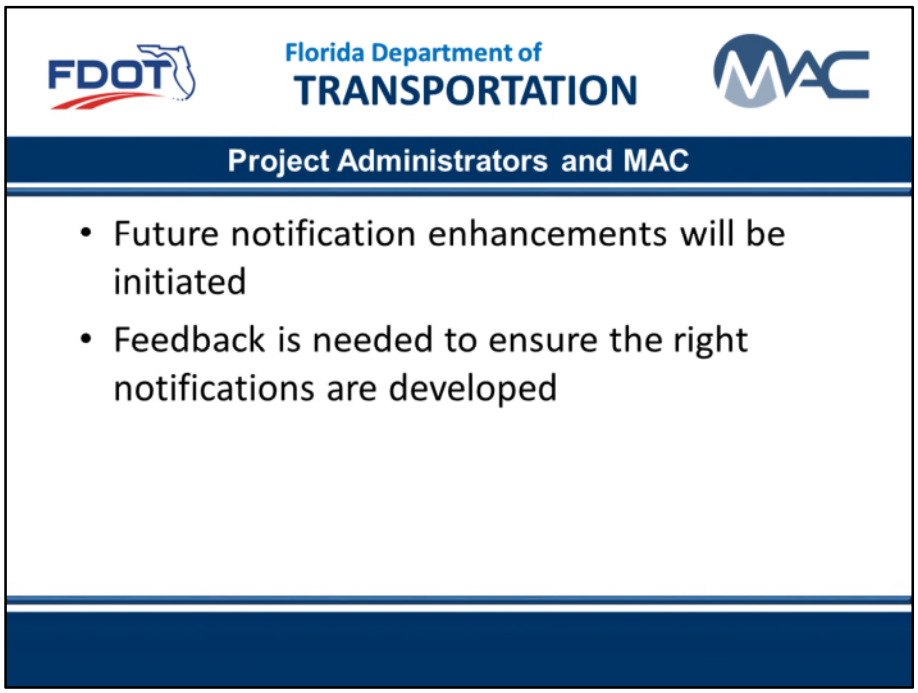


Some of these notifications include:
When a Contractor QC Plan is submitted for the PA review
When the District Materials and Research Office Program Maintenance User has completed the review of the structural concrete portion of the Contractor QC Plan
When additional information has been added to a new QC Plan
When findings need the PA response
When findings have been promoted to MAR
After MAC is implemented, as a person with the role of PA, please familiarize yourself with the system and take notes about the system functions that you would like to see a system notification sent. Be specific. Instead of “QC Plan notifications” say I’d like to get notified on my projects when the contract has added a new production facility”. This detail will assist us when we build the MAC enhancements for notifications. We need two things. First, we need users with experience in the system to have an understanding of the specific notifications that would be helpful. Two, we need the experienced users to provide

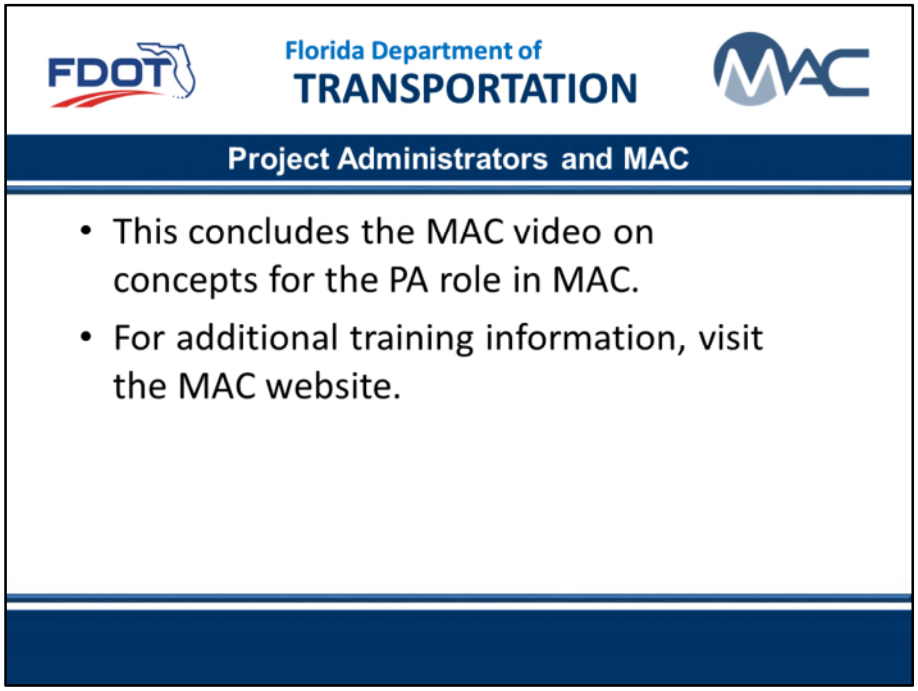
detailed feedback so we can program the appropriate notifications.



After MAC is implemented, as a person with the role of PA, please familiarize yourself with the system and take notes about the system functions that you would like to see a system notification sent. Be specific. Instead of “QC Plan notifications” say I’d like to get notified on my projects when the contract has added a new production facility”.



This detail will assist us when we build the MAC enhancements for notifications. We need two things. First, we need users with experience in the system to have an understanding of the specific notifications that would be helpful. Two, we need the experienced users to provide detailed feedback so we can program the appropriate notifications.


Florida Department of
TRANSPORTATION
Project Administrators and MAC
• This concludes the MAC video on concepts for the PA role in MAC.
• For additional training information, visit the MAC website.

Florida Department of TRANSPORTATION

Project Administrators and MAC

- If you have questions, there are a number of ways to get a response:
  - FAQs
  - Contact your Local DAC
  - Online form to submit a question to the MAC team

Florida Department of TRANSPORTATION

Project Administrators and MAC

- If you have project specific requirements and need to contact the appropriate SMO Technical Unit, use the list.


FDOT
Florida Department of
TRANSPORTATION
MAC
Project Administrators and MAC
Thank You