Local Administered Project

Materials Acceptance Guide



January 2025

Purpose

The purpose of the Local Administered Project (LAP) Materials Acceptance Guide is to assist local government agencies, consultant engineering agencies, engineers, on-site technicians, contractors, and the Department in the material certification of Federal Funded LAP's.



The LAP Materials Acceptance Guide provides guidance and direction for material receiving, acceptance, sampling requirements, testing requirements, laboratory approval, certification requirements, and documentation of construction materials utilized on Federally Funded projects. ***All materials are not represented in this guide. If a material or material operation is not listed in this guide, please contact your local materials LAP representative or M&T's "Material Certification Program Engineer" for assistance.***

Local Government Agencies programs and projects receive federal, and/or state money based on the recommendations of Municipal or Rural Planning Organizations (MPOs and RPOs), NCDOT Program Areas, and Board of Transportation Members. LGAs are responsible for carrying out the design, construction and administration of projects, or implementation of programs.

While this guide provides detailed guidance regarding the certification of materials, it is not a replacement for regular contact with NCDOT oversight staff. Please work closely with the appropriate NCDOT Division office and the Materials and Tests LAP staff. It is recommended to contact your local M&T LAP representative prior to the start of construction. Your LAP representative should attend pre-construction meetings and can also assist with: review of on-site sampling/testing frequencies, required material type certifications and documentation, precast and prestress procedures, technician and facility verification, mid-contract material audits, and other related material communication.

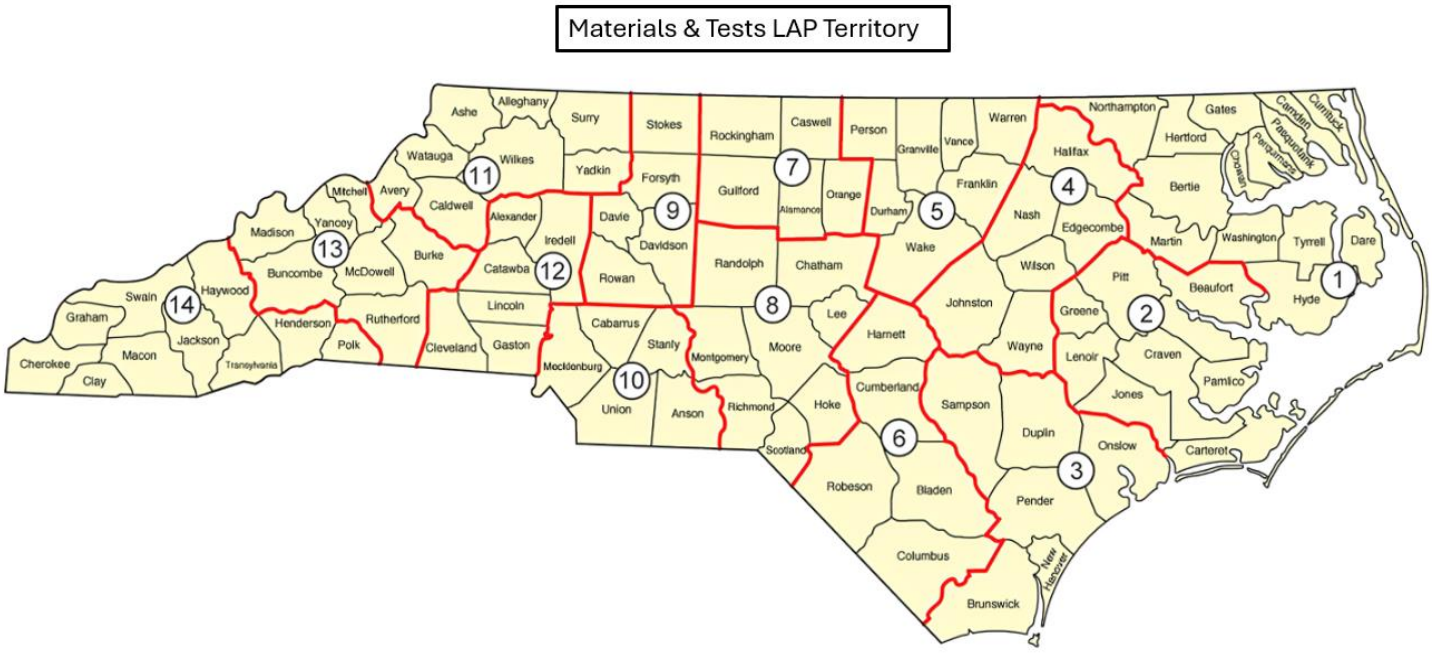
A "Material Certification" is conducted at the end of the construction phase, prior to final payment. During this process <u>ALL</u> line items/pay items are reviewed and verified. <u>EACH</u> line item shall have the required documentation, legible, and kept on file for verification during the "Material Certification" process. If the documentation does not meet the specifications and/or requirements, a non-participating amount will be assigned, and funds withheld.

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1 LAP Materials And Tests Contact



Divisions	M&T Representative	Phone No.	Email Contact
1 – 2 - 4	Emily Nichols	919-646-0052	ext-ecnichols@ncdot.gov
3 - 9 -10	Pam Carriker	704-798-4332	ext-pdcarriker@ncdot.gov
5	Angela Pace	919-646-0052	ext-acpace@ncdot.gov
6 – 8 - 12	Randy Pace	919-348-8540	rpace@pacepllc.com
7 -11-13	Jerry Sands	919-646-0052	ext-grsands@ncdot.gov
14	Sam Frederick	984-272-5545	sjfrederick@ncdot.gov

2 Abbreviations And Terms

AASHTO: American Association of State Highway and Transportation Officials.

Acceptance Sampling and Testing: Sampling and testing performed by the agency or its designated agent , to determine the quality and acceptability of the materials incorporated in a project.

Accredited Laboratories: Laboratories designated to conduct acceptance testing on specific materials, are required to maintain active certifications and be approved by NCDOT Materials and Tests Unit. See Section 13 of the guide for additional details.

Active Sampling/Testing Technicians: A technician who has successfully completed all conditions and certification requirements to sample/test materials on FHWA and/or NC State funded projects. All qualified technicians involved with sampling and testing of materials must hold current appropriate NCDOT certification for the applicable testing and inspections they are performing.

Approved Products List (APL): NCDOT list of materials approved for use on a project that does not have to be submitted for approval prior to use. Appropriate acceptance method and documentation is required for all materials listed on the APL and shall accompany the material upon arrival on site.

Approved/Qualified Technicians: Approved/Qualified technicians involved with sampling and testing of materials must hold current and active appropriate NCDOT certification for the applicable testing and inspections they are performing.

Bill Of Lading: This is a legal binding document that provides names and addresses of the shipper and the receiver, shipment date, quantity, exact weight, description of the material, and any specific details of the material. The signatures of the shipper and receiver (when delivered) shall be on the document.

Buy America: For LAP, all steel, iron, and manufactured products must include a notarized certification statement from the contractor that the items provided for incorporation into the project were produced in the United States, including raw materials. The individual documents certifying the products are in accordance with this requirement should be maintained with the material test results and be available for audit or project material certification upon completion of the project.

Certification Types: Contractors will need to furnish a material certification for certain material items that are incorporated into the project. These types of material certifications can be found in Section 106-3 of the Standard Specifications for Roads and Structures. There are seven types of certifications and are material specific. Examples of each type are included in this guide.

CFR: Code of Federal Regulations

Discrepancies – Shortages: Shortages are detailed records connecting to materials which did not receive the required number of sampling and/or testing.

Discrepancies – Exceptions: Exceptions occur when representative materials are utilized but not in accordance with specifications. Exception materials are typically supplied by unapproved sources and/or meet close conformity. Exceptions also include materials which no required documentation was retained to review.

FHWA: Federal Highway Administration

Final Voucher & Records Retention: After reimbursement request has been processed and all paperwork accepted, FHWA will issue a Final Voucher spreadsheet to M&T. Once received and verified, M&T will issue a final voucher notification letter to the Division. The Division will provide the Final Voucher letter and date to the municipality/town as the start of the required Records Retention period. All records shall be maintained by the

municipality/town, or the Professional Engineering Firm that provided construction administration. All project records shall not be destroyed until five years after the "Final Voucher Date".

Field Investigation Report (FIR): Select materials will require an inspection/acceptance after it arrives on the project. In these situations, a representative from the Materials and Tests Unit shall be contacted by the inspection firm and request an on-site inspection. The Materials and Tests Unit representative will conduct all needed inspections and verification of the material. He/she will then complete the required report and place it in the HiCAMS system. When a FIR is required, it is the responsibility of the contractor to have on-site the required documentation and certifications for the material. If the required documentation and/or certification is not on-site, the material will not be accepted, and payment denied.

HiCAMS: Highway Construction and Materials System – this is the computer-based system utilized by NCDOT to collect and store data regarding project materials.

Labor Only: Pay items on a contract that do not have any materials associated with the scope of work.

Local Administered Project (LAP): LAP programs and projects receive federal, and/or state money based on the recommendations of Municipal or Rural Planning Organizations (MPOs and RPOs), NCDOT Program Areas, and Board of Transportation Members.

Local Government Agency (LGA): LGAs are the designated town or city who is responsible for carrying out the design, construction and administration of projects, or implementation of programs.

M&T: Materials & Tests Unit

Material Certification Process: The process by which the NCDOT certifies that all materials and workmanship on all projects are in compliance with the specifications. The Quality Systems Section within the Materials and Tests Unit (M&T) is responsible for conducting the material review to ensure that accurate and sufficient documentation is available to verify the acceptable testing and inspection of materials and products used to build the project. It is recommended the Materials Certification begin within ten days after the "Acceptance Date".

Materials Received Report (MRR): The Material Received Report (M&T Form 251) must be completed when any material received on the project is to be incorporated into the construction on a temporary or permanent basis. This documentation is necessary to ensure that all materials are tested and meet the requirements of Division 10 of the NCDOT Specification book.

Minimum Sampling Guide (MSG): Lists materials that are pretested and materials that are to get sampled by project personnel. The Minimum Sampling Guide can be accessed from the Materials and Tests home page. The MSG link is noted in this guide, see the section labeled "NCDOT Resources and Links".

NCDOT: North Carolina Department of Transportation.

Non-Participating Cost: "Non-Participating" costs due to improper sampling/testing procedures, absence of tests reports, uncertified materials, shortages, or materials not meeting the required specifications. NCDOT will not be able to provide reimbursement of funds for "non- participating" costs.

Pretested Materials: Pretested materials are tested and accepted off site during the manufacturing/fabrication process. These materials shall have the required "acceptance and approval" indicators and documentation prior to arrival on the project site.

Qualified Laboratories: Qualified laboratories consist of all regional NCDOT M&T laboratories, and Non-DOT/ 3rd Party Laboratories which have been approved, by the Materials & Tests Unit, to perform testing activities for NCDOT projects.

Qualified Products List (QPL): NCDOT list of ITS and Signal materials approved for use on a project that does not have to be submitted for approval prior to use. Appropriate acceptance method and documentation is required for all materials listed on the QPL and shall accompany the material upon arrival on site

Radio Frequency Identification (RFID): The RFID is a tracking and tagging system utilized for manufactured products. The RFID tag/label is used by visually reading the 24-digit code, scanning the RFID embedded chip, or scanning the printed QR/barcode.

Ticket Book: Materials which are received and accepted by "Tickets", shall be bound seperately with the total for the day recorded on the front cover. These books will be reviewed and verified during the material certification.

Ticket Materials: Material items that are delivered and accompanied by a ticket with a Weigh Master stamp, such as Quarried Materials and Asphalt. The tickets will be placed in a Ticket Book as the source documentation for the product. Ticket materials shall be reviewed and verified during the material certification process. This documentation shall be presented in an orderly and systematic manner.

Unit Of Measure (UOM): Materials arriving on a project will be received/accepted based off a standard for measurement of the same quantity. Examples are: cubic yards, linear feet, each, square yards, and lump sum. In some situations, a material may be measured in one unit of measure but payment in a different unit of measure. An example would be concrete that is batched and measured in cubic yards, but when placed in a sidewalk, payment is calculated in square yards. Common "conversation factors" can aid you in determining accurate quantities.

Vendor: The computer-based system utilized by NCDOT to monitor approved facitiies and technician certification history and qualifications.

Verification Sampling and Testing: Sampling and testing used to validate the contractor's data and results.

1446LAP: The is the FHWA Final Acceptance Report. This is a joint FHWA and NCDOT form. This form is completed and signed by the Division Engineer or their representative and the State Materials Engineer. The LGA is not responsible for this form.

3 Material Certification Process

The Materials Certification Process is the required activity by which the NCDOT certifies that all project related materials, and workmanship are in compliance with the specifications, policies, and approved drawings in accordance with FHWA operations. This is referred to as the Final Project Certification within the Locally Administered Project Municipality agreement.

The Materials and Tests Unit will audit project documents to complete the Materials Certification. Material documentation shall be available (hard copy or electronic), well organized, clearly labeled, and structured for an in-depth review. If the documentation is not clearly prepared or disorderly, the material certification process will be canceled. If the material certification process is canceled due to an unprepared review, the local agency or their representative will have 14 days to assemble the documents and reschedule a new audit. If the material certification process exposes discrepancies or non-participating amounts, the local agency or their representative will have 30 days to clear up any issues. Remaining discrepancies are then considered non-participating amounts and will not be reimbursed. A maximum of three audits (initial plus two follow-ups) will be permitted to resolve any discrepancies.

The Quality Systems Group within the Materials and Tests Unit is responsible for conducting the material review. The review's purpose is to ensure that accurate and sufficient documentation is available to verify the acceptable testing and inspection of materials and products used to build the project. It is recommended the Materials Review begin no later than ten days after the "Acceptance Date". The following is a limited list of items that will be reviewed:

- Final Contract Pay Request
- Sampling and Testing frequencies in accordance with the Minimum Sampling Guide (MSG)
- On-site sampling/testing results and laboratory testing reports
- Certified laboratories and certification of laboratory technicians
- Certifications of sampling and testing technicians
- Alternate ID's/RFID
- Material Receipts Reports (MRR)
- Material certifications and documentation
- "Buy America" letter
- Inspection reports
- Ticket books and amounts
- Approved structural drawings and inspections
- 3rd party inspections/reports

All qualified technicians involved with sampling and testing of materials must hold current appropriate NCDOT certification for the applicable testing and inspections they are performing. Material documentation is required for each line item representing a material received (temporary or permanent). All materials used for LAP's are considered critical and must meet the documentation requirements.

The Contractors Final Pay Request is utilized to review final materials and quantities received to complete the project. Documentation must be retained and available for review to account for the quantities paid to the contractor. Discrepancies based on quantity paid, quantity approved, and quantity unapproved are documented. Testing, sampling and acceptance of material is also evaluated. Discrepancies based on improper sampling, frequency, results and acceptance are documented.

The final step in the material certification process is the completion of the form 1446LAP. This is the responsibility of the assigned Division office. See section 14 for more information.

4 Receiving Materials

When receiving materials on a project, we are referring to how the receipt or delivery of a material is documented on the jobsite. It is important to remember that documenting the receipt or delivery of material to a specific project is a crucial part of the material certification process. The Materials Received Report (MRR), M&T Form 251 shall be completed when any material is received on the project that is to be incorporated into the construction on a temporary or permanent basis.

Materials are received on a construction project in one of two ways. It is either received by completing a Materials Received Report (MRR) or receiving a Shipping Ticket for items requiring a weigh ticket signed by a Public Weighmaster.

When materials are delivered to a project, the project inspector will record the quantity of materials delivered on an MRR or Ticket Book Summary. The inspector will only record the material quantity delivered to the site. Occasionally, a contractor will buy the product in bulk and will provide a copy of the original Bill of Lading (BOL) which will have more material than was actually delivered. Only record what was actually delivered to the project. Every material delivered to a project must be accounted for by one of these two methods.

4.1 Materials Received Report (MRR):

The on-site technician and/or inspector will complete the MRR each day for any material that is received on the project. The following information will assist in completion of each column on the standard MRR.

Example – Blank MRR

M&T FORM 251R

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MATERIALS & TESTS UNIT
RALEIGH, NORTH CAROLINA 27607

REPORT OF MATERIAL RECEIVED

Project No.: *(1)* Report No.: *(2)* Date Received: *(3)*

Contractor: *(4)*

MATERIAL & TYPE, GRADE, OR CLASS	LINE ITEM #.	ALTERNATE ID/ PLANT	OTHER IDENTIFYING INFORMATION	QUANTITY & UOM	PRODUCER/ SUPPLIER/MFG	ALL CERTIFICATIONS RECEIVED	REMARKS
(5)	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*

(13) RESIDENT ENGINEER BY: *(14)* TECHNICIAN

INSTRUCTIONS: This report must be completed each day any material is received on the project. All material shall be completely identified and the quantity reported must be accurate. Test reports on pretested material will be furnished only upon receipt of a material received report. Each test report furnished will carry the material received report number for proper identification. All materials received must be reported except the following: (1) ABC, (2) Ready-Mixed Concrete, (3) Materials used in Ready-Mixed Concrete, (4) Asphalt Concrete mixtures. DISTRIBUTION: Original for Resident Engineer's file, one copy to Materials & Tests Unit, and one copy to Division Engineer

Completing The MRR

Number	Column Name	Column Description
1	Project No.	The primary contract number
2	Report No	The number of the MRR numbered consecutively beginning with the number 1.
3	Date Received	The date the material was received on the project.
4	Contractor	The prime Contractor for the project. The Subcontractor may also be included if all items are specific to his work.
5	Material & Type, Grade, or Class	List materials by name under the appropriate line item codes included in the contract. Enter sizes, class, and type of each material. The material should be listed in the appropriate contract payment unit if applicable. If an item is incidental to another pay item, such as steel offset blocks are incidental to the pay item steel beam guardrail, then list the contract line code item.
6	Line Item #	This is the line item of the contract, with which the material is associated.
7	Alternate ID/Plant	The Alternate ID is a numbering system used to identify approved plants/manufacturers that are on the Materials and Tests approved list in HiCAMS. The Alternate ID is the first two letters and first two numbers included in the documentation submitted for the material. For all pipe, concrete precast, and prestressed concrete, the materials are required to have an embedded RFID tag with a 24 alpha numeric number. This number should be checked against the BOL and verified in HiCAMS **PRIOR** to use.
8	Other Identifying Information	Add any additional identifying information, if applicable. Example: Approved for use, schedule 40, heat numbers, alternate ID's…
9	Quantity & UOM	Document the quantity of each material received in the English or Metric unit of measure (such as linear feet (LF), each (EA), pounds (lbs.), etc.) as appropriate.
10	Producer/Supplier/MFG	Enter the producer or manufacturer, not the supplier. Examples of suppliers are Lowes, Silverman, etc. "General Materials" is acceptable for PVC pipe.
11	ALL Certifications Received	Make sure you have received all appropriate certifications required per Subarticle 106-3(E) of the Standard Specifications.
12	Remarks	Include other identifying information about the material: The batch, lot, tag, or heat numbers, if applicable.
13	Resident Engineer	Name of Resident Engineer for the project.
14	Technician	The Transportation Technician's signature receiving the material.

If an alternative MRR or account system is utilized, from the example above, it must be approved by the M&T "Material Certification Program Engineer" prior to use. You must submit a copy, via email, prior to any materials arriving onto the project site. If an alternative MRR is utilized without approval, the material certification will not be conducted until all information meets the required documentation.

4.2 Shipping Ticket:

When receiving materials by utilizing a shipping ticket, information must be reviewed and verified by the on-site technician and/or inspector. Examples are materials coming from a quarry or from an asphalt plant. In both of these cases the UOM is Tons. Typically, all weigh tickets delivered on a given day are summarized in a daily Ticket Book by material type (i.e. all asphalt goes into an asphalt ticket book, all aggregate base course goes into an aggregate tick book etc.).

Upon delivery of materials paid for by weight, the Contractor shall immediately give the weight ticket to the on-site technician or inspector performing the inspection. The technician and/or inspector should verify the ticket is legible, and the following information has been listed on the ticket:

1. The Department Contract Number/WBS Number.
2. The date the ticket is issued.
3. The time the ticket is issued if the material is asphalt plant mix or plant mixed cement treated base course.
4. The type of material represented by the weight ticket.
5. The gross weight of the vehicle. (platform scales)
6. The tare weight of the vehicle. (platform scales)
7. The net weight of the material.
8. The location of the quarry or plant where the material came from. The number of the truck transporting the material.
9. The name of the prime Contractor for the project.
10. The stamp or number of the public weighmaster weighing the material.
11. The signature or initials of the public weighmaster.
12. The appropriate Job Mix Formula (JMF) number for the asphalt plant mix.

When trucks with the same identification number are being used by the Contractor, care should be taken to ensure that sufficient additional information is noted such that the trucks can be distinguished from one another.

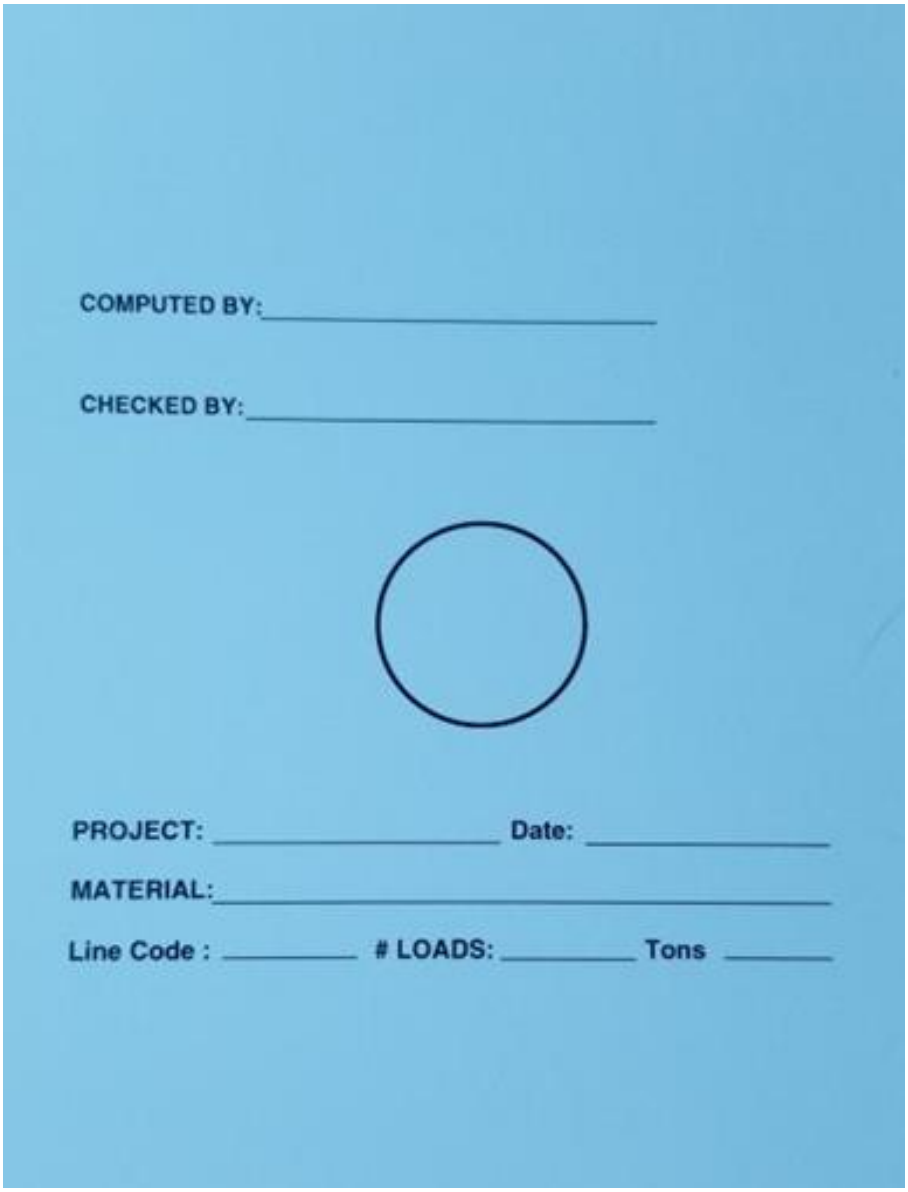
Upon determining that all required information has been furnished on the weight certificate, the Inspector should then list the following information on the ticket:

1. LAP Contract Number.
2. WBS Element Number if different from that shown on the ticket.
3. Contract line-item number by which material will be paid.
4. Location where the material was placed.
5. Date the material was placed if it is different from the date the ticket was issued, such as erosion control stone stockpiled on a previous date anticipating inclement weather.
6. Construction Technician's signature on the first ticket for the day and initials on subsequent tickets.
7. Quantity reduction for unused portion of material and a reason should be shown clearly on the ticket.
8. The time the ticket is received for asphalt plant mix or plant mixed cement treated base course.

Tickets for each day should be bound separately with the total for the day shown on the front cover. Ticket books shall be created when any material received by weight is delivered to a project.

Exception: When a small number of tickets (typically 5 or less) are received on a particular date, these tickets may be bound with similar tickets for other dates. The total for each date should be shown on the cover of the ticket book.

Example – Ticket Book Cover



5 Acceptance Of Materials

After materials are received on the project, the next process is to accept the material. Materials are accepted in one of the following methods or combination of methods listed below:

- Sample/Test/Inspection
- Pretested
- Certification
- Approved List
- Catalog Cut
- Visual Inspection

5.1 Sample/Test/Inspection:

Materials in this category are accepted by sampling, testing or detailed inspection at the time of arrival on-site. The Minimum Sampling Guide provides the sampling frequency (how often samples are taken for a given amount of material received) for each material. Materials which are tested onsite to determine acceptability and workmanship are required to have an active, certified technician to conduct all tests. The test results shall be documented and on file for verification during the material certification process. Examples of these materials are concrete, asphalt, soil densities, and aggregate base coarse densities. Materials & Tests contains a list of required technician certifications for sampling, testing and standard inspections for specific materials. Samples, tests, and inspections conducted by a technician who is not certified will void the test results and no credit will be given for the sample accepted quantity.

When materials delivered to the project site require a FIR, contact shall be made with a representative from the Materials and Tests Unit. He or she will come to the jobsite and perform the inspection and complete a Field Inspection Report (FIR) for the material. In most cases, these materials require additional certifications to accompany the material so the inspector can complete the FIR. See Section 10 for the certification requirements. Example materials that fall into this category are Concrete Precast Units or Pipe.

Samples taken for acceptance of materials must be tested at a NCDOT M&T Laboratory or an approved private testing laboratory. Private testing laboratories must be both NCDOT accredited and AASHTO Accredited. See Section 13 for the qualifications for a certified 3rd party laboratory. Regardless of where the samples are tested, all sample results shall be accompanied by a signed laboratory report and kept on file for verification during the material certification process.

5.2 Pretested:

Material types that fit into this category principally are, but not limited to, prestress and precast materials. These materials simply mean, the material is tested and accepted off site during the manufacturing/fabrication process. These materials are normally sampled, tested and inspected by the Materials and Tests Unit at the production site. However, there are some materials that are pretested by other third-party organizations. Acceptance information is entered into HiCAMS under the appropriate Field Inspection Report (FIR) while the product is being fabricated. Not all pretested materials require a FIR. Example material types which are pretested include but are not limited to Reinforced Concrete Pipe, Precast Concrete and Prestressed Concrete. Other pretested items such as Timber Products and Seed are identified by brand make or acceptance tags placed on the product.

5.3 Certification Type:

Materials in this category are accepted by specified and required certification types. These materials are shipped to the project and shall have the appropriate certification from the producer/manufacturer/supplier as specified in the Standard Specifications for Roads and Structures or the project special provisions. "Section 106-3 Contractor Furnished Certification" (Standard Specifications for Road and Structures) outlines the seven individual types of certifications. In this guide, reference Section 7 for the described requirements for the certification types and example models. Section 106-3 in the NCDOT Specification book shall be brought to the attention of the Contractor prior to materials arriving on site.

5.4 Approved Lists:

To expedite construction projects, NCDOT has enacted a pre-approval program for some common materials. There are generally two lists:

- Qualified Products List (QPL)
    - Contractor will submit a list of proposed materials included on QPL
    - Relieves the contractor from submitting catalog cuts
    - Certifications are still required
    - Need verification that product used is product submitted on the QPL – Invoice
    - NCDOT: ITS and Signals Qualified Products List
    - https://apps.ncdot.gov/Products/QPL/
- NCDOT Vendor Approved Products
    - Contractor can select items off the various list if the product is in an "Approved for Use" status.
    - Certifications are still required based off requirements of MSG and Standard Specifications For Roads and Structures
    - NCDOT Vendor Approved Products At the website, https://apps.ncdot.gov/vendor/approvedproducts/

At the NCDOT Vendor Approved Products website you can search and find the following items:

- Product Listings
- Seeds
- Producer/Suppliers
- Technician Certification
- Minimum Sampling Guide
- Alternate ID Lookup

5.5 Catalog Cut:

Materials in this category are accepted by specification sheets for an individual and specific product. "Data Sheets" are not the same as "Catalog Cut" sheets. Catalog Cut documentation typically appears like a sales catalog. Catalog cuts do require certifications as outlined in the MSG.

5.6 Visual Inspection:

Materials in this category require an additional check/verification with other methods of acceptance as well. The objective is for the inspector to visually inspect the product to verify there was no damage to the product during

loading, shipping and unloading of the item. All fabricated items shall have a visual inspection performed on them prior to acceptance.

6 NCDOT Resources And Links

The following are resources and links to NCDOT standards, lists, and manuals. The resources and links noted may not represent all the materials, testing or sampling process, and requirements incorporated on your specific project. If you need assistance with additional information, contact your Division assigned M&T LAP representative. Materials which do not meet the sampling/testing requirements, certification documentation, or specification and policies may be subject to non-participating funds.

2024 NCDOT Standard Specifications Manual
https://connect.ncdot.gov/resources/Specifications/2024StandardSpecifications

NCDOT Roadway Standard Drawings
https://connect.ncdot.gov/resources/Specifications/Pages/2024-Roadway-Standard-Drawings.aspx

Materials and Tests Webpage
https://connect.ncdot.gov/resources/Materials/Pages/default.aspx

Minimum Sampling Guide (MSG)
The Minimum Sampling Guide (MSG) lists typical material types. This Guide displays how materials are received, method of acceptance and certifications required. The LAP can use this resource for reviewing contractors pay estimates; however, the project certification for LAP is always critical, therefore, the certification type always applies.
Resource: https://apps.ncdot.gov/vendor/approvedproducts/MinimumSamplingGuide.aspx

Certified Construction Technicians
The LAP will provide Technicians to inspect and document the construction of the project. Specific items of work including the placement of asphalt and concrete and testing of certain materials such as soil and aggregate base course materials require certifications by the Department. It is the responsibility of the LAP to make sure that individual Technicians are thoroughly familiar with the contract requirements and NCDOT certified for the various phases of work which they are called upon to inspect. Copies of Technician certifications shall be available for verification during the material certification process.
Resource: https://apps.ncdot.gov/vendor/approvedproducts/Technician.aspx

Buy America
2024 Standard Specifications for Roads and Structures Section 106-1B, all steel, iron, and manufactured products must include a certification statement from the contractor that the items provided for incorporation into the project were produced in the United States, including raw materials. The individual documents certifying the products are in accordance with this requirement should be maintained with the material test results and be available for audit or project material certification upon completion of the project. This requirement applies to any project which receives Federal and/or State funding.

Approved Producer/Supplier
Producers and Suppliers are pre-approved to produce and/or supply materials to NCDOT. Facility Types include but are not limited to; Asphalt Plants, Cast Iron, Concrete Plants, Guardrail, Brick and Block, Rebar Coaters, Metal Pipe. Use the resource link to view the complete list. The list is updated daily. It is recommended to check the list prior to purchasing materials from approved producers/suppliers. Producers and Suppliers are removed from the approved list. The Materials & Tests Unit monitors and oversees the approved list.
Resource: https://apps.ncdot.gov/vendor/approvedproducts/Producer.aspx

Approved Products List (APL)
The Approved Products List is a database of pre-approved products available for construction use on NCDOT projects. These products have been evaluated to ensure the product is viable for use by performing a detailed review of product specifications, technical data, test results, and monitoring the products durability and performance. The list is not a blanket for approval. All products are still subject to all other project requirements and should be used in conjunction with the MSG, NCDOT Standard specifications for Roads and Structures, and plans. The Materials & Tests Unit monitors and oversees the approved list.
Resource https://apps.ncdot.gov/vendor/approvedproducts/Default.aspx

Precast Concrete and Prestressed Concrete RFID Verification
Precast Concrete and Prestressed Concrete shall come from an approved Producer/Supplier. Precast producers supply units to NCDOT and non-NCDOT projects. The LAP needs to verify that the material being produced/supplied by the approved producer/supplier is also NCDOT approved. RFID tags are cast in all pieces produced for NCDOT. The piece is inspected, and testing verified by a Materials and Tests representative at the facility. After passing an inspection process, the RFID tag cast into that piece is scanned, accepted and a FIR (field inspection report) is created in the NCDOT HiCAMS system. If the piece does not pass the inspection process, the RFID tag is still scanned but it is rejected. The FIR is still created in HiCAMS but the status will be rejected. Depending on the discrepancy, the producer can choose to destroy the piece or sell it as a non NCDOT piece. It is the responsibility of the on-site inspector to verify all concrete pieces are accepted for NCDOT use. The Precast Concrete ID/Barcode (RFID tag) can be entered and verified by following the resource link. The on-site inspector shall also retain the Bill of Lading from the producer and ensure all RFID tag numbers are documented to satisfy the material certification process.
Resource: https://apps.ncdot.gov/vendor/approvedproducts/PrecastLookup.aspx

Concrete, Metal, HDPE Pipe
All categories of pipe must come from an approved Producer/Supplier. Pipe producer's supply/produce for NCDOT and non-NCDOT projects. The LAP shall verify that the material being produced/supplied by the approved producer/supplier is also NCDOT approved. All pipe producers/suppliers utilize the RFID tracking system. All approved pipes are inspected, and testing verified by a Materials and Tests representative at the pipe facility. After passing the inspection process, the pipe RFID tracking number is then entered into the HiCAMS system and NCDOT approved. If the pipe does not pass inspection process, the pipe is not NCDOT approved. Depending on the discrepancy, the producer can choose to destroy the pipe or sell it as a non NCDOT piece. It is the responsibility of the on-site inspector to verify all pipes are NCDOT approved. The on-site inspector shall also retain the Bill of Lading from the producer and ensure the RFID tracking number is documented on the Bill of Lading in order to satisfy the material certification process.
Resource: https://apps.ncdot.gov/vendor/approvedproducts/PrecastLookup.aspx

Structural Timber and Lumber
In accordance with Section 1082, all timber or lumber must be pre-inspected by an M&T approved independent inspection agency. The inspection firm will hammer mark, die stamp or tag each piece of acceptable timber or lumber with their unique mark. An industry standard commercial inspection report must accompany each shipment of timber or lumber. In addition, an industry standard treatment test report for treated lumber must accompany each shipment of treated timber or lumber. These inspection reports may be on the same sheet of paper. Report the size, quantity, inspection report number and the wood producer on the MRR. Retain this documentation in the project files for the material certification process. Select timber items for LAP's are exempt from this requirement, see section 10 for additional details.

Approved Timber Product Inspection Companies

A.W. Williams Inspection Co., Inc.
P.O. Box 2107
Mobile, AL 36601
Phone: 215-438-3691

HRV Conformance Verification
200 Hightower Blvd.
Pittsburgh, PA 15205
Phone: 412-788-2522

Bureau Veritas North America Inc.
Foster Plaza XI
790 Holiday Drive
Pittsburgh, PA 15220
Phone: 412-503-4105

Timber Products Inspection, Inc.
P.O. Box 919
Conyers, GA 30012
Phone: 770-922-8000

Concrete Mix Designs

The Contractor should submit concrete mix design form 312U prior to proposed use as stated in Section 1000-4(A), NCDOT Specification book. Retain the form and place with laboratory test results.

Concrete mix designs are submitted via email to: concretedesigns@ncdot.gov
To check the status of an approved concrete mix design, email: concretedesigns@ncdot.gov

Approved Concrete Mix Design Verification

Resource: https://engblp.services.ncdot.gov/EAS/CMD/Main.aspx

QPL (ITS AND SIGNALS QUALIFIED PRODUCTS LIST)

The ITS and Signals Qualified Products List (ITSS QPL) contains traffic signal equipment and material standards that are approved for use on contract projects on the North Carolina State Highway System. All signal and traffic management equipment, materials, and hardware should be pre-approved and on the QPL list by the day of installation. The QPL listing does not replace a material certification. Reference 2024 Standard Specifications for Roads and Structures section 1098 to be aware of the materials that require a material certification in addition to the QPL approval. A Bill of Lading for signal equipment, materials, and hardware must be provided by the supplier. The line-item number from the bill of materials MUST be marked on the Bill of Lading in order to satisfy the material certification process. The applicable QPL listing must be provided for all signal equipment, materials, and hardware on the bill of material. The line-item number from the bill of materials must be marked on the QPL listing to satisfy the material certification process. Signal equipment, materials, and hardware requiring a material certification as stated in section 1098 of the NCDOT spec book, must be provided and marked with the line-item number from the bill of materials to satisfy the material certification process. Be aware the QPL list is typically updated once a month during the first week of the month. Introduction to Online QPL link
Resource: https://connect.ncdot.gov/resources/safety/Pages/QPL-Introduction.aspx

QPL database link
Resource: https://connect.ncdot.gov/resources/safety/Pages/ITS-and-Signals-Qualified-Products.aspx

ITS and Signals Qualified Products List
Resource: https://apps.ncdot.gov/products/qpl/

Cast Iron (grates, frames, hoods, manhole rings and covers)

Currently there are two companies supplying casting for NCDOT work, US Foundry and East Jordan Ironworks. Each piece is paint stamped indicating the casting is acceptable for use. The stamp indicates the casting has passed quality control procedures. If a casting has a stamp on it, it is acceptable for use on NCDOT work.

- U.S. Foundry (CI2) stamp- USF NC DOT
- East Jordan Ironworks (CI3, CI5 & CI10) stamp- NCDOT EJIW QC

Casting will have either “Made in the USA” or “USA” cast in them. Additionally, they will have a date cast in the item. The date, along with the foundry ID number is the alternate ID. The alternate ID will be the “Lot Number”. To satisfy the material certification process for Cast Iron materials, you will need to provide:

- A Bill of Lading from either East Jordan Ironworks or US Foundry
- A Type III Material Certification.

Reinforcing Steel – Rebar

Reinforcing steel must come from a NCDOT approved producer/supplier. This includes epoxy coated reinforcing steel, reinforcing steel-stainless, coated rebar and dowel baskets. Requirements must be met for material acceptance. Reinforcing steel must be ASTM A615, Grade 60. Concrete pavement tie bars should be ASTM A615, Grade 40. Additional grades of steel may be required by Special Provision.

- The shipment of reinforcing steel shall come from a Department approved reinforcing steel (RS##) producer/supplier.
- All reinforcing steel must meet the following requirements:
    - o Buy America Act
    - o Provide a type I certified mill test report for each size and heat number of reinforcing steel supplied.
- A completed ***Materials and Tests Unit Form 913***. Form 913 must include the Department approved Facility ID number.
- The quantities on the Form 913 must match or exceed the quantities of each size of reinforcing bar reported on the corresponding Material Received Report (MRR).
- If the shipment does not include a Form 913, project personnel must take a sample of each size of reinforcing steel in the shipment. Please contact the Materials and Tests Unit for assistance before accepting this material.

Coated Reinforcing Steel

Each shipment of epoxy coated reinforcing steel can be accepted by using the following:

- The shipment of coated reinforcing steel shall come from a Department approved rebar coating (RC##) producer/supplier.
- All reinforcing steel must meet the following requirements:
    - o Buy America Act
    - o Provide a type 1 certified mill test report for each size and heat number of reinforcing steels supplied.
- All shipments of coated reinforcing steel will include a ***Form 913, Form ER-02***, production documentation, and inspection documents with the Department approved facility ID number.
- If the shipment does not include Form 913 and Form ER-02, Project personnel must take a sample of each size of reinforcing steel in the shipment. Please contact the Materials and Tests Unit before accepting this material.

Fabricators & Pedestrian Bridge

Prior to any acceptance and/or construction of a fabrication structure and/or pedestrain bridge, the following must be verified and/or approved – Producer/Supplier and Shop Drawings. The Departments approved Producer/Supplier list can be accessed through the Vendor link. Shop drawings shall be submitted to the NCDOT Structures Management Unit (SMU-wdr@ncdot.gov) for review and acceptance. Once the shop drawings have been approved by the SMU, the fabricator of the bridge shall complete the “Materials & Tests Notification of Work Form”. This completed form shall be emailed to the Metals Products Engineer with the Materials & Tests Unit. Prior to any production, the fabricator shall receive confirmation from M&T the notification of work form has been received. During the fabrication process, a M&T representative will conduct inspections at the manufacturing facility. If any welding is required at the time of installation on the project site, an active, certified welder shall conduct all welding. Welder Certifications shall be submitted and kept on file. These certifications shall be verified during the material certification process.

Resource: : MT Form M4000 Notification of Beginning Work.pdf (ncdot.gov)
https://apps.ncdot.gov/vendor/approvedproducts/Producer.aspx

7 Certification Types and Examples

Reference “Section 106-3 Contractor Furnished Certification” in the NCDOT specification book. Each certification type has specific wording or statements making it unique, and distinguished from other certification types. If you receive a certification type that does not contain the required wording or statement, you have received incorrect documentation and the material shall not be received or accepted. “Data Sheets”, “Brochures”, “Submittals”, etc., are not to be substituted or accepted for the proper certification type.

Within the definition of the certification type, if it notes any variation of the word “certified”, the documentation shall contain a signature of the supervisor or company represenative. Documentation without the required signature will be rejected.

A certification dated within two years of the contract letting date is acceptable. Certifications with dates greater than 2 years will be evaluated depending on the material, but are generally rejected.

All documentation shall be filed with the appropiate material, MRR, and/or invoice. The documentation must be easily accessable, and clearly available for verification during the material certification process. If documentation is incorrect and/or unorganized and chaotic, the line item/material will be assigned a non-participating amount during the material certification process. If the issue is not resolved, funds associated to the line item/material will not be reimbursed.

7.1 Type 1 - Certified Mill Test Report

A certified mill test report shall be a certified report of tests conducted by the manufacturer on samples taken from the same heat or lot number as the material actually shipped to the project. The report shall identify the heat or lot number.

Examples of materials which require a Type 1 Certification are: Reinforcing Steel (plain & epoxy), Guardrail, Metal Bollards, Fertilizer – see MSG for additional materials.

NUCOR

Phone: 1-866-825-3239
Email: nsd-mtr-inquiries@nucor.com

METALLURGICAL TEST REPORT

Nucor Steel Decatur, LLC
4301 Iverson Blvd.
Trinity, AL 35673

Load Number: C800621
Certificate Number: 973233
Date Printed: 03/02/2021 23:07
Total Wgt: 46,300 lbs
Page: 2 of 2

Customer Name: D-MAC IND INC
Address: 1880 D-MAC DR
ALPHARETTA GA 30004

Order Number: 309272 - 0006
Order Dimensions: 0.0369 in MIN X 58.7500 in MIN, CUT
Product: GALVANIZED COLD ROLL COILED STEEL

Spec: ASTM A653 SS Grade 80 Class 3
Tensile test per ASTM A370; Fig 3 sheet-type 2" gauge length
G165, CT, DRY - No Oil

Spec Rev: 20

Customer PO #: 0007283

CHEMISTRY ANALYSIS

Coil Num/Wgt	Heat	Slab	C	Mn	P	S	Si	Cu	Sn	Ni	Cr	Mo	Al	N	V	Nb	Ti	B	Ca
4147562.902 22,660 lbs	SL1843	06 TUNDISH	0.03	0.16	0.006	0.004	0.028	0.13	0.003	0.06	0.04	0.01	0.031	0.0055	0.002	0.001	0.001	0.0001	0.0021

Test Description	Test Result	Tested Heat / Slab / Gauge(in)	Sample Type	Direction
Yield Strength - lower	92.3 ksi / 636 MPa	0.0389	ASTM	Long
Tensile Strength	93.7 ksi / 646 MPa	0.0389	ASTM	Long
Total Elongation (2")	9.5 %	0.0389	ASTM	Long
Coating Weight Top Average	0.931 oz/ft2 / 284 g/m2			
Coating Weight Bottom Average	0.893 oz/ft2 / 272 g/m2			
Coating Weight Grand Total	1.824 oz/ft2 / 557 g/m2			

WE HEREBY CERTIFY THE ABOVE IS CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION.
MATERIAL ABOVE IS IN COMPLIANCE WITH THE REQUIREMENTS OF THE REFERENCED SPECIFICATION/PRODUCT STANDARDS.
MELTED AND ROLLED IN THE USA. MADE IN THE USA. CERTIFICATE ISSUED IN ACCORDANCE WITH EN 10204 3.1.

Daniel M. Stephens PLANT METALLURGIST

Type 1 Certification

CMC STEEL SOUTH CAROLINA
310 New State Road
Cayce SC 29033-3704

CERTIFIED MILL TEST REPORT

For additional copies call
800-637-3227

We hereby certify that the test results presented here are accurate and conform to the reported grade specification



Curtis G. Glenn.

HEAT NO.:2089123
SECTION: REBAR 13MM (#4) 60'0" 420/60
GRADE: ASTM A615-20 Gr 420/60
SOLL DATE: 05/17/2021
MELT DATE: 05/16/2021
Cert. No.: / 089133D265

SOLD TO

SHIP TO

Delivery$:
SO1#:
COST PO#:
COST R/N:
DLVRY LBS / HEAT: 0.000 LB
DLVRY PCS / HEAT:

Characteristic	Value
C	0.41%
Mn	0.97%
P	0.016%
S	0.031%
Si	0.26%
Cu	0.48%
Cr	0.25%
Ni	0.14%
Mo	0.037%
V	0.000%
Cb	0.000%
Sn	0.013%
Al	0.003%
Ti	0.001%
N	0.0075%
Yield Strength test 1	70.8ksi
Yield Strength test 1 (metri	488MPa
Tensile Strength test 1	110.4ksi
Tensile Strength 1 (metric)	762MPa
Elongation test 1	10%

Characteristic	Value
Elongation Gage Lgth test 1	8IN
Tensile to Yield ratio test1	1.56
Bend Test 1	Passed
Rebar Deformation Avg. Spaci	0.332IN
Rebar Deformation Avg. Heigh	0.026IN
Rebar Deformation Max. Gap	0.126IN
Bend Test Diameter	1.750IN

Characteristic	Value

The Following is true of the material represented by this MTR:

*Material is fully killed
*100% melted and rolled in the USA
*EN10204:2004 3.1 compliant
*Contains no weld repair
*Contains no Mercury contamination
*Manufactured in accordance with the latest version of the plant quality manual
*Meets the "Buy America" requirements of 23 CFR635.410, 49 CFR 661
*Warning: This product can expose you to chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

REMARKS : ALSO MEETS AASHTO M31

Type 1 Certification

7.2 Type 2 - Typical Certified Mill Test Report

A typical certified mill test report shall be a certified report of tests conducted by the manufacturer on samples taken from a lot that is typical of the material actually shipped to the project, but that may or may not be from the lot shipped.

Type 2 Certification

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Oct 14 2019 12:32PM Potters Industries Apex 9193628439 page 4

Potters

Recycles Over One Billion Pounds Of Glass Each Year

820 Lufkin Road
Apex, NC 27539-7850
Phone: 919-362-7574
Fax: 919-363-8439

MATERIAL CERTIFICATION

The material covered by this Certification has been tested according to ISO 9001 standard procedures by our Quality Control Department and complies with all applicable specifications. Quality Control Data to substantiate this certification is on file in our Laboratory.

Potters tests every lot of glass beads produced for use in Highway Markings using XRF technology to insure that Heavy Metals are below the following limits for total content unless lower limits are required by the specification: Arsenic <200ppm, Lead <200ppm, Antimony <200ppm. Test Data is on file in our Quality Lab to support this, and is available upon request. Independent Testing Laboratory results using EPA Methods 3052 and 6010C can also be provided if requested at least 2 weeks in advance of shipment.

Customer (4323): TRAFFIC MARKINGS INC
Customer PO #: 20268

Potters Order #: 1377737
Bill of Lading #: 81488668

Material	Quantity (LB)
NC TP2 MP BG 80% 2000 PRETEST	44,000.000
LOT# AP-H-100519-5 ON PALLET #1-7,16-30 These glass beads are manufactured from commercial soda lime glass cullet from North American sources.	
TOTAL QUANTITY:	**44,000.000**

DATE: 10/14/2019

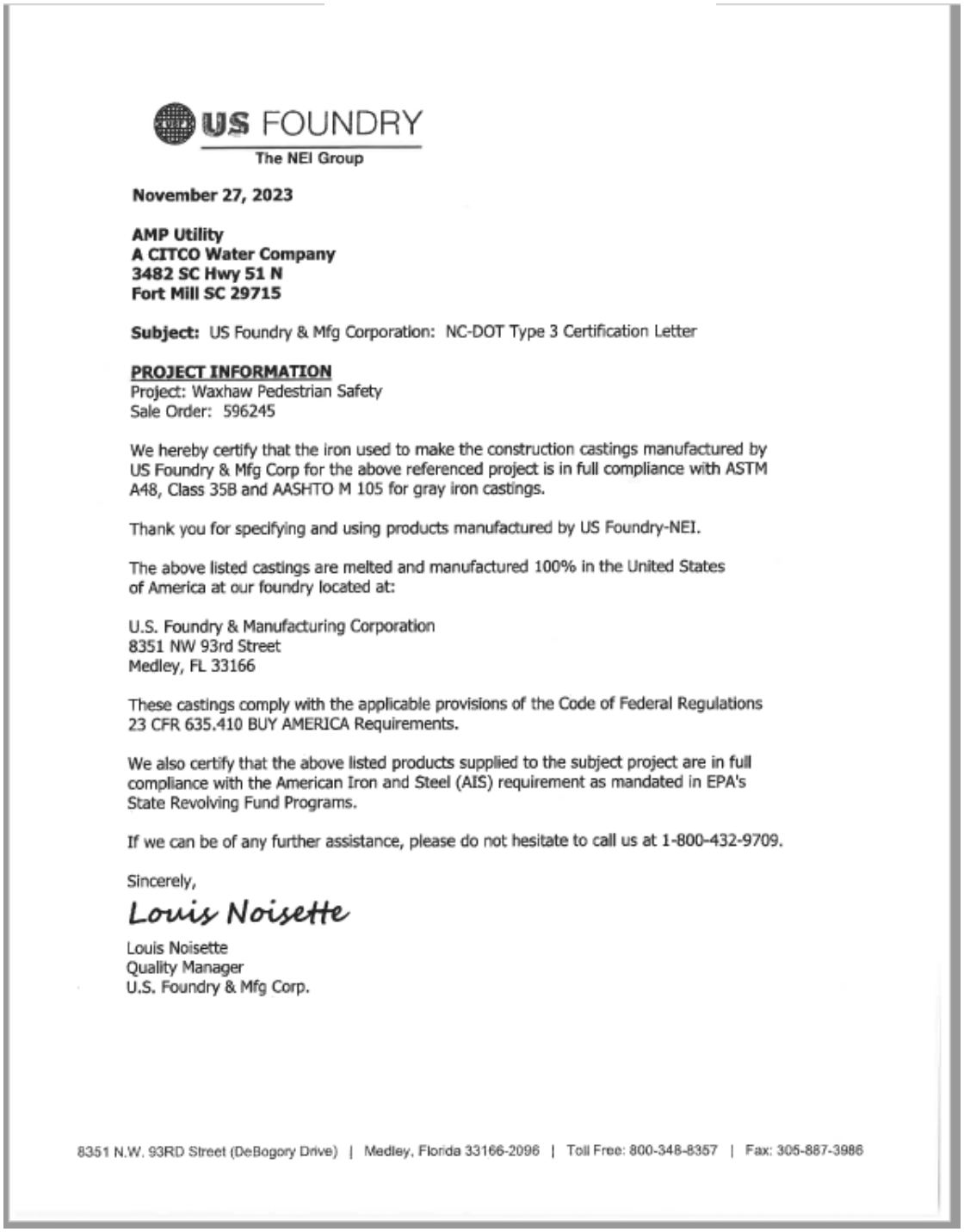
BY:

7.3 Type 3 – Manufacturer's Certification

A manufacturer's certification shall be a certified statement that the material actually shipped to the project was manufactured by production processes that are periodically and routinely inspected to assure conformance to specification requirements.

Examples of materials which require a Type 3 Certification are: Paint Markings, Junction Box, Fiber Optic Cable, Inductive Loop, Silt Fence, ADA Compliant Material.

Type 3 Certification



US FOUNDRY
The NEI Group

November 27, 2023

AMP Utility
A CITCO Water Company
3482 SC Hwy 51 N
Fort Mill SC 29715

Subject: US Foundry & Mfg Corporation: NC-DOT Type 3 Certification Letter

PROJECT INFORMATION
Project: Waxhaw Pedestrian Safety
Sale Order: 596245

We hereby certify that the iron used to make the construction castings manufactured by US Foundry & Mfg Corp for the above referenced project is in full compliance with ASTM A48, Class 35B and AASHTO M 105 for gray iron castings.

Thank you for specifying and using products manufactured by US Foundry-NEI.

The above listed castings are melted and manufactured 100% in the United States of America at our foundry located at:

U.S. Foundry & Manufacturing Corporation
8351 NW 93rd Street
Medley, FL 33166

These castings comply with the applicable provisions of the Code of Federal Regulations 23 CFR 635.410 BUY AMERICA Requirements.

We also certify that the above listed products supplied to the subject project are in full compliance with the American Iron and Steel (AIS) requirement as mandated in EPA's State Revolving Fund Programs.

If we can be of any further assistance, please do not hesitate to call us at 1-800-432-9709.

Sincerely,

Louis Noisette

Louis Noisette
Quality Manager
U.S. Foundry & Mfg Corp.

8351 N.W. 93RD Street (DeBogory Drive) | Medley, Florida 33166-2096 | Toll Free: 800-348-8357 | Fax: 305-887-3986

3M Brownwood Plant

4501 Hwy 377 South
Brownwood, TX 76801-5907
325-646-3551

3M

CERTIFICATE OF CONFORMANCE

THIS IS TO CERTIFY THAT THE MATERIAL SHIPPED AS INDICATED HEREIN CONFORMS TO THE SPECIFICATION LISTED BELOW:

DESCRIPTION: 3M HIP 3930 Series (ALL COLORS)

MATERIAL:	QUANTITY	SIZE - IN X YD	LOT NO
3930 White	1 Roll	48 X 100	190471

PURCHASE ORDER NO: 117764

INVOICE NO: AZ76179

SPECIFICATIONS:

3M Specification for 3M™ High Intensity Prismatic Reflective Sheeting Series 3930 and other US state DOT specifications listed in the table on the next page.

March 19, 2019
Document Received From:

Cody W. Golson
FACTORY QUALITY ASSURANCE
3M Transportation Safety Division
BROWNWOOD, TEXAS 76801

3

Type 3 Certification

EJ
301 Spring Street
PO Box 439
East Jordan, MI 49727-0439

+1 231 536 2261
800 874 4100
ejco.com

Material Certification

Cert Number: 23-004173

November 22, 2023

A M P Utility Distribution Services
3482 Hwy 51 N No Deliveries accepted after 3PM.
Fort Mill, SC 29715
Project #: Waxhaw Ped Safety- Nassiri
Order Type: Distributor

Qty.	Part Number	Description
4	44066130B01	V4066 Curb Inlet Assembly with V4066-1 Grate and Adjustable Non-Mountable Curb Hood - NCDOT 840.03 Type E
2	41384085A01	V1384 7-1/2" Tall Manhole Assembly Storm Sewer
1	44870090	V4870 4" Tall Catch Basin Assembly with 2 V4870 Concave Grate North Carolina DOT Type 840.16

Dear Valued Partner:

We hereby certify that the iron used to make the construction castings manufactured by EJ for the above referenced project is in full compliance with ASTM A48, Class 35B and AASHTO M105 for gray iron castings and ASTM A536, Grade 70-50-05 for ductile iron castings. Thank you for specifying and using products manufactured by EJ.

The above listed castings are melted and manufactured 100% in the United States of America at our foundries in Ardmore, OK and Elmira, MI. These castings comply with the applicable provisions of the Code of Federal Regulations 23 CFR 635.410 BUY AMERICA Requirements.

We also certify that the above listed products supplied to the subject project are in full compliance with the American Iron and Steel (AIS) requirement as mandated in EPA's State Revolving Fund Programs.

EJ USA, Inc.

Lee Veldboom
Tech. Sales Eng. Manager

Access Tile®

Tactile Systems

Certificate of Compliance

July 2, 2020
***issued on a per project basis**

Contract #: C-5531
Project Description: Mooresville Briarcliff Sidewalk
Installer: Blythe Development
Owner: Town of Mooresville
Product Installed: 2'x4' and 2'x5' – Onyx Black

Access Products Inc. certifies that the Access Tile and specified installation materials are in compliance with the following:

Americans with Disabilities Act (ADA) (Title III Regulations, 28 CFR Part 36 ADA STANDARDS FOR ACCESSIBLE DESIGN, Appendix A, Section 4.29.2 DETECTABLE WARNINGS ON WALKING SURFACES).

California Code of Regulations (CCR): Provide only approved DSAAC detectable warning products as provided in the California Code of Regulations (CCR) Title 24, Chapter 2, Section 202 definition of "Detectable Warning". Section 11B-247 and 11B-705 "Detectable Warnings and Detectable Directional Texture"

ISO 23599: 2012(E): Assistive Products for Blind and Vision Impaired Persons – Tactile Walking Surface Indicators.

CSA B651-12: Accessible Design for the Built Environment Standard
Integrated Accessibility Standards Regulation 191/11 – Sections 80.25 to 80.29

Please visit our web site www.accesstile.com or call us directly for additional information regarding our products and services.

Sincerely,

John Heffner
Vice President

ACCESS PRODUCTS INC.
241 Main Street • Suite 100 • Buffalo, NY 14203 T: (888) 679.4022
www.accesstile.com | www.accessproducts.c

7.4 Type 4 – Certified Test Reports

A certified test report shall be a certified report of tests conducted by an approved independent testing laboratory on samples taken from the same heat or lot number as the material actually shipped to the project. The report shall identify the heat or lot number.

Examples of materials which require a Type 4 Certification are: Thermoplastics, Timber Piles, Pavement Markings, or Glass Beads.

Type 4 Certification

RECEIVED 10/08/2019 07:31AM
Oct 08 2019 07:28AM Potters Industries Apex 9193628439 page 5

FUTURE LABS, LLC
Highway Safety Product Testing

www.futurelabsllc.com
124 Lone Wolf Drive . Madison, MS 39110
601.855.7407

DATE: September 6, 2019

REPORT: The following report covers **Drop-on glass bead results** obtained from testing the sample received under the 2018 NCDOT Thermoplastic Pavement Markings Specification (Section 1087-4 & 7). The materials **PASSED** the requirements for which they were tested.

PRODUCT: **Potters Batch #AP-H-090219-6. Batch size 44,000 lbs.**
The product is designated Potters Drop-on Glass Beads.
Manufactured by Potters Industries of Apex, NC.

SAMPLE: The sampling was witnessed by NCDOT on **9-4-19**. Sample size 1 quart.
Potters-Apex, NC.

TESTS	NCDOT SPECIFICATION	RESULTS
Gradation	20 sieve 100% passing	100 %
	30 sieve 5 - 10% retained	6.54 %
	50 sieve 40 - 80% retained	72.41 %
	80 sieve 15 - 40% retained	19.59 %
	80 sieve 0 - 5% passing	1.44 %
	200 sieve 0 - 5% retained	1.41 %
Rounds per Sieve	30 mesh	75.18 %
	50 mesh	85.48 %
	80 mesh	88.31 %
Total Rounds	80% minimum	85.3 % total
Refractive Index	1.5 minimum	1.52
Moisture Resistance	Free-flowing after wet	PASS
Chemical Resistance (Distilled Water, Sodium Sulfide & Sulfuric Acid)	No frosting or darkening	PASS
Arsenic Analysis	75 ppm maximum	<5 ppm
Lead Analysis	200 ppm maximum	<10 ppm

Tested By:
Joseph Blankenship, Thermoplastics Lab Technician
Potters-Apex 3075-3081 NC Drop-on

Reviewed By:
A. Taylor Allbritton, Thermoplastics Lab Manager

7.5 Type 5 – Typical Certified Test Reports

A certified test report shall be a certified report of tests conducted by an approved independent testing laboratory on samples taken from a lot that is typical of the material actually shipped to the project, but that may or may not be from the lot shipped.

Examples of materials which require a Type 5 Certification are: Emulsified Asphalt, Lighting and Electrical Material.

Type 5 Certification

ROANOKE CEMENT
A TITAN AMERICA BUSINESS

6071 Catawba Rd.
Troutville, VA 24175
(540) 765-3200

Cement Type: **Type IL(13)-MS - Portland-Limestone Cement** Date: **9/7/2021**

Production Period: **August, 2021**

Standard Requirements
ASTM C595

	Test	Spec.	Result	
MgO	C114	A	**1.94**	
SO_3	C114	3% max.	**2.58**	
Alk Eq	C114	0.75	**0.61**	
Loss on Ignition	C114	10.0% max.	**7.2**	
$CaCO_3$ in limestone	C114	70% min.	**94**	
Blaine Fineness, m^2/kg	C204	A	**447**	
325 mesh sieve % retained	C430	A	**0.5**	
Autoclave Expansion	C151	0.8% max.	**0.01**	
Autoclave Contraction	C151	0.2% max.	**----**	
Vicat Time of Set				
Initial not less than (minutes)	C191	45	**138**	
Final not more than (hours)	C191	7	**4.2**	
Air Content	C185	max. 12%	**7.6**	
Compressive Strengths			**MPa**	**PSI**
1 Day.....	C109	A	**18.1**	**2630**
3 Day.....	C109	1890	**33.0**	**4790**
7 Day.....	C109	2900	**38.7**	**5610**
28 Day (Previous month)	C109	3620	**46.2**	**6700**

A= Not applicable

The test results shown above were obtained by our mill laboratory on the cement sampled during production. We certify that the results comply with the requirements of ASTM Specification C595-20 for Type IL Portland-Limestone cement and ASTM Specification C1157-20 for Type GU and Type MS.

AAP AASHTO:R18
Roanoke Cement Laboratory is accredited by AAP. Accreditation is limited to the laboratory and the standards for which the laboratory is accredited.

Bryan G. Pittenger
Quality Control Manager

www.roanoke-cement.com

7.6 Type 6 – Supplier's Certification

A supplier's certification is a signed statement by the supplier that the material described in the certification is of the specification grade required and that the supplier has on hand Type 1 or Type 2 material certifications to cover the material that is included in the Type 6 supplier's certification.

Examples of materials which require a Type 6 Certification are: Cement, Landscaping Materials, Plantings.

Type 6 Certification

HANES GEO COMPONENTS
A Leggett & Platt COMPANY

June 9, 2014

M&J Seeding, attention Jeff

Onlsow County NCDOT

REF: American Excelsior Curlex Sediment Log for NC DOT
Job:

This is to certify that the American Excelsior Curlex Sediment Logs are manufactured by production processes that are periodically and routinely inspected to assure conformance to specification requirements. American Excelsior Curles sediment log conform to the attached specification:

Sincerely,

Keith Harris

Keith Harris
Technical Director
Hanes Geo Components

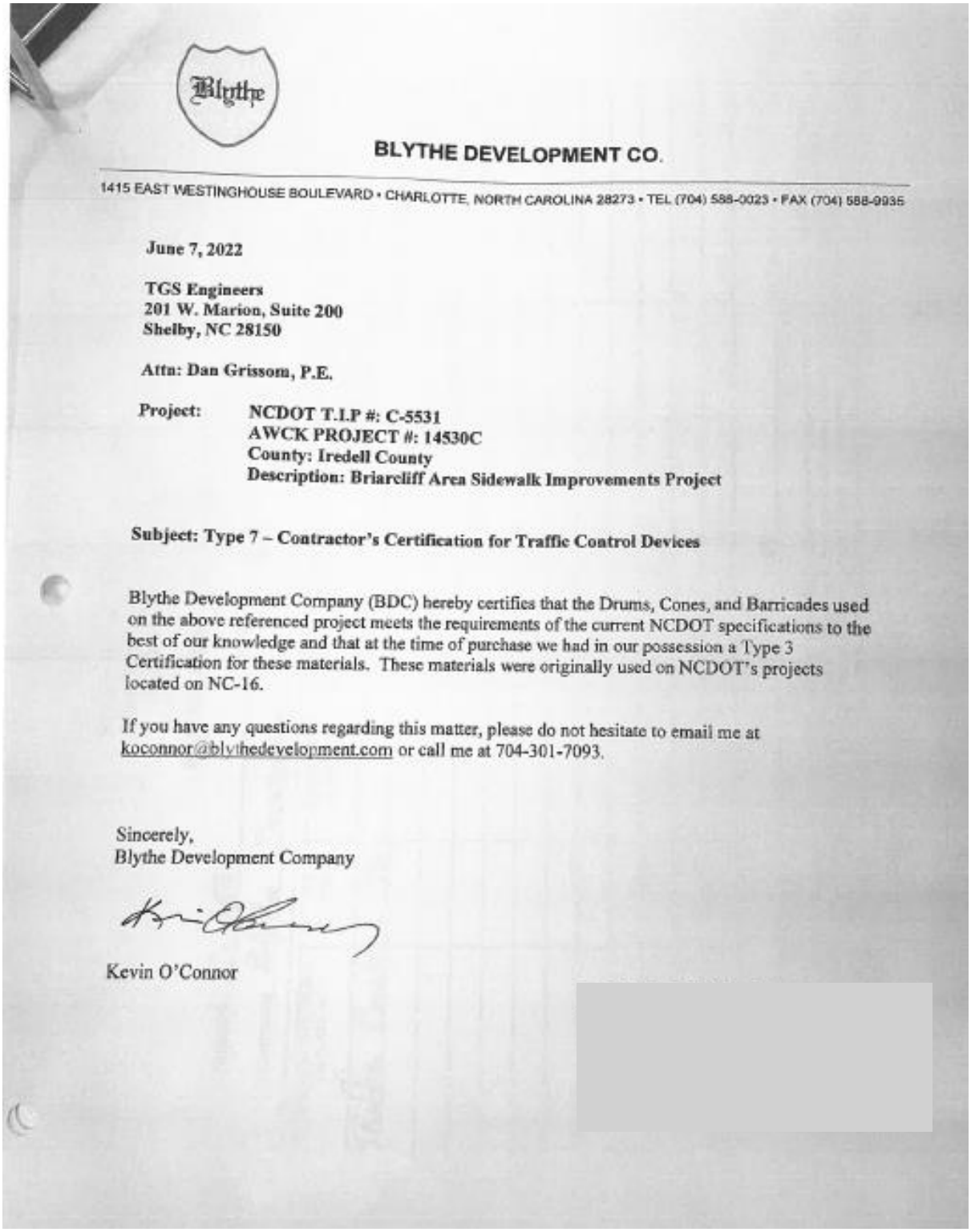
815 Buxton Street Winston Salem, NC 27101
888 - 239 - 4539 • Fax: 336 - 747 - 1652
www.hanesgeo.com info@hanesgeo.com

6

7.7 Type 7 - Contractor's Certification

Contractor's certification is a signed statement by a contractor that the used material described in the certification meets the current specifications to the best of the contractor's knowledge and that the contractor had in his possession at the time of purchase a Type 1 or Type 2 material certification to cover the material that is included in the Type 7 Contractor's certification.

Examples of materials which require a Type 7 Certification are: Traffic Control Barricades and Barriers.



Blythe

BLYTHE DEVELOPMENT CO.

1415 EAST WESTINGHOUSE BOULEVARD • CHARLOTTE, NORTH CAROLINA 28273 • TEL (704) 588-0023 • FAX (704) 588-9935

June 7, 2022

TGS Engineers
201 W. Marion, Suite 200
Shelby, NC 28150

Attn: Dan Grissom, P.E.

Project: **NCDOT T.I.P #: C-5531**
AWCK PROJECT #: 14530C
County: Iredell County
Description: Briarcliff Area Sidewalk Improvements Project

Subject: Type 7 – Contractor's Certification for Traffic Control Devices

Blythe Development Company (BDC) hereby certifies that the Drums, Cones, and Barricades used on the above referenced project meets the requirements of the current NCDOT specifications to the best of our knowledge and that at the time of purchase we had in our possession a Type 3 Certification for these materials. These materials were originally used on NCDOT's projects located on NC-16.

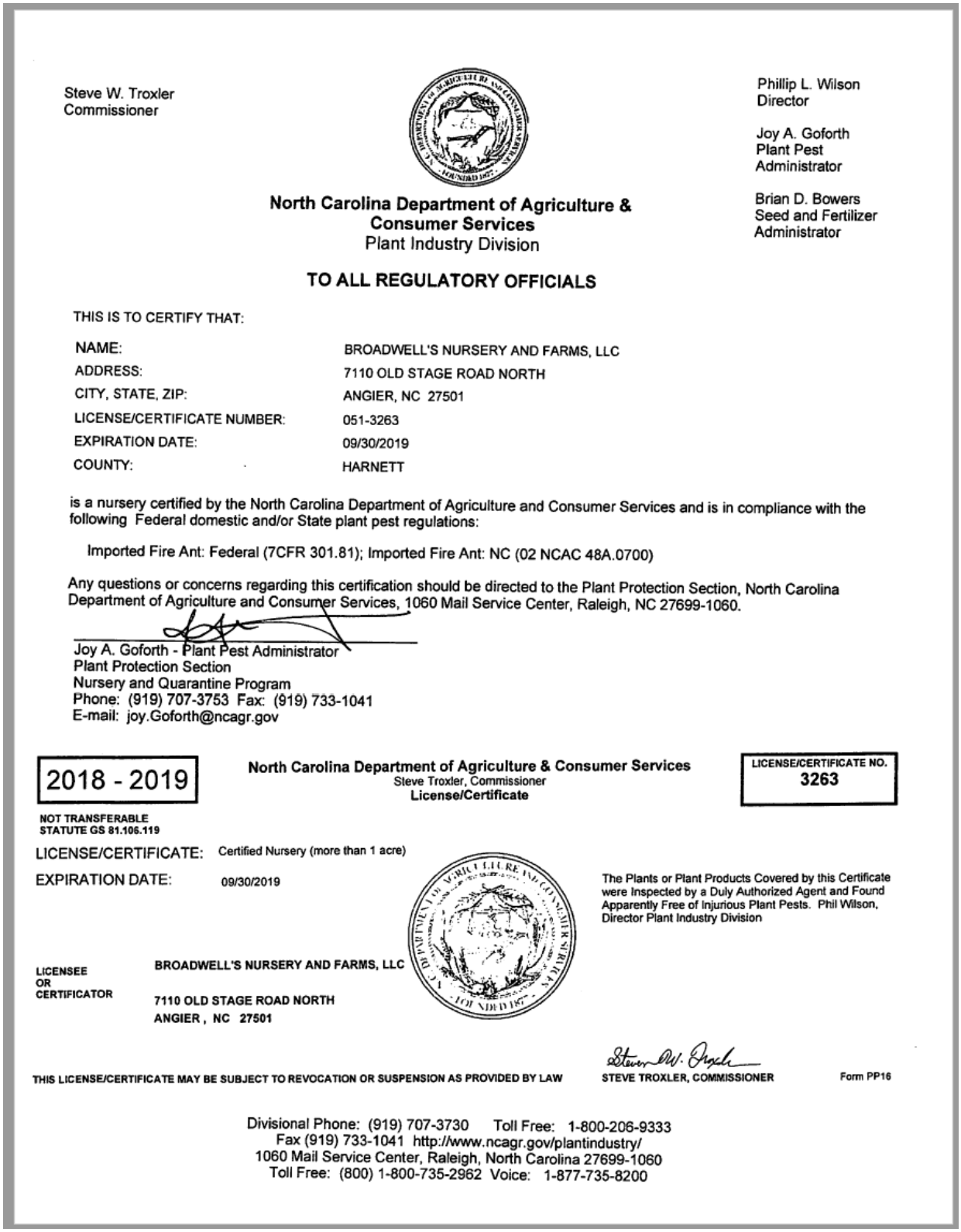
If you have any questions regarding this matter, please do not hesitate to email me at koconnor@blythedevelopment.com or call me at 704-301-7093.

Sincerely,
Blythe Development Company

Kevin O'Connor

7.8 Department of Agriculture

When general plantings, trees, bushes/shrubs, and nursery stock is received on a project, a certification from the NC Department of Agriculture is required. The certification shall be from the year of plantings purchased.



Steve W. Troxler
Commissioner

Phillip L. Wilson
Director

Joy A. Goforth
Plant Pest
Administrator

Brian D. Bowers
Seed and Fertilizer
Administrator

North Carolina Department of Agriculture & Consumer Services
Plant Industry Division

TO ALL REGULATORY OFFICIALS

THIS IS TO CERTIFY THAT:

NAME:	BROADWELL'S NURSERY AND FARMS, LLC
ADDRESS:	7110 OLD STAGE ROAD NORTH
CITY, STATE, ZIP:	ANGIER, NC 27501
LICENSE/CERTIFICATE NUMBER:	051-3263
EXPIRATION DATE:	09/30/2019
COUNTY:	HARNETT

is a nursery certified by the North Carolina Department of Agriculture and Consumer Services and is in compliance with the following Federal domestic and/or State plant pest regulations:

Imported Fire Ant: Federal (7CFR 301.81); Imported Fire Ant: NC (02 NCAC 48A.0700)

Any questions or concerns regarding this certification should be directed to the Plant Protection Section, North Carolina Department of Agriculture and Consumer Services, 1060 Mail Service Center, Raleigh, NC 27699-1060.

Joy A. Goforth - Plant Pest Administrator
Plant Protection Section
Nursery and Quarantine Program
Phone: (919) 707-3753 Fax: (919) 733-1041
E-mail: joy.Goforth@ncagr.gov

2018 - 2019

North Carolina Department of Agriculture & Consumer Services
Steve Troxler, Commissioner
License/Certificate

LICENSE/CERTIFICATE NO.
3263

NOT TRANSFERABLE
STATUTE GS 81.106.119

LICENSE/CERTIFICATE: Certified Nursery (more than 1 acre)

EXPIRATION DATE: 09/30/2019

The Plants or Plant Products Covered by this Certificate were Inspected by a Duly Authorized Agent and Found Apparently Free of Injurious Plant Pests. Phil Wilson, Director Plant Industry Division

LICENSEE OR CERTIFICATOR

BROADWELL'S NURSERY AND FARMS, LLC

7110 OLD STAGE ROAD NORTH
ANGIER , NC 27501

THIS LICENSE/CERTIFICATE MAY BE SUBJECT TO REVOCATION OR SUSPENSION AS PROVIDED BY LAW

STEVE TROXLER, COMMISSIONER

Form PP16

Divisional Phone: (919) 707-3730 Toll Free: 1-800-206-9333
Fax (919) 733-1041 http://www.ncagr.gov/plantindustry/
1060 Mail Service Center, Raleigh, North Carolina 27699-1060
Toll Free: (800) 1-800-735-2962 Voice: 1-877-735-8200

7.9 Buy America Certificate

Reference Section 106-1B in the NCDOT Standard Specifications For Roads And Structures for additional details.

SEALAND CONTRACTORS CORP.

1708 N. Caldwell Street • Charlotte, North Carolina 28206 • Office (704) 522-1102 • Fax (704) 522-5494

Certification of "Buy America Domestic Steel"

WBS: 45506.3.3
Contract ID: 512-13-010
County: Mecklenburg
Project Name: Beam Road at Shopton Road (SR 1155) Roundabout Project

I do hereby certify as to the following:

All steel and iron products that are permanently incorporated into this project shall be produced in the United States except minimal amounts of foreign steel and iron products may be used provided the combined material cost of the items involved does not exceed 0.1% of the total amount bid for the entire project or $2,500.00, whichever is greater. If invoices showing the cost of the material are not provided, the amount of the bid item involving the foreign material will be used to calculations. This minimal amount of foreign produced steel and iron products permitted for use is not applicable to high strength fasteners. Domestically produced strength fasteners are required.

All steel and iron products furnished as domestic products shall be melted, cast, formed, shaped, drawn, extruded, forged, fabricated, produced, or otherwise processed and manufactured in the United States. Raw materials including pig iron and processed pelletized and reduced iron ore used in manufacturing domestic steel products may be imported; however, all manufacturing processes to produce the products, including coatings, shall occur in the United States.

Before each steel or iron product is incorporated into any project or included for partial payment on a monthly estimate, the Contractor shall furnish the Engineer a notarized certification certifying that the product conforms to the above. The Engineer will forward a copy of each certification to the Materials and Tests Unit.

Each purchase order issued by the Contractor or a subcontractor for steel and iron products to be permanently incorporated into any project shall contain in bold print a statement advising the supplier that all manufacturing process to produce the steel or iron shall have occurred in the United States. The Contractor and all affected subcontractors shall maintain a separate file for steel products permanently incorporated into any project so that verification of the Contractor's efforts to purchase domestic steel and iron products can readily be verified by an authorized representative of the Department or the Federal Highway Administration.

SEALAND CONTRACTORS CORP.
Contractor Name

Signature of Authorized Official

VINCENT J. DIPROSPERO
Name of Authorized Official

6/21/2018
Date

VICE PRESIDENT
Title

Witness:
State:) s.s.:
County:)

On this 21 day of June 2018, before me the above undersigned Notary Public appeared VINCENT J. DIPROSPERO, JR. proved to me through satisfactory evidence of identification who signed on the above Certification in my presence.

Danae R Koziowski
Notary Public

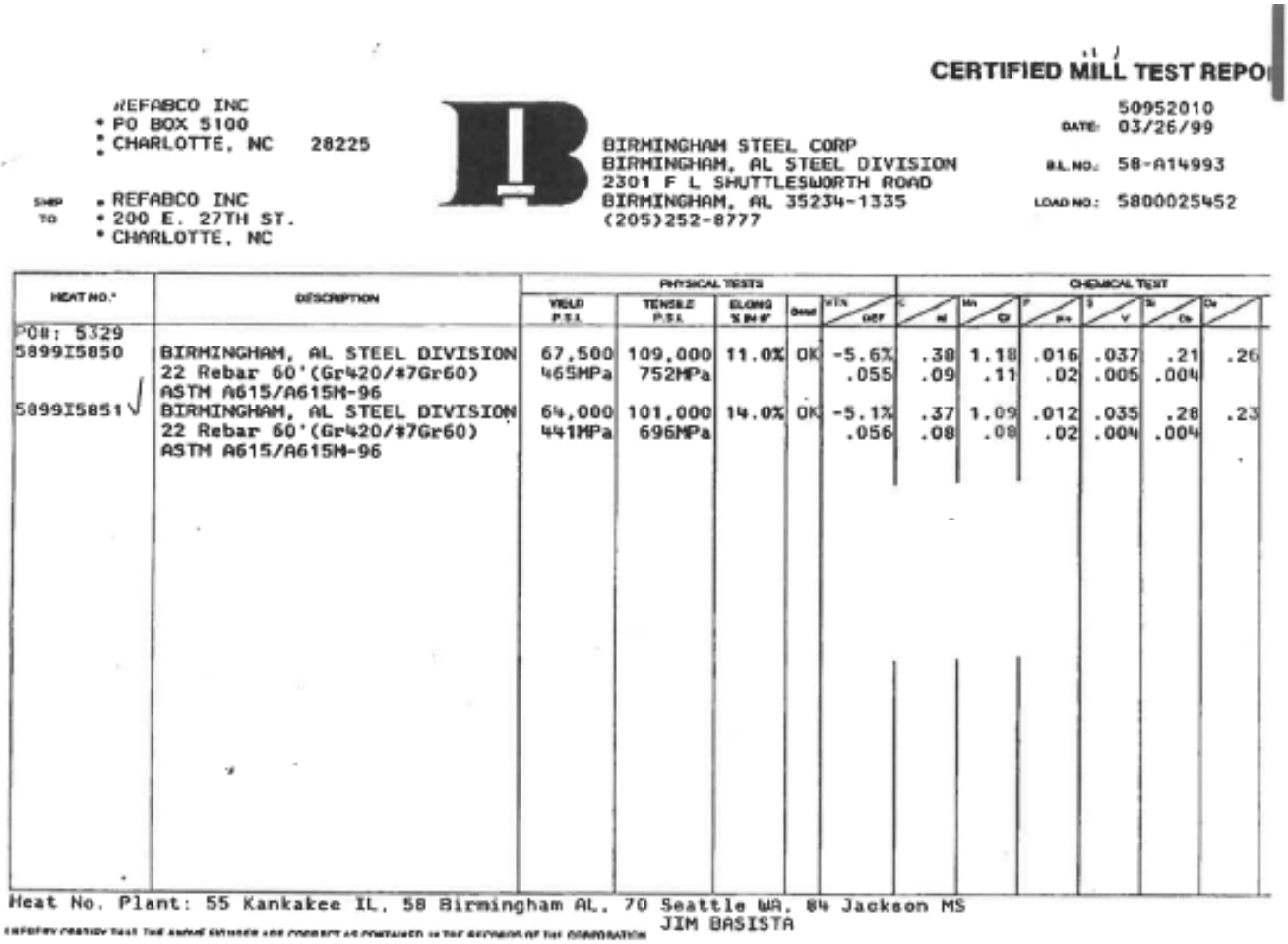
My Commission Expires: October 26, 2020

Danae R Koziowski Notary Public Union County, NC

(585) 359-9242 • 85 High Tech Drive • P.O. Box 350 • Rush, New York 14543-0350 • Fax (585) 359-4558

7.10 Certified Mill Test Report

A Certified Mill Test Report is also noted as a Type 1 Certification. This certification is supplied from the manufacturer on samples taken from the same heat or lot number. The heat and/or lot number shall be clearly indictaed and verified by the on-site technician/inspector prior to accepting the material.



CERTIFIED MILL TEST REPO

REFABCO INC
* PO BOX 5100
* CHARLOTTE, NC 28225
*

SHIP TO * REFABCO INC
* 200 E. 27TH ST.
* CHARLOTTE, NC

BIRMINGHAM STEEL CORP
BIRMINGHAM, AL STEEL DIVISION
2301 F L SHUTTLESWORTH ROAD
BIRMINGHAM, AL 35234-1335
(205)252-8777

50952010
DATE: 03/26/99
B/L NO.: 58-A14993
LOAD NO.: 5800025452

HEAT NO.*	DESCRIPTION	PHYSICAL TESTS YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	Bend	WT% DEF	CHEMICAL TEST C / Al	Mn / Cr	P / Ni+	S / V	Si / Cb	Cu /
PO#: 5329												
5899I5850	BIRMINGHAM, AL STEEL DIVISION 22 Rebar 60'(Gr420/#7Gr60) ASTM A615/A615M-96	67,500 465MPa	109,000 752MPa	11.0%	OK	-5.6% .055	.38 .09	1.18 .11	.016 .02	.037 .005	.21 .004	.26
5899I5851 √	BIRMINGHAM, AL STEEL DIVISION 22 Rebar 60'(Gr420/#7Gr60) ASTM A615/A615M-96	64,000 441MPa	101,000 696MPa	14.0%	OK	-5.1% .056	.37 .08	1.09 .08	.012 .02	.035 .004	.28 .004	.23

Heat No. Plant: 55 Kankakee IL, 58 Birmingham AL, 70 Seattle WA, 84 Jackson MS

I HEREBY CERTIFY THAT THE ABOVE RESULTS ARE CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION

JIM BASISTA

7.11 Bill of Lading

Uniform Straight Bill Of Lading

Driver :_____
Truck #:_____
Units #:_____
Miles #:_____
Hours #:_____

8/12/2021 11:29:46 AM

From:
MACK INDUSTRIES OF NORTH CAROLINA
4879 HWY 301 (S CHURCH ST)
SHARPSBURG NC 27878
252-977-3733

Shipment:	16402
Date:	8/4/2021
Order:	CN00006149
Cust PO:	SR32321
Order Contact:	
Vehicle:	90
Route:	
Carrier Contact:	WRL
Total Weight:	10.85

Bill To: C014342
LINDA
SUPERCAST INC
PO BOX 1894
GOLDSBORO NC 27533

Ship To: (960)
BRANNON HELMS
STOKES CO C204394
NC

Job Name: SR32321

Ln-Rel	Item	Description	Structure	Quantity	U/M	CY	Wt (Lb)
21-0	21343KN	CB,4x4,Base,5',KO,NCDOT	GDIA413	1.00	EA	1.98000	7,938.00
22-0	41611E	CB,4x4,Lid(5x5),w/24x44 Ecc,NCDOT	GDIA413	1.00	EA	0.35000	1,417.50
23-0	40001	Precast,Additional LF	GDIA413	2.30	FT	0.00000	0.00000
25-0	41625KN	CB,4x4,Base,4'-6",KO,NCDOT	GDIA412	1.00	EA	1.80000	7,290.00
26-0	41611E	CB,4x4,Lid(5x5),w/24x44 Ecc,NCDOT	GDIA412	1.00	EA	0.35000	1,417.50
27-0	40974N	CB,24x44,Riser,3',NCDOT	GDIA412	1.00	EA	0.74000	2,997.00
28-0	40001	Precast,Additional LF	GDIA412	2.40	FT	0.00000	0.00000
36-0	41161J	CB,3x3,Base,6'	JB409	1.00	EA	1.72000	6,966.00
37-0	41135N	CB,3x3,Riser,3',NCDOT	JB409	1.00	EA	0.78000	3,159.00
38-0	41112N	CB,3x3,Lid(46"x48"),w/24" Hole,NCDOT	JB409	1.00	EA	0.24000	972.0000
39-0	40001	Precast,Additional LF	JB409	4.70	FT	0.00000	0.00000
41-0	21343KN	CB,4x4,Base,5',KO,NCDOT	OTCB408	1.00	EA	1.96000	7,938.00
42-0	41610	CB,4x4,Lid(5x5),CB Slab	OTCB408	1.00	EA	0.46000	1,863.00
43-0	40001	Precast,Additional LF	OTCB408	0.80	FT	0.00000	0.00000
46-0	40970N	CB,24x44,Riser,2',NCDOT	GDIA413	1.00	EA	0.49000	1,984.50

MINC MACK INDUSTRIES OF NORTH CAROLINA Page 1 of 3

8 Modified MSG For Greenways and Multi-Use Paths

The following modifications are strictly to be utilized on LAP's in the construction of "Greenways" or "Multi-Use Paths". Materials which are received, accepted, sampled, tested, and documented shall meet all requirements and specifications for funding. All documentation shall be filed and easily accessible during the project certification process for acceptance and verification.

Modified Minimum Sampling Guide (MSG) for Greenways and Multi-Use Paths 9-17-13

MSG Group	How Accepted	Additional Requirements	Other
Aggregate	Must come from a plant on the NCDOT Approved List and participating in the Aggregate Quality Control/Quality Assurance Program.	Roadway Assurance is Optional for Aggregate Base Course	92% (Nuclear or Conventional) for Aggregate Base Course
Asphalt	Must come from a plant on our approved list and participating in the NCDOT Quality Management System; Must use a NCDOT Approved Mix Design and Job Mix formula that has been used on a NCDOT project.	610-9 revised mix per QMS	Compaction – 85% every 5,000 ft., minimum of one per project
Cementious Materials	Must come from a NCDOT approved source; Type 3 certification		
Concrete (Class B only)	Must come from a concrete plant on the NCDOT Approved List. Must use a Concrete Mix Design that has been used on a NCDOT project. Project specific mix approval is not required.	Minimum of one set of cylinders per project to test compressive strength	All other classes per Standard MSG
Fencing Materials	Type 6		Buy America
Grading	N/A (Sampling and /or Visual)	Visual Inspection plus minimum of one embankment density and one subgrade density per project	Embankment 90%, subgrade 92%
Guardrail	Must come from plant on the NCDOT Approved List	Guardrail marking should be visually inspected to ensure that it came from NCDOT approved source	Buy America
Landscape	Type 6 Certification		
Paints and Coatings	Type 3, Type 4, Type 6		

Modified Minimum Sampling Guide (MSG) for Greenways and Multi-Use Paths (con't.) 9-17-13

MSG Group	How Accepted	Additional Requirements	Other
Pipe	Drainage – NCDOT Approved Plant, NCDOT stamped, tagged, sticker. Water/Sewer Type 3 certification or Type 6	Product markings should be visually inspected to insure that it came from NCDOT approved source	Buy America
Precast	Must come from a NCDOT Approved Plant. NCDOT stamped, tagged or stickered; For Incidental items only need Type 6	Product marking should be visually inspected to insure that it came from NCDOT personnel	Buy America
Prestress	Must come from NCDOT Approved Plant and be NCDOT stamped	Field Inspection Report conducted at plant by NCDOT personnel	Buy America
Steel	Various req. NCDOT Approved Producers, Type1, Type 3, Type 4, Type 6		Buy America
Traffic Control	Type 3, Type 4, Type 7		
Utilities	Type 3, Type 6		By America

9 LAP Material Acceptance Guide – General Requirements

A material certification is conducted at the end of the construction phase, prior to final payment. During this process ALL line items/pay items are reviewed and verified. EACH line item shall have the required documentation, legible, and kept of file for verification during the "Material Certification" process. If the documentation does not meet the specifications and/or requirements, a non-participating amount will be assigned, and funds withheld. All materials are not represented on the following list. If a material or material operation is not listed in this reference, please contact your local materials LAP representative or M&T's "Material Certification Program Engineer" for assistance. The following are included in this guide:

9.1 Aggregate – Select Materials
9.2 Aggregate – Stabilization and ABC
9.3 Asphalt Base and Pavement
9.4 Cast Iron
9.5 Concrete – On-Site Concrete Testing
9.6 Fabricators and Pedestrian Bridges
9.7 Geotextiles
9.8 Lump Sum
9.9 Masonry
9.10 Pipe – Concrete Reinforced Pipe
9.11 Pipe – Corrugated Metal Pipe
9.12 Pipe – Polyethylene Pipe
9.13 Precast Concrete Units
9.14 Prestressed Units
9.15 RFID Tracking
9.16 Seed
9.17 Traffic Control – Work Zone Signs
9.18 Weighmaster
9.19 Welders and Field Welding

9.1 Aggregate – Select Materials

North Carolina Department of Transportation **2025**

AGGREGATE – SELECT MATERIALS, LAP Material Acceptance Guide

Material Name/Description: Aggregate – Select Materials: General Requirements for Documentation and Acceptance

Material Group: Aggregate

Required Documentation For Material Certification - On File:

ALL AGGREGATE – SELECT MATERIALS ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ Reference Section 1016 in the NCDOT Specification book.

☐ Aggregate Facilities must be actively NCDOT approved.

☐ Aggregate sources for some aggregate materials may require NCDOT approval and participation in the Aggregate QC/QA Program when specified in the Standard Specifications.

☐ When aggregate materials are required to be from approved sources, the NCDOT Approved Facility Number shall be placed on all documentation.

☐ Examples of Select Materials: Rip Rap, Erosion Control Stone, Incidental Stone.

☐ Acceptance of material is by visual inspection and size verification.

☐ Density testing is not always required for acceptance of select materials.

☐ On-site inspector must verify Weight Masters documentation (Section 106-7 NCDOT Specification book) is correct and accurate.

☐ On-site inspector must document the following on every ticket:

- Contract Line Item Number/s by which the material is associated with.
- Location and station where the material is placed.
- Date the material was placed if it is different from the date the ticket was issued (example- utilized as erosion control stone stockpiled on a previous date anticipating inclement weather).
- Contract Number/WBS Number if not shown on the ticket.
- The time the ticket is received.
- Quantity reduction for unused portion of material and reason should be described on the ticket.
- On-site technicians' signature on the first ticket for the day and initials on subsequent tickets.

☐ Select Materials is received by "Tickets", these tickets should be kept in booklet format and include daily totals and made available for verification during the project Material Certification phase.

On-Site Sampling/Testing Requirements:

Visual inspection and verification.

Special Instructions:

Tickets **SHALL** be fully completed for every load of aggregate received.
Documentation shall be legible and kept on file for the "Material Certification" process.
Reference Section 106-7 for documentation requirements for "Scales and Public Weighmaster".

North Carolina Department of Transportation 2025

AGGREGATE FOR STABLIZATION & ABC- LAP Material Acceptance Guide

Material Name/Description: Aggregate – Stabilization and ABC: General Requirements for Documentation and Acceptance
Material Group: Aggregate

Required Documentation For Material Certification - On File:

ALL AGGREGATE FOR STABLIZATION & AGGREGATE BASE COARSE RELATED MATERIALS ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ Reference Section 1008 and 1010 in the NCDOT Specification book.

☐ Aggregate Facilities must be actively NCDOT approved – the approved facility's assigned NCDOT number shall be placed on all documentation.

☐ Aggregate facilities shall be actively participating in the Aggregate QC/QA Program – reference Section 1006 in the NCDOT Specification book.

☐ Reference Section 520 in the NCDOT Specification book for details regarding Aggregate Base Coarse.

☐ For construction practices requiring density testing, the density results shall be documented (Roadway minimum 98% compaction, Trail minimum 92% compaction).

☐ Density testing shall be conducted by an active, certified Roadway Technician. Density testing method shall also be documented- see Section 520-9, NCDOT Specification book, for acceptable testing method.

☐ The technician's name, certification #, and expiration date must be documented and legible.

☐ Density testing shall be conducted a minimum of one density per days operations.

☐ On-site inspector must verify Weight Masters documentation (Section 106-7 NCDOT Specification book) is correct and accurate.

☐ On-site inspector must document the following on every ticket:

- Contract Line Item Number/s by which the material is associated with.
- Location and station where the material is placed.
- Date the material was placed if it is different from the date the ticket was issued (example- utilized as erosion control stone stockpiled on a previous date anticipating inclement weather).
- Contract Number/WBS Number if not shown on the ticket.
- The time the ticket is received.
- Quantity reduction for unused portion of material and reason should be described on the ticket.
- On-site technicians' signature on the first ticket for the day and initials on subsequent tickets.

☐ Aggregate for stabilization, and ABC is received by "Tickets", these tickets should be kept in booklet format and include daily totals and made available for verification during the project Material Certification phase.

On-Site Sampling/Testing Requirements:

Density testing shall be conducted a minimum of one density per days operations.
All testing must be conducted by an **"ACTIVE"** NCDOT certified technician.

Special Instructions:

Tickets **SHALL** be fully completed for every load of aggregate received.
Documentation shall be legible and kept on file for verification during the "Material Certification" process.
Reference Section 106-7 for documentation requirements for "Scales and Public Weighmaster".

North Carolina Department of Transportation

2025

ASPHALT - LAP Material Acceptance Guide

Material Name/Description: Asphalt: General Requirements for Documentation and Acceptance

Material Group: Asphalt

Required Documentation For Material Certification - On File:

ALL ASPHALT AND ASPHALT RELATED MATERIALS ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ Reference Section 610 in the NCDOT Specification book.

☐ Asphalt Facility must be actively NCDOT approved – AS# placed on all documentation.

☐ Approved NCDOT Job Mix Formula shall be utilized.

☐ Density method (Density Gauge or Core) shall be documented.

☐ Density results shall be documented, reference Table 610-7 in the NCDOT Specification book for acceptance.

☐ Form 605 Asphalt Daily Report shall be completed for each days placement.

☐ Testing/Sampling shall be conducted by the active QC Roadway Technician. The technician's name, certification #, and expiration date must be documented and legible.

☐ Testing/Sampling shall be conducted by the active QA Roadway Technician. The technician's name, certification #, and expiration date must be documented and legible.

☐ Acceptance testing is conducted by the active certified technician and at the specified frequency.

☐ On-site inspector must document the following on every 605:

- Contract Line Item Number/s by which the material is associated with.
- Location and station where the material is placed.
- Date the material was placed if it is different from the date the ticket was issued (example- utilized as erosion control stone stockpiled on a previous date anticipating inclement weather).
- Contract Number/WBS Number if not shown on the ticket.
- The time the ticket is received.
- Quantity reduction for unused portion of material and reason should be described on the ticket.
- On-site technicians' signature on the first ticket for the day and initials on subsequent tickets.
- Temperature of material.

☐ On-site inspector must verify Weight Masters documentation (Section 106-7 NCDOT Specification book) is correct and accurate.

☐ Asphalt acceptance specimens are tested at an approved laboratory by a certified lab technician.

☐ Asphalt is received by "Tickets", these tickets should be kept in booklet format and include daily totals.

On-Site Sampling/Testing Requirements:

Reference minimum sampling guide for on-site sampling/testing frequency.
All sampling/testing must be conducted by an **"ACTIVE"** NCDOT certified technician.

Special Instructions:

Form 605 **SHALL** be fully completed for each days placement.
Documentation shall be legible and kept on file for verification during the "Material Certification" process.
Reference Section 106-7 for documentation requirements for "Scales and Public Weighmaster".

North Carolina Department of Transportation

2025

CAST IRON - LAP Material Acceptance Guide

Material Name/Description: Cast Iron Products: General Requirements for Documentation and Acceptance

Material Group: Metals and Hardware

Required Documentation For Material Certification - On File:

ALL CAST IRON PRODUCTS & RELATED MATERIALS ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ Reference Section 1074-7 in the NCDOT Specification book – direct link is referenced in this guide.

☐ Reference detailed drawings in the NCDOT Roadway Standard Drawings – direct link is referenced in this manual.

☐ Examples of Cast Iron products include: grates, frames, hoods, manhole rings, and covers.

☐ Cast iron producer/supplier shall comply with the Departments Cast Iron QC/QA Program and be on the NCDOT Approved List.

☐ Cast iron products shall be domestic steel and produced in the United States. Cast iron products shall display either "Made in USA", or "USA" in each individual piece.

☐A Buy America letter shall be received and placed on file for review during the "Material Certification" process.

☐ Cast iron products are pre-approved by NCDOT M&T, at the producer's facility.

☐ Approved cast iron products will be required to have the "Foundry's white QC stamp" placed on each piece. Additionally, a Type 3 – Manufacturer's Certification shall accompany each shipment of cast iron products.

☐ Acceptable producers/suppliers and their stamps are:

- U.S. Foundry (C12) stamp – "USF NC DOT"
- East Jordan Ironworks (C13, C15, & C110) stamp – "NCDOT EJIW QC"

☐ If a cast iron product is supplied by a producer/supplier other than listed above, the following shall be provided:

- Proof it was made in the USA – Buy America letter
- A Bill of Lading
- Approved producer/supplier
- A Type 3 – Manufacturer's Certification

☐ If cast iron products are incorporated into a precast concrete structure, verification of the cast iron's QC stamp and Type 3 certification will be conducted by the M&T inspector during the inspection at the precast facility. This check will be noted on the precast item's FIR.

☐ Cast iron products that are added to the precast structure ON SITE should be received separately from the precast item.

☐ Cast iron products must be documented on an MRR for receipt and acceptance.

On-Site Sampling/Testing Requirements:

On-site technician shall verify the producer/supplier's white QC stamp prior to acceptance and placement.
A visual inspection of each unit prior to final placement is recommended.
Buy America and Type 3 certification shall be filed and utilized during the "Material Certification" process.

Special Instructions:

If product does not have "Made in USA" or "USA" casted, contact the Materials & Tests Unit immediately.
If possible, reference the FIR number (associated with the unit) on the MRR.
Documentation shall be kept on file and verified during the "Material Certification" process.

North Carolina Department of Transportation 2025

ON-SITE CONCRETE TESTING - LAP Material Acceptance Guide

Material Name/Description: Concrete: General Requirements for Documentation and Acceptance

Material Group: Concrete

Required Documentation For Material Certification - On File:

ALL CONCRETE AND CONCRETE RELATED MATERIALS ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ Ready Mix Facility must be actively NCDOT approved – RM# placed on all documentation.

☐ Approved NCDOT Concrete Mix Design.

☐ Active NCDOT Certified Batching Technician – name and certification be placed legibly on Form 903-V24.

☐ Active NCDOT Certified Testing Technician (NCDOT & ACI) – this individual is responsible for all sampling/testing and name with certification number will be placed legibly on bottom of form 903-V24.

☐ Form 250 fully completed by the active certified batcher. A physical hard signature and certification number shall be displayed where designated.

☐Form 903-V24 (Top Portion) fully completed by the active certified batcher for every load of concrete. A physical hard signature and certification number shall be displayed where designated.

☐ Form 903-V24 (Bottom Portion) fully completed by the On-Site active certified technician for every load of concrete. A physical hard signature shall be displayed where designated.

☐ Acceptance testing is conducted by the active certified technician on a random load – slump, pressure air meter, temperature, and test specimens are to be conducted every day concrete is placed and when placement exceeds 100 yd^3, regardless of the "Class" concrete.

☐ Acceptance testing is documented on the corresponding Form 903-V24.

☐ Strength test specimens are molded by the active certified technician and at the specified frequency – one set per 100 yd^3 every day concrete is placed.

☐ Strength test specimens are tested at a certified laboratory by a certified lab technician – reference LAP Laboratory Acceptance Guide for details.

☐ Strength test specimens are accepted based on 28 Day strengths **ONLY**, early breaks are not acceptable.

☐ Strength test results reports are documented and signed by a certified lab technician.

☐ If test specimens fail to meet minimum 28 day strength, corrective actions must be documented.

☐ Document all concrete on a "MRR" and include the associated Line Item #.

On-Site Sampling/Testing Requirements:

On-site sampling & testing frequency: All acceptance sampling & testing operations shall be conducted on a random load for every day concrete is placed, regardless the amount of concrete and design strength.
All sampling/testing must be conducted by an **"ACTIVE"** NCDOT Concrete Field Technician (NCDOT & ACI).

Special Instructions:

Form 903-V24 **SHALL** be fully completed (top & bottom portions) for every load of concrete received.
Form 250 **SHALL** be fully completed for every day concrete is placement.
Documentation shall be legible and on file for verification during the "Material Certification" process.

North Carolina Department of Transportation 2025

FABRICATORS & PEDISTRATION BRIDGES - LAP Material Acceptance Guide

Material Name/Description: Fabricators: General Requirements for Documentation and Acceptance

Material Group: Structural

Required Documentation For Material Certification - On File:

ALL FABRICATORS & RELATED PEDISTRATION BRIDGES ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ Reference Section 1072-1 in the NCDOT Specification book.

☐ All fabricators must be NCDOT approved and listed on the Departments approved resources page as a Producer/Supplier.

☐ Shop drawings shall be submitted to the NCDOT Structures Management Unit (SMU-wdr@ncdot.gov) for review and approval prior to beginning production.

☐ The fabricator of the bridge shall complete the "Materials & Tests Notification of Work Form", and email the completed form to the "Metals Products Engineer" with the Materials & Tests Unit.

☐ The notification of work form shall be submitted with a 3-day notice in state or an 8-day notice out of state, before starting fabrication. The notification form can be found at:

MT Form M4000 Notification of Beginning Work.pdf (ncdot.gov)

☐ Prior to any production, the fabricator shall receive confirmation from M&T the notification of work form has been received and all operations have been approved.

☐ A M&T representative will conduct inspections, verifications, and approval at the manufacturer's facility.

☐ Documentation requested from new fabricators is the following:

- Welding Procedure Specifications (WPS)
    - WPS requiring qualification – provide all supporting documentation and the Procedure Qualification Records, that have been witnessed by a third-party CWI.
    - Prequalified WPS - provide a copy of the WPS and the electrode manufacturer's recommended operation range, for the filler metal to be used.
- Provide a copy of your facilities QC CWI certification(s).
- Welder and Welding Operator Qualification Records that have been witnessed by an independent testing agency CWI.
    - An independent testing agency CWI must witness the welding of PQRs and Welder Qualification tests as well as witnessing the mechanical tests and they must physically sign the certification documents.

☐ If the facility performs any manual NDT/NDE at their facility, they will need to provide the following information:

- Provide a copy of the NDE written practice for each NDE discipline used in your plant.
- Provide a copy of the NDE procedures (MT, UT RT Film Interpretation etc.) that will be utilized per method by personnel performing work.
- Provide copies of the NDE technicians' certifications as outlined in ASNT SNT- TC1A.
- Provide a copy of the current eye exam for NDE technicians.

On-Site Sampling/Testing Requirements:

Structure inspections, verifications, and approval will be conducted at the fabricator's facility. On-site project inspections of the structure shall not be acceptable for reimbursement of funds.

Special Instructions:

The Departments approved Producer/Supplier List can be accessed through the following link. Enter the company name or Plant ID#. Then click on the company name to see the details. https://apps.ncdot.gov/vendor/approvedproducts/Producer.aspx

MT Form M4000 Notification of Beginning Work:

North Carolina Department of Transportation Division of Highways
Materials & Tests Unit
Raleigh, NC 27611

Revision: 11/29/2022

Notification Form

NOTE: According to Article 1072-7(A) of the Standard Specifications, Materials & Tests Unit requires 72 hours (3 days) notice for in-state producers and 192 hours (8 days) notice for out-of-state producers.

Date of Notification:		**Planned Date to Start Work**	
Name & Phone Number of Producer/Coater Contact Person:			
Name of Producer/Coating Contractor:			
Location of Producer/Coating Contractor:			
Project Number:		**Bridge Number:**	
Contract Number:		**Shop Job Number:**	
County:			

Details of Work to Begin

Completed form should be submitted to the contacts listed below:

Randy Porter Metals Engineer NCDOT Materials and Tests 1563 Mail Service Center Raleigh, NC 27699 srporter@ncdot.gov	Mike Pulley Welding Engineer NCDOT Materials and Tests 490 Ward Boulevard Wilson, NC 27893 mwpulley@ncdot.gov	Aaron Dacey Coatings/Corrosion Engineer NCDOT Materials and Tests 490 Ward Boulevard Wilson, NC 27893 ahdacey@ncdot.gov	Richard Maxon Metals Products Specialist NCDOT Materials and Tests 1563 Mail Service Road Center Raleigh, NC 27699 rdmaxon@ncdot.gov

Materials and Tests Homepage Link

NCDOT Approved Producer/Supplier Link

Click to e-mail notification form

NCDOT Standard Specifications Link

9.7 Geotextiles

North Carolina Department of Transportation **2025**

GEOTEXTILES - LAP Material Acceptance Guide

Material Name/Description: Geotextiles: General Requirements for Documentation and Acceptance

Material Group: Miscellaneous

Required Documentation For Material Certification - On File:

ALL GEOTEXTILES & RELATED MATERIALS ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ Reference Section 1056 in the NCDOT Specification book – direct link is referenced in this guide.

☐ Regardless of the labeling or marking, the geotextile for all types shall be on the APL.

☐ Geotextiles that are missing original packaging or product labels or that have been unwrapped or previously opened will be rejected.

☐ All efforts shall be made not to expose/open geotextiles prior to installation.

☐ Type 1 Geotextile

- Primary application is utilized in Shoulder Drains.
- Material certification type required: None.
- Products shall be active with the "AASHTO Product Evaluation & Audit Solutions" program.
- Documentation validating the material is on the APL and current with AASHTO Product Evaluation & Audit Solutions program shall be filed for verification during the material certification process.

☐ Type 2 Geotextile

- Primary application is utilized under Rip Rap.
- Material certification type required: None.
- Products shall be active with the "AASHTO Product Evaluation & Audit Solutions" program.
- Documentation validating the material is on the APL and current with AASHTO Product Evaluation & Audit Solutions program shall be filed for verification during the material certification process.

☐ Type 3^{B} Geotextile

- Primary application is utilized for Silt Fence Fabric.
- Material certification type required: None.
- Products shall be active with the "AASHTO Product Evaluation & Audit Solutions" program.
- Documentation validating the material is on the APL and current with AASHTO Product Evaluation & Audit Solutions program shall be filed for verification during the material certification process.

☐ Type 4a Geotextile

- Primary application is utilized for Soil Stabilization.
- Material certification type required: Type1, Type 2, or Type 4.

☐ Type $5a^{C}$ Geotextile

- Primary application is utilized in Subgrade Stabilization.
- Material certification type required: None.
- Products shall be active with the "AASHTO Product Evaluation & Audit Solutions" program.
- Documentation validating the material is on the APL and current with AASHTO Product Evaluation & Audit Solutions program shall be filed for verification during the material certification process.

On-Site Sampling/Testing Requirements:

Visual inspection and verification shall be conducted by the on-site inspector.
Do not open or expose geotextiles prior to installation.

Special Instructions:

Allow the Engineer to visually identify material prior to installation if necessary.
Type 1-3 & 5a[C] - Documentation validating the material is on the APL and current with AASHTO Product Evaluation & Audit Solutions program shall be filed for verification during the material certification process.
Type 4a - Documentation validating the material is on the APL and a Type 1, Type 2, or Type 4 material

GEOTEXTILE LABELS

Applies to Type 1 through 3 and Type 5a[C]

NTPEP AASHTO NATIONAL TRANSPORTATION PRODUCT EVALUATION PROGRAM

AASHTO PRODUCT EVALUATION & AUDIT SOLUTIONS





North Carolina Department of Transportation

2025

LUMP SUM - LAP Material Acceptance Guide

Material Name/Description: Lump Sum: General Requirements for Documentation and Acceptance

Material Group: Miscellaneous

Required Documentation For Material Certification - On File:

LUMP SUM LINE ITEMS and/or LUMP SUM MATERIALS ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ Line items which are labeled "Lump Sum" shall supply a detailed, all-encompassing, list of materials that are utilized within the Line Item.

☐ The individual list of materials shall be included in the filed documentation reviewed during the "Project Material Certification" process.

☐ If applicable, lump sum materials must meet all Buy America specifications/policies.

☐ If applicable, lump sum materials (concrete, aggregate, asphalt, etc.) must come from NCDOT approved facilities.

☐ If sampling/testing is required of individual lump sum materials, these results shall be included in the filed documentation reviewed during the "Project Material Certification".

☐ If Certification "Types" are required, this documentation shall be included in the filed documentation reviewed during the "Project Material Certification".

☐ If materials are to be pre-approved (precast, prestress, pipe), this documentation shall be included in the filed documentation reviewed during the "Project Material Certification".

☐ If materials are listed on the APL and/or QPL, this documentation shall be included in the filed documentation reviewed during the "Project Material Certification".

☐ Lump sum materials shall be documented on a Material Received Report (MRR) and include the associated Line Item #.

☐ If the lump sum line item is a specialized material designed specifically for the Town/City, a written letter must be submitted to Division for approval. This written letter must be submitted and approved, by Division, **PRIOR** to installation and payment. This letter must also be in the filed documentation for review during the "Project Material Certification".

☐ If lump sum materials include welding – the finished product shall be inspected and satisfy all NCDOT specifications, requirements, and policies.

Special Instructions:

Lump Sum documentation shall be reviewed during the material certification phase.
Individual Lump Sum materials shall be listed in the review documentation.
Lump Sum Line Items can be subjected to non-participating amounts.

9.9 Masonry

North Carolina Department of Transportation

2025

MASONRY - LAP Material Acceptance Guide

Material Name/Description: Masonry: General Requirements for Documentation and Acceptance

Material Group: Miscellaneous

Required Documentation For Material Certification - On File:

ALL MASONRY & RELATED MATERIALS ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ Reference Section 1040 in the NCDOT Specification book – direct link is referenced in this guide.

☐ Masonry units are detailed in the NCDOT Roadway Standard Drawings – direct link is referenced in this guide.

☐ Brick – Section 1040-1

- Producer/supplier shall be actively NCDOT approved – BB# placed on all documentation.
- Brick shall be pinkish red in color.
- Brick supplied by Non-DOT Approved sources are not acceptable and a non-participating amount will be assigned to the material.

☐ Concrete Building Block – Section 1040-2

- Concrete Building Block shall be supplied by sources participating in the Department's "Solid Concrete Masonry Brick/Unit QC/QA Program". A list of producers/suppliers is available on the Departments producer/supplier approved list.
- BB# shall be placed on all documentation.
- Concrete Building Block shall be pinkish red in color.
- Concrete Building Block supplied by Non-DOT Approved sources are not acceptable and a non-participating amount will be assigned to the material.

☐ Concrete Paving Block – Section 1040-3

- Concrete Paving Block shall be supplied by sources participating in the Department's "Solid Concrete Masonry Brick/Unit QC/QA Program". A list of producers/suppliers is available on the Departments producer/supplier approved list.
- BB# shall be placed on all documentation.
- Concrete Paving Block shall be uniform in color.
- Concrete Paving Block supplied by Non-DOT Approved sources are not acceptable and a non-participating amount will be assigned to the material.

☐ Segmental Retaining Wall Units – Section 1040-4

- Segmental Retaining Wall Units shall be supplied by sources participating in the Department's "Solid Concrete Masonry Segmental Retaining Wall Units QC/QA Program". A list of producers/suppliers is available on the Departments producer/supplier approved list.
- NCDOT assigned facility number shall be placed on all documentation.
- SRW units supplied by Non-DOT Approved sources are not acceptable and a non-participating amount will be assigned to the material.

On-Site Sampling/Testing Requirements:

Visual inspection and verification shall be conducted by the on-site inspector.

Special Instructions:

Documentation shall be legible.
Documentation shall be on file for verification during the “Material Certification Process”.

North Carolina Department of Transportation 2025

PIPE, CONCRETE - LAP Material Acceptance Guide

Material Name/Description: Concrete Pipe: General Requirements for Documentation and Acceptance

Material Group: Concrete Pipe

Required Documentation For Material Certification - On File:

ALL CONCRETE PIPE & RELATED MATERIALS ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ Reference Section 1032-6A-E in the NCDOT Specification book – direct link is referenced in this guide.
☐ Concrete pipe is detailed in the NCDOT Roadway Standard Drawings – direct link is referenced in this guide.
☐ The concrete pipe producer/supplier shall be actively NCDOT approved – CP# placed on all documentation.

☐ Concrete pipe shall be supplied by sources participating in the Department's "Concrete Pipe QC/QA Program". A list of producers/suppliers is available on the Departments producer/supplier approved list.

☐ Concrete pipe is pre-approved by NCDOT M&T, at the producer's facility. Once approved, the M&T inspector will generate a Field Inspection Report (FIR) and place in the HiCAMS system.

☐ On-site approval of concrete pipe is **NOT** permitted. All pipe must be pre-approved when arrived on site.

☐ If concrete pipe is damaged during loading, transportation, unloading, or storage, the piece can be rejected. If this occurs, recommendation is to notify the producer that the pipe has been rejected and required to be replaced. Inform M&T of the rejection so the HiCAMS records can be marked "Rejected" and not reused.
☐ A Bill of Lading is required to accompany each shipment. This documentation shall be filed for the "Materials Certification" process.

☐ Concrete pipe must be documented on an MRR for receipt and acceptance.

☐ Concrete pipe identification and approval process utilizes the "RFID" tag system.

☐ The RFID tag number shall appear on the invoice and Bill of Lading.

☐ Every individual piece shall have a RFID tag. If the tag is destroyed, missing, altered, or damaged, the Materials and Tests Unit shall be notified prior to acceptance and payment. The presence of an RFID tag does not indicate NCDOT Approval of the concrete pipe. The RFID tag is only a serial number used for tracking. NCDOT approval of concrete pipe must be verified at the link below.

☐ Reference the following link for the concrete pipe RFID tag status:

https://apps.ncdot.gov/vendor/approvedproducts/PrecastLookup.aspx

☐ The following RFID tag status and usage are identified as:

- "Rejected" – piece shall not be accepted.
- "Void" – piece shall not be accepted.
- "In Use" – piece shall not be accepted.
- "Available" – piece is approved and can be utilized on the project.
- If RFID tag number is not listed – the unit has **NOT** been approved, do not accept – contact M&T.

☐ The above link will also indicate if a FIR has been generated.

On-Site Sampling/Testing Requirements:

On-site technician shall verify the RFID tag and status prior to acceptance and placement.
A visual inspection of each piece prior to final placement is recommended.
All documentation shall be filed and utilized during the “Material Certification” process.

Special Instructions:

If RFID tag is damaged, altered, missing, or removed, contact the Materials & Tests Unit immediately.
If possible, reference the FIR number (associated with the unit) on the MRR.

North Carolina Department of Transportation 2025

PIPE, CORRUGATED METAL (CMP)- LAP Material Acceptance Guide

Material Name/Description: Corrugated Metal Pipe (CMP): General Requirements for Documentation and Acceptance

Material Group: Pipe

Required Documentation For Material Certification - On File:

ALL CORRUGATED METAL PIPE & RELATED MATERIALS ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ Reference Section 1032 1-3 in the NCDOT Specification book – direct link is referenced in this guide.
☐ CMP is detailed in the NCDOT Roadway Standard Drawings – direct link is referenced in this guide.
☐ The CMP producer/supplier shall be NCDOT approved, and the assigned facility number shall be placed on all documentation.
☐ CMP shall be supplied by sources participating in the Department's "Brand Registration Program", and actively participating in "AASHTO Product Evaluation & Audit Solutions" program. A list of producers/suppliers is available on the Departments producer/supplier approved list.

☐ CMP is pre-approved by NCDOT M&T, at the producer's facility. Once approved, the M&T inspector will generate a Field Inspection Report (FIR) and place in the HiCAMS system.

☐ On-site approval of CMP is **NOT** permitted. All pipe must be pre-approved when arrived on site.

☐ If CMP is damaged during loading, transportation, unloading, or storage, the piece can be rejected. If this occurs, recommendation is to notify the producer that the pipe has been rejected and required to be replaced. Inform M&T of the rejection so the HiCAMS records can be marked "Rejected" and not reused.

☐ A Bill of Lading is required to accompany each shipment. This documentation shall be filed for the "Materials Certification" process.

☐ CMP must be documented on an MRR for receipt and acceptance.
☐ CMP identification and approval process utilizes the "RFID" tag system.
☐ The RFID tag number shall appear on the invoice and Bill of Lading.

☐ Every individual piece shall have a RFID tag. If the tag is destroyed, missing, altered, or damaged, the Materials and Tests Unit shall be notified prior to acceptance and payment. The presence of an RFID tag does not indicate NCDOT Approval of the concrete pipe. The RFID tag is only a serial number used for tracking. NCDOT approval of concrete pipe must be verified at the link below.

☐ Reference the following link for the "corrugated metal pipe" RFID tag status:
https://apps.ncdot.gov/vendor/approvedproducts/PrecastLookup.aspx

☐ The following RFID tag status and usage are identified as:

- "Rejected" – piece shall not be accepted.
- "Void" – piece shall not be accepted.
- "In Use" – piece shall not be accepted.
- "Available" – piece is approved and can be utilized on the project.
- If RFID tag number is not listed – the unit has **NOT** been approved, do not accept – contact M&T.

☐ The above link will also indicate if a FIR has been generated.

On-Site Sampling/Testing Requirements:

On-site technician shall verify the RFID tag and status prior to acceptance and placement.
A visual inspection of each piece prior to final placement is recommended.
All documentation shall be filed and utilized during the “Material Certification” process.

Special Instructions:

If RFID tag is damaged, altered, missing, or removed, contact the Materials & Tests Unit immediately.
If possible, reference the FIR number (associated with the unit) on the MRR.

9.12 Pipe – Polyethylene

North Carolina Department of Transportation **2025**

PIPE, POLYETHYLENE (HDPE) - LAP Material Acceptance Guide

Material Name/Description: Polyethylene Pipe (HDPE): General Requirements for Documentation and Acceptance

Material Group: Pipe

Required Documentation For Material Certification - On File:

ALL POLYETHYLENE PIPE & RELATED MATERIALS ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ Reference Section 1032-7 in the NCDOT Specification book – direct link is referenced in this guide.
☐ HDPE is detailed in the NCDOT Roadway Standard Drawings – direct link is referenced in this guide.
☐ The HDPE producer/supplier shall be NCDOT approved, and the assigned facility number shall be placed on all documentation.
☐ HDPE shall be supplied by sources participating in the Department's "HDPE Pipe QC/QA Program", and actively participating in "AASHTO Product Evaluation & Audit Solutions" program. A list of producers/suppliers is available on the Departments producer/supplier approved list.

☐ HDPE is pre-approved by NCDOT M&T, at the producer's facility. Once approved, the M&T inspector will generate a Field Inspection Report (FIR) and place in the HiCAMS system.

☐ On-site approval of HDPE is **NOT** permitted. All pipe must be pre-approved when arrived on site.

☐ If HDPE is damaged during loading, transportation, unloading, or storage, the piece can be rejected. If this occurs, recommendation is to notify the producer that the pipe has been rejected and required to be replaced. Inform M&T of the rejection so the HiCAMS records can be marked "Rejected" and not reused.

☐ A Bill of Lading is required to accompany each shipment. This documentation shall be filed for the "Materials Certification" process.

☐ HDPE must be documented on an MRR for receipt and acceptance.

☐ HDPE identification and approval process utilizes the "RFID" tag system.

☐ The RFID tag number shall appear on the invoice and Bill of Lading.

☐ Every individual piece shall have a RFID tag. If the tag is destroyed, missing, altered, or damaged, the Materials and Tests Unit shall be notified prior to acceptance and payment. The presence of an RFID tag does not indicate NCDOT Approval of the concrete pipe. The RFID tag is only a serial number used for tracking. NCDOT approval of concrete pipe must be verified at the link below.

☐ Reference the following link for the "plastic pipe" RFID tag status:

https://apps.ncdot.gov/vendor/approvedproducts/PrecastLookup.aspx

☐ The following RFID tag status and usage are identified as:

- "Rejected" – piece shall not be accepted.
- "Void" – piece shall not be accepted.
- "In Use" – piece shall not be accepted.
- "Available" – piece is approved and can be utilized on the project.
- If RFID tag number is not listed – the unit has **NOT** been approved, do not accept – contact M&T.

☐ The above link will also indicate if a FIR has been generated.

On-Site Sampling/Testing Requirements:

On-site technician shall verify the RFID tag and status prior to acceptance and placement.
A visual inspection of each piece prior to final placement is recommended.
All documentation shall be filed and utilized during the “Material Certification” process.

Special Instructions:

If RFID tag is damaged, altered, missing, or removed, contact the Materials & Tests Unit immediately.
If possible, reference the FIR number (associated with the unit) on the MRR.

North Carolina Department of Transportation 2025

PRECAST CONCRETE UNITS - LAP Material Acceptance Guide

Material Name/Description: Precast Concrete Units:General Requirements, Documentation & Acceptance

Material Group: Precast

Required Documentation For Material Certification - On File:

ALL PRECAST CONCRETE UNITS & RELATED MATERIALS ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ Reference Section 1077 in the NCDOT Specification book – direct link is referenced in this guide.

☐ Precast units are detailed in the NCDOT Roadway Standard Drawings – direct link is referenced in this guide.

☐ The precast producer/supplier shall be actively NCDOT approved – PC# placed on all documentation.

☐ Precast units are pre-approved by NCDOT M&T, at the producer's facility. Once approved, the M&T inspector will generate a Field Inspection Report (FIR) and place in the HiCAMS system.

☐ On-site approval of precast units is **NOT** permitted. All units must be pre-approved when arrived on site.

☐ If precast units are damaged during loading, transportation, unloading, or storage, the unit can be rejected. If this occurs, recommendation is to notify the producer that the units have been rejected and need to be replaced and inform M&T of the rejection so those precast units HiCAMS records can be marked Rejected and not reused.

☐ A Bill of Lading is required to accompany each unit. This documentation shall be filed for the "Materials Certification" process.

☐ A "Type 3" materials certification is required for incidental precast items. Reference Table 1077-1 in the NCDOT Specification book for selected items labeled "Incidental Precast Items". The Type 3 certification shall be filed for the "Materials Certification" process.

☐ Precast units must be documented on an MRR for receipt and acceptance.

☐ Precast units utilize the "RFID" tag system.

☐ The RFID tag number shall appear on the invoice and Bill of Lading.

☐ Every individual unit shall have a RFID tag. If the tag is destroyed, missing, altered, or damaged, the Materials and Tests Unit shall be notified prior to acceptance and payment. The presence of an RFID tag does not indicate NCDOT Approval of a precast unit. The RFID tag is only a serial number used for tracking. NCDOT approval of precast units must be verified at the link below.

☐ Reference the following link for the precast unit RFID tag status:

https://apps.ncdot.gov/vendor/approvedproducts/PrecastLookup.aspx

☐ The following RFID tag status and usage are identified as:

- "Rejected" – unit shall not be accepted.
- "Void" – unit shall not be accepted.
- "In Use" – unit shall not be accepted.
- "Available" – unit is approved and can be utilized on the project.
- If RFID tag number is not listed – the unit has **NOT** been approved, do not accept – contact M&T.

☐ The above link will also indicate if a FIR has been generated.

On-Site Sampling/Testing Requirements:

On-site technician shall verify the RFID tag and status prior to acceptance and placement.
A visual inspection of each unit prior to final placement is recommended.
All documentation shall be filed and utilized during the “Material Certification”.

Special Instructions:

If RFID tag is damaged, altered, missing, or removed, contact the Materials & Tests Unit immediately.
If possible, reference the FIR number (associated with the unit) on the MRR.

North Carolina Department of Transportation 2025

PRESTRESSED UNITS - LAP Material Acceptance Guide

Material Name/Description: Prestressed: General Requirements for Documentation and Acceptance
Material Group: Prestressed
Required Documentation For Material Certification - On File:

ALL PRESTRESSED & RELATED PRESTRESSED MATERIALS ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ Reference Section 1078 in the NCDOT Specification book – direct link is referenced in this guide.

☐ Prestressed pieces shall be supplied by manufacturing plants participating in the Precast/Prestressed Concrete Institute's (PCI) Plant Certification Program – PS# shall be placed on all documentation. A list of producers/suppliers is available on the Departments producer/supplier approved list.

☐ Prior to casting, complete working drawings shall be submitted to the Department and the Materials & Tests Unit for approval.

☐ Prestressed pieces are pre-approved by NCDOT M&T, at the producer's facility. Once approved, the M&T inspector will generate a Field Inspection Report (FIR) and place in the HiCAMS system.

☐ An inspection report is generated at the manufacturer's facility by M&T's Manufactured Products Group, this report shall be filed for verification during the "Materials Certification" process. It is the responsibility of the prime contractor to supply this report to the town/city.

☐ On-site approval of prestress pieces is **NOT** permitted. All pieces must be pre-approved when arrived on site.

☐ If pieces are damaged during loading, transportation, unloading, or storage, the piece can be rejected. If this occurs, recommendation is to notify the producer that the prestressed member has been rejected and further investigation may be required. Inform M&T of the rejection so the HiCAMS records can be marked "Rejected" and not reused until a further evaluation of the prestress member is completed.

☐ A Bill of Lading is required to accompany each shipment. Additionally, RFID tag numbers shall appear on the Bill of Lading. This documentation shall be filed for the "Materials Certification" process.

☐ Prestressed pieces must be documented on an MRR for receipt and acceptance.

☐ Prestressed pieces identification and approval process utilizes the "RFID" tag system.

☐ Every individual piece shall have a RFID tag. If the tag is destroyed, missing, altered, or damaged, the Materials and Tests Unit shall be notified prior to acceptance and payment. The presence of an RFID tag does not indicate NCDOT Approval of the prestressed piece. The RFID tag is only a serial number used for tracking. NCDOT approval of prestressed pieces must be verified at the link below.

☐ Reference the following link for the prestressed piece RFID tag status:
https://apps.ncdot.gov/vendor/approvedproducts/PrecastLookup.aspx

☐ The following RFID tag status and usage are identified as:

- "Rejected" – piece shall not be accepted.
- "Void" – piece shall not be accepted.
- "In Use" – piece shall not be accepted.
- "Available" – piece is approved and can be utilized on the project.
- If RFID tag number is not listed – the unit has **NOT** been approved, do not accept – contact M&T.

☐ The above link will also indicate if a FIR has been generated.

On-Site Sampling/Testing Requirements:

On-site technician shall verify the RFID tag and status prior to acceptance and placement.
A visual inspection of each piece prior to final placement is recommended.
All documentation shall be filed and utilized during the “Material Certification” process.

Special Instructions:

If RFID tag is damaged, altered, missing, or removed, contact the Materials & Tests Unit immediately.
If possible, reference the FIR number (associated with the unit) on the MRR.

North Carolina Department of Transportation

2025

RFID TRACKING - LAP Material Acceptance Guide

Material Name/Description: RFID Tracking: General Requirements for Documentation and Acceptance

Material Group: Manufactured Products

Required Documentation For Material Certification - On File:

THE FOLLOWING MANUFACTURED PRODUCTS UTILIZE THE RFID TRACKING SYSTEM:

☐ Reference Section 1030 in the NCDOT Specification book – direct link is referenced in this guide.

☐ The following manufactured products utilize the RFID tracking system:

- Plastic Pipe
- Reinforced Concrete Pipe
- Corrugated Metal Pipe Products
- Prestressed Concrete Products
- Precast Concrete Products
- Sign Products

☐ RFID manufactured products are pre-approved by NCDOT M&T, at the producer's facility. Once approved, the M&T inspector will generate a Field Inspection Report (FIR) and place in the HiCAMS system.

☐ The RFID tag number shall appear on the invoice and Bill of Lading.

☐ Every individual unit shall have a RFID tag. If the tag is destroyed, missing, altered, or damaged, the Materials and Tests Unit shall be notified prior to acceptance and payment. The presence of an RFID tag does not indicate NCDOT Approval of a precast unit. The RFID tag is only a serial number used for tracking. NCDOT approval of precast units must be verified at the link below.

☐ Reference the following link for the manufactured product's RFID tag status:

https://apps.ncdot.gov/vendor/approvedproducts/PrecastLookup.aspx

☐ The following RFID tag status and usage are identified as:

- "Rejected" – unit shall not be accepted.
- "Void" – unit shall not be accepted.
- "In Use" – unit shall not be accepted.
- "Available" – unit is approved and can be utilized on the project.
- If RFID tag number is not listed – the unit has **NOT** been approved, do not accept – contact M&T

☐ The above link will also indicate if a FIR has been generated.

☐ RFID manufactured products must be documented on an MRR for receipt and acceptance.

On-Site Sampling/Testing Requirements:

On-site technician shall verify the RFID tag and status prior to acceptance and placement.
A visual inspection of each unit prior to final placement is recommended.
All documentation shall be filed and utilized during the “Material Certification” process.

Special Instructions:

If RFID tag is damaged, altered, missing, or removed, contact the Materials & Tests Unit immediately.
If possible, reference the FIR number (associated with the unit) on the MRR.

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LANDSCAPING, SEED - LAP Material Acceptance Guide

Material Name/Description: Seed: General Requirements for Documentation and Acceptance

Material Group: Landscaping

Required Documentation For Material Certification - On File:

ALL SEED & RELATED MATERIALS ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ Reference Section 1060 in the NCDOT Specification book – direct link is referenced in this guide.

☐ Document the Line Item on all related operations.

☐ NCDA&CS will no longer attach physical tags or stickers to seed lots. Compliance must now be verified online through the Materials and Tests (M&T) Approved Products List (APL) website – direct link is referenced in this guide.

☐ Online Verification:

- APL Website: NCDOT Project Inspectors must verify seed lot compliance on the APL website: APL Seed List.
- Criteria: Seed lots listed as "Meets Specifications" should be used on LAP projects.
- Do not use seed lots shown as anything other than "Meets Specifications".
- Expiration Check: Always check the expiration date of the seed lot. Expired seed is not allowed for use.

☐ Transitional Details:

- Existing Stickers/Tags: Seed lots with existing tags or stickers are still acceptable for use if the seed lot has not expired but the tags/stickers will phase out over time.

☐ Step-by-Step Procedure

- Locate Seed Lot Number: Use the lot number on the seed bag.
- Access APL Website: Go to the APL Seed List.
- Enter Lot Number: Enter the lot number in the search field and review the results.
- Confirm Compliance: Ensure the seed lot is marked "Meets Specifications."
- Check Expiration: Verify the seed is within its valid date.

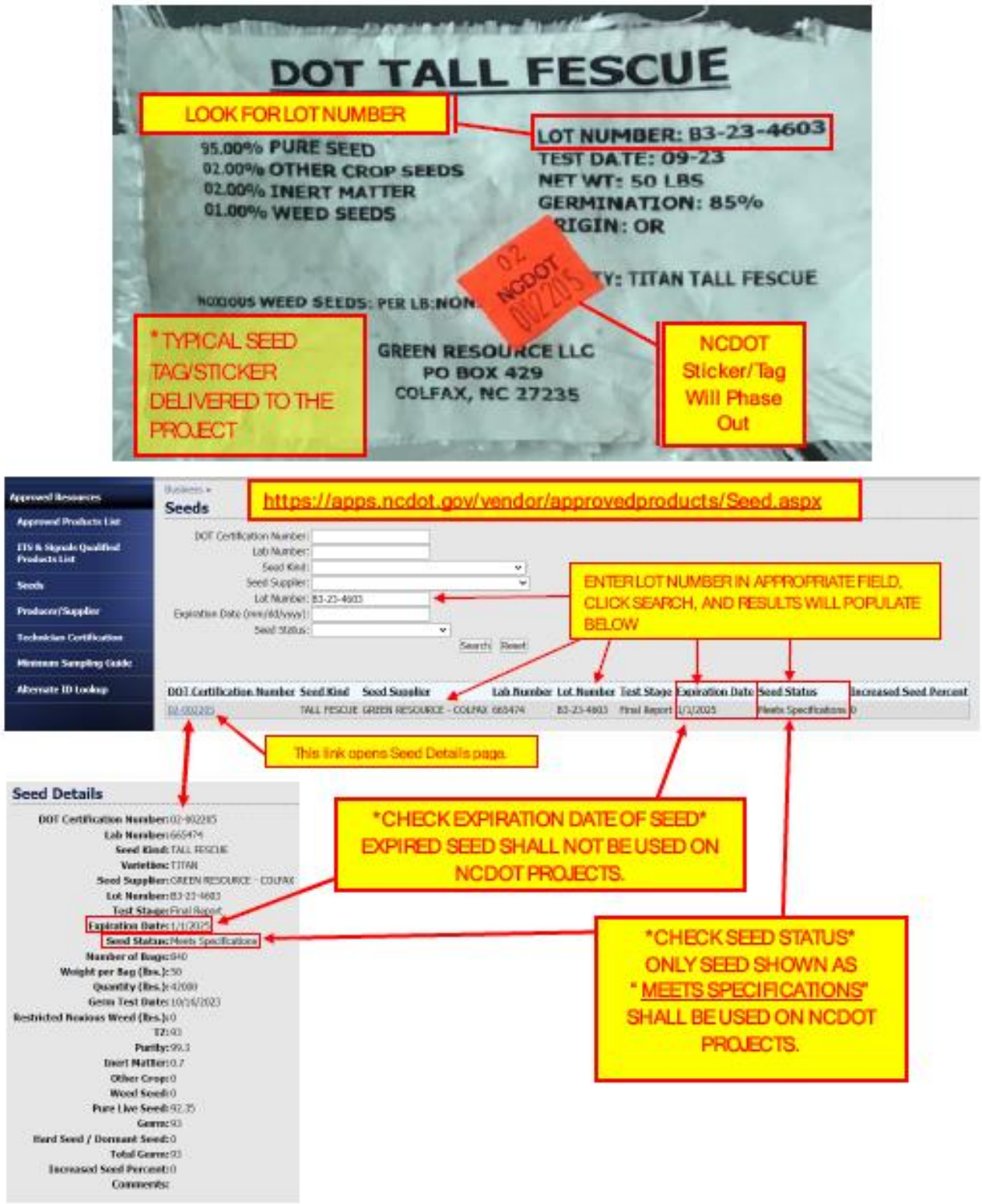
On-Site Sampling/Testing Requirements:

Visual inspection and verification shall be conducted by the on-site inspector.

Special Instructions:

Documentation shall be legible.
Documentation shall be on file for verification during the "Material Certification Process".

Refer to the following graphic for a visual guide on the verification process. This graphic contains a photo of a typical seed tag/sticker with lot number and illustrates the steps for verifying seed compliance and checking the expiration date. Use it as a reference for the acceptance process.



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TRAFFIC CONTROL - LAP Material Acceptance Guide

Material Name/Description: Traffic Control: General Requirements for Documentation and Acceptance

Material Group: Traffic Control/Work Zone Signs

Required Documentation For Material Certification - On File:

THE FOLLOWING TRAFFIC CONTROL PRODUCTS ARE REQUIRED TO HAVE THE FOLLOWING:

☐ Reference Section 1089 in the NCDOT Specification Book – direct link is referenced in this guide.

☐ The following general requirements apply to the following traffic control products:

- Work Zone Signs & Supports
- Barricades
- Sequential Flashing Warning Lights
- Channelizing Devices (Drums, Skinny Drums, Cones)
- Flashing Arrow Boards
- Portable Changeable Message Signs
- Temporary Crash Cushions
- Attenuators
- Flaggers

☐ All traffic control products must be verified approval for use and listed on the NCDOT APL.

☐ If a "Work Zone Traffic Control" plan is required, reference Section 1101-1180 in the NCDOT Specification Book – direct link is referenced in this manual.

☐ Furnish a Type 3 (new) or Type 7 (used) material certification for all traffic control products.

☐ Documentation must reflect if the prime contractor or a sub-contractor provided traffic control products.

☐ Traffic control products must be documented on a MRR for receipt and acceptance.

☐ Traffic control products invoices and certifications shall indicate the respective Line Item Number.

☐ If Flaggers are utilized, the following must be verified and documented:

- Qualification Statement all flaggers are trained (Reference Section 1150-3 in NCDOT Specification Book).
- Indicate if Flaggers are supplied by prime contractor or sub-contractor.

☐ If traffic control products are damaged during the construction phase, they are required to be replaced.

☐ All traffic control products are subject to the approval of the Department Engineer.

On-Site Sampling/Testing Requirements:

On-site technician shall verify traffic control products are on the NCDOT APL prior to acceptance.
A visual inspection of each product/unit prior to placement is recommended.
All documentation shall be filed and utilized during the "Material Certification" process.

Special Instructions:

If assistance is needed, contact the Materials & Tests Unit.
If traffic control products are damaged, they shall be replaced.

North Carolina Department of Transportation 2025

WEIGHMASTER - LAP Material Acceptance Guide

Material Name/Description: Weighmaster Ticket: General Requirements for Documentation and Acceptance

Material Group: Miscellaneous

Required Documentation For Material Certification - On File:

ALL MATERIALS RECEIVED BY TICKET/WEIGHT AND PUBLIC WEIGHMASTER SHALL INCLUDE THE FOLLOWING:

☐ Reference Section 106-7 in the NCDOT Specification book.

☐ Materials delivered on-site and are to be paid for on a per ton basis are required to have an active, certified weight certificate (ticket) for acceptance.

☐ All tickets shall display a valid, un-expired, certification date correlated to the weighmaster's stamp.

☐ All tickets shall be issued by an active North Carolina public weighmaster for each load.

☐ All tickets shall display the corresponding weighmasters name, stamp, and signature/initials. Any alteration of this series will result in the load being subject to non-participating funds.

☐ All tickets shall be signed/initialed the day of the operation. Tickets which are signed/initialed after the date documented on the ticket are subject to non-participating funds.

☐ Tickets, receipts, or invoices without proper stamp, and signature or initials, will not be approved or accepted on the project.

☐ The following Weighmaster's signature or initials are acceptable methods:

- Hard signatures or initials.
- Computer Generated - stamps and signatures must appear identical to the current stamp requiring a signature. This version requires an individual login by the weighmaster and is limited use only by the weighmaster.
- Electronic Signature – a one-time signature is made on a device and then transmitted to the printer. The electronic signature shall not be stored and accessible to anyone but the weighmaster.

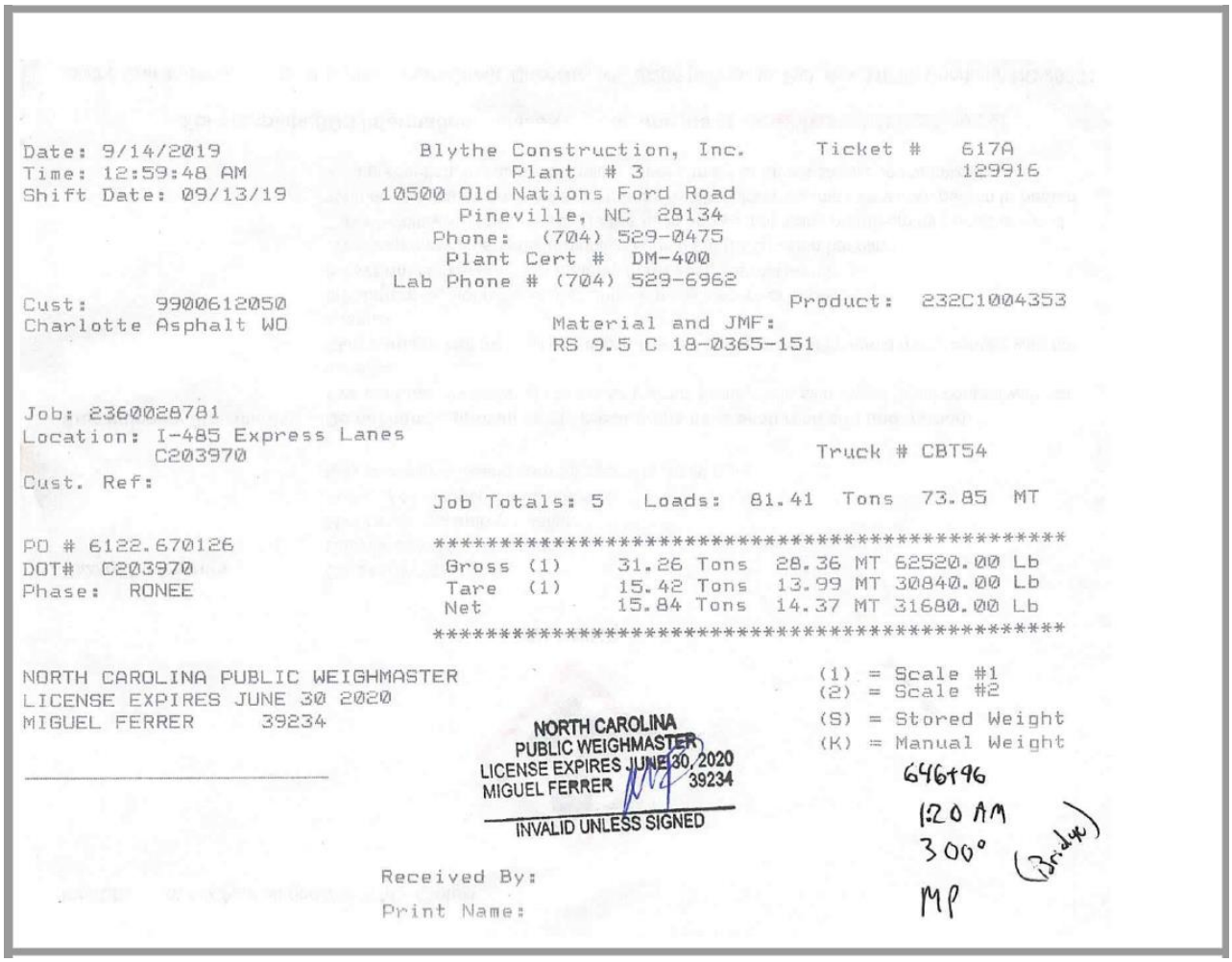
☐ Weight certificates/tickets **SHALL** include **ALL** the following information:

- The LAP contract number and/or WBS number.
- The date the ticket is issued.
- The time the ticket is issued if the material is asphalt plant mix or plant mixed cement treated base course.
- The type of material represented by the weight ticket.
- The gross weight of the vehicle.
- The tare weight of the vehicle.
- The net weight of the material.
- The location and NCDOT Plant Certification Number of the quarry or plant where the material came from. The plant must be on the NCDOT approved list.
- If asphalt plant mix is the material, the ticket must include the approved NCDOT Job Mix Formula Number.
- If asphalt plant mix is the material, the ticket must include the approved NCDOT Plant Certification Number.
- The number of the truck transporting the material.
- The name of the prime Contractor for the project.
- The Public Weighmaster's valid, un-expired stamp or number.
- The Public Weighmaster's name (first and last name) and signature, or initials (see above for acceptable signatures/initials methods).

Special Instructions:

On-site inspector should verify all information is valid on each ticket prior to acceptance of material.
If required documentation is not included, the material related to the Line Item may result in non-participating amounts deducted from final payment.
Signatures and/or initials shall be on the ticket at time of arrival on site – tickets without signature/initials shall not be accepted.
Falsification of weighmaster information will result in removal of facility from the "NCDOT Approved List".
All documentation shall be kept on file for verification during the "Material Certification" process.

Example: The following is an example of an acceptable ticket.



Date: 9/14/2019 Blythe Construction, Inc. Ticket # 617A
Time: 12:59:48 AM Plant # 3 129916
Shift Date: 09/13/19 10500 Old Nations Ford Road
Pineville, NC 28134
Phone: (704) 529-0475
Plant Cert # DM-400
Lab Phone # (704) 529-6962

Cust: 9900612050 Product: 232C1004353
Charlotte Asphalt WO Material and JMF:
RS 9.5 C 18-0365-151

Job: 2360028781
Location: I-485 Express Lanes
C203970 Truck # CBT54
Cust. Ref:

Job Totals: 5 Loads: 81.41 Tons 73.85 MT

PO # 6122.670126
DOT# C203970
Phase: RONEE

Gross (1)	31.26 Tons	28.36 MT	62520.00 Lb
Tare (1)	15.42 Tons	13.99 MT	30840.00 Lb
Net	15.84 Tons	14.37 MT	31680.00 Lb

NORTH CAROLINA PUBLIC WEIGHMASTER
LICENSE EXPIRES JUNE 30 2020
MIGUEL FERRER 39234

(1) = Scale #1
(2) = Scale #2
(S) = Stored Weight
(K) = Manual Weight

NORTH CAROLINA
PUBLIC WEIGHMASTER
LICENSE EXPIRES JUNE 30, 2020
MIGUEL FERRER 39234
INVALID UNLESS SIGNED

646496
1:20 AM
300°
MP
(Bridge)

Received By:
Print Name:

North Carolina Department of Transportation

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WELDERS & FIELD WELDING - LAP Material Acceptance Guide

Material Name/Description: Welders & Field Welding: General Requirements for Documentation and Acceptance

Material Group: Structural

Required Documentation For Material Certification - On File:

ALL WELDERS AND FIELD WELDING ACTIVITIES ARE REQUIRED TO INCLUDE THE FOLLOWING:

☐ **Welders**: Reference Section 1072-17(C&D) in the NCDOT Specification book.

☐ All field welders shall have an active, certification, and be qualified by the Department.

☐ Contact the Materials & Tests Unit for welder verification.

☐ Reference the following links for Field Welder Application and Field Welder Test Program:

https://connect.ncdot.gov/resources/Materials/Pages/Certification-Courses.aspx
https://connect.ncdot.gov/resources/Materials/Materials/NCDOT%20Field%20Welder%20Test%20Program.pdf

☐ **Field Welding:** Reference Sections 440-7 & 1072-18 in the NCDOT Specification book.

☐ All welds shall be clearly indicated on approved shop drawings with specifications and/or details.

☐ Prior to welding, the surface shall be free of contaminants and sufficiently cleaned to bare metal.

☐ Once all field welding is completed, inspection of each weld shall be conducted by a qualified inspector in accordance with AWS QC-1.

☐ Documentation referencing the inspection of all welds shall be kept in the project files and accessible during the material certification process.

☐ If Nondestructive Testing (NDT) is required, the inspector shall be certified in conformance with the American Society for Nondestructive Testing's (ASNT) recommended practice number (SNT-TC-1A).

On-Site Sampling/Testing Requirements:

Visual inspection and verification for all field welding by qualified inspector.

Special Instructions:

Verify all welders are actively certified.
Documentation of welder's certification and field weld inspection report shall be accessible during the "Material Certification" process.

10 Material Certification Reference List

A material certification is conducted at the end of the construction phase, prior to final payment. During this process ALL line items/pay items are reviewed and verified. EACH line item shall have the required documentation. If the documentation does not meet the specifications and/or requirements, a non-participating amount will be assigned, and funds withheld. All materials are not represented on the following list. If a material or material operation is not listed in this reference, please contact your local materials LAP representative or M&T's "Material Certification Program Engineer" for assistance.

Material Description	Received By	Certification Type	On-Site Testing/ Inspection	Additional Required Documentation
ADA Materials	MRR	Type 3	Visual Inspection	ADA Compliant
Aggregate – Subdrain (Fine)	Ticket	Weighmaster	Visual Inspection	NCDOT Approved Facility
Aggregate Base Course	Ticket	Weighmaster	If Compacted – Density Required	NCDOT Approved Facility
Asphalt Bases & Pavements	Ticket	Weighmaster	Density Required	Form 605, NCDOT Approved Facility
Asphalt Binder	MRR	Type 6	Visual Inspection	NCDOT Approved Facility
Bollards – Concrete	MRR	Type 6	Visual Inspection	
Bollards – Metal	MRR	Type 1	Visual Inspection	Buy America
Bollards – Wood	MRR	Type 3	Visual Inspection	
Concrete – All Classes/Strength	MRR & Ticket	N/A	Acceptance Tests Required	Form 903-V24 & Form 250, NCDOT Approved Facility
Concrete – Latex Modified	MRR & Ticket	N/A	Acceptance Tests Required	Form 903-V24 & Form 250, NCDOT Approved Facility
Concrete – Volumetric	MRR & Ticket	N/A	Acceptance Tests Required	Form 903-V24 & Form 250, NCDOT Approved Facility
Concrete Block Segmental Wall	MRR	Type 3	Visual Inspection	NCDOT Approved Facility
Electrical Materials	MRR	Type 3	Visual Inspection	
Embankment Material – Classified	MRR & Ticket	N/A	Density Required	
Embankment Material – Unclassified	MRR & Ticket	N/A	Density Required	
Engineering Fabric	----	----	----	See Geotextiles Section 9.7
Epoxy Materials	MRR	Type 3	N/A	NCDOT Approved
Erosion Control – Fence	MRR	N/A	Visual Inspection	Invoice and quantity reqd.
Erosion Control – Stone	Ticket	Weighmaster	Visual Inspection	NCDOT Approved Facility
Fence – Aluminum	MRR	Type 6	Visual Inspection	Buy America, if welding -3rd Party Report required.
Fence – Decorative	MRR	Type 6	Visual Inspection	Written Division Approval, if welding -3rd Party Report required.
Fence - Metal	MRR	Type 6	Visual Inspection	Buy America, if welding -3rd Party Report required.
Fence – Silt	MRR	N/A	Visual Inspection	Invoice and quantity reqd.

Material Description	Received By	Certification Type	On-Site Testing/ Inspection	Additional Required Documentation
Fence – Timber/Wood	MRR	N/A	Visual Inspection	LAP exception – purchase from local building supply. Invoice and quantity reqd.
Fence Post – Aluminum	MRR	Type 6	If welding -3rd Party Report Req.	Buy America, if welding -3rd Party Report required.
Fence Post – Decorative	MRR	Type 6	Visual Inspection	Written Division Approval, if welding -3rd Party Report required.
Fence Post – Metal	MRR	Type 6	Visual Inspection	Buy America, if welding -3rd Party Report required.
Fence Post – Timber/Wood	MRR	N/A	Visual Inspection	LAP exception – purchase from local building supply. Invoice and quantity reqd.
Fencing Accessories - Metal	MRR	Type 6	Visual Inspection	Buy America
Fencing Fabric - Woven Wire	MRR	Type 6	Visual Inspection	Buy America, NCDOT Approved
Fencing Wire - Barbed	MRR	Type 6	Visual Inspection	Buy America, NCDOT Approved
Fertilizer	MRR	Type 6	Visual Inspection	
Fire Hydrants	MRR	Type 6	Visual Inspection	Buy America, Catalog Cuts
Flowable Fill	MRR & Ticket	N/A	Visual Inspection	Form 903-V24, NCDOT Approved Facility
Frame – With Cover	MRR	Type 3	Visual Inspection	Buy America
Frame – With Grate	MRR	Type 3	Visual Inspection	Buy America
Frame – With Grate and Hood	MRR	Type 3	Visual Inspection	Buy America
Geotextiles/Geosynthetics	MRR	-------	Visual Inspection	NCDOT Approved - all, see Section 9.7.
Glass Beads	MRR	Type 3 & 4	Visual Inspection	NCDOT Approved
Grates – Steel	MRR	Type 1	M&T Pretested	Buy America
Gray Iron Castings	MRR	Type 3	Visual Inspection	Buy America
Grout - All	MRR	Type 3	Testing Required	Reference Section 1003 in Spec Book for guidance.
Guardrail - Anchor Unit	MRR	Type 3	Visual Inspection	Buy America, FIR required if adjacent to traffic.
Guardrail – Cable	MRR	Type 1	Visual Inspection	Buy America, FIR required if adjacent to traffic.
Guardrail – End Units	MRR	Type 3	Visual Inspection	Buy America, FIR required if adjacent to traffic.
Guardrail - Hardware	MRR	Type 3	Visual Inspection	Buy America, FIR required if adjacent to traffic.
Guardrail – Plastic Block	MRR	Type 3	Visual Inspection	FIR required if adjacent to traffic.
Guardrail – Rail	MRR	Type 1	Visual Inspection	Buy America, FIR required if adjacent to traffic.
Guardrail – Steel Beam	MRR	Type 1	Visual Inspection	Buy America, FIR required if adjacent to traffic.

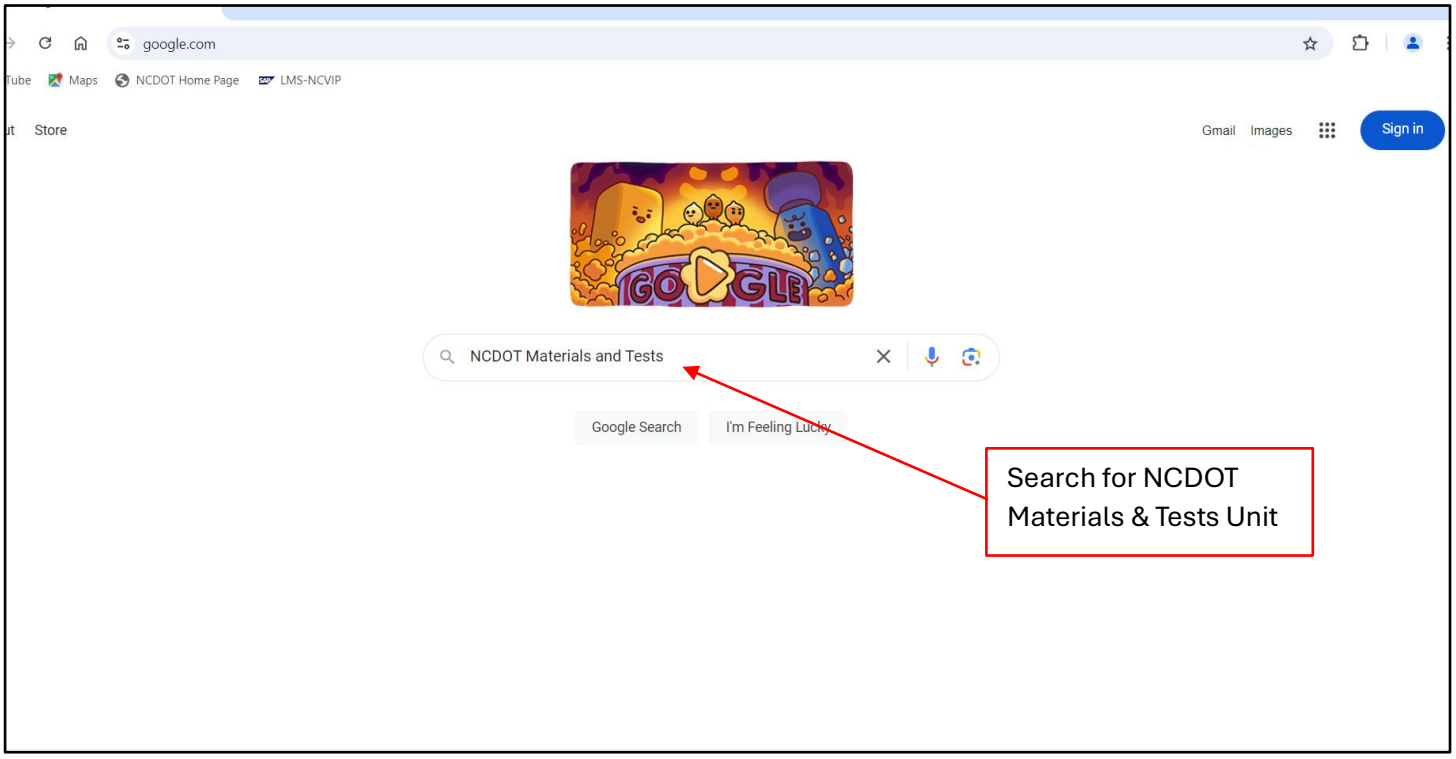
Material Description	Received By	Certification Type	On-Site Testing/ Inspection	Additional Required Documentation
Guardrail – Steel Post	MRR	Type 1	Visual Inspection	Buy America, FIR required if adjacent to traffic.
Guiderail - Cable	MRR	Type 3	Visual Inspection	Buy America, NCDOT Approved
Guiderail - Hardware	MRR	Type 3	Visual Inspection	Buy America, NCDOT Approved
Guiderail - Post	MRR	Type 3	Visual Inspection	Buy America, NCDOT Approved
Joint Material – Pipe Culverts	MRR	Type 6	Visual Inspection	
Light – Standard & High Mount	MRR	Type 1	M&T Pretested	
Lighting and Electrical Materials (Lump Sum)	MRR	Type 3 & Type 5	Visual Inspection	Catalog Cuts
Masonry Drainage Structures	MRR	N/A	Visual Inspection	Brick/Block from Approved Facility
Mulch – All Types	MRR	Type 6	Visual Inspection	
Paint – Pavement Marking Lines	MRR	Type 3	Visual Inspection	
Paint for Structural Steel	MRR	Type 1 & Type 4	Visual Inspection	
Pavement Markers	MRR	Type 2	Visual Inspection	
Pavement Markings	MRR	Type 3 & Type 4	Visual Inspection	
Pedestrian Handrail - Metal	MRR	Type 1	Visual Inspection	If welding – inspection report and welder/welding verification.
Pedestrian Handrail - Other	MRR	Type 3	Visual Inspection	If welding-inspection report and welder/welding verification.
Piles – Steel (Coated)	MRR	Type 1	M&T Pretested	Buy America
Piles – Steel (Plain)	MRR	Type 1	M&T Pretested	Buy America
Piles – Timber	MRR	Type 4	Visual Inspection	3rd Party Inspection Report
Pipe – Corrugated Metal	MRR	Type 3	M&T Pretested	RFID and Bill of Lading
Pipe – Outlets and Drain (PVC)	MRR	Type 3	Visual Inspection	Catalog Cuts
Pipe – Outlets and Drains (Metal)	MRR	Type 3	Visual Inspection	Buy America, Catalog Cuts
Pipe – Sanity Sewer	MRR	Type 3	Visual Inspection	Catalog Cuts
Pipe – Utility (Ductile Iron)	MRR	Type 6	Visual Inspection	Buy America, Catalog Cuts
Pipe – Utility (Polyethylene)	MRR	Type 3	Visual Inspection	Catalog Cuts
Pipe – Utility (PVC)	MRR	Type 3	Visual Inspection	Catalog Cuts
Pipe – Utility (Steel)	MRR	Type 3	Visual Inspection	Buy America, Catalog Cuts
Pipe – Water (Copper)	MRR	Type 6	Visual Inspection	Catalog Cuts
Pipe – Water (Galvanized Steel)	MRR	Type 3	Visual Inspection	Buy America, Catalog Cuts
Pipe – Water (Polyethylene)	MRR	Type 6	Visual Inspection	Catalog Cuts
Pipe – Welded Steel	MRR	Type 6	Visual Inspection	Buy America, Catalog Cuts
Pipe Culvert – Concrete	MRR	M&T FIR	M&T Pretested	RFID and Bill of Lading
Pipe Culvert – Metal	MRR	M&T FIR	M&T Pretested	RFID and Bill of Lading
Pipe Culvert – Polyethylene	MRR	M&T FIR	M&T Pretested	RFID and Bill of Lading
Plantings – All Types	MRR	Type 6	Visual Inspection	NC Dept. Of Agriculture Nursery Certificate

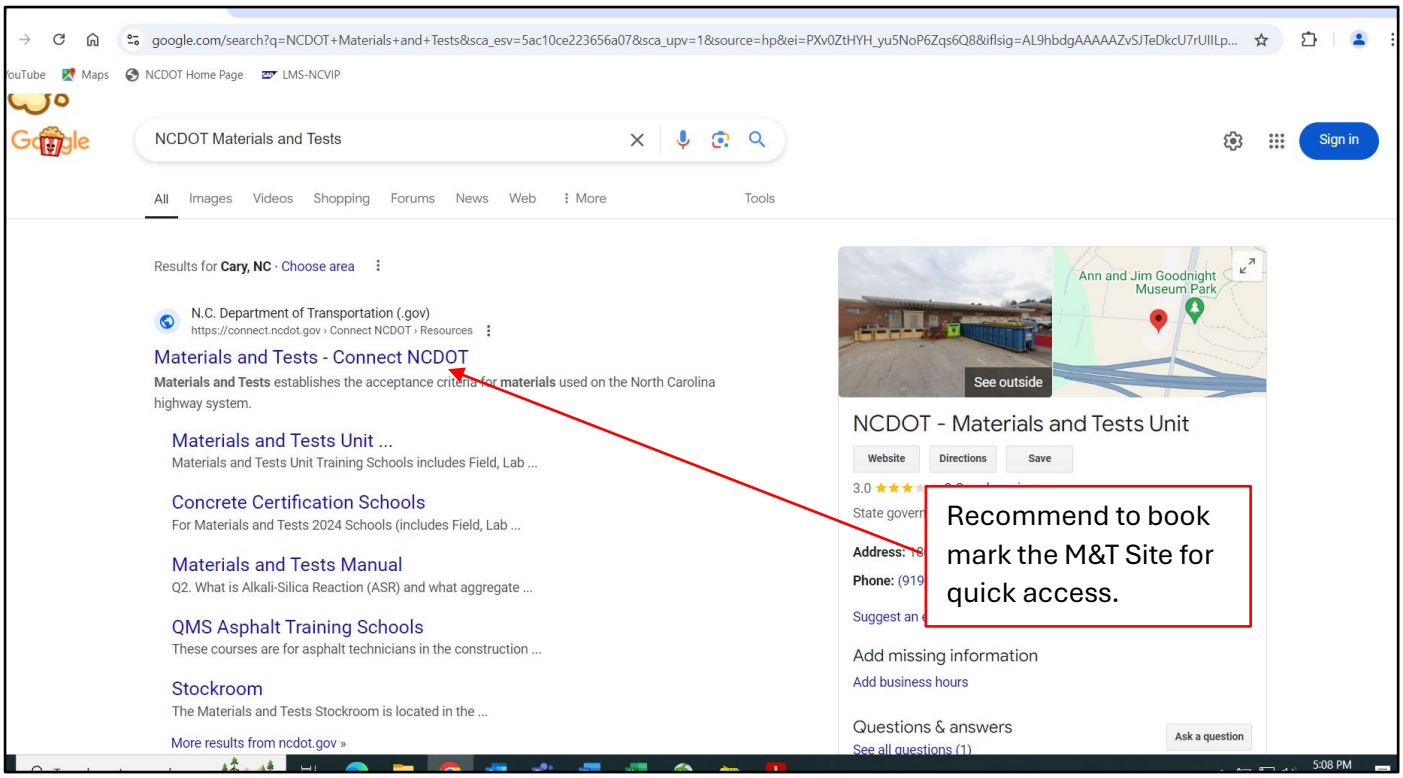
Material Description	Received By	Certification Type	On-Site Testing/ Inspection	Additional Required Documentation
Poles – Metal	MRR	Type 1	Visual Inspection	Buy America
Poles – Timber/Wood	MRR	Type 3	Visual Inspection	3rd party inspection approval
Precast - Concrete Culverts	MRR	M&T FIR	M&T Pretested	RFID and Bill of Lading
Precast – Concrete Drainage Structures	MRR	M&T FIR	M&T Pretested	RFID and Bill of Lading
Precast – Concrete Manholes	MRR	M&T FIR	M&T Pretested	RFID and Bill of Lading
Precast – Concrete Noise Wall	MRR	M&T FIR	M&T Pretested	RFID and Bill of Lading
Precast – Concrete Walls and Panels	MRR	M&T FIR	M&T Pretested	RFID and Bill of Lading
Prestressed – Concrete Members	MRR	M&T FIR	M&T Pretested	RFID and Bill of Lading
Rail – Metal	MRR	Type 1	Visual Inspection	Buy America, if welding-inspection report and welder/welding verification.
Recycled Material	Ticket	Weighmaster	Visual Inspection	
Reinforced Concrete Pipe – All Sizes and Classes	MRR	M&T FIR	M&T Pretested	RFID and Bill of Lading
Reinforcing Steel – Epoxy Coated	MRR	Type 1	Visual Inspection	ER02, Buy America
Reinforcing Steel – Plain	MRR	Type 1	Visual Inspection	Form 913, Buy America
Reinforcing Steel - Stainless	MRR	Type 1	Visual Inspection	Buy America
Reinforcing Steel – Wire Mesh	MRR	Type 1	Visual Inspection	Buy America
Retaining Wall – Reinforced Earth Wall	MRR	Type 3	Visual Inspection	
Retaining Wall - Materials	MRR	Type 1	Visual Inspection	
Rip Rap	Ticket	Weighmaster	Visual Inspection	NCDOT Approved Facility
Rock Embankment	Ticket	Weighmaster	Visual Inspection	NCDOT Approved Facility
Seed – All Types	MRR	Lot Number	Visual Inspection	Verify Lot # is approved and not expired.
Select Materials - Class II, III, IV, V, VI, VII	Ticket	Weighmaster	Visual Inspection	NCDOT Approved Facility
Shotcrete	MRR	Type 3	Application Dependent	Reference Section 1002 in Spec Book for guidance.
Signals - Traffic	MRR	Type 3	Visual Inspection	Catalog Cuts, and verify submittal approval, and final operational report.
Sign Post – U Channel	MRR	Type 1	Visual Inspection	Buy America
Sign Supports – Overhead	MRR	Type 1	Visual Inspection	Buy America
Sign Supports – Steel Beam	MRR	Type 1	Visual Inspection	Buy America
Signs and Signing Materials	MRR	Type 3	Visual Inspection	Catalog Cuts
Soil – Base Course	MRR	N/A	If Compacted – Density Required	
Stone – Incidental Base	Ticket	Weighmaster	If Compacted – Density Required	NCDOT Approved Facility
Stone – Slope Protection	Ticket	Weighmaster	Visual Inspection	NCDOT Approved Facility
Structural Steel	MRR	Type 1	M&T Pretested	Buy America
Structural Timber (Board Feet)	MRR	Type 4	Visual Inspection	3rd party inspection approval
Subgrade Material	MRR & Ticket	N/A	If Compacted – Density Required	

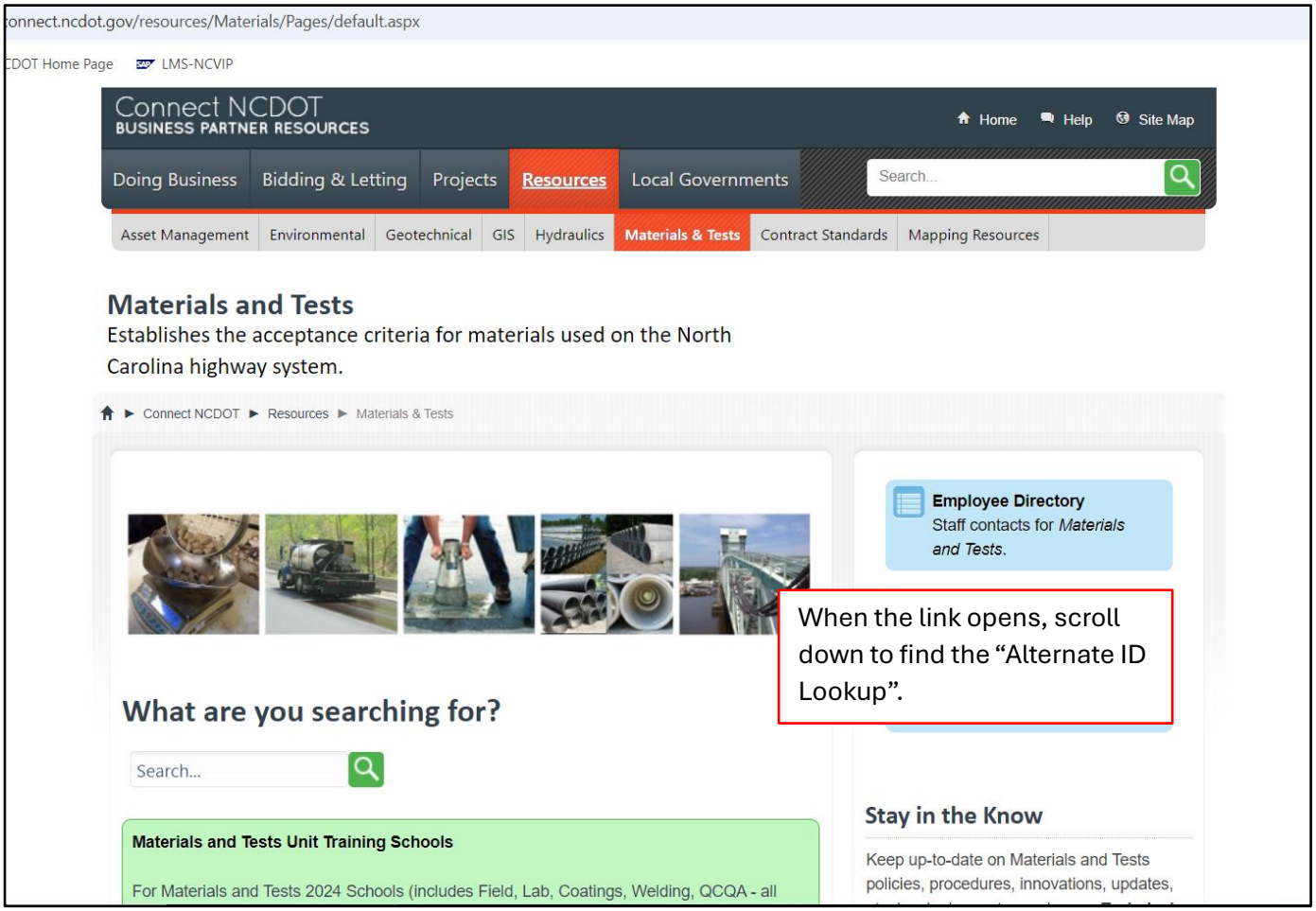
Material Description	Received By	Certification Type	On-Site Testing/ Inspection	Additional Required Documentation
Subgrade Stabilizers – Chemical	MRR	Type 1 & 4	If Compacted – Density Required	
Thermoplastic – All Widths and Thickness	MRR	Type 1 & 4	Visual Inspection	
Timber Products	MRR	Type 4	Visual Inspection	3rd party inspection approval
Traffic Control – Barricades	MRR	Type 7	Visual Inspection	
Traffic Control – Miscellaneous	MRR	Type 7	Visual Inspection	
Traffic Control Devices – Portable	MRR	Type 7	Visual Inspection	
Truncated Domes	MRR	Type 3	Visual Inspection	ADA Compliant

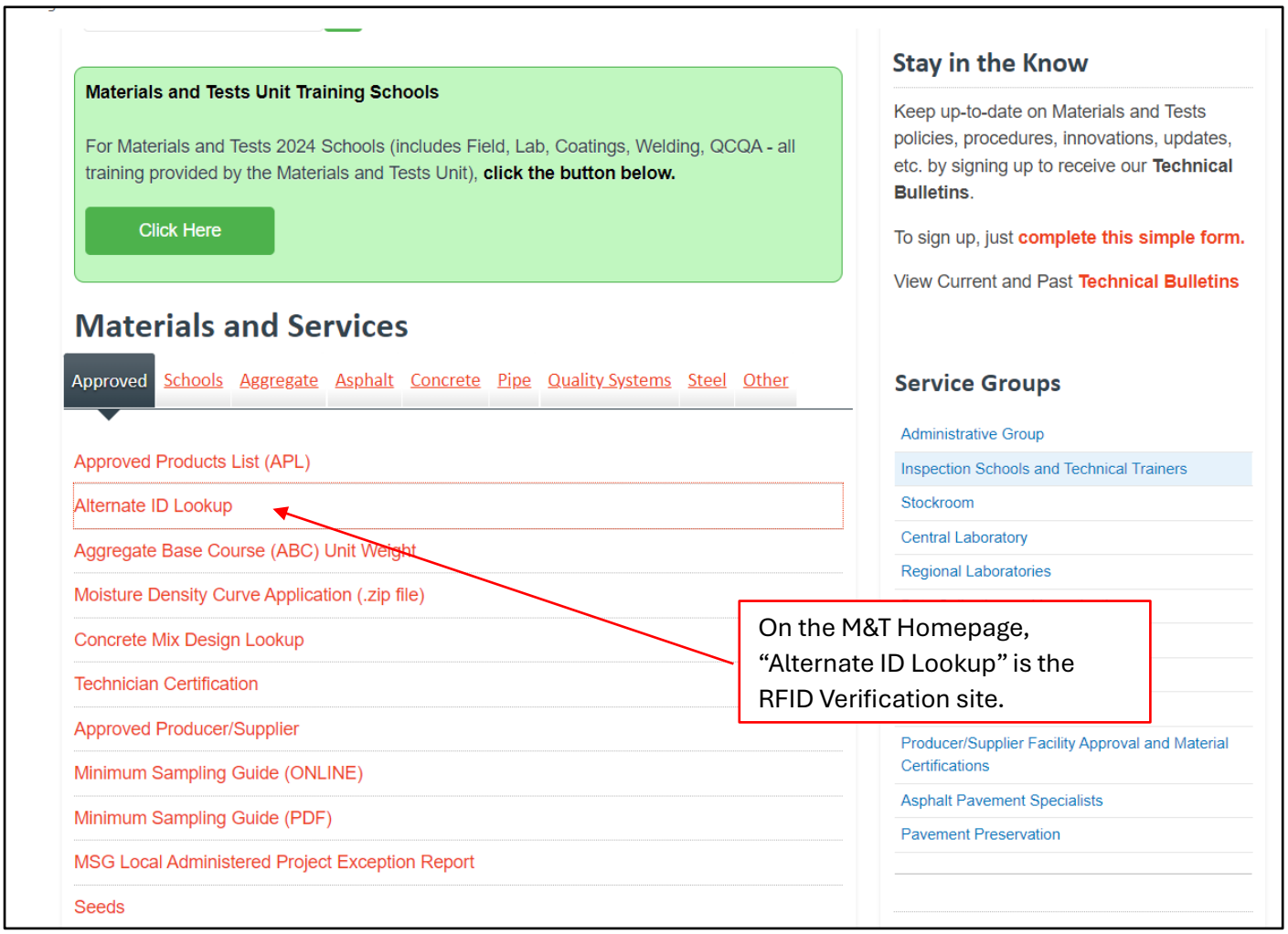
11 RFID Verification Reference Guide

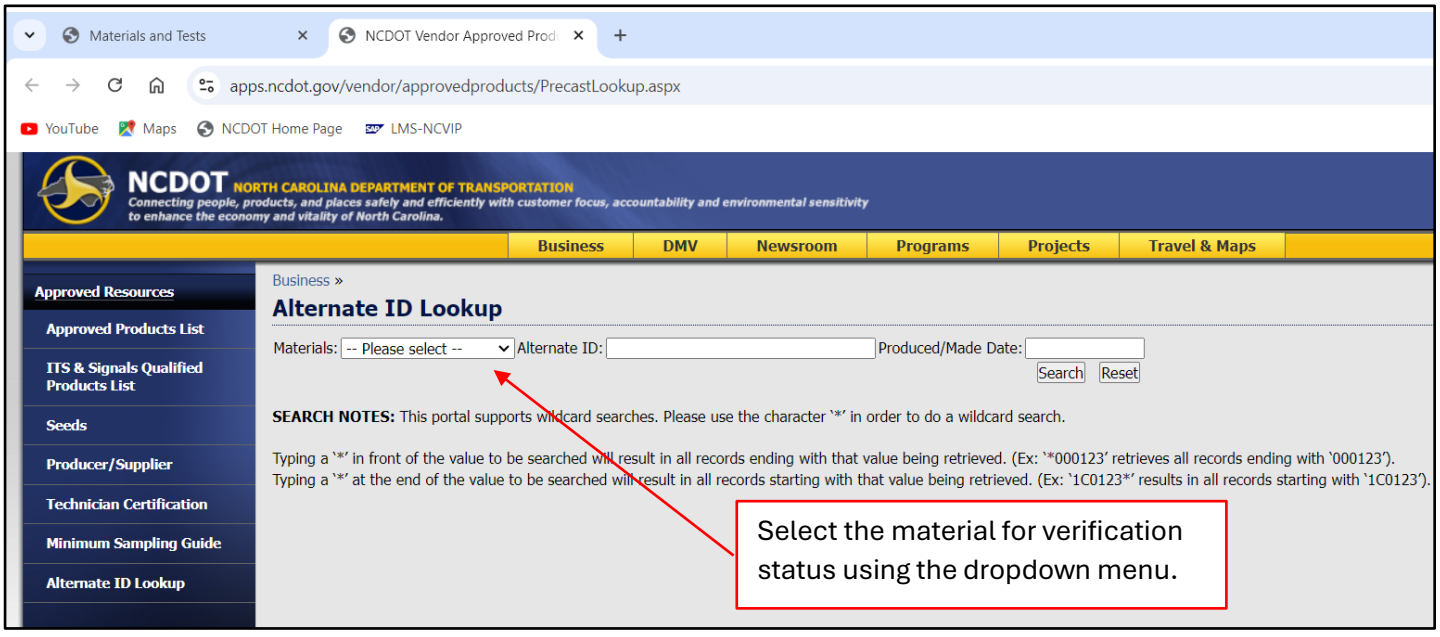
Radio Frequency Identification (RFID) tracking and tagging is used for manufactured products which includes but is not limited to Prestressed Concrete Products, Precast Concrete Products, Plastic Pipe, Reinforced Concrete Pipe, Steel Products and Metal Pipe. The RFID tag/label is used for identification of manufactured products by visually reading the 24-digit code, scanning the RFID embedded chip, or scanning the printed QR/barcode. It is the responsibility of the producer to supply RFID tags approved by the Department following the requirements of Section 1030 (NCDOT Specification Book) and place them on the products that are being manufactured. The producer manages the quality control and initial production information and assigns an RFID identification tag. It is the producer's responsibility to manage tags placed on products and upload test results once complete.

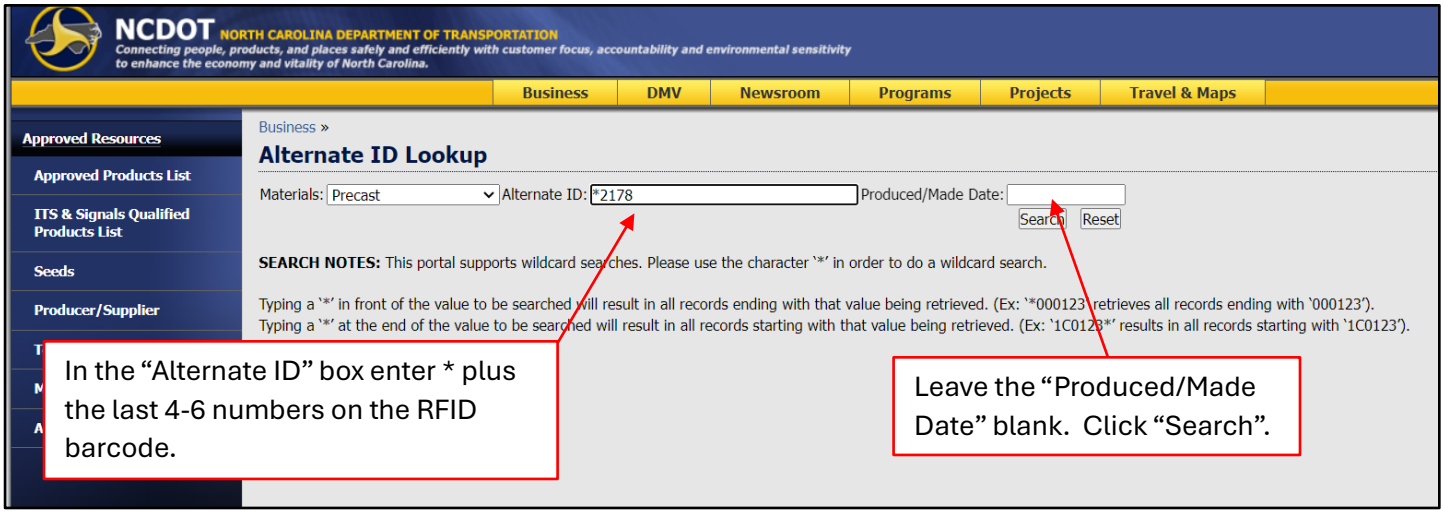



NCDOT Materials and Tests
Materials and Tests - Connect NCDOT
Materials and Tests establishes the acceptance criteria for materials used on the North Carolina highway system.
Materials and Tests Unit ...
Concrete Certification Schools
Materials and Tests Manual
QMS Asphalt Training Schools
Stockroom
NCDOT - Materials and Tests Unit
Recommend to book mark the M&T Site for quick access.


Connect NCDOT
BUSINESS PARTNER RESOURCES
Doing Business
Bidding & Letting
Projects
Resources
Local Governments
Materials & Tests
Materials and Tests
Establishes the acceptance criteria for materials used on the North Carolina highway system.
Employee Directory
Staff contacts for Materials and Tests.
When the link opens, scroll down to find the “Alternate ID Lookup”.
What are you searching for?
Search...
Materials and Tests Unit Training Schools
Stay in the Know


Materials and Tests Unit Training Schools
For Materials and Tests 2024 Schools (includes Field, Lab, Coatings, Welding, QCQA - all training provided by the Materials and Tests Unit), click the button below.
Click Here
Materials and Services
Approved
Schools
Aggregate
Asphalt
Concrete
Pipe
Quality Systems
Steel
Other
Approved Products List (APL)
Alternate ID Lookup
Aggregate Base Course (ABC) Unit Weight
Moisture Density Curve Application (.zip file)
Concrete Mix Design Lookup
Technician Certification
Approved Producer/Supplier
Minimum Sampling Guide (ONLINE)
Minimum Sampling Guide (PDF)
MSG Local Administered Project Exception Report
Seeds
Stay in the Know
Keep up-to-date on Materials and Tests policies, procedures, innovations, updates, etc. by signing up to receive our Technical Bulletins.
To sign up, just complete this simple form.
View Current and Past Technical Bulletins
Service Groups
Administrative Group
Inspection Schools and Technical Trainers
Stockroom
Central Laboratory
Regional Laboratories
Producer/Supplier Facility Approval and Material Certifications
Asphalt Pavement Specialists
Pavement Preservation
On the M&T Homepage, "Alternate ID Lookup" is the RFID Verification site.


Materials and Tests
NCDOT Vendor Approved Prod
apps.ncdot.gov/vendor/approvedproducts/PrecastLookup.aspx
YouTube
Maps
NCDOT Home Page
LMS-NCVIP
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
Newsroom
Programs
Projects
Travel & Maps
Approved Resources
Approved Products List
ITS & Signals Qualified Products List
Seeds
Producer/Supplier
Technician Certification
Minimum Sampling Guide
Alternate ID Lookup
Business »
Alternate ID Lookup
Materials: -- Please select --
Alternate ID:
Produced/Made Date:
Search
Reset
SEARCH NOTES: This portal supports wildcard searches. Please use the character '*' in order to do a wildcard search.
Typing a '*' in front of the value to be searched will result in all records ending with that value being retrieved. (Ex: '*000123' retrieves all records ending with '000123').
Typing a '*' at the end of the value to be searched will result in all records starting with that value being retrieved. (Ex: '1C0123*' results in all records starting with '1C0123').
Select the material for verification status using the dropdown menu.



RFID PRECAST LOOKUP

The results list will provide you with the entire barcode number, if the piece is on a FIR and if it is Available.
A piece received on an LGA job must have an Alt ID Status of Available.
I have also circled some other interesting bits of information available in this results list with a BLUE circle.

Typing a '*' at the end of the value to be searched will result in all records starting with that value being retrieved. (Ex: '1C0123*' results in all records sta

Alternate ID	Report Type	FIR Report ID	FIR Status	Alt ID Type	Alt ID Status	Qty Available	Producer/Facility/Plant ID	Material	Inspector	Inspection Date
1C012700000000000002178	Precast Concrete	47105	Authorized	Piece	Available	1	Cherry Contracting, Inc - Cherry Contracting - Winston Salem Plant - PC65	Precast Concrete Units P1 - B	Roy M. Wagoner	7/24/2013 12:00:00 AM
1C014400000000000012178	Precast Concrete	65846	Authorized	Piece	Available	1	Cherry Contracting, Inc - Cherry Contracting - Winston Salem Plant - PC65	MSE Retaining Wall	Roy M. Wagoner	7/6/2016
1C014400000000000012178	Precast Concrete	65939	Authorized	Piece	Void	1	Cherry Contracting, Inc - Cherry Contracting - Winston Salem Plant - PC65	MSE Retaining Wall	Roy M. Wagoner	
1C015000000000000002178	Precast Concrete	64829	Authorized	Piece	Available	1	Mack Industries Inc. - Mack Industries Inc., of North Carolina - PC77	Precast Catch Basin	Bobby W. Watkins	5/17/2016 12:00:00 AM
1C015000000000000012178	Precast Concrete	72953	Authorized	Piece	In Use	0	Mack Industries Inc. - Mack Industries Inc., of North Carolina - PC77	Precast Drainage Structure	James R. Raines	
1C015000000000000022178	Precast Concrete	79607	Authorized	Piece	Available	1	Mack Industries Inc. - Mack Industries Inc., of North Carolina - PC77	Precast Drainage Structure	Joseph A. Brewer	

An item with the status of "Available", can be received and accepted.

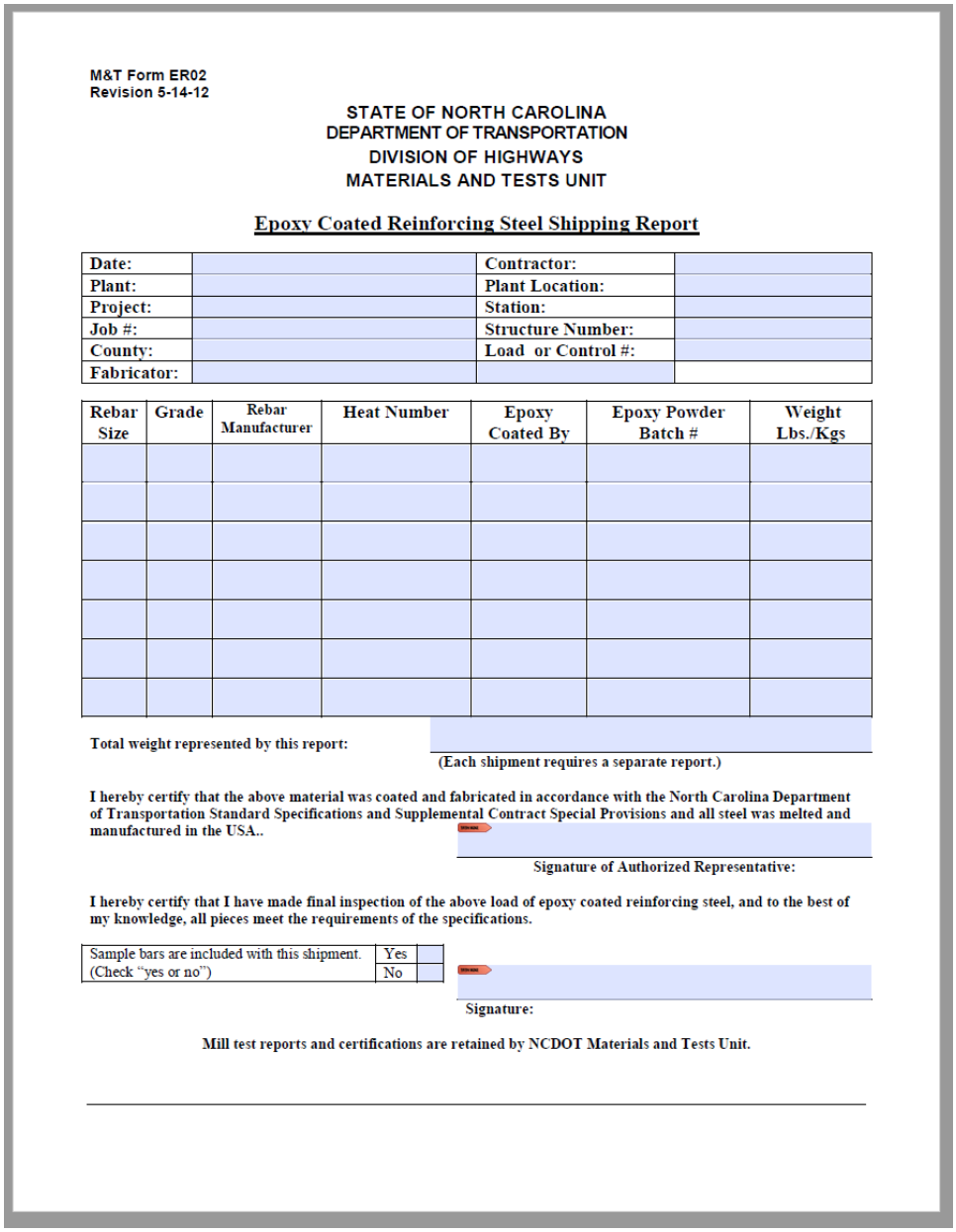
These items are not to be accepted or received.

12 Forms

A material certification is conducted at the end of the construction phase, prior to final payment. During this process ALL line items/pay items are reviewed and verified. EACH line item shall have the required documentation. If the documentation does not meet the specifications and/or requirements, a non-participating amount will be assigned, and funds withheld. All forms are not represented in the following illustrations. If a material form is not listed in this reference, please contact your local materials LAP representative or M&T's "Material Certification Program Engineer" for assistance.

12.1 M&T Form ER02 – Epoxy Coated Reinforcing Steel Shipping Report

Reinforcing steel mills producer/supplier shall be NCDOT approved and hold an active status. Each facility receives a Department Approved Facility Number, this number shall be recorded on all documentation. All shipments of epoxy coated reinforcing steel shall include a Type 1 certified mill test, M&T Form 913, and M&T Form ER02.



M&T Form ER02
Revision 5-14-12

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS AND TESTS UNIT

Epoxy Coated Reinforcing Steel Shipping Report

Date:		Contractor:	
Plant:		Plant Location:	
Project:		Station:	
Job #:		Structure Number:	
County:		Load or Control #:	
Fabricator:			

Rebar Size	Grade	Rebar Manufacturer	Heat Number	Epoxy Coated By	Epoxy Powder Batch #	Weight Lbs./Kgs

Total weight represented by this report:

(Each shipment requires a separate report.)

I hereby certify that the above material was coated and fabricated in accordance with the North Carolina Department of Transportation Standard Specifications and Supplemental Contract Special Provisions and all steel was melted and manufactured in the USA..

Signature of Authorized Representative:

I hereby certify that I have made final inspection of the above load of epoxy coated reinforcing steel, and to the best of my knowledge, all pieces meet the requirements of the specifications.

Sample bars are included with this shipment. (Check "yes or no")	Yes	
	No	

Signature:

Mill test reports and certifications are retained by NCDOT Materials and Tests Unit.

12.2 M&T Form M4000 – Notification of Beginning Work

The notification of work form shall be submitted with a 3-day notice in state, or an 8-day notice out of state, before starting fabrication. The notification form can be found at:

MT Form M4000 Notification of Beginning Work.pdf (ncdot.gov)

North Carolina Department of Transportation Division of Highways
Materials & Tests Unit
Raleigh, NC 27611

Revision:
11/29/2022

Notification Form

NOTE: According to Article 1072-7(A) of the Standard Specifications, Materials & Tests Unit requires 72 hours (3 days) notice for in-state producers and 192 hours (8 days) notice for out-of-state producers.

Date of Notification:		**Planned Date to Start Work**	
Name & Phone Number of Producer/Coater Contact Person:			
Name of Producer/Coating Contractor:			
Location of Producer/Coating Contractor:			
Project Number:		**Bridge Number:**	
Contract Number:		**Shop Job Number:**	
County:			

Details of Work to Begin

Completed form should be submitted to the contacts listed below:

Randy Porter Metals Engineer NCDOT Materials and Tests 1563 Mail Service Center Raleigh, NC 27699 srporter@ncdot.gov	Mike Pulley Welding Engineer NCDOT Materials and Tests 490 Ward Boulevard Wilson, NC 27893 mwpulley@ncdot.gov	Aaron Dacey Coatings/Corrosion Engineer NCDOT Materials and Tests 490 Ward Boulevard Wilson, NC 27893 ahdacey@ncdot.gov	Richard Maxon Metals Products Specialist NCDOT Materials and Tests 1563 Mail Service Road Center Raleigh, NC 27699 rdmaxon@ncdot.gov

Materials and Tests Homepage Link

NCDOT Approved Producer/Supplier Link

Click to e-mail notification form

NCDOT Standard Specifications Link

12.3 M&T Form 250 – Daily Plant Report on Ready Mixed Concrete Operations

The M&T Form 250 is to be fully completed by the active, certified batcher. A physical hard signature and certification number shall be displayed where designated. This form shall be completed for everyday concrete (all Classes) is produced/supplied by a ready-mix concrete facility.

M & T Form 250
Rev. 3/10

North Carolina Department of Transportation
DAILY PLANT REPORT ON READY MIXED CONCRETE OPERATIONS

Contract No. / Work Order No. _____ Date _____

Cement Producer _____ Cement Producer Location _____

Pozzolan Producer _____ Fine Agg Source _____

Ready Mix Facility & No. _____ Coarse Agg Source _____

Class of Concrete	Mix Design No.	Number of Loads	Total Yards Batched	Total Yards Rejected (To be completed by field inspector)

MOISTURE IN AGGREGATES

Fine Aggregate: Trial 1 Time: _____

Wet Wt. _____ Minus Dry Wt. _____ = _____ X 100 = _____ % Total Moisture

Dry Wt. _____

Total Moisture _____ Minus Absorbed Moisture _____ = _____ % Free Moisture

Trial 2 Time: _____

Wet Wt. _____ Minus Dry Wt. _____ = _____ X 100 = _____ % Total Moisture

Dry Wt. _____

Total Moisture _____ Minus Absorbed Moisture _____ = _____ % Free Moisture

Coarse Aggregate:

Trial 1 Time: _____

Wet Wt. _____ Minus Dry Wt. _____ = _____ X 100 = _____ % Total Moisture

Dry Wt. _____

Total Moisture _____ Minus Absorbed Moisture _____ = _____ % Free Moisture

Trial 2 Time: _____

Wet Wt. _____ Minus Dry Wt. _____ = _____ X 100 = _____ % Total Moisture

Dry Wt. _____

Total Moisture _____ Minus Absorbed Moisture _____ = _____ % Free Moisture

Certified Batcher Signature: _____ Certification No. _____

Certified Field Inspector Signature: _____ Certification No. _____

M&T Form 250 is to be completed by certified batcher, pink copy of form shall be sent with first load, and the completed white (original) copy shall be sent with final load. If form is not completed and received on site, concrete is subject to rejection.

12.4 M&T Form 605 – Asphalt Roadway Inspector's Daily Report

M&T Form 605 shall be completed for each day's placement on a LAP. It is the responsibility of the on-site inspector to complete what applies for that day. These documents shall be kept on file for review and verification during the Material Certification process. All asphalt material shall be from a NCDOT Approved facility.

M&T FORM 605 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION *Revised 01-2016*

ASPHALT ROADWAY INSPECTOR'S DAILY REPORT

Contract/PO/WBS No.:	County:	Div.:	Report No.
Date:	Weather:	Temp. High:	Low:
Type of Construction:		Route No.	Miles:
Map Project No.:		Map No.:	Map Length:
Contractor (Prime):		Paving Contractor:	
Contractor Producing Asphalt Mix:		Plant Site:	

SPREADING/ROLLING EQUIPMENT			
No.	Make	Type	Weight

ROADWAY OPERATIONS			
No. Loads Received:		Total Hours:	
Time First Rec'd	Time Last Rec'd	Delay Time	Hrs. Operation

TACK COAT

Source		Batch No.		Grade		Gallons		Temp.	

MATERIAL PLACED TODAY

Mix Type											
JMF No.											
Map No.	Mat Location										
Base Type (ABC, New Mix, Exist Pav't)											
Begin Station											
End Station											
Linear Feet											
Width											
Square Yards											
Today's Tons											
Rate of Spread (lbs. per sq. yd.)											
Tack Coat Rate (gals. per sq. yd.)											
Air Temp. (°F)	Surface Temp. (°F)										
Time Placed											
Mix Temperature (°F)											
Type of Density Control											
# QC Density Tests											
# QA / # Verification Density Tests											
Paving Application Type (check one)											
Full Width Paving		☐		☐		☐		☐		☐	
Widening - 4 ft. or greater		☐		☐		☐		☐		☐	
Uniform Paved Shldr - 4 ft. or greater		☐		☐		☐		☐		☐	
Widening - Less than 4 ft.		☐		☐		☐		☐		☐	
Intersections (separate operation)		☐		☐		☐		☐		☐	
Driveways / Irregular Areas		☐		☐		☐		☐		☐	
Patching / Wedging / Leveling		☐		☐		☐		☐		☐	

Remarks:

*Print Rdwy Tech's. Name:	RD1-	Res. Eng.
*Rdwy Tech Signature:		

*By providing this data under my signature and/or HiCAMS certification number, I attest to the accuracy and validity of the data contained on this form and certify that no deliberate misrepresentation of the test results in any manner has occurred.

Pink – M&T

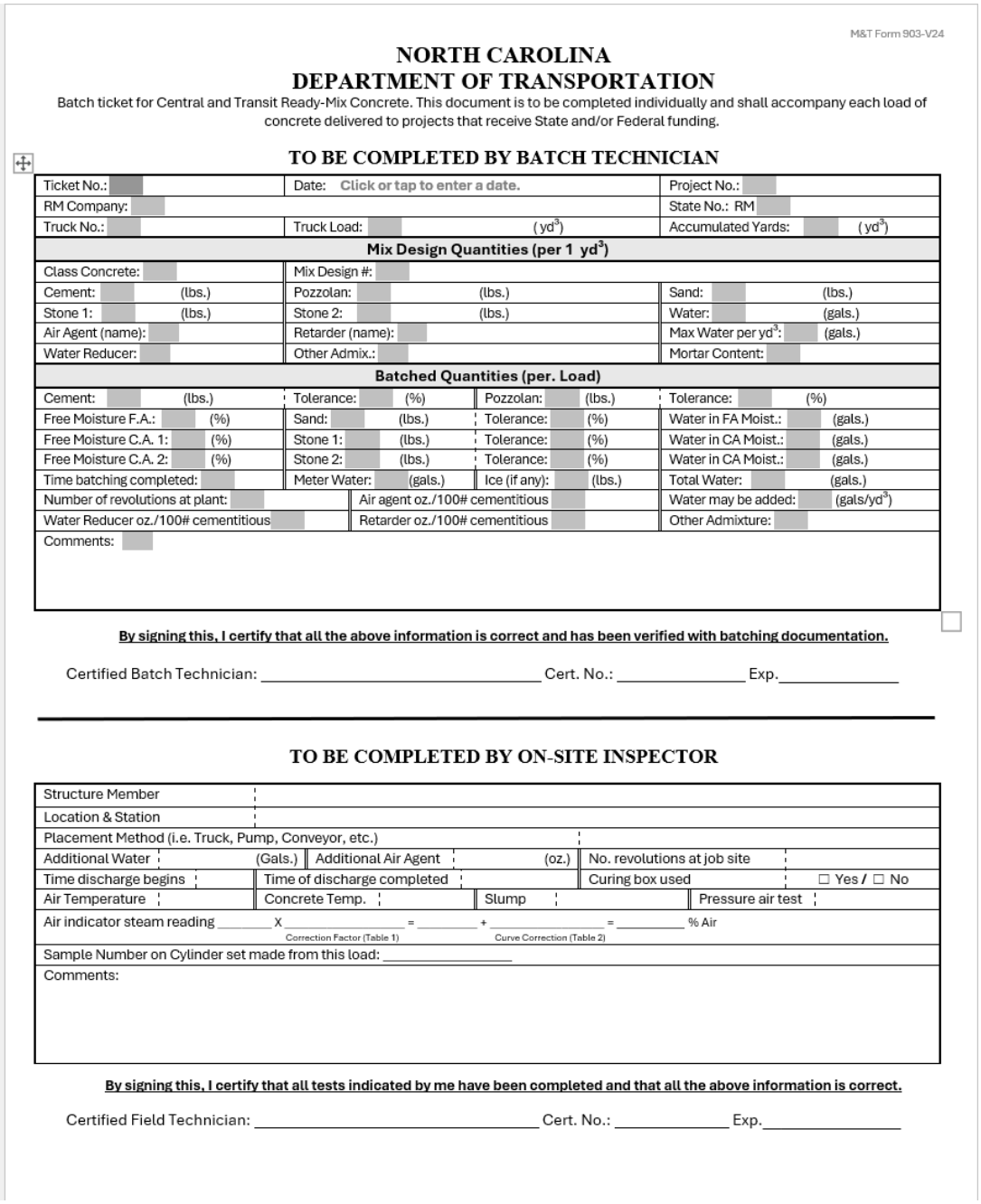
Yellow – Roadway Tech.

White – Resident

12.5 M&T Form 903-V24: Batch Ticket for Central and Transit-Mix Concrete

M&T Form 903-V24 is a dual function form which shall be completed on every load of concrete received on a LAP. Reference the "Concrete Field Technician Certification" guide for assistance in completing. These tickets shall be kept on file for review and verification during the Material Certification process. The following operations and responsibilities are as follows:

- Form 903-V24 (Top Portion) fully completed by the active certified batcher for every load of concrete. A physical hard signature and certification number shall be displayed where designated.
- Form 903-V24 (Bottom Portion) fully completed by the On-Site active certified technician for every load of concrete. A physical hard signature and certification number shall be displayed where designated.



M&T Form 903-V24

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

Batch ticket for Central and Transit Ready-Mix Concrete. This document is to be completed individually and shall accompany each load of concrete delivered to projects that receive State and/or Federal funding.

TO BE COMPLETED BY BATCH TECHNICIAN

Ticket No.:	Date: Click or tap to enter a date.		Project No.:
RM Company:			State No.: RM
Truck No.:	Truck Load: (yd^3)		Accumulated Yards: (yd^3)
Mix Design Quantities (per 1 yd^3)			
Class Concrete:	Mix Design #:		
Cement: (lbs.)	Pozzolan: (lbs.)		Sand: (lbs.)
Stone 1: (lbs.)	Stone 2: (lbs.)		Water: (gals.)
Air Agent (name):	Retarder (name):		Max Water per yd^3: (gals.)
Water Reducer:	Other Admix.:		Mortar Content:
Batched Quantities (per. Load)			
Cement: (lbs.)	Tolerance: (%)	Pozzolan: (lbs.)	Tolerance: (%)
Free Moisture F.A.: (%)	Sand: (lbs.)	Tolerance: (%)	Water in FA Moist.: (gals.)
Free Moisture C.A. 1: (%)	Stone 1: (lbs.)	Tolerance: (%)	Water in CA Moist.: (gals.)
Free Moisture C.A. 2: (%)	Stone 2: (lbs.)	Tolerance: (%)	Water in CA Moist.: (gals.)
Time batching completed:	Meter Water: (gals.)	Ice (if any): (lbs.)	Total Water: (gals.)
Number of revolutions at plant:	Air agent oz./100# cementitious		Water may be added: (gals/yd^3)
Water Reducer oz./100# cementitious	Retarder oz./100# cementitious		Other Admixture:
Comments:			

By signing this, I certify that all the above information is correct and has been verified with batching documentation.

Certified Batch Technician: _____ Cert. No.: _____ Exp._____

TO BE COMPLETED BY ON-SITE INSPECTOR

Structure Member			
Location & Station			
Placement Method (i.e. Truck, Pump, Conveyor, etc.)			
Additional Water (Gals.)	Additional Air Agent (oz.)	No. revolutions at job site	
Time discharge begins	Time of discharge completed	Curing box used	☐ Yes / ☐ No
Air Temperature	Concrete Temp.	Slump	Pressure air test
Air indicator steam reading _____ X _____ = _____ + _____ = _____ % Air (Correction Factor (Table 1); Curve Correction (Table 2))			
Sample Number on Cylinder set made from this load: _____			
Comments:			

By signing this, I certify that all tests indicated by me have been completed and that all the above information is correct.

Certified Field Technician: _____ Cert. No.: _____ Exp._____

12.6 M&T Form 913 – Fabricator's Heat Number Identification of Reinforcing Bars

Reinforcing steel mills producer/supplier shall be NCDOT approved and hold an active status. Each facility receives a Department Approved Facility Number, this number shall be recorded on all documentation. All shipments of reinforcing steel shall include a Type 1 certified mill test and M&T Form 913.

M&T Form 913

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS AND TESTS UNIT

Fabricator's Heat Number Identification of Reinforcing Bars

Date: _____ **Project:** _____
Fabricator: _____ **County:** _____
Plant Location: _____ **Station Number:** _____

The following table itemizes the heat numbers and heat number identifications such that each heat number involved may be positively identified and separated, if necessary, at the destination.

Bar List Or Order Number	Bar Type Or Mark	Bar Size	Grade	Weight (Lbs./Kgs.)	Manufacturer, Mill Location and Mill Mark Symbol	Heat Number

I hereby certify that no heat numbers other than those tabulated above were incorporated within this shipment, that the fabricated steel conforms to the plans and specifications in grade, size, and dimensions and that all steel was melted and manufactured in the USA.

Signature of Authorized Representative: _____

13 Laboratory Qualification

The requirements for laboratory qualification are uniform for all laboratories performing acceptance and verification testing for the NCDOT. Compliance with AASHTO R18, *Establishing and Implementing a Quality System for Construction Materials Testing Laboratories* is required for all laboratories.

13.1 NCDOT Central and Regional Laboratories

The NCDOT M&T Central and Regional Laboratories are fully accredited in all testing performed when applicable. AASHTO resource is utilized to ensure compliance with R18. This involves AASHTO and CCRL inspections which are used to ensure compliance of laboratory testing equipment and review of personnel qualifications.

If utilizing the NCDOT M&T Central Laboratory or a NCDOT M&T Regional Laboratory, all accreditation/certification requirements are the responsibility of the State Laboratory Operations Manager and/or the assigned staff. It is the responsibility of the local agency to clearly document which NCDOT M&T Laboratory is being utilized and obtain a copy of all final acceptance testing results. This documentation shall be permanently placed in the project file. A review of this documentation will be verified during the "Material Certification" process.

13.2 Non-NCDOT or 3rd Party Laboratories

When used for acceptance testing, all non-NCDOT laboratories performing Aggregate, Asphalt, and/or Concrete testing will be required to be AASHTO accredited to perform testing for the Department. The M&T Laboratory Qualifications Engineer and their staff ensure compliance with these Non-NCDOT laboratories.

AASHTO accreditation – the private laboratory must submit an application to AASHTO requesting to be accredited for the specific material testing performed at the facility, as it applies to highway construction materials. Successful accreditation requires the lab to meet certain quality control standards (proper testing equipment, equipment calibrations performed at prescribed intervals, active certifications for personnel performing tests, etc.). The laboratory is required to be AASHTO accredited prior to NCDOT certified. The following link may provide additional assistance:

http://www.aashtoresource.org/aap/overview

NCDOT certification – once the private laboratory has successfully passed the AASHTO accreditation, and can display their certificate, contact the NCDOT Materials & Tests Unit at 919-329-4150 and request a private laboratory certification. The laboratories will be required to perform in-house quality control processes, which include personnel training, equipment verification, calibration, maintenance, and record keeping. The laboratory certification will provide the means to monitor the operations and ensure the accuracy and consistency of test results. The following links may provide additional assistance:

Materials and Tests Manual (ncdot.gov)

All Laboratory certifications have limited expiration dates. If a laboratory's certification expires, is revoked, or removed, it is the responsibility of the local agency to attain a new and active certified laboratory. The laboratory must remain AASHTO Accredited and NCDOT Certified during the life of the project. A copy of the laboratory's accreditation/certification documentation shall be permanently placed in the project files.

The laboratory accreditation will be verified during the "Material Certification" process. If a discrepancy with laboratory requirements is discovered during the material certification process, a non-participating amount will be applied to the respective line item. This non-participating amount may be equivalent to the total amount, in dollars, of the line item.

Active AASHTO Accredited and NCDOT Certified Private Laboratories:

For a review of existing AASHTO accredited and NCDOT certified private laboratories, information is available on the following links:

- Geotechnical Laboratories - Approved Laboratories.pdf (ncdot.gov)
- Accreditation Directory (aashtoresource.org)



AASHTO ACCREDITED

CERTIFICATE OF ACCREDITATION

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AASHTO

ESP Associates, Inc.

in

Fort Mill, South Carolina, USA

has demonstrated proficiency for the testing of construction materials and has conformed to the requirements established in AASHTO R 18 and the AASHTO Accreditation policies established by the AASHTO Committee on Materials and Pavements.

The scope of accreditation can be viewed on the Directory of AASHTO Accredited Laboratories (aashtoresource.org).

Jim Tymon,
AASHTO Executive Director

Moe Jamshidi,
AASHTO COMP Chair

This certificate was generated on 10/02/2019 at 10:31 AM Eastern Time. Please confirm the current accreditation status of this laboratory at aashtoresource.org/aap/accreditation-directory



North Carolina Department of Transportation
Materials and Tests Unit - Soils Laboratory
Raleigh, North Carolina

This is to certify that

ESP Associates, Inc.
Fort Mill, South Carolina

Has successfully completed the on-site laboratory assessment and is certified to perform the following tests for the North Carolina Department of Transportation

AASHTO T11, 27, 88(NCMod.), 89(NCMod.), 90(NCMod.), 99, 100, 134, 193, 208
T216, 265, 296, 297, R58 (NCMod.), M145
ASTM C39, C617, C1231, D1633

C. K. Su, P.E.
GeoMaterials Workgroup Supervisor

Brian Hunter, P.E.
State Laboratory Operations Manager

Date Issued: 01/31/2019 CERT. No. 121-1108 Expiration Date: 01/31/2020

13.3 Non-NCDOT or 3rd Party Laboratory Testing Technician:

Laboratory technicians conducting verification and/or analysis on materials utilized on LAP's are also required, by FHWA and NCDOT, to maintain an active and approved certification. Laboratory technicians must maintain an "Active" certification during the life of the project. If a technician's certification expires, is revoked, is removed, or the technician leaves the company, it is the responsibility of the laboratory to attain a new and active technician. The local agency is responsible for verifying all technicians are actively certified during the life of the project. A copy of the laboratory technician's certification documentation shall be permanently placed in the project files.

Final acceptance testing shall be performed by an active, certified technician. The practice of "over-seeing" or "observing" is not permitted during final acceptance testing. It is permitted to allow a qualified technician to perform subsequent testing and/or analysis.

The following are two key laboratory testing technician certifications required for LAP's. Additional laboratory testing technician certifications may be necessary. Please contact your local materials LAP representative or M&T's "Material Certification Program Engineer" for assistance.

- Asphalt Core Testing Technician
- Concrete Strength Testing Technician

North Carolina Department of Transportation 2025

ASPHALT CORE TESTING - LAP Material Acceptance Guide

Material Name/Description: Approved Laboratory Technician: General Requirements for Documentation and Acceptance

Material Group: Asphalt (Laboratory)

Required Documentation For Material Certification - On File:

ALL NON-NCDOT LABORATORIES PROVIDING ACCEPTANCE OF ASPHALT CORE RESULTS SHALL HAVE THE FOLLOWING:

☐ All 3rd party laboratories shall be AASHTO accredited.

☐ Laboratories shall maintain an "Active" status during the life of the project.

☐ The following references are outlined in the NCDOT QMS Manual and are required:

- Section 7.14 Bulk Specific Gravity of Compacted Asphalt Mix – SSD Method (NCDOT T-166)
- Section 7.14.1 General
- Section 7.14.2 Equipment
- Section 7.14.3 Sample
- Section 7.14.4 Methods of Drying

☐ Results of testing will be provided to the Town/City and CEI (if applicable) within 5 calendar days after sample has been cored.

☐ Technicians conducting testing on asphalt cores shall hold an active "QMS Level 1" certification.

☐ A copy of the Laboratory AASHTO Certification Certificate and Technician's Certification Certificate shall be submitted to the Town/City and kept on file for the material certification phase.

☐ Final acceptance reports for test results must include the minimum documentation:

- Laboratory heading and contact information.
- General project identification and location description.
- Strength and all testing results.
- Certified technician's name and certification number who conducted the testing.
- Signature of laboratory's manager and/or supervisor.

☐ All final reports/documentation must be submitted to the Town/City for material certification verification.

Special Instructions:

Laboratories shall be AASHTO Accredited.
Laboratory technicians conducting testing shall hold an active "QMS Level 1" certification.
Testing requirements shall follow Section 7.14 in the NCDOT QMS Manual.
Final reports shall be submitted to the Town/City for verification during the material certification phase.

North Carolina Department of Transportation

2025

CONCRETE STRENGTH TESTING - LAP Material Acceptance Guide

Material Name/Description: Approved Laboratory Technician: General Requirements for Documentation and Acceptance

Material Group: Concrete (Laboratory)

Required Documentation For Material Certification - On File:

ALL NON-NCDOT LABORATORIES PROVIDING ACCEPTANCE OF CONCRETE STRENGTH RESULTS MUST HAVE THE FOLLOWING:

☐ Active status approval by M&T, classified as "Approved Geotechnical Laboratories: Tier Four".

☐ "Tier Four" requires the laboratory to conduct ASTM C-39, ASTM C-617, and ASTM C-1231.

☐ Prior to approval, review fully the following link Materials and Tests Manual (ncdot.gov)

- "Approved Geotechnical Laboratories"
- "Geotechnical Laboratories Program Statement"
- "Geotechnical Laboratories: Tier Four Relates to Concrete Strength"

☐ Contact M&T GeoMaterials Laboratories at 919-329-4164 for non-NCDOT laboratory approvals.

☐ Strength test specimens are accepted based on 28 Day strengths **ONLY**, early breaks are not acceptable.

☐ Strength test specimens utilized for acceptance (28 Day) shall be tested by a technician which holds an active certification in either of the following:

- ACI Concrete Laboratory Technician, Level I
- ACI Concrete Strength Testing Technician

☐ A copy of the Technician Certification/Certificate shall be submitted to the Town/City and kept on file for the material certification phase.

☐ Final acceptance reports for 28 day strength test results must include the following:

- Laboratory heading and contact information.
- Strength results in age and PSI.
- Certified technician's name and certification number who conducted the 28 day testing.
- Signature of laboratory's manager and/or supervisor.

☐ All final reports/documentation must be submitted to the Town/City for material certification verification.

Special Instructions:

Laboratories shall be approved by M&T classified as: "Approved Geotechnical Laboratories: Tier Four". Laboratory technician conducting 28 day strength tests shall have either of the following active certifications:

- ACI Concrete Laboratory Technician, Level I
- ACI Concrete Strength Testing Technician

Strength test specimens are accepted based on 28 day strengths **ONLY**, early breaks are not acceptable. Final reports shall be submitted to the Town/City for verification during the material certification phase.



EXAMPLE

AMERICAN CONCRETE INSTITUTE

This is to certify that

ANTHONY SUMMERS

has demonstrated knowledge and ability by successfully completing the ACI Certification requirements and is hereby recognized as an

ACI Concrete Laboratory Testing Technician - Level 1

Certified Date: 03/01/2017 **Expires: 03/01/2022**

Examiner of Record: John W Nehasil

ACI Managing Director of Certification

The Authenticity of this certification can be verified at www. ACICertification .org/verify

13.4 Test Results and Documentation:

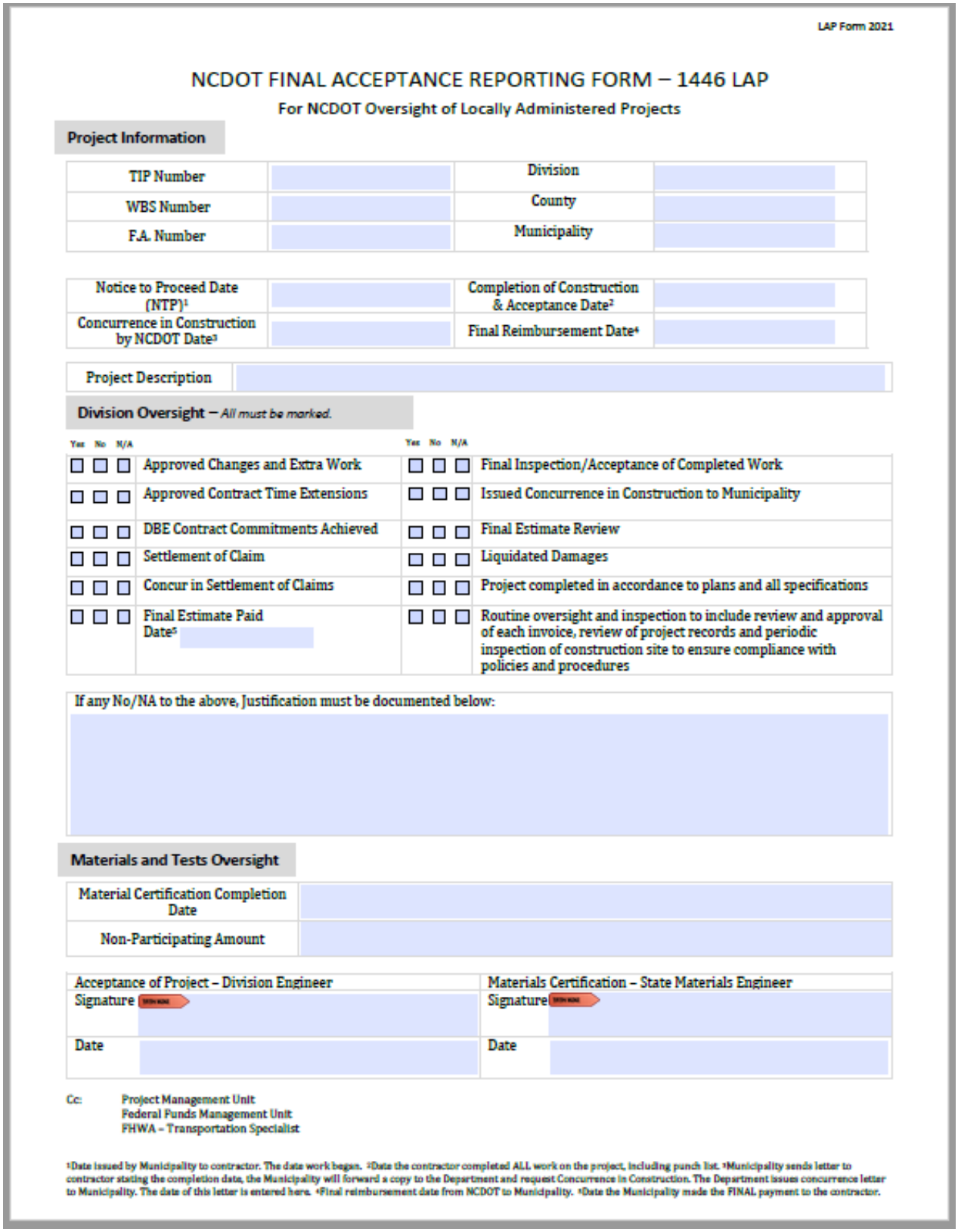
All test results and related documentation shall be categorized and clearly identified based on the material tested. These records must be accessible and well organized prior to the "Material Certification" process. Technician names and respective certification certificates must also be placed in the project files and verified during the "Material Certification" process. Final acceptance test reports are required to document the technician's name who performed the tests and be signed by the laboratory supervisor. If a discrepancy is found regarding test results and/or documentation, a non-participating amount will be applied to the respective line item. This non-participating amount may be equivalent to the total amount, in dollars, of the line item.

14 1446LAP

The final phase in the material certification process is the completion of the 1446LAP. This process is a two-stage operation required by FHWA and NCDOT.

Stage 1: After the final estimate has been paid and a verified claim is not anticipated or the verified claim process (including mediation and lawsuit) has been completed, the Division Engineer should ensure that all commitments for the project are removed in the NCDOT fiscal accounting system. Once all commitments have been removed, the Division Engineer should complete Form 1446LAP. After completing and signing the form, it is sent to the "Material Certification Program Engineer", via email, for review and verification.

Stage 2: Once the Materials Certification is completed, and the Division signed 1446LAP has been received, the State Materials Engineer will complete the certification process. The completed Material Certification Letter and the dual signed Form 1446LAP is then sent to the NC Department of Transportation - Federal Funds Management Unit (FFMU) to process for FHWA reimbursement (Final Voucher).



LAP Form 2021

NCDOT FINAL ACCEPTANCE REPORTING FORM – 1446 LAP

For NCDOT Oversight of Locally Administered Projects

Project Information

TIP Number		Division	
WBS Number		County	
F.A. Number		Municipality	

Notice to Proceed Date (NTP)[1]		Completion of Construction & Acceptance Date[2]	
Concurrence in Construction by NCDOT Date[3]		Final Reimbursement Date[4]	

Project Description	

Division Oversight – *All must be marked.*

Yes	No	N/A		Yes	No	N/A	
☐	☐	☐	Approved Changes and Extra Work	☐	☐	☐	Final Inspection/Acceptance of Completed Work
☐	☐	☐	Approved Contract Time Extensions	☐	☐	☐	Issued Concurrence in Construction to Municipality
☐	☐	☐	DBE Contract Commitments Achieved	☐	☐	☐	Final Estimate Review
☐	☐	☐	Settlement of Claim	☐	☐	☐	Liquidated Damages
☐	☐	☐	Concur in Settlement of Claims	☐	☐	☐	Project completed in accordance to plans and all specifications
☐	☐	☐	Final Estimate Paid Date[5]	☐	☐	☐	Routine oversight and inspection to include review and approval of each invoice, review of project records and periodic inspection of construction site to ensure compliance with policies and procedures

If any No/NA to the above, Justification must be documented below:

Materials and Tests Oversight

Material Certification Completion Date	
Non-Participating Amount	

Acceptance of Project – Division Engineer		Materials Certification – State Materials Engineer	
Signature		Signature	
Date		Date	

Cc: Project Management Unit
Federal Funds Management Unit
FHWA – Transportation Specialist

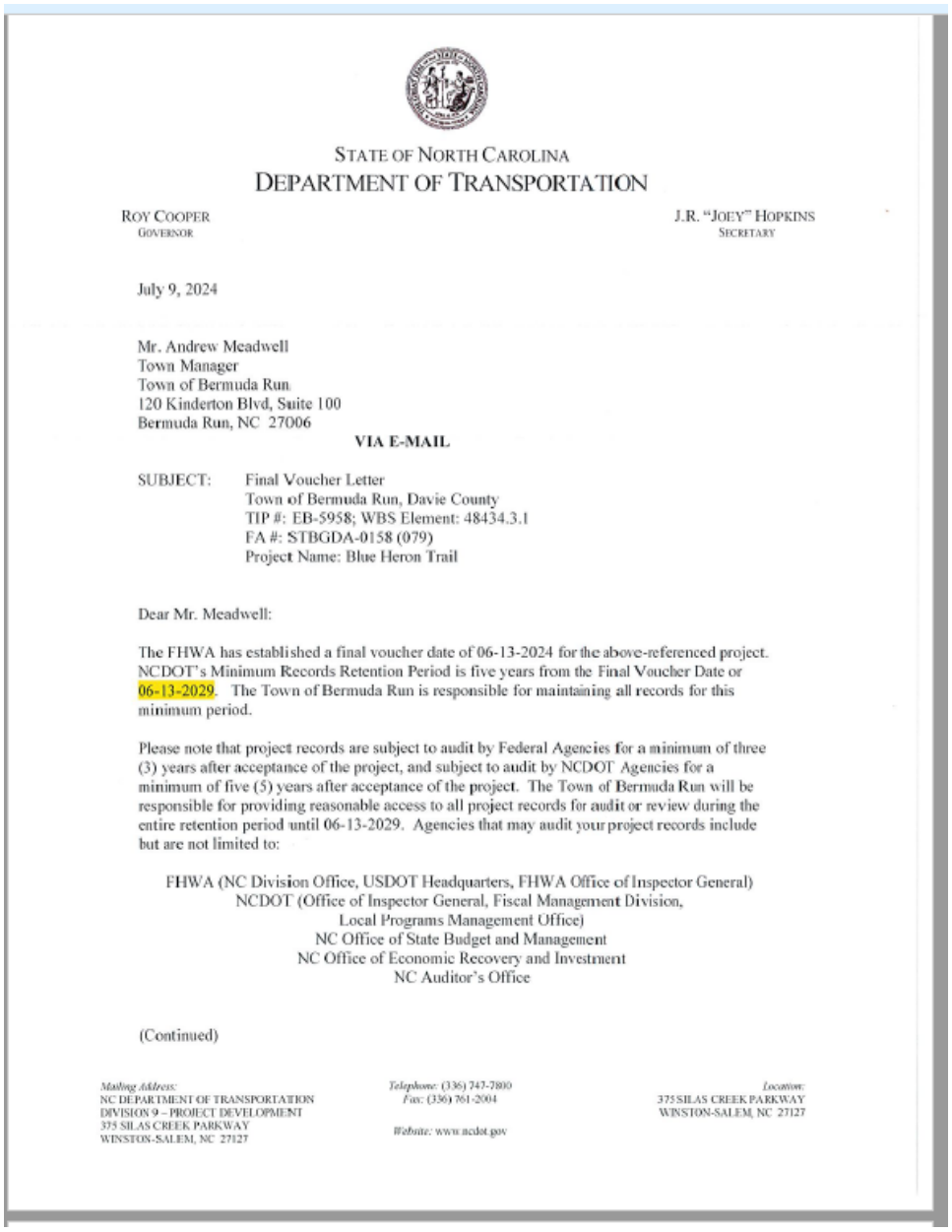
[1]Date issued by Municipality to contractor. The date work began. [2]Date the contractor completed ALL work on the project, including punch list. [3]Municipality sends letter to contractor stating the completion date, the Municipality will forward a copy to the Department and request Concurrence in Construction. The Department issues concurrence letter to Municipality. The date of this letter is entered here. [4]Final reimbursement date from NCDOT to Municipality. [5]Date the Municipality made the FINAL payment to the contractor.

15 Final Voucher

After the reimbursement request has been processed and all paperwork accepted, FHWA will issue a Final Voucher documented in the SAP system. NCDOT Division personal will be responsible for observing and recording the date. The Division will provide the Final Voucher Letter and Date to the municipality/town as the start of the required Records Retention period.

All records shall be maintained by the municipality/town, or the Professional Engineering Firm that provided construction administration.

The minimum Records Retention Period is five (5) years from the Final Voucher date. Projects are subject to audit by Federal Agencies (FHWA) for a minimum of three (3) years after acceptance of the project, and by State Agencies for a minimum of five (5) years. The municipality/town will be responsible for providing reasonable access to all project records for audit or review during the entire retention period.



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

July 9, 2024

Mr. Andrew Meadwell
Town Manager
Town of Bermuda Run
120 Kinderton Blvd, Suite 100
Bermuda Run, NC 27006

VIA E-MAIL

SUBJECT: Final Voucher Letter
Town of Bermuda Run, Davie County
TIP #: EB-5958; WBS Element: 48434.3.1
FA #: STBGDA-0158 (079)
Project Name: Blue Heron Trail

Dear Mr. Meadwell:

The FHWA has established a final voucher date of 06-13-2024 for the above-referenced project. NCDOT's Minimum Records Retention Period is five years from the Final Voucher Date or 06-13-2029. The Town of Bermuda Run is responsible for maintaining all records for this minimum period.

Please note that project records are subject to audit by Federal Agencies for a minimum of three (3) years after acceptance of the project, and subject to audit by NCDOT Agencies for a minimum of five (5) years after acceptance of the project. The Town of Bermuda Run will be responsible for providing reasonable access to all project records for audit or review during the entire retention period until 06-13-2029. Agencies that may audit your project records include but are not limited to:

FHWA (NC Division Office, USDOT Headquarters, FHWA Office of Inspector General)
NCDOT (Office of Inspector General, Fiscal Management Division,
Local Programs Management Office)
NC Office of State Budget and Management
NC Office of Economic Recovery and Investment
NC Auditor's Office

(Continued)

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
DIVISION 9 – PROJECT DEVELOPMENT
375 SILAS CREEK PARKWAY
WINSTON-SALEM, NC 27127

Telephone: (336) 747-7800
Fax: (336) 761-2004

Website: www.ncdot.gov

Location:
375 SILAS CREEK PARKWAY
WINSTON-SALEM, NC 27127

If you have any questions, please advise.

Sincerely,

S. P. Ivey, P.E.
Division Engineer

cc: Troy B. Brooks, P.E., Construction Unit
Todd Whittington, P.E., Materials & Tests Unit
Marta Matthews, LMPO

All materials are not represented in this guide. If a material or material operation is not listed in this guide, please contact your local materials LAP representative or M&T's "Material Certification Program Engineer" for assistance.

A material certification is conducted at the end of the construction phase, prior to final payment. During this process <u>ALL</u> line items/pay items are reviewed and verified. <u>EACH</u> line item shall have the required documentation. If the documentation does not meet the specifications and/or requirements, a non-participating amount will be assigned, and funds withheld.