



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

December 03, 2021

Dear Ready Mix Concrete Producer,

A policy was established in 2011 for all Ready Mix Concrete facilities wanting to be placed on the "NCDOT Approved Producers List" must successfully pass a third party inspection conducted by the National Ready Mix Concrete Association (NRMCA). It is the responsibility of the Ready Mix Concrete producer to make contact with NRMCA and schedule an inspection. Extensions to an expired certification will not be granted by Materials and Tests Unit. The NRMCA inspector will complete the most current version of the NRMCA Plant Certification Checklist. Also, concrete delivery vehicles are an important part of the production process and must be in compliance with NCDOT standards. This is including truck mixers, agitators, and non-agitating units. A NRMCA inspection is required every two years and Fleet inspection every year by a NRMCA certified Engineer or his (her) representative. Additionally, the NRMCA inspector will complete a NCDOT Ready Mix Concrete Plant Inspection Checklist Addendum. This addendum is to verify that Ready Mix Concrete plants are in compliance with NCDOT standards and requirements as well.

The required documentation that must be submitted **PRIOR TO EXPIRATION DATE** include:

- Plant Certification Checklist (attachment example A1)
- Verification of Inspection and Application for Certificate (attachment example A2)
- Agreement by Company Official (attachment example A3)
- Section 5 – Delivery Fleet Inspection (attachment example A4)
- 5.7 Inspection Record of Delivery Fleet (attachment example A5)
- NRMCA Certificate of Conformance for Concrete Production Facilities (attachment example A6). This Certificate shall be signed by the inspection Engineer and the company official.

The required document to be submitted within **2 BUSINESS DAYS** after the inspection include:

- NCDOT Ready Mix Concrete Plant Inspection Checklist Addendum (attachment example A7).

The NCDOT Ready Mix Concrete Plant Inspection Checklist Addendum has been an area of some confusion in the past. The inspection procedure has been added to this policy packet as Attachment A8. Failures marked on the NCDOT Ready Mix Concrete

Plant Inspection Checklist Addendum do not immediately result in a facility being removed from the approved list. A M&T representative will contact the facility and request the failure be corrected; the plant must respond within 10 business days.

All NRMCA (A1 – A7) documents completed, signed, and approved (if it's needed) shall be emailed to the NCDOT Materials and Tests Unit (email address provided below) prior to the current NRMCA expiration date. **There will be no exceptions.** Failure to send all documents (Attachment A8 excluded) may result in your plant being removed from NCDOT approved list.

All required documents must be submitted to: NCDOT Materials and Tests Unit
Email: readymixinspections@ncdot.gov

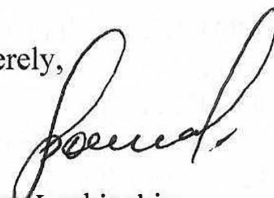
NCDOT Materials and Tests personnel will perform a quality assurance plant Audit a minimum of one time per calendar year or when deemed necessary. The M&T plant audit is an important part of the quality assurance measurements for the Ready Mix Concrete Producer approval process. This is to ensure that the facility is operating and documenting operations to meet NCDOT standards and requirements. For the facilities already on the NCDOT Approved list, this audit is the responsibility of M&T personnel to schedule and complete. If the Ready Mix concrete producer is seeking approval, the facility representative must contact the Materials and Tests Unit to request a plant audit.

This audit includes, but is not limited:

- Verification of approved stockpile materials (BOLs and Mill Certifications, etc.)
- Collecting stockpile materials and water samples (for quality assurance purposes)
- Verification of NCDOT approved mix designs (mix design materials must match stockpile materials)
- Verification of NCDOT certified batching technicians (shall be the personnel handling all concrete batching operation for NCDOT projects)
- Review of associated NCDOT documents being properly utilized (M&T form 903; M&T form 250, etc.)
- Review moisture tests
- Verification of all copies 3rd party (NRMCA) documentation is onsite
- To perform Technician assessments.

Upon satisfactory passing this audit, the facility will be issued a NCDOT Certificate of approval. Plants that do not comply with NCDOT Standard Specifications, the 3rd party certification program requirements, or failure to demonstrate adequate quality control procedures at the time of the NCDOT audit may not be accepted or may be removed from the "NCDOT Approved Producers List".

Sincerely,



Roman Loshinskiy
Quality Systems Materials Engineer

| | | |
|--|---|---|
| Quality Control Manual SECTION 3 Twelfth Revision, February 2015 | PLANT CERTIFICATION CHECK LIST <i>Certification of Ready Mixed Concrete Production Facilities</i> |  |
|--|---|---|

ENGINEER - PLEASE COMPLETE ALL SECTIONS AS APPLICABLE

First Time Application
 Recertification Application

| | |
|--------------------------------|---|
| DATE OF INSPECTION | DATE OF APPLICATION |
| FULL NAME OF LICENSED ENGINEER | FULL NAME OF ASSISTANT TO ENGINEER (If performing inspection) |

| | | | | | | | |
|--|-------|-------------|---------|---|-------|----------|---------|
| PLANT NAME (Example: Plant No. 1) | | | | PLANT MAILING ADDRESS <input type="checkbox"/> Same as Plant Physical Street Address Address 1: | | | |
| PLANT PHYSICAL STREET ADDRESS | | | | Address 2: | | | |
| Address 1: | | Address 2: | | CITY | STATE | ZIP CODE | COUNTRY |
| CITY | STATE | ZIP CODE | COUNTRY | PRIOR PLANT NAME (If Changed) | | | |
| PLANT PHONE # | | PLANT FAX # | | PRIOR OPERATING COMPANY (Previous Owner) | | | |
| NAME OF COMPANY OPERATING PLANT | | | | Check if Plant Type is: <input type="checkbox"/> Portable <input type="checkbox"/> Precast If Portable Plant, Prior Address: | | | |
| NAME OF PARENT COMPANY (If Different From Above) | | | | | | | |

A completed Check List marked and a scanned copy of the signed agreement by the producer company official should be emailed to NRMCA.

Include completed payment form in the email.

Email to: ptcert@nrmca.org

| |
|---|
| National Ready Mixed Concrete Association – Engineering Division 900 Spring Street, Silver Spring, Maryland 20910 Phone: (301) 587-1400 Fax: (240) 485-1172 Email: ptcert@nrmca.org Website: www.nrmca.org |
|---|

6. Verification of Inspection and Application for Certificate

The undersigned, a licensed professional engineer in _____
(State, Territory, or Jurisdiction)

has conducted the inspection of the ready-mixed concrete plant described as

(Specific Designation and Location of Plant)

and asserts that, in his/her professional judgment, the information provided on this Check List is accurate and complete. Application is hereby made for the issuance of a certificate for this plant, to be classified as follows:

NOTE: The engineer attesting to this inspection shall be licensed in the state where the production facility is located.

| | | |
|---|---|---|
| <p>6.1 General Operation</p> <p><input type="checkbox"/> Truck Mixing</p> <p><input type="checkbox"/> Central Mixing</p> <p><input type="checkbox"/> Shrink Mixing</p> | <p>6.2 Batching System</p> <p><input type="checkbox"/> Manual</p> <p><input type="checkbox"/> Partially Automatic</p> <p><input type="checkbox"/> Semi-Automatic</p> <p><input type="checkbox"/> Automatic</p> | <p>6.3 Recording (if any)</p> <p><input type="checkbox"/> Cementitious Materials</p> <p><input type="checkbox"/> Aggregate</p> <p><input type="checkbox"/> Water</p> <p><input type="checkbox"/> Chemical Admixtures</p> |
| <p>Provide an explanation if the statement in 6.1 - 6.3 needs to be modified:</p> | | |

| | |
|------------|---|
| 6.4 | <input type="checkbox"/> I have advised the Company Official of the responsibilities for maintaining certification in Section 7. |
| 6.5 | <input type="checkbox"/> This plant has been previously certified. They have complied with the requirements indicated in the Agreement by Company Official in Section 7 during the previous certification period. (P, F or N appropriate) |

Inspection Date _____

Full Name of Licensed Professional Engineer _____

Licensed Engineer:
In lieu of a seal, I verify that the following information is accurate and I hereby attest to the accuracy of this submission

State Licensed: _____

License Number: _____

Expiration Date: _____

NRMCA ID: _____

Company Name _____

Street Address 1 _____

Address 2 _____

City _____ **State** _____ **Zip Code** _____ **Country** _____

Phone Number _____ **Email Address** _____

| | |
|-----------------------------------|--|
| NRMCA Assistant ID # _____ | Name of Assistant to Engineer Conducting Inspection _____ |
| Phone Number _____ | Email Address _____ |

7. Agreement by Company Official¹

INSTRUCTIONS: Print Section 7 to obtain a physical signature of the company official.

The form can be completed before printing or printed blank. Scan a copy with completed info and signature and include it with the submission of the completed checklist.

In any event, ensure the fields are completed before submitting the checklist.

The undersigned agrees that all scales in the plant described below will be checked at intervals not exceeding 6 months for conformance with Item 2.1.2 of the Check list for Ready Mixed Concrete Production Facilities. Any failure to meet the scale tolerance in Item 2.1.2 will be corrected promptly.

The undersigned also agrees that the batching accuracy of all volumetric admixture dispensers and all volumetric water batching devices (including water meters) in the plant will be checked at intervals not exceeding 6 months for conformance with the batching accuracy requirements for liquid admixtures and water contained in Items 2.5.3 and 2.5.4 of the Check List. Accuracy of devices for automated aggregate moisture measurement, when used, will be checked at intervals not exceeding 6 months (Item 2.5.5.1). Any failure to meet the required batching accuracy will be corrected promptly. More frequent verifications by other specifying agencies may apply (**Note 3**). *(Checks of accuracy of devices may be made by qualified company personnel, by outside agencies or by scale checking companies. These checks do not imply a requirement for calibration of such devices; however, documentation of these checks will be made available to the inspector on request.)*

The undersigned further agrees to have overall supervisory responsibility of the inspection of the delivery fleet and shall ensure that not more than one unit or 10 percent of the delivery vehicles operating from the plant fail to maintain current certification. It is understood that any lapse in the certification of the delivery fleet during the period of certification of the production facility will result in termination of a valid certification for the ready mixed concrete production facility.

PLEASE FILL OUT COMPLETELY!

*Required field

Signature of Company Official Date

Full Name of Company Official* Title*

Street Address 1 of Company Official* Address 2

City* State* Zip Code* Country*

Phone Number* Fax Number Email Address*

Name of Company Operating Plant* Name of Parent Company (If Different from Company Operating Plant)

Company Official's Supervisor Name, Title* Email Address*

Plant Name*

Plant Street Address 1* Address 2

City* State* Zip Code* Country*

¹The company official completing and signing this agreement should have financial and operational responsibility over the management of the production facility; for planning and directing the plant personnel; and taking corrective action when necessary.



NRMCA Fleet Inspection Reporting Form
Section 5 ~Delivery Fleet Inspection ~

Producer Company Information

| | | | |
|--|----------------|-----------|--|
| Company Name: | | | |
| Contact Name: | | | |
| Address: | | | |
| City: | State: | Zip Code: | |
| Phone: | Email Address: | | |
| Mailing Address (For expedited requests - provide physical address for shipping): | | | |
| Street Address: | | | |
| City: | State: | Zip Code: | |

Indicate below which "Option" will be used to inspect delivery fleet:

Select option A or B by placing an X in the box provided. Complete the information under the marked

Option A - Company Inspection

| | |
|--|----------------|
| Person Inspecting Fleet: | Title: |
| Email Address: | |
| * Responsible for assisting & supervising fleet inspections | |
| *Supervisor Name: | Title: |
| Supervisor Address: | |
| Phone: | Email Address: |

Option B - Engineer Inspection

| | | |
|------------------------------------|----------------|------|
| Name of Engineer/Engineer's Asst.: | Title: | |
| NRMCA ID# | | |
| Company Name: | | |
| Street Address: | | |
| City: | State: | Zip: |
| Phone: | Email Address: | |

Complete the inspection record in the applicable worksheets (tabs below) based on the vehicle type being submitted. Indicate the type of delivery vehicles being submitted for certification (X) on right.

| | | | |
|---|--|---------------------------|--|
| Number of Units Available for Use | | Truck Mixer | |
| Number of units checked and found acceptable | | Agitators | |
| Number of units checked and found unacceptable | | Nonagitating Units | |

NRMCA Use Only

| | | | |
|---------------------|--|-----------------------|--|
| ID Number: | | Date Received: | |
| Date Mailed: | | Completed By: | |

Sample Certificate of Conformance

National Ready Mixed Concrete Association



Certificate of Conformance For Concrete Production Facilities

THIS IS TO CERTIFY THAT

South Avenue Plant, Centerville, CO

ABC Ready Mixed Concrete Company, Inc.

"Facility does not meet all requirements for furnishing concrete in subfreezing weather"

has been inspected by the undersigned licensed professional engineer for conformance with the requirements of the *Check List for Ready Mixed Concrete Production Facilities*. As of the inspection date, the facilities met the requirements for production by

*Truck Mixing with Automatic Batching and Recordings of
Cementitious Materials, Aggregate, Water, and Chemical Admixtures*



William C. Norman

Signature of Licensed Professional Engineer

January 05, 2007

Inspection Date

January 05, 2009

Certification Expiration

This company will maintain these facilities in compliance with the *Check List* requirements and will correct promptly any deficiencies which develop.

R.M. Producer

Signature of Company Official

President

Title of Company Official

NOTICE: The Check List indicates only that plant facilities are satisfactory for the production of concrete when properly operated. Conformance of the concrete itself with specification requirements must be verified by usual inspection methods in accordance with sales agreements.

This certificate is issued by the National Ready Mixed Concrete Association on verification that the production facility conforms to the requirements of the NRMCA Certification of Ready Mixed Concrete Production Facilities, QC3. Unauthorized reproduction or misuse of this certificate may result in legal action.

Plant ID #:800100

© 1965, 1992, 2001, 2002, 2006, 2007

Certification ID #: 7700

National Ready Mixed Concrete Association 900 Spring Street • Silver Spring • Maryland 20910

**North Carolina Department of Transportation
Materials & Tests Unit
Ready Mix Concrete Plant Inspection Checklist Addendum – January 2022**

| | | | |
|------------------------|-------------------------------|-----------------------------------|---|
| Date of Inspection: | Click or tap to enter a date. | NCDOT Facility Number: RM # _____ | Or New Facility: <input type="checkbox"/> |
| Facility Company Name: | _____ | | |
| Facility Address: | _____ | | |
| County: | _____ | | |

The following items are to be verified (if applicable) during the NRMCA plant inspection for concrete plants seeking NCDOT Certification. If a plant is actively producing concrete for use on a NCDOT project all items must be verified.

A COPY OF THE ADDENDUM MUST BE LEFT AT THE FACILITY AFTER INSPECTION

Mix Proportions

| | Pass | Fail | |
|-----------------|--------------------------|--------------------------|---|
| 1. | <input type="checkbox"/> | <input type="checkbox"/> | Department approved concrete mix designs are on site and match materials on site. |
| 2. | <input type="checkbox"/> | <input type="checkbox"/> | Concrete mix design proportions adjusted for moisture content according to Department procedures. |
| 3. | <input type="checkbox"/> | <input type="checkbox"/> | Maintenance of permanent record of the quantity of cementitious materials, aggregates, water, and admixtures batched per load. Digital and graphical recorders provide printed records. Plants without either type of recorder, must maintain documentation of the batch quantities. The documentation is retrievable upon demand. |
| Comments: _____ | | | |

Aggregates

| | Pass | Fail | |
|-----------------|--------------------------|--------------------------|---|
| 4. | <input type="checkbox"/> | <input type="checkbox"/> | Aggregates are listed on approved list maintained by the Department. |
| 5. | <input type="checkbox"/> | <input type="checkbox"/> | Aggregates stockpiled at plant are confirmed by Department's approved concrete mix designs. If the plant is currently providing concrete for NCDOT projects, then the source and size of aggregates should be verified to comply with the approved mix design. |
| 6. | <input type="checkbox"/> | <input type="checkbox"/> | Aggregate stockpiles must be maintained separately to ensure that aggregates from different sources or different gradations do not mix. |
| 7. | <input type="checkbox"/> | <input type="checkbox"/> | Aggregate stockpiles must be free of debris and maintained above Saturated Surface Dry (SSD) condition. |
| Comments: _____ | | | |

Cement and Fly Ash

| | Pass | Fail | |
|-----------------|--------------------------|--------------------------|---|
| 8. | <input type="checkbox"/> | <input type="checkbox"/> | Proper Bills of Lading and material certifications are on hand as outlined in Department's policy for tracking cement and fly ash suppliers. |
| 9. | <input type="checkbox"/> | <input type="checkbox"/> | Verify cement and fly ash source with Department approved concrete mix design. If the plant is currently providing concrete for NCDOT projects, then the sources should be verified to comply with the approved mix designs. |
| Comments: _____ | | | |

Water

| | Pass | Fail | |
|---|--------------------------|--------------------------|--|
| 10. | <input type="checkbox"/> | <input type="checkbox"/> | Water source has been sampled and tested by producer within the last 12 months. The water analysis report is on site and meets the requirements as stated in Section 1024-4, Table 1024-2. |
| 11. | <input type="checkbox"/> | <input type="checkbox"/> | Water source has been sampled and tested by M&T Technician within the last 12 months. This report is on site and states the sample "Meets Specification". |
| Producers Water Analysis Report Date: Click or tap to enter a date. | | | |
| M&T's Water Analysis Report Date: Click or tap to enter a date. | | | |
| **Both are required to pass – The producer sample is considered the QC sample; M&T sample is considered QA sample | | | |
| Comments: _____ | | | |

Admixtures

| | Pass | Fail | |
|-----------------|--------------------------|--------------------------|---|
| 12. | <input type="checkbox"/> | <input type="checkbox"/> | Verify Admixture Calibration Reports are on site and done within the last 12 months. Calibration Date: Click or tap to enter a date. |
| Comments: _____ | | | |

Moisture Content

| | Pass | Fail | |
|-----------------|--------------------------|--------------------------|--|
| 13. | <input type="checkbox"/> | <input type="checkbox"/> | Percent total moisture for each aggregate is determined by Department's Certified Batcher during inspection. Documentation must be accessible and on-site. |
| 14. | <input type="checkbox"/> | <input type="checkbox"/> | Moisture equipment, including moisture probes, checked for accuracy and proper working operation. Scales for moisture tests must be calibrated within last 12 months. Calibration Date: Click or tap to enter a date. |
| 15. | <input type="checkbox"/> | <input type="checkbox"/> | Review moisture calculations and w/c calculated for each batch. |
| Comments: _____ | | | |

Routine Duties

| | Pass | Fail | |
|-----------------|--------------------------|--------------------------|---|
| 16. | <input type="checkbox"/> | <input type="checkbox"/> | Daily checks on cement received and used. Does the BOL and Certifications match what is called for in the mix design? |
| 17. | <input type="checkbox"/> | <input type="checkbox"/> | Constant testing and checking moisture content of aggregates. Minimum of two moisture tests will be performed each day: one at startup, second moisture test will be performed if production is greater than four hours. Additional checks may be needed if weather conditions dictate [rain, wind, high temps, etc.] or batching operations are extended more than eight hours. |
| 18. | <input type="checkbox"/> | <input type="checkbox"/> | Daily report prepared and batch weight tickets kept on site for 60 days. |
| Comments: _____ | | | |

Equipment

| | Pass | Fail | |
|-----------------|--------------------------|--------------------------|--|
| 19. | <input type="checkbox"/> | <input type="checkbox"/> | All equipment used in the batching operations has been calibrated within the last 12 months. Scales and dispensing devices must be calibrated by a third-party entity or the manufacturer (in-house calibration is not acceptable). Calibration Date: Click or tap to enter a date. |
| 20. | <input type="checkbox"/> | <input type="checkbox"/> | All the equipment used in the quality control sampling and testing has been calibrated within the last 12 months if applicable and is in good working condition. Scales, unit weight containers, chase indicators, and compression machines must be calibrated by a third-party entity or the manufacturer (in-house calibration is not acceptable). Calibration Date: Click or tap to enter a date. Slump cone, air pot/roll-a-meters, and moisture detection devices may be calibrated by certified technician. Calibration Date: Click or tap to enter a date. |
| Comments: _____ | | | |

Certifications

| | Pass | Fail | |
|-----------------|--------------------------|--------------------------|--|
| 21. | <input type="checkbox"/> | <input type="checkbox"/> | <i>All personnel must have current/active Department certifications for their job responsibility, and documentation is on site. (List Below)</i> • <i>NCDOT Concrete Field Technician</i> |
| 22. | <input type="checkbox"/> | <input type="checkbox"/> | <i>All personnel must have current/active Department certifications for their job responsibility, and documentation is on site. (List Below)</i> • <i>NCDOT Concrete Batch Technician</i> |
| 23. | <input type="checkbox"/> | <input type="checkbox"/> | Plant has been approved and displays current Department Plant Certification |
| Comments: _____ | | | |

Personnel

Any personnel involved in the QC testing of the product must have a current NCDOT Field Testing Technician certification. Any personnel involved in the batching operations at the plant must have a current NCDOT Batch Technician Certification. List all Field Testing and Batch Technicians below:

NCDOT CONCRETE FIELD TECHNICIAN (PCT)

| Name | Title | NCDOT Certification Number - PCT | NCDOT Certification Expiration Date |
|-------------|--------------|---|--|
| _____ | _____ | _____ | Click or tap to enter a date. |
| _____ | _____ | _____ | Click or tap to enter a date. |
| _____ | _____ | _____ | Click or tap to enter a date. |
| _____ | _____ | _____ | Click or tap to enter a date. |
| _____ | _____ | _____ | Click or tap to enter a date. |

NCDOT CONCRETE BATCH TECHNICIAN (PCB)

| Name | Title | NCDOT Certification Number - PCB | NCDOT Certification Expiration Date |
|-------------|--------------|---|--|
| _____ | _____ | _____ | Click or tap to enter a date. |
| _____ | _____ | _____ | Click or tap to enter a date. |
| _____ | _____ | _____ | Click or tap to enter a date. |

Last date of producing concrete for a NCDOT project: (estimate) _____ Click or tap to enter a date. _

Possible date of next concrete production for NCDOT project: (estimate) _ Click or tap to enter a date.

Inspecting Engineer's Signature: _____

Inspected Engineer Name (Printed) _____

Materials & Tests Unit



NCDOT

January 2022 Guidelines

Ready Mix Concrete Plant Inspection Checklist Addendum - Procedure

General Notes:

- The following items are to be verified (if applicable) during the NRMCA plant inspection for concrete plants seeking NCDOT Certification.
- If a plant has never been certified with NCDOT (or a previous Certificate has expired) the NRMCA inspector shall indicate as *New Plant* on the top of the form.
- If a plant is actively producing concrete for use on a NCDOT project, all items must be verified.
- All items should be marked with the respective results *Pass* or *Fail*. Indicate a response for each item, please.
- If an item needs additional explanation, enter in the comments field provided at the end of each section.
- Do not forget to complete the last page of the addendum and include a signature with printed name.
- **When the inspection is completed, a copy of the addendum should be left with the facility.**
- The following documentation is required to be completed during the inspection process by the 3rd party inspector. Once completed, the Ready Mix Facility is responsible for submitting all documentation to NCDOT within 10 business days.
 - Plant Certification Checklist (attachment example A1)
 - Verification of Inspection and Application for Certificate (attachment example A2)
 - Agreement by Company Official (attachment example A3)
 - Section 5-Delivery Fleet Inspection (attachment example A4)
 - 5.7 Inspection Record of Delivery Fleet (attachment example A5)
- The 3rd party inspector is required to complete and send (within in 2 business days) the “NCDOT Materials & Tests Unit Ready Mix Concrete Plant Inspection Checklist Addendum” (attachment A7) to the following:

Email: readymixinspections@ncdot.gov

Mix Proportions:

- 1: The 3rd party inspector shall review concrete mix designs to verify: a hard copy of the all mix designs are on-site, all materials are supplied by an approved source, quantities are established, if applicable - a contract number is assigned, and the assigned facility name, location, and Department assigned number (RM-XX) are present on the documentation.
- 2: The 3rd party inspector shall confirm moisture tests are being performed and adjustments for moisture are executed in accordance with Department procedures.
- 3: The 3rd party inspector shall review a represented sample of final documentation/print outs of batched loads. This documentation shall include: actual quantities of materials batched, adjustments for moisture, additional water added at the facility, certified batcher’s name, facility name, location, and Department assigned number (RM-XX). All documentation or a copy, must remain on-site.

Aggregates:

- 4: The 3rd party inspector shall verify the on-site aggregate stockpiles (fine and coarse) that are utilized in the production of concrete for NCDOT or FHWA supported projects be supplied by approved facilities. These facilities are maintained on the Departments “Approved List”. The “Approved List” can be accessed through the M&T web site.
- 5: The 3rd party inspector is responsible for reviewing the approved on-site mix designs and confirming the on-site aggregate stockpiles are listed on the approved mix designs.
- 6: The 3rd party inspector must view each approved on-site aggregate stockpile to verify the aggregates are kept separately to ensure that different sources or different gradations do not mix together.
- 7: The 3rd party inspector must view each approved on-site aggregate stockpile to verify the aggregates are kept moist or meet the Saturated Surface Dry conditions. On-site aggregate stockpiles are to be easily accessible, free of debris, exist separately and not connected to other stockpiles.

Cement And Fly Ash:

- 8: The 3rd party inspector shall review the on-site Bills of Lading to confirm the cement and fly ash meet the policy requirements. Bills of Lading shall be provided with each tanker/railcar of material, include the source’s city, state and country location, and include traceability to the associated shipment.
- 9: The 3rd party inspector shall review the on-site approved mix designs to verify the cement and fly ash sources are on the “Approved List” and comply with the mix design.

Water:

- 10: All Ready-Mix Concrete facilities who produce concrete for NCDOT projects are required to have a copy of water analysis documents on site. The 3rd party inspector shall review the on-site water analysis documentation to verify compliance with Department specifications (Table 1024-2). If a facility is receiving water from a municipality or public water system - the facility must contact the municipality (a minimum of once per year) and request the most recent water analysis the municipality performed at the water source. For Facilities locating in the following counties: Beaufort, Bertie, Brunswick, Camden, Carteret, Chowan, Craven, Currituck, Dare, Gates, Hyde, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrell and Washington must test all water from wells or public water supplies a minimum of once per year.
If the facility is receiving water via another source (i.e. well), a water sample must be obtained, and analysis performed a minimum of once per year. The water analysis documentation must be on-site. The water analysis report must meet the requirements as stated in Section 1024-4, Table 1024-2. **It is the responsibility of the facility to sample/test or obtain documentation regarding a water sample and have the results on-site.**
- 11: During the NCDOT M&T’s annual facility audit, a M&T representative will obtain a water sample and submit it to the Department’s lab for analysis. The 3rd party inspector shall confirm the sample was obtained, the documentation is on-site, and the sample “Meets Specification”. It is the responsibility of the M&T Technician to send the facility a copy of the water analysis that was obtained during the annual facility audit.

NOTE: The 3rd party inspector shall document if a water analysis report is on file and the sample date – this should be documented in the “Comments” block.

Admixtures:

- 12: The 3rd party inspector shall review the most recent Admixture calibration reports. All Admixtures calibrations shall be conducted by the Admixture supply company or their representative within the last 12 months and a copy shall be on site.

Moisture Content:

- 13: The 3rd party inspector shall review and confirm moisture contents for each aggregate type are being performed by the certified batcher and are documented. Moisture by the “Drying” method should be performed prior to start of operations for NCDOT concrete production. If the batching operations are extended more than four hours, an additional moisture by the “Drying” method shall be performed and documented. If the batching operations are extended more than eight hours, a third moisture test shall be performed. Moisture probes for fine aggregates can be utilized during the concrete production but applied as a “check” method only. Moisture probes shall be correlated with “Drying” moisture test method on a daily basis. Calculated moisture contents shall be entered into the batching computer operations and verified by the certified batcher that adjustments are being made during the batching operations.
- 14: The 3rd party inspector shall: verify all equipment utilized in determining moistures are working properly, calibrated – if applicable (minimum once per year), and in good working condition. Scales for moisture tests must be calibrated within the last 12 months. Moisture probes are typically employed in the fine aggregates, but not the coarse aggregate. Special attention is required to confirm a moisture test is applied to the coarse aggregate. The inspection should include examining the location, buildup of material on the probe, cleanliness of the probe, and the condition of all moisture probes.
- 15: The 3rd party inspector shall confirm moisture calculations are being performed and calculations are correct. These operations shall be performed and recorded on the proper documentation by the certified batcher. Calculations, times, and results shall be documented on the “Daily Plant Operations” worksheet, and calculated moistures shall be placed on Form 903 for all aggregate types.

Routine Duties:

- 16: The 3rd party inspector shall verify the facility is reviewing and documenting the arrival of every load of cement, and the accuracy of the documentation that is supplied with each shipment. The facility shall explain their protocol for receiving cement, and a random selection of this documentation shall be verified. Special attention should be made to verify that the Bill of Lading and certification match what is stated on the approved mix designs.
- 17: The 3rd party inspector shall verify the facility is performing moisture content on all aggregate types when producing concrete for NCDOT projects. Special attention should be made on the times when moisture tests are performed, specifically prior to start up operations and if a pour is extended more than four/eight hours. Additional moisture content tests are required if weather changes are evident. All moisture tests shall be documented on the appropriate NCDOT forms, and available for viewing.
- 18: The 3rd party inspector shall view a random sample of NCDOT forms to verify that documentation is completed accurately, and a copy remains on site for a minimum of 60 days.

Equipment:

- 19: The 3rd party inspector shall verify that all equipment incorporated in the batching operations has been properly calibrated. Calibration stickers/documentation must be readily available or attached to the equipment. Special attention to ensure compliance with NCDOT specifications

with regards to scales – calibration should be performed a minimum of once per year by a third-party entity or the manufacturer.

- 20: The 3rd party inspector shall visually verify that all equipment utilized in the testing or sampling of NCDOT concrete meets the calibration specifications. All testing and sampling equipment shall be in good working condition and the tests performed in accordance with ASTM specifications. In addition, the technician performing the tests must meet the NCDOT certification requirements. Selective equipment, such as: scales, unit weight containers, chase indicators, and compression machines shall be calibrated by a third-party entity or the manufacturer. Equipment such as, slump cones, air pots, roll-a-meters, and moisture detection devices may be calibrated by certified technicians. All equipment shall be calibrated a minimum of once per year or when questionable results occur. Calibration stickers/documentation must be readily available or attached to the equipment.

Certifications:

- 21: The 3rd party inspector shall verify technicians responsible for testing, and sampling of NCDOT concrete meet the certification program requirements. Certificates must be available for viewing or displayed on site. All certifications must be active, and the technicians performing the duties are on site during their respective operations. The applicable technicians, certification number, and expiration date shall be listed on the addendum in the appropriate locations.
- 22: The 3rd party inspector shall verify technicians responsible for batching of NCDOT concrete meet the certification program requirements. Certificates must be available for viewing or displayed on site. All certifications must be active, and the technicians performing the duties are on site during their respective operations. The applicable technicians, certification number, and expiration date shall be listed on the addendum in the appropriate locations.
- 23: The 3rd party inspector shall visually verify the facility displays their approved Department Plant Certification certificate. The certificates must be active and display the NCDOT facility assigned number respective to that individual facility. If the original certificate is stored at a main location, a copy of the active certificate is acceptable, but must be displayed in plain view.

Personnel:

- The 3rd party inspector shall verify all/any personnel involved in the QC testing of the product has an active/current NCDOT Field Testing Technician certification. **THIS TECHNICIAN MUST BE ON SITE DURING THE PRODUCTION OF THIS PRODUCT TO BE UTILIZED ON NCDOT/FHWA PROJECTS.** The 3rd party inspector shall verify all/any personnel involved in the batching operations has an active/current NCDOT Batch Technician certification. **THIS TECHNICIAN MUST BE ON SITE DURING THE PRODUCTION OF THIS PRODUCT TO BE UTILIZED ON NCDOT/FHWA PROJECTS.** The 3rd party inspector is to complete the list of technician information.
- The list of personnel shall include Technicians actually on site when the inspection is performed. If there is not a certified batcher on site, this should be noted.

Discrepancies:

- If the 3rd party inspector determines/notes a “Failure” or discrepancies within the addendum, the facility has ten working days to respond in writing, to M&T, any/all corrective actions or explanations. This action plan/explanation is then reviewed by the appropriate NCDOT M&T personnel and appropriate response is rendered.