

Materials & Tests Unit



Standard Operating Procedures (SOP)

Volumetric Concrete Mobile Mixer Approval

The process outlined in this SOP provides guidance for NCDOT approval of Volumetric Concrete Mobile Mixers that wish to provide concrete for NCDOT projects. To obtain approval for each mobile mixer, the producer must submit a written request to the Area Materials Engineer. The Area Materials Engineer must ensure the following requirements are met:

Producer Requirements

1. The Volumetric concrete producer must be contracted to supply concrete for an active NCDOT project.
2. All material sources must be on the NCDOT approved supplier list, the NCDOT approved products list (APL) and meet NCDOT Standard Specifications.
3. All concrete mix designs shall be submitted to concretedesigns@ncdot.gov for approval. All mix designs must be approved (or pre-approved) prior to Volumetric Concrete Mobile unit calibration.
4. An "Ownership Update Form" must be completed and submitted.
5. A Process Control and product Quality Control (QC) Plan must be submitted to the appropriate Area Materials Engineer for approval.
6. The Quality Control Plan must identify handling processes of raw materials, technician training, and related certifications.
7. The mobile unit is required to have on-site personnel actively certified by the Department as a Volumetric Concrete Batch Technician to properly carry out the batching operations. Additionally, the supplier may provide personnel capable of conducting the necessary testing procedures (NCDOT certified Concrete Field Technician).
8. Volumetric Concrete Mobile Mixers must be equipped to perform in accordance with the Volumetric Mixer Manufacturer Bureau (VMMB) or equivalent, ASTM C685, AASHTO M241, and 2024 NCDOT Standard Specifications (Section 1000-13 (B) and (C)).
9. Volumetric Concrete Mobile Mixers shall be used only to produce Class B concrete, and no more than 30 cubic yards per unit may be placed per day.
10. Upon a written request by the contractor, the Department may approve the use of concrete proportioned by volume for Latex Modified Concrete or for High Early Strength Portland Cement Concrete.
11. Calibration on each mixer must be conducted based on volume-weight relationship and utilizing the approved Mix Design materials.

Once all requirements have been completed and/or approved, the following documentation must be submitted to readymixinspections@ncdot.gov:

- Approved (or pre-approved) by the Concrete Mix Design Engineer, Mix Design(s).
- Approved by the Area Materials Engineer, process control and product quality control plan.
- Copy of calibration report.
- Ownership Update form.