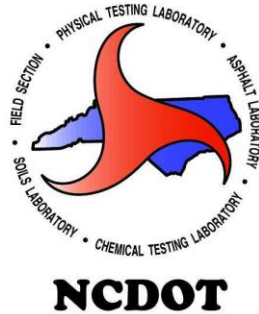


Materials & Tests Unit



Standard Operating Procedure Plastic Pipe Annual Facility Audit

Objectives:

- The purpose of the Annual Facility Audit is to ensure that Plastic Pipe facilities are operating and documenting operations which meet NCDOT standards, and are capable of producing NCDOT approved plastic pipe products.
- Audits shall be performed a minimum of once per year, unannounced, and recommended during a NCDOT production.
- If possible, the annual facility audit should be in conjunction with the NTPEP audit.

Materials Inspection and Acceptance:

The review of documentation and collection of samples will confirm the facility meets all NCDOT standards, and is in compliance with all Materials and Tests policies. Plastic pipe facilities shall have an approved laboratory to meet approval.

Safety Equipment List:

Safety Vest
Hard Hat
Steel Toe boots
Eye and ear protection
Gloves for collecting samples

Safety Concerns:

Personnel should be aware at all times of functioning equipment and machinery. Review all safety guidelines required by the facility.

Required Sampling:

Samples shall not be obtained prior to audit. Auditor must select sample and view sample process during the on-site audit.

Resign – ½ gallon (one wide mouth jar or sealable plastic bag), must be virgin.

Pipe – 5 pieces (3 pieces of pipe, 1 bell, 1 spigot)

Samples should be submitted to Chemical and Physical Laboratories with the appropriate completed sample cards.

M&T Inspector's Audit:

Documentation & Production

- Verify current Brand Registration is in file and on site.
- Verify facility has been approved by NTPEP within one year of audit. The date of most recent inspection by NTPEP is to be recorded on audit documentation.
- View and verify facility has a current approved in-house Quality Control Program. This documentation shall be on-site and meet NCDOT approval. This program shall be organized by specific lot size.
- Verify facility is placing an approved QC sticker on pipe intended for NCDOT projects. The sticker must contain the minimum information; company name, QC lot number, plant name, and production shift. This information will be utilized to in case of a failure.
- Facility must have an approved laboratory – indicate on audit documentation if laboratory is on-site or off-site. If laboratory is off-site, the laboratory company name must be placed on audit documentation.
- View and verify all documentation/certifications for qualified quality control technicians. Technicians shall have an active certification and approved by NCDOT.
- View and verify approved materials (resign) meet NCDOT and AASHTO's specifications. Virgin resign shall be utilized in production of NCDOT pipe, blending of resign is not allowed.
- View and verify pipe is stamped in accordance with NCDOT and AASHTO specification.
- View and verify samples are being tracked. This documentation shall make reference to sample results and where pieces of lot are shipped.
- View a sample of Bill of Lading format, and verify this documentation is being shipped with pipe to NCDOT projects. This documentation shall have the location of manufacturer and include a lot number.
- Perform a walk through the yard to view/verify; dimensions of piece meet the approved requirements, proper storage of pieces, separate storage for miscellaneous pieces, QC stickers are placed on pipe, and loading of pieces.

Laboratory (For On-Site Labs Only)

- View and verify all scales utilized in measuring/testing have a current calibration sticker in view. All scales shall be calibrated a minimum of once per year, or when results are questionable.
- View and verify the facility has a program listing the frequency for testing and monitoring the production of pipe. The program must follow the AASHTO testing standards for the following tests; Minimum Density (raw material), Melt Index (raw material), Brittleness (finished pipe), Elongation (finished pipe), Stiffness (finished pipe), Flattening (finished pipe), Dimensions and Perforations (finished pipe), and Unit Weight (finished pipe).

- View a sample of testing results documentation. If a sample has failing results, what are the corrective measures (discard, retest, do not approve for NCDOT, etc.)?
- Audit documentation should include comments regarding general conditions and testing operations within the laboratory.

Standards:

AASHTO M 36

NCDOT Standard Specifications For Roads And Structures

NCDOT Materials and Tests policies and procedures

Sample Prep And Submittal:

Sample containers shall be handled to avoid contamination during the sampling, log-in, and transportation process. Sample cards shall be fixed to their corresponding sample or container and transported to the appropriate laboratory for analysis.

Pipe samples shall be clearly marked and documented prior to arrival at M&T laboratory. If samples are shipped by facility to M&T laboratory, a follow up contact shall be made by M&T auditor to verify samples were received and processed. Sample cards shall be submitted and if possible fixed to their corresponding samples.

Samples shall be entered utilizing the HiCAMS system - see Annual Facility Audit & SOP Field Manual for entry examples.

Documentation Submittal:

- Complete the “2015 Plastic Pipe Annual Facility Audit Checklist” (located on the S-drive), and send to Sam Frederick. This documentation can be submitted via electronically, faxed, or hard copy sent by mail.
- Complete the “2015 Plastic Pipe Ownership Update” form (located on the S-drive), and send to Sam Frederick. This documentation can be submitted via electronically, faxed, or hard copy sent by mail. (S-Field Section-FORMS-Plastic Pipe-Annual Facility Audit)