

2021

Bituminous Concrete Quality Control Plan Outlines

These Quality Control Plan (QCP), Project Summary Sheet and Extended Season Paving Plan outlines are for the bituminous concrete placement section of the QCP that are required by the specifications to be submitted by the Prime Contractor. The Quality Control Plan is required to be submitted once per calendar year – amendments/revisions may be made and shall be submitted as needed. All of the outline formats are required and shall assist the Prime Contractor in providing the specified information required by the general description found in the specifications to assess the process and organization of the placement and compaction operations during placement of bituminous concrete.

The **QCP** shall be valid for a single calendar year and shall expire at the end of the calendar year in which it was submitted. It shall be submitted at the pre-construction meeting or a minimum of 30 days prior to any paving activities. For review and approval, submit the QCP to the Advisory Team mailbox: DOT.ConstrAT@ct.gov.

The **Project Summary Sheet** will be required for each specific project, containing project specific information. It shall be submitted at or prior to the pre-paving meeting. Normally, this plan will be one (1) to two (2) pages in length.

The **Extended Season Paving Plan** will be required for projects that will pave during the specification defined Extended Paving Season. Normally, this plan will be one (1) page in length. A form-fillable version of this plan can be found [here](#).

Project Summary Sheets and Extended Season Paving Plans may also be sent to the Advisory Team mailbox for review.

The separate outline requirements are described below:

QCP Requirements:

1. Title Page

- a. Contractor's Name
- b. Plan Description
- c. Submittal Date (*updated in revised*)

2. Table of Contents

- a. Sections and corresponding page numbers

3. Paving and Quality Control Personnel

- a. Plan Manager
 - i. Name & Contact Information
 - ii. Qualifications, authority and responsibilities
- b. Process Control Technician(s) (*Placement Procedures, typically the Foreman*)
 - i. Name & Contact Information
 - ii. Qualifications, authority and responsibilities
- c. Quality Control Technician(s) (density testing) (*full-time, dedicated personnel or third-party testing laboratory*)
 - i. Name(s) & Contact Information
 - ii. Qualifications, authority and responsibilities
 - iii. Name & Contact Information of the Radiation Safety Officer (RSO) if using a nuclear density gauge for testing.

4. Best Paving Practices and Paving Equipment

- a. A complete list of all equipment that the company owns/rents indicating makes, models and types (rollers). This list will include pavers, rollers, plate compactors, automatic grade/slope controls, lighting for night work, secondary joint compaction devices, etc.
- b. Maximum paver placement speed (*feet per minute*)
- c. Brand and Product Name of Asphalt Release Agent
- d. Equipment Breakdown (*procedures or actions to be taken*)
- e. Longitudinal Joint (notched wedge joint applications) construction device and compaction method, monitoring for compliance, additional warning signs
- f. Transverse Joint construction: use of starting blocks, monitoring compliance for smoothness and all other specification requirements
- g. Procedure for generating a Compaction Curve to establish a rolling pattern (*thin lifts, ultra-thin, special mixes, etc.*)
- h. Inclement weather procedures (*Specify personnel responsible, address procedures, etc.*)
- i. Extended Season paving operations may be submitted as a supplement to the QC Plan for approval prior to the Extended Season paving operations

5. Process Control, Quality Control, Sampling and Testing Equipment

- a. Process for balancing the operation, tack coat application visual inspection, monitoring for segregation, haul units, etc.
- b. Mix delivery temperature range
- c. Process for establishing and modifying rolling pattern
- d. Type of testing devices for density and temperature
- e. Procedure for process control cores (cores to be used for the density gauge correlation process)
- f. Minimum density testing frequency at time of placement
- g. Test result procedure (*documentation and timeline for submittal*)

6. Troubleshooting

- a. Procedures for corrective action of non-conforming materials or workmanship (*i.e. equipment problems, density, mat or joint issues*)
- b. Documentation of actions taken

7. Core Sampling of Bituminous Concrete for Acceptance

- a. Procedure and Equipment (*Schedule required on Summary Sheet*)
- b. Personnel information

8. Dispute Resolution

- a. Procedure and Equipment (*Schedule required on Summary Sheet*)
- b. Personnel information

Project Summary Sheet requirements:

1. Title Page

- a. Contractor's Name
- b. Plan Description
- c. Submittal Date (*updated in revised*)

2. Table of Contents

- a. Sections and corresponding page numbers

3. Paving and Quality Control Personnel

- a. Plan Manager
 - i. Name & Contact Information
 - ii. Qualifications, authority and responsibilities
- b. Process Control Technician(s) (*Placement Procedures, typically the Forman*)
 - i. Name & Contact Information
 - ii. Qualifications, authority and responsibilities
- c. Quality Control Technician(s) (density testing) (*full-time, dedicated personnel or third-party testing laboratory*)
 - i. Name(s) & Contact Information
 - ii. Qualifications, authority and responsibilities
 - iii. Name & Contact Information of the Radiation Safety Officer (RSO) if using a nuclear density gauge for testing.

4. Material

- a. Producer (*Bituminous Concrete source of supply*)
 - i. Contact Information
- b. Polymer Modified Asphalt (PMA), Warm Mix Asphalt technology (if applicable)
- c. Temperature ranges for mixes not noted in the General QCP (PMA, WMA, Ultra-thin, etc. (*Note: 265-325F will not be accepted for PMA Mixtures*))
- d. Production sampling procedure
 - i. Where will the samples be taken from (*Paver hopper, paver wing area, behind the screed or from the MTV*)
 - ii. Who will be taking the sample (*Producer's choice – must be certified*)
- e. Tack coat source of supply

5. Paving Equipment

- a. A list of equipment, including the paver, paver attachments (*automatic grade/slope control, longitudinal joint device and secondary compaction equipment for notched wedge joint*), plate compactors, etc., that are specific to the project.
- b. Roller(s) specific to the project (*please provide makes, model numbers and if they are capable of oscillation*)
- c. Brand and Product Name of Asphalt Release Agent
- d. Material Transfer Vehicle (*if applicable*)

6. Core Sampling of Bituminous Concrete for Acceptance

- a. Procedure, Equipment and Schedule
- b. Personnel information

7. Dispute Resolution

- a. Procedure, Equipment and Schedule
- b. Personnel Information

Extended Season Paving Plan requirements:

The Extended Season Paving Plan is submitted for paving that will take place during the Extended Season (**October 15th – April 30th**). The Extended Season Paving Plan shall be submitted per project, per calendar year, when paving activities are scheduled during the Extended Season. The plan shall be submitted and approved by the Engineer prior to any pavement being placed during the Extended Season. A form-fillable PDF version of this outline can be found [here](#).

Extended Season Paving Plan

Project No: XXXX-XXXX

(Description of Project)

- Prime Contractor: _____
- Paving Sub-Contractor: _____
- Anticipated Paving Dates: _____
- HMA Plant (Supplier): _____
- Mix Type¹: _____ Compacted Lift Thickness: _____
- Mix Type²: _____ Compacted Lift Thickness: _____
- Mix Type³: _____ Compacted Lift Thickness: _____
- Minimum Mix Delivery Temperature (°F): _____
- Average Haul Distance: _____
- Average Haul Time: _____
- Number of Trucks: _____
- Heated/Insulated Body Trucks (Y/N): _____
- Day or Night Paving: _____
- Tons to be placed per day/night: _____
- Maximum Paver Placement Speed (ft/min): _____
- Number of Paver Passes: _____
- Average Maximum Paving Length: _____
- Number of Rollers (w/ Operators) Assigned: _____
- Additional Comments: _____