

**CONTRACTOR PROCESS QUALITY CONTROL PLAN GUIDELINES**  
(PLAN WILL CONFORM TO PERTINENT SPECIFICATIONS)

**A. Contractor Organization:**

1. Plan will address authority levels/duties by position and name of persons holding those positions.
2. Include those who can be contacted by State personnel and have decision making authority with regard to quality control, materials, sampling and testing.

**B. Sampling, Testing and Lab Facilities:**

1. Plan will include copies of TTCP certification of all personnel who will be performing
2. Process Quality Control testing for the contractor.
3. Identify lab location.
4. Identify person(s) responsible for identifying random sampling locations.
5. Identify how and when lab equipment will be calibrated.
6. Identify person(s) responsible for contacting Project Manager when lab facilities are ready for inspection in accordance with Section 901.
7. Identify person(s) responsible for maintaining control charts and all records associated with materials sampling, testing and calibration of lab equipment.
8. Identify person(s) responsible for dispute resolution.

**C. HMA/WMA Mix Design:**

1. Plan will identify which Department approved testing lab is responsible for mix design(s).
2. Identify amount of material that will be crushed or stockpiled prior to mix design submittal.
3. Identify any anticipated differences in plan quantity tonnage due to material types.
4. Identify asphalt supplier.
5. Outline asphalt sampling program to include frequency, storage and person(s) responsible for obtaining samples.
6. Outline asphalt storage tank inspection procedure prior to initial loading, it shall identify the person responsible for storage tank inspection. A signed storage tank inspection report will be submitted to the Project Manager upon completion.

**D. Aggregate Production:**

1. Plan will identify pit location(s) and type of material.
2. Identify which approved testing lab is responsible for determining aggregate index (HMA, WMA, Base Course, and OGFC).
3. Identify anticipated production rate during crushing.
4. Identify number of stockpiles anticipated to be utilized in HMA/WMA mix design.

5. Identify crushing equipment that will be used to produce aggregate for HMA, WMA, Base Course and OGFC.
6. Identify smallest sieve used to remove natural fines; smallest sieve that can be used for HMA/WMA is No. 4.
7. Describe how control charts will be utilized to identify inconsistencies and changes in aggregate being produced.
8. Describe corrections that will be made when control charts indicate crushing has changed.
9. Identify testing/sampling methods and frequencies that will be performed during crushing; include frequencies split samples should be taken with NMDOT personnel.

**E. Stockpile Management And Quality Components:**

1. Plan will describe how stockpiles will be constructed, as a minimum describe how each requirement in 423/4.2.2.3 will be achieved.
2. Identify testing/sampling methods and frequencies that will be performed on stockpiled material (LL, PL, FF, SE, flat & elongated, fine aggregate angularity, wet prep, gradation) for HMA, WMA, Base Course and OGFC.
3. Include frequencies split samples should be taken with NMDOT personnel.
4. Describe how control charts will be utilized to identify out of specification material and what corrective actions will taken.
5. Describe how control charts will be utilized to control dust to binder ratio for HMA/WMA.

Plan will describe how other aspects of 423, 424, 303 and 304 will be applied if utilized (combining, blending sand, mineral filler, etc).

**F. Recycled Asphalt Pavement (if used) 423.2.7:**

1. Plan will define sufficient quantity that will be obtained to perform testing outlined in 423/4.2.7.
2. Identify approved testing lab that will perform AASHTO T-96 LA Wear, FF, Flat & Elongated and any additional testing that will be performed.
3. Identify percent of RAP that will be used in mix design and sources of RAP.
4. Describe process that will be used to develop mix design when using less 15% RAP.
5. Describe process that will be used to develop mix design when using greater than 15% but less than 25% RAP.
6. Describe process that will be used to develop mix design when using 25% to 35% RAP.
7. Identify percent RAP that will be utilized in each lift of HMA/WMA.
8. Identify how many stockpiles will be maintained (minimum of 2).
9. Identify what fractionation each stockpile will be divided into.
10. Describe stockpile management and where RAP will be introduced into mixing drum while keeping resultant mix within acceptable limits.

**G. Production of HMA/WMA:**

1. Plan will describe equipment that will be used to produce HMA/WMA.
2. Identify specific technology and how it will be used for placement of WMA (must be on approved products list).

3. Describe process used to manage WMA temperatures.
4. Identify plant production rate.  
Describe how lime/anhydrite will be introduced into the mix and protected from wind loss.
5. Describe how and when moisture will be added to activate lime/anhydrite.
6. Identify amount of moisture that will be added and how cold feed moisture will be measured.
7. Describe how consistent mixing temperature will be maintained.
8. Describe how samples will be taken on combined material (cold feed), excluding RAP and before addition of lime/anhydrite based material.
9. Identify sampling and testing frequency on combined material for determination of material passing the No. 40 sieve to be non plastic, the plus 3/8" material to contain a maximum of 20% flat, elongated particles with a dimensional ratio of 3:1 or greater, determination of fine aggregate angularity, SE, FF.
10. Describe how control charts will be used to identify consistency and changes in HMA/WMA being produced.
11. Describe what corrective action process will start when test results are out of specification; this will include what increased frequency of testing is until corrective measures have brought mix back into specification. This will include a measure of threshold at which time HMA/WMA production will cease and a written corrective action plan will be presented and approved by the Project Manager before resuming production.
12. Describe method of loading and equipment used to transport HMA/WMA.
13. Describe length of haul and how adequate material temperatures will be maintained.

**H. Placement of HMA/WMA:**

1. For single lift overlays, have distressed areas that may be potential problems for density been identified and addressed.
2. Plan will identify how material will be transferred from haul vehicles to placement equipment.
3. Describe how material handling equipment will prevent segregation.
4. Provide balance sheets that demonstrate paver speed, roller speed, number of rollers, number of trucks and plant production will maintain a continuation of placement operations without stopping and starting.
5. Describe proper placement of auger extensions if required and how proper amount of head in front of augers will be maintained.
6. Describe pull widths and placement sequence that will achieve quantities/dimensions as shown on the plans.
7. Describe how joints will be constructed and compaction of taper joints will be obtained.
8. Describe how hand work such as raking will be conducted on joints and how broadcasting aggregate onto mat will be prevented.
9. Describe how acceptable compaction will be achieved including roller pattern and compaction monitoring process.

10. Identify person(s) who will be tracking yield and person authorized to make adjustment to prevent overruns (yields will be calculated using NMDOT Construction Bureau formula).
11. Identify Department approved release agent that will be used to prevent mix from adhering to truck beds and other equipment.
12. Describe random sampling plan that will be utilized.
13. Identify lot and sub lot sizes.
14. Define how and where test strip will be constructed and evaluated for compliance with mix design.
15. Define Shakedown Period and how it will be evaluated for compliance with mix design.
16. Describe Process Quality Control sampling and testing frequency for each test that will be performed on the placed HMA/WMA (gradation, asphalt content, gyratory compactor test, air voids, VMA, dust to binder ratio, voids filled with asphalt, mat thickness, mat density, and temperature).
17. Identify time periods when WMA materials can be sampled and testing can begin after placement.
18. Describe how control charts will be used to identify consistency and changes in HMA/WMA being placed.
19. Describe what information will be utilized to make JMF changes.
20. Describe what corrective action process will start when test results are out of specification; this will include what increased frequency of testing is until corrective measures have brought mix back into specification. This will include a measure of threshold at which time HMA/WMA placement will cease and a written corrective action plan will be presented and approved by the Project Manager before resuming placement.

### **I. Base Course Placement:**

1. Plan will identify any mixing and processing that will take place before Base Course is transported to the roadway.
2. Describe how BC will be transported to the roadway.
3. Describe how BC will be placed and spread.
4. Describe how compaction will be monitored and achieved.
5. Describe how line and grade control will be achieved.
6. Identify lot and sub lot sizes.
7. Identify person(s) who will be tracking yield and person authorized to make adjustment to prevent overruns.
8. Describe random sampling plan that will be utilized.
9. Describe Process Quality Control sampling and testing frequency for each test that will be performed on the placed BC (FF, gradation, LL, PI, moisture content, thickness, density).
10. Describe what corrective action process will start when test results are out of specification; this will include what increased frequency of testing is until corrective measures have brought BC back into specification.

### **J. OGFC Placement:**

1. Identify when materials will be submitted to District Lab for design (District Lab Supervisor will identify quantities and gradations to be submitted).
2. Identify any anticipated differences in plan quantity tonnage due to material types.
3. Describe how plan depth will be maintained.
4. Describe how design target AC content will be maintained.
5. Define how low and defective areas will be corrected with hot OGFC before compaction.
6. Define how finished surface will be smooth and free of irregularities larger than 1/8”.

**K. Smoothness:**

1. Identify if smoothness specification applies to this project.
2. Identify Department approved profiler that will be utilized.
3. Identify roadway surface preparation prior to profiling.
4. Describe sequence measurements will be taken with accompanying NMDOT representative and submission of data.
5. Describe evaluation of profile data using ProVAL for must grind work and corrective work required.
6. Describe format of written corrective work plan that will be submitted to the Project Manager.

**NOTES:**

1. Changes and data not available at time of submittal of the plan can be added via addendum.

