**1.0 Introduction**

This quality control plan explains how the producer proposes to control the equipment, materials, and production methods to ensure the specified product is obtained.

This document shall be submitted annually, for the period which begins April 1st, and which expires the following year on March 31st.

**2.0 Specification Requirements**

All volumetric mixers in the fleet used to produce concrete for Tollway projects shall meet the requirements of the SSRBC Article 1103.04 Mobile Portland Cement Concrete Plants and Volumetric Mobile Mixer Approval Procedures (TTP 016).

Once approved, all procedures in this Quality Control Plan are a binding provision of the contract. If at any time a volumetric mixer is determined by the Tollway to not be in compliance with the requirements of this Quality Control Plan, the volumetric mixer shall be de-certified until all non-compliance issues are resolved to the satisfaction of the Tollway.

**3.0 Producer Information**

Submittal Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Producer/Supplier Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Producer Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

P.O. Box: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Street Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

City/State/ZIP Code: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Contact Person: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phone Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4.0 Calibration**

4.1 Start of Production

The Quality Control Manager shall conduct the calibration of each mixer. Each calibration shall be witnessed and approved by IDOT or the Tollway prior to start of concrete production.

4.2 Recalibration

Recalibration shall take place if any of the following situations exist:

4.2.1 Mechanical adjustments are made to a volumetric mixer that impact the movement, control, proportioning or mixing of the cement, admixtures, aggregates, or water.

4.2.2 A particular mix or mixer demonstrates inconsistent test results.

4.2.3 Recalibration has been deemed necessary by the Tollway.

**5.0 Material Control**

5.1 Aggregates

Certified aggregates with gradation bands in accordance with the Department’s Aggregate Gradation Control System (AGCS) will be obtained from IDOT approved aggregate sources. Prior to incorporation into the mix, documentation verifying each aggregates approval under the AGCS system and the associated bands for each of those aggregate products will be made available by the producer for review at any time.

Material No. 1 Information Material No. 2 Information

Material Code: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Material Code: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Material Type: (*course/fine*)\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Material Type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Producer/Supplier Number: \_\_\_\_\_\_\_\_\_ Producer/Supplier Number: \_\_\_\_\_\_\_\_\_

Company Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Company Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Contact Person: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Contact Person: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Telephone Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Telephone Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Material No. 3 Information Material No. 4 Information

Material Code: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Material Code: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Material Type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Material Type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Producer/Supplier Number: \_\_\_\_\_\_\_\_\_ Producer/Supplier Number: \_\_\_\_\_\_\_\_\_

Company Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Company Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Contact Person: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Contact Person: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Telephone Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Telephone Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5.1.1 Aggregate Stockpiling and Handling

Aggregates will be stockpiled and handled in a manner which minimizes segregation and degradation, prevents contamination, produces a uniform gradation before placement in a volumetric mixer, and ensures uniform moistures are being achieved. IDOT SSRBC Articles 106.06, 106.07, 1003.01(e), 1004.01(e), 1004.02(d), and 1020.10 apply.

Description of stockpile operation at the plant and/or jobsite:

*Example: Coarse aggregates are shipped by rail to the plant in a uniform gradation condition. Upon delivery of the coarse aggregate, it will be transferred to a stockpile by a movable conveyor system. The stockpile will be built according to the SSRBC Article 1004.01(e). Fine aggregates are shipped by truck to the plant in a uniform gradation condition. The fine aggregate will be truck dumped into a stockpile. The truck stockpile will be built according to the SSRBC Article 1003.01(e). All stockpiles will be separated with concrete block walls, sufficient in width, length, and height to prevent contamination. The maximum height of the walls will be \_\_\_ ft. Coarse and fine aggregates stockpiled on-site will be tarped.*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5.1.2 Moisture Control of Aggregates

Coarse and fine aggregate moistures will be tested a minimum of once per week, or as necessary to control production.

5.1.3 Gradation Tests for Aggregates

Aggregates stored at the yard, or delivered to a jobsite in stockpiles, will be tested a minimum of one per week, or as needed to control production.

5.2 Cement

Cement will meet requirements of IDOT SSRBC Section 1001.

5.3 Concrete Admixtures

Admixtures will meet the requirements of IDOT SSRBC Section 1021. Latex will meet the requirements of the Guide Bridge Special Provision for Bridge Latex Concrete Overlay.

5.4 Water

Water will meet the requirements of IDOT SSRBC Section 1002.

**6.0 Quality Control Laboratory**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Size of Cylinders? | Initial Curing Method | Final Curing Method | Final Curing / Testing Location | Breaker Machine Calibration Letter Attached |
|  |  |  |  |  |

ACI certified Strength Technician responsible for breaks:

Breaker machines shall have digital printout capability.

**7.0 Quality Control Personnel**

(name) with\_\_\_\_(firm)\_\_\_\_ will be the Quality Control Manager (IDOT PCC Level II or III certified) and will be ultimately responsible for the quality control operations. The Quality Control Manager will be responsible for mixture control and adjustments. During mixture calibration and production/placement operations, the Quality Control Manager will be available by mobile phone at \_\_(number)\_\_\_\_. The additional QC personnel listed below will assist the Quality Control Manager with required testing and documentation.

| **Name** | **PCC QC Training** | **Firm** | **Mobile Phone Number** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**8.0 Volumetric Mixer Operators**

The mixer operator shall work at the direction of the Quality Control Manager. The Quality Control Manager shall determine the settings for the controls on the mixer to achieve the desired mixture and the mix operator shall ensure the settings do not change. If a change in materials or conditions requires a change, the volumetric mixer operator shall consult with the Quality Control Manager to determine new settings. The Tollway shall be notified of any changes.

**9.0 Mix Designs**

Approved mix designs shall be available at all times.

**10.0 Volumetric Mixer**

A list shall be maintained with each volumetric mixer approved for Tollway projects. The list is detailed below. All mixers shall conform to IDOT SSRBC Article 1103.04 and TTP 016 Volumetric Mobile Mixer Approval Procedures.

| **Mixer Number** | **VIN** | **License Plate** | **Calibration Date** | **Calibration Mixture** |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

*(See attached for additional trucks)*

The Tollway approval letters for each volumetric mixer and for each calibration conducted shall be maintained by the Quality Control Manager and be available for review at any time. Each volumetric mixer shall have a copy of the current Volumetric Mixer Calibration Form, IDOT or Tollway approval letter, and mix design sheet used during the most recent calibration. This information shall be made available upon request.

**11.0 Submittal Information**

Submitted by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Printed name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Company: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_