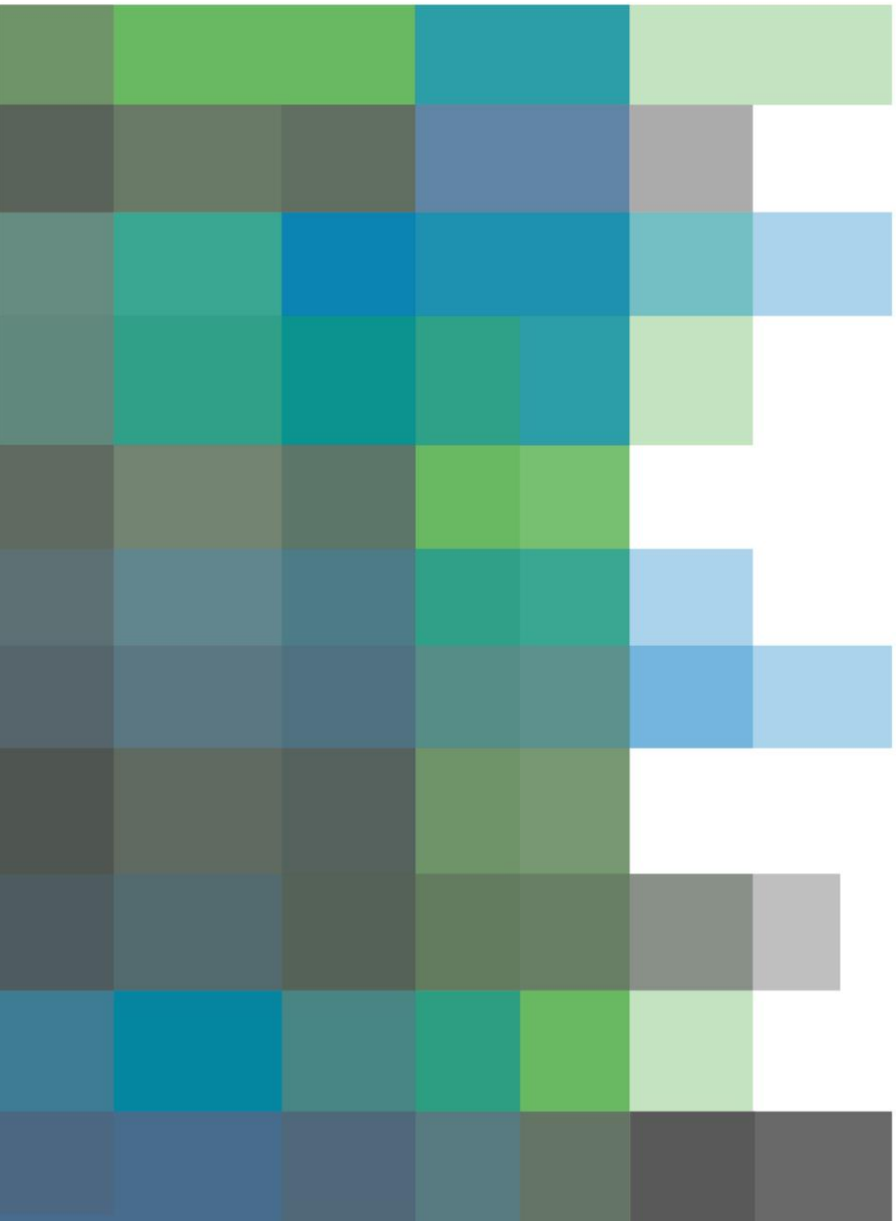
March 2020

Contractor's Quality Program Manual

ILLINOIS STATE TOLL HIGHWAY AUTHORITY



Illinois Tollway

INTRODUCTION

Contractor's Quality Program Manual

The Contractor's Quality Program Manual provides guidance on the Illinois Tollway standards for the development of quality programs by Contractors. The manual's content provides a detailed listing of criteria, guidelines, policies and procedures to be followed throughout a contractor's work and subsequent documentation. Contractors are required to perform contractually compliant work. Additionally, Contractors are required to provide quality control inspection and documentation to ensure all work meets the contract requirements without depending solely on the Illinois Tollway or its Design Section Engineer or Construction Manager to validate such quality and contract compliance.

The "CONTRACTOR'S QUALITY PROGRAM MANUAL" dated March 2020 replaces the previous version dated March 2019.

Major Highlight Revisions:

- Article 1.2 Definitions
  - Added the following definitions "Aggregates Certification Program**:** The Illinois Tollway's system for evaluating aggregate sources and materials that are not reviewed and approved in the IDOT Aggregate Gradation Control System."
  - Revised the Capture definition to be the same as the CM Manual, "EEO stand-alone software application available on the Illinois Tollway website allowing the contractor to electronically complete EEO 003. The EEO 003 are submitted through the WBPM system."
  - Revised the Design Section Engineer definition to be the same as the DSE manual, **"**The Engineer or firm of Engineers and their duly authorized employees, agents and representatives retained by the Illinois Tollway to prepare the Contract Plans for a Design Section."
  - Revised the General Engineering Consultant definition to include the abbreviation (GEC).
  - Revised the Final Completion Date definition to correspond to the CM Manual, "The date all construction contract items, including punch list, have been completed."
  - Revised the I-MIRS definition to "Illinois Materials Inspection and Reporting System is a stand-alone software application allowing the Contractor and CM to submit Aggregate/PGE gradations; tack coat applications, and HMA & PCC plant and field-testing reports for analysis by the Illinois Tollway. I-MIRS is considered the final project record for Aggregate, HMA & PCC material testing reports."
  - Added the following definition "Independent Assurance (IA): The Independent Assurance (IA) program is a component of the system used by the Tollway to assure that soils, aggregate, asphalt, concrete and manufactured materials conform to specification requirements. The IA program provides a final check on the QC and QA processes through random independent oversight and testing to assure the system is producing products that fully conform to specification requirements."
  - Revised the Interim Completion Date definition to correspond to the CM Manual, "The dates established in the Special Provisions, designating the completion of certain job progress milestones."
  - The term Tollway Traffic Control Plan was changed to Maintenance of Traffic Plan was changed to Maintenance of Traffic Plan.
  - Revised the Non-Compliance Report definition to be the same as the CM Manual, "Process developed in the WBPM system to document non-conforming actions, non-conforming work, and acceptable corrective action."

- Revised the Private Laboratory definition to be the same as the CM Manual, “Any construction material testing or design facility not operated by the Illinois Tollway. This requirement includes contractor, producer, consultant, or local agency testing facilities performing quality control, quality assurance, acceptance, independent assurance, or any other required or contracted testing on a Tollway project. All private laboratories must be IDOT approved and also AASTHO Resource accredited as required.”
- Revised the Request for information definition to be the same as the CM Manual, “A formal request from the contractor to the CM, who forwards it to either the Designer of Record or the Illinois Tollway, seeking clarification of a specific element of the contract. The CM may respond directly to the RFI also. The RFI process is managed through the WBPM system. A response must be provided within 7 days of the RFI being created.”
- Revised the definition of Quality Assurance to “The materials inspection, sampling and testing programs performed by the Construction Manager (CM) / or Illinois Tollway to verify and validate the results of the Contractors Quality Program (CQP) to assure general conformance of the contract requirements. In the CQP-CM, QA is performed by the Consultant’s Quality Representative (QR) as an internal audit of the CM staff’s tasks.”
- Revised the Substantial Completion Date to correspond with the CM Manual, “The date established in the Special Provisions, designating the portion of the project that is sufficiently complete.”
- Added the following definition “Tollway Material’s Quality Assurance (Tollway-MQA): The Illinois Tollway’s Quality Assurance or consultant authorized go perform specialized services.”
- Revised the Value Engineering Proposal definition to be the same as the CM Manual, “Method of evaluation done by the Contractor to provide a written proposal to the Illinois Tollway for modifying the Contract Documents to provide innovative, alternative, and/or lower cost construction without impairing the essential functions and characteristics of the facility including, but not limited to, service life, reliability, economy of operation, ease of maintenance, necessary standardized features, desired appearance, or IDOT and Illinois Tollway design standards. Refer to Supplemental Specifications Article 104.07 and Capital Program Procedure P5150. The VE process is managed thru the WPBM system.
- Revised the Visual Examination definition to be the same as the CM Manual, “Assessment of any item’s markings, physical dimensions, obvious defects, or damage for acceptance or rejection and/or close conformity with contract requirements.”

- Article 3.1.3 General
  - Added sub-section (a) that states “A detailed Vendor Quality Control Plan shall be provided for Precast/Prestressed Concrete Beams, Structural Precast members, Steel fabrication, or Aluminum fabrication.
  - Added sub-section (b) that states “A detailed soil modification plan required with testing frequency information.”

Article 3.1.6 General

- Revised the last sentence of the paragraph to “The CQP “Acknowledgement Form” shall be signed by the Contractor’s executive management shall include a revision number and an effective date

- Article 3.2.4.2.b Items Requiring Interpretation
  - Added sub-section (v) that states “The Contractor is to note in the daily schedule proof rolls and undercuts in order to coordinate inspection with the Engineer. If proper notification is not provided the Engineer has the right to reject the work. Proof rolls and undercuts will be driven by the Contractor with the Engineer present at all times.”
- Article 4.0.5 Contract Document Control
  - Revised “Additional material forms can be located in the WBPM System.”
- Article 5.1.2 Inspection and Testing
  - Revised “24 hours” and added the sentence “All tests shall be entered into I-MIRS within 3 days of completion."
- Article 5.1 Inspection and Testing
  - Added Section (5) that states “The Contractor shall not apply loads, either dead or live to concrete components until said component has attained the required strength to support the subsequent loading and the curing period has been completed. The Contractor shall perform additional strength testing to monitor strength of previously poured concrete before placement on new concrete. No subsequent pour should occur until the required strength and curing is meet. The Contractor shall provide the Engineer with test information before loading occurs. If the Contractor intends to perform early breaks, then they are to notify the Engineer in advance to allow for QA or IA to perform early breaks also.”
- Article 5.2.b Manuals
  - Revised the list of reference manual
- Article 5.2.c Additional Documents
  - Removed the entire sub-section (C).
- Article 5.3.2. Evidence of Material inspection
  - Revised sub-section (c) to “This Article does not describe the details for the Method of Acceptance of sampling and testing requirements. Detailed information regarding materials inspection programs such as certified products, QC/QA programs, and warehouse inspections may also be found in the IDOT Manual for Materials Inspection.
  - Added sub-section (d) that states “If requested by the Engineer, the Contractor is to provide additional information/certification as evidence that a product and/or material meets the requirements of the specification. Even, if said information is not required under the evidence of material inspection or IDOT Manual of Material Inspection.”
- Article 5.3.3.b Column 2 – Specification Reference
  - Revised sub-section (i) to “The materials specification reference from the IDOT Materials Inspection Manual IDOT Article or Tollway SP for the product listed.
- Article 5.3.3.C Column 3-Evidence of Material Inspections

- Revised various parts of sub-sections i) to vi)

- Article 5.3.3.C Column 4
  - Change title of the section to “Responsible Party”
  - Added to sub-sections a) and b) the term “Tollway-MQA” to the sentence.
- Article 5.3.1 Evidence of Material Inspection- Table 1
  - Revised the entire table
- Article 5.3.2 Potential Products for Specific Types of Construction- Table 2
  - Entire Table was removed
- Article 5.3.3 Sampling /Testing Schedule
  - Revised the entire Sampling Schedule1: Embankment, Subgrades, and Granular Courses
- Article 6.0.4 Sampling /Testing Schedule
  - Revised to “The Illinois Tollway encourages Contractors to identify Non-Conformances themselves and work with the Illinois Tollway and their representatives towards prompt resolutions of all Non-Conformances. However, the Contractor may be subject to a penalty as designated per negative pay items in contracts (i.e. 999NEG pay items) and if a pay item does not exist then a $1000.00 penalty per each Non-Conformance when the Illinois Tollway determines that the Contractor or their Subcontractor is not in full Contract conformance and is deemed unresponsive to adequate disposition to any NCRs in addition to any other costs incurred by the Contractor in association with the resolution of said Non-Conformance.”

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SECTION 1.0 INTRODUCTION

1.1 Purpose and Use

1. The Contractor's Quality Program Manual has been developed to provide detailed guidelines for Contractors to develop their Quality Programs and the associated construction documentation required by the Illinois Tollway. It includes the directions for documentation required for the Illinois Tollway's Special Provision Contractor's Quality Program and ensures that the parties performing the "Work", namely the contractors, are completely responsible for the quality of said Work. Contractors must perform contractually compliant work and the requisite quality control inspection and documentation to ensure that all Work meets the requirements without depending solely on the Illinois Tollway or its Engineers/Construction Managers to validate such quality and contract compliance. The requirements specified in this Contractor's Quality Program Manual are supplemental to the Illinois Tollway's other contractual requirements.

1.2 Definitions

1. Whenever the following terms are used in this manual, their intent and meaning shall be as follows:

Aggregates Certification Program: The Illinois Tollway's system for evaluating aggregate sources and materials that are not reviewed and approved in the IDOT Aggregate Gradation Control System.

Capture: EEO stand-alone software application available on the Illinois Tollway website allowing the contractor to electronically complete EEO 003. The EEO 003 are submitted through the WBPM system.

Checklist, Construction Inspector's: Lists derived from the Illinois Tollway Special Provisions, and Supplemental Specifications; IDOT Standard Specifications used to verify essential items of the Work meet contractual requirements. The checklists are in no way intended to serve as a substitute or waiver of any provisions of the Contract. They may be modified by the Contractor to meet Project requirements.

Checklists, CQP: Contractor or Consultant Quality Program guidelines used to determine if the Contractor or Consultant is fulfilling the requirements of the Capital Program P6000 procedure and their approved CQP plans.

Chief Engineering Officer: The Chief Engineering Officer of the Illinois Tollway.

Completion Date: The calendar date of completion of the Work as designated by the Illinois Tollway in the Bid Documents.

Components of Work: Components of Work or Critical Components refer to all areas of the "Work" as stated in Section 1.1, where the Contractor is solely responsible for the QC of said "Work".

Construction Manager (CM): The Engineer or firm of Engineers contracted by the Illinois Tollway to act as the duly authorized agent of the Chief Engineering Officer in accordance with

the scope of the particular duties delegated to them by the terms of their Agreement towards the management of a specific construction contract.

Contract: The written agreement executed between the Illinois Tollway and the successful Bidder and any supplemental agreements duly executed, establishing the terms and conditions for the performance and construction of the Work and the furnishing of labor, materials and equipment by which the Contractor is bound to perform the Work and to furnish labor, equipment and materials, and by which the Illinois Tollway is obligated to compensate the Contractor therefore at the established rate or price. The Contract also includes the Advertisement to Bidders, Instructions to Bidders, the Proposal, the Standard Specifications, Bonds, the Drawings, the Special Provisions, the Plans, the Specifications and all Addenda and any Extra Work Order, Change Order or Supplemental Agreement after execution of the Agreement.

Contractor's Designer: The professional engineering entity that is responsible to the Contractor for the scope of design defined in the Construction Contract for Performance Based design work.

Construction Section: Any one of the numerous divisions into which construction of the roadway, facilities and appurtenance of the Illinois Tollway may be divided for the purpose of awarding Contracts.

Contract Documents: All the documents mentioned under the definition of "Contract".

Contractor: The individual, partnership, firm, or corporation (or any combination thereof) that, after being selected by the Illinois Tollway as the successful bidder, has entered into the Construction Contract with the Illinois Tollway.

Contractor's Quality Program (CQP): The contractor's approved program that details the methods inspection and documentation procedures that will be taken to assure that all of "the Work" included under the project conform to the contract requirements, whether constructed and/or processed by the Contractor, or procured from subcontractor's or vendors.

Corridor Construction Manager (CCM): The Engineer or firm of Engineers contracted by the Illinois Tollway to act as the duly authorized agent of the Chief Engineering Officer to manage other Construction Managers (CMs) in accordance with the scope of their particular duties delegated to them by the terms of their Agreement.

Design Section: Any one of the numerous divisions into which design of the roadway, facilities, and appurtenances of the Illinois Tollway may be divided for the purposes of design.

Design Section Engineer (DSE): The Engineer or firm of Engineers and their duly authorized employees, agents and representatives retained by the Illinois Tollway to prepare the Contract Plans for a Design Section.

Disadvantaged Business Enterprise (DBE): Business with majority ownership by a woman or minority. The Illinois Tollway is committed to providing DBE construction contractors, suppliers, and Consultants with opportunities afforded to them by State and Federal law and Illinois Tollway policies.

Diversity Program: Illinois Tollway Management initiative responsible for ensuring the participation of minorities and females in both professional and construction employment opportunities on Illinois Tollway projects.

Electronic Database System: The Illinois Tollway has implemented a WBPM system to facilitate the process of the Contract activities. All parties who utilize the WBPM system are required to use the Illinois Tollway naming convention when uploading project documents. The Illinois Tollway has training classes for this database.

Engineer: The Chief Engineering Officer and/or their duly authorized subordinates, agents and representative acting within the scope of the particular duties delegated to them.

Equipment Watch Rental Rate Blue Book (Blue Book): Web-based document designed for use on Force Account bills of Contractors performing work for Illinois Tollway, IDOT, and local government agencies who choose to adopt these equipment rates. The Blue Book replaces the Schedule of Average Annual Equipment Ownership Expense (SAAEOE). The Illinois Tollway has adopted these equipment rates for all force account work.

Extra Work: An item of construction and/or performance not provided for in the Contract but determined by the Engineer and approved by the Illinois Tollway to be essential to the satisfactory completion of the Work. This may include deletion of portions of the Work.

Extra Work Order: A written agreement entered into by and between the Illinois Tollway and the Contractor for the performance of Extra Work.

Final Completion Date: The date all construction contract items, including punch list, have been completed.

General Engineering Consultant (GEC): The Engineer or firm of Engineers retained by the Illinois Tollway for the purpose of carrying out the duties imposed on the General Engineering Consultant pursuant to the terms and conditions of any trust indenture, and any additional requirements, entered into, by, or on behalf of the Illinois Tollway.

I-MIRS: Illinois Materials Inspection and Reporting System is a stand-alone software application allowing the Contractor and CM to submit Aggregate/PGE gradations; tack coat applications, and HMA & PCC plant and field-testing reports for analysis by the Illinois Tollway. I-MIRS is considered the final project record for Aggregate, HMA & PCC material testing reports.

Independent Assurance (IA): The Independent Assurance (IA) program is a component of the system used by the Tollway to assure that soils, aggregate, asphalt, concrete and manufactured materials conform to specification requirements. The IA program provides a final check on the QC and QA processes through random independent oversight and testing to assure the system is producing products that fully conform to specification requirements.

Interim Completion Dates: The dates established in the Special Provisions, designating the completion of certain job progress milestones.

Maintenance of Traffic Plan: Those portions of the contract plans, Special Provisions, Specifications and Illinois Tollway Supplemental Specifications having to do with temporary traffic control.

Material: Any substance specified for use in the construction of the Work and its appurtenances.

Method of Material Acceptance: Means of determining whether material supplied is in conformance with specification.

Noncompliance: Failure to comply with written contract documents, directives, standard requirements or government rules and regulations.

Non-Conformance Report (NCR): Process developed in the WBPM system to document non-conforming actions, non-conforming work, and acceptable corrective action.

Owner's Representative (OR): The Engineer or firm of Engineers contracted by the Illinois Tollway to act as the duly authorized agent of the Chief Engineering Officer in accordance with the scope of the particular duties delegated to them by the terms of their Agreement towards the management of a specific construction contract.

Pay Item: An item of work specifically described in any one or more of the Contract Documents for which a price, either a unit or lump sum, is therein provided including, but not limited to, all labor, equipment, and materials therein described.

Plans: The plans or exact reproductions thereof which show the location, character, dimensions, and details of the Work, including shop drawings which are considered as a part of the Contract.

Private Laboratory: Any construction material testing or design facility not operated by the Illinois Tollway. This requirement includes contractor, producer, consultant, or local agency testing facilities performing quality control, quality assurance, acceptance, independent assurance, or any other required or contracted testing on a Tollway project. All private laboratories must be IDOT approved and also AASTHO Resource accredited as required.

Program Manager (PMO): The Engineer or firm of Engineers retained by the Illinois Tollway for the purposes of carrying out the duties imposed on the Program Manager, pursuant to the terms and conditions of an authorized Program Management Contract. Also known as the Program Management Office (PMO).

Project Manager (PM): The representative of the Chief Engineering Officer assigned to be the primary technical and administrative liaison between the Illinois Tollway and its various contractors, Construction Managers, Designers of Record, Program Manager and Consulting Engineers.

Public Agency: Any public body whether local, state, or federal, charged by law with the responsibility of administering and/or controlling public facilities which may be affected by the construction or reconstruction of the roadway, facilities and appurtenances of the Illinois Tollway.

Quality Assurance (QA): The materials inspection, sampling and testing programs performed by the Construction Manager (CM) / or Illinois Tollway to verify and validate the results of the Contractors Quality Program (CQP) to assure general conformance of the contract requirements. In the CQP-CM, QA is performed by the Consultant's Quality Representative (QR) as an internal audit of the CM staff's tasks.

Quality Control (QC): The process and activities put forth to ensure conformance with specification requirements that are the responsibility of the Contractor, refer to Special Provision Contractor's Quality Program.

Quality Control Inspector (QCI): A member of the Contractor's Quality Control staff reporting directly to the Quality Representative and responsible for inspecting any or all portions of the work or material for contract compliance and remaining independent from the production of said Work.

Quality Representative (QR): The Contractor's assigned individual responsible for implementing and administering the CQP with the authority to act in all quality matters remaining at all times independent of those having direct responsibility for the work being performed and not responsible for cost, construction, schedule, or production of work.

Request for Information (RFI): A formal request from the contractor to the CM, who forwards it to either the Designer of Record or the Illinois Tollway, seeking clarification of a specific element of the contract. The CM may respond directly to the RFI also. The RFI process is managed through the WBPM system. A response must be provided within 7 days of the RFI being created.

Responsible Person (RP): The Contractor's assigned individual responsible for the production of a specific portion of Work, not being assigned to and independent from the quality group.

Subcontractor: An individual, firm, partnership or corporation, or any combination thereof, who, with the written consent of the Engineer and by signed agreement with the Contractor, assumes obligation for performing specified pay items.

Substantial Completion Date: The date established in the Special Provisions, designating the portion of the project that is sufficiently complete.

Superintendent: The English-speaking representative of the Contractor, present on the Work Site at all times during its progress, capable of reading and thoroughly understanding the Plans and Specifications, authorized to receive and fulfill instructions from the Engineer, and who shall supervise and direct construction.

Tollway Material's Quality Assurance (Tollway-MQA): The Illinois Tollway's Quality Assurance or consultant authorized go perform specialized services.

Tollway Supplemental Specifications: The Illinois Tollway Supplemental Specifications to the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction issue date per Contract Specifications.

Toll Highway: The limited access highway built or proposed to be built by the Illinois Tollway, including all facilities and appurtenances thereto.

Illinois Tollway: The Illinois State Toll Highway Authority.

Utility Work Order: An order to a Utility for the removal, rearrangement, relocation, protection, or construction of its facilities on the Illinois Tollway right-of-way. Such order, usually prepared and issued by the Illinois Tollway, specifies both the work to be done by the Utility and the basis of payment for such work.

Value Engineering Proposal: Method of evaluation done by the Contractor to provide a written proposal to the Illinois Tollway for modifying the Contract Documents to provide innovative, alternative, and/or lower cost construction without impairing the essential functions and characteristics of the facility including, but not limited to, service life, reliability, economy of operation, ease of maintenance, necessary standardized features, desired appearance, or IDOT and Illinois Tollway design standards. Refer to Supplemental Specifications Article 104.07 and Capital Program Procedure P5150. The VE process is managed thru the WPBM system.

Visual Examination: Assessment of any item's markings, physical dimensions, obvious defects, or damage for acceptance or rejection and/or close conformity with contract requirements.

Work: Work shall mean the furnishing of all labor, material, tools, equipment, and other incidentals necessary or convenient to the successful completion of the project and carrying out of all duties and obligations imposed by the contract. Work may also be used in context to describe, in whole or in part, the completed facilities to be constructed, altered or removed, as detailed in the Contract. The Engineer will have exclusive authority to determine the intent and meaning of the usage of this term whenever it appears in the Contract.

Other Definitions: Terms not defined herein will be found in the Supplemental Specifications Section 101 Definitions of Terms.

SECTION 2.0 CONTRACTOR RESPONSIBILITY AND QUALIFICATIONS

2.1 General Requirements

1. The Contractor shall develop, implement, and maintain a quality program capable of ensuring conformance to the Contract Documents with respect to all aspects of the Work. The Contractor shall also adhere to the construction methods described in the contract documents.

2. The documented and approved quality program shall be referred to as the "Contractor's Quality Program" (CQP) and shall as a minimum include:

   a) Contractor Management Responsibility

   b) Procedures and Forms, including QC Inspection Documentation forms and/or checklists

   c) Contractor Document Control

   d) Contractor Design Control if applicable

   e) Subcontractor Evaluation and Procurement Control

   f) Handling, Storage and Control of Materials and Equipment

   g) Inspection and Testing

   h) Sources of information for Inspection

   i) Field Acceptance

   j) Equipment Calibration

   k) Non-Conformance

   l) Corrective and Preventive Action

   m) Quality Records

   n) Internal Quality Audits

o) Certification and Training

2.2 Contractor Management Responsibility

1. The CQP shall declare and document the commitment to quality by the Contractor's executive management.

2. The Contractor shall develop and submit an organization chart as part of the CQP, illustrating the interrelationship of those responsible for executive management, project management, and independent quality functions. It shall describe the quality organization in detail and identify personnel responsible for: inspection, testing, initiating action to prevent quality problems, identifying and recording quality problems, initiating solutions, and verifying implementation of solutions to quality problems and subsequent documentation of corrective action. It shall include the resumes of key personnel for Illinois Tollway review. The organization chart shall remain current for the entirety of the project; changes need to be submitted through the Web Based Program Management (WBPM) system.

3. The Contractor shall assign a Quality Representative (QR) to each project who shall implement and administer the CQP and have authority to act in all quality matters. The resume of the QR shall be submitted to the Illinois Tollway for review, acceptance and/or rejection for cause. Qualification shall be demonstrated by a description of education, training, and previous quality assignments, with related duties and responsibilities, for a period sufficient to establish the appointee's quality management experience. Detailed qualifications are further indicated in Article “Certification and Training”.

4. The Contractor must maintain a staff, under the direction of the QR, to perform all quality control activities in order to ensure contract compliance whether the work is performed by the Contractor's own staff or by entities contractually bound to the Contractor. Personnel responsible for quality shall be trained and qualified for the quality activities they are assigned. Training requirements are listed in the Certification and Training Article. The Contractor's quality control organization may vary as the project progresses; however, at all times it shall be compatible with the level of effort required by the Contract.

5. Personnel responsible for quality verification shall have the necessary independence to perform their roles effectively; they shall be independent of those having direct responsibility for the work being performed. The QR and the quality control staff must be individuals that are not responsible for cost, construction, schedule, or production.

6. The Contractor’s management shall schedule and conduct reviews of the CQP to assess the suitability and effectiveness of the CQP in satisfying the requirements stated in the Contractor’s quality policy. The first such review shall occur three (3) months after CQP acceptance and every six (6) months thereafter until the conclusion of the Contract and the Contractor shall document these reviews.

2.3 Certification and Training

1. The Contractor shall provide training, qualification, and certification programs as required by the Illinois Tollway and Illinois Department of Transportation (IDOT) for testing personnel who are part of the CQP.

2. The Contractor's project staff, including subcontractors, shall possess the following minimum qualifications:

    a) The Contractor's Quality Representative must be a full-time employee of the Contractor or a qualified sub-consultant (Subcontractor) or qualified firm. The Quality Representative must be acceptable to the Illinois Tollway and must have had prior quality control experience on a project of comparable size and scope as the contract.

    b) Additional qualifications for the Quality Representative must include at least 1 of the following requirements:
        i) Professional Engineer with 1 year of highway experience acceptable to the Illinois Tollway.
        ii) Engineer-in-Training with 2 years of highway experience acceptable to the Illinois Tollway.
        iii) An individual with 3 years of highway experience acceptable to the Illinois Tollway, with a Bachelor of Science Degree in Civil Engineering.
        iv) An engineering technician in Civil Engineering Technology with 5 years of highway construction experience acceptable to the Illinois Tollway.
        v) A quality employee with 5 years of similar highway construction experience acceptable to the Illinois Tollway.

3. The Quality Representative must have full authority to institute any and all actions necessary for the successful implementation of the Quality Control Program to ensure compliance with the Contract Documents. The Quality Representative must report directly to a responsible officer of the construction firm and must be independent from the field operation.

4. The Contractor's Quality Control (QC) Inspectors staff must have working knowledge of the plans and specifications when they are observing conforming and non-conforming work. They must have the ability to fill out forms and reports accurately and completely. A minimum 1 year of relevant experience inspecting highway projects for a major highway agency such as, IDOT, Illinois Tollway, Chicago Department of Transportation, and Counties where the Illinois Tollway operates.

    a) For example, relevant experience means if a project includes bridge construction, QC inspectors shall have bridge construction experience and can demonstrate the ability to read and understand bridge plans and specifications.

5. The Erosion and Sediment Control Manager / Site Representative shall have verification of attending an approved certification seminar on Erosion and Sediment Control or equivalent acceptable to the Illinois Tollway.

6. Material Technician Qualifications

a) Trained Technicians

i) Purpose: Federal Regulation 23 CFR 637 requires that Contractor, Consultant, Local Agency, and IDOT personnel performing materials acceptance sampling and testing on Federal-aid projects on the National Highway System be qualified. IDOT offers QC/QA courses and specific task training programs to meet the educational requirements for qualified personnel. Material Technicians working on Illinois Tollway projects must meet these qualifications.

ii) Reporting: The IDOT Bureau of Materials and Physical Research is responsible for maintaining records of Contractor, Consultant, Local Agency, and Illinois Tollway personnel who have successfully completed the QC/QA courses and training programs. Online queries and reports are available to the IDOT Districts to assist them in tracking qualified personnel. Personnel who successfully complete the required QC/QA course(s) or the specific task training program(s) and have been entered into departmental databases are considered qualified.

iii) Any changes to the status of the Trained Technician (name, address, employer, etc.) shall be reported to the IDOT Bureau of Materials and Physical Research.

b) Independent Assurance Testing

i) Independent assurance testing provides a basis for evaluating the acceptability of procedures and equipment used for materials acceptance sampling and testing. The requirements for qualified persons, outlined in this section, and for Qualified Laboratories, outlined in, LABORATORY QUALIFICATIONS, help verify that Material Technicians are properly trained in the correct manner of sampling & testing and that testing equipment is properly calibrated and maintained.

ii) It is necessary to periodically demonstrate that a qualified person remains capable of proficiently performing sampling and testing on project-produced material in all areas for which they are considered qualified. Whether employed by the Contractor, Construction Manager, or a Consultant, Material Technicians who routinely perform testing under QC/QA Programs in essence undergo independent assurance testing with every split sample they share with their project counterpart.

iii) The IDOT Engineer of Materials and Physical Research will remove a Trained Technician from the departmental database if a review by the IDOT District Materials Engineer or the Illinois Tollway Materials Engineer determines it is appropriate to remove him or her from active status in any testing area.

iv) The IDOT District or Illinois Tollway Materials Engineer shall notify the IDOT Engineer of Materials and Physical Research, in writing, regarding Trained Technicians to be removed from the departmental databases.

c) Testing Areas

i) The material testing program areas are as follows:

(1) Aggregate Gradation
(2) Hot Mix Asphalt (HMA)
(3) Cast-in-Place Concrete
(4) Precast and Precast-Prestressed Concrete
(5) Soil Density
(6) Current training requirements for specific tasks may be found in the governing specifications, special provisions, IDOT Bureau of Materials and Physical Research (BUREAU OF MATERIALS & PHYSICAL RESEARCH) Policy Memoranda, or the IDOT Manual of Test Procedures for Materials.

d) Laboratory Qualifications/Qualified Laboratories

i) Purpose

(1) Federal Regulation 23 CFR 637 requires that Laboratories performing materials acceptance sampling and testing on project produced materials on Federal-aid projects on the National Highway System must be Qualified Laboratories. Laboratories working on Illinois Tollway projects must meet these qualifications.

ii) Requirements

(1) The IDOT Bureau of Materials and Physical Research inspect IDOT District Laboratories and branch laboratories on a routine basis for soils, aggregate, HMA, and PCC. The IDOT Bureau of Materials and Physical Research and the IDOT Districts inspect all Private Laboratories that perform Quality Control testing in aggregate, HMA, and PCC. Private Laboratories that perform Quality Control and independent assurance sampling and testing under the Contractor's materials control program must be accredited under the AASHTO Accreditation Program. These requirements are outlined in the current IDOT departmental policy, "Quality Assurance Procedures for Construction" (in the appendix), the current IDOT BUREAU OF MATERIALS & PHYSICAL RESEARCH lab inspection policies, and the consultant prequalification instructions in the applicable Professional Services Bulletin.

(2) The IDOT Bureau of Materials and Physical Research is responsible for maintaining a database that monitors the approval status of IDOT and Private Laboratories. Online queries and reports are available to assist in tracking Qualified Laboratories. Consultants qualified for QC testing under the Contractor will be listed on the IDOT web site at http://www.idot.illinois.gov/

iii) Reporting

(1) Personnel shall have demonstrated competence in the specific area and have a thorough understanding of the project requirements. The Contractor shall periodically review credentials of active personnel to ensure that suitable education, experience, and technical qualifications are maintained. Indoctrination and training shall be implemented as necessary to ensure that proficiency is achieved and maintained for personnel with project responsibility.

(2) The Contractor shall develop, implement, and maintain documented procedures to establish the requirements for conducting training, including training on the CQP and related procedures. Training shall be conducted by knowledgeable instructors.

(3) The Contractor shall establish and maintain records of certification and training.

(4) The Contractor shall ensure that requirements for certification and training for its subcontractors' and suppliers' personnel are included in their contract and procurement documents.

(5) Contractor staff qualifications shall be made available to the Engineer and be included in the CQP.

SECTION 3.0 CONTRACTOR'S QUALITY PROGRAM

3.1 General

1. This section contains requirements for aiding the Contractor in establishing, implementing, documenting, and maintaining an effective Quality Program which will assure the Illinois Tollway that the Work, including all materials, construction methods and completed construction for all work items included under a contract, are in conformance with all of the contract requirements. The Contractor's Quality Program (CQP) shall detail the methods and procedures that will be taken to accomplish these requirements. The program shall include, but shall not be limited to, inspections, measurements, performing tests and documentation as further outlined in this Contractor's Quality Manual. The Contractor shall be responsible for their suppliers' and subcontractors' compliance with the contract requirements and participation in this program.

2. The requirements for the Contractor Quality Program (CQP) contained herein are performed or conducted to fulfill contract requirements and are in addition to and separate from quality assurance testing and verification sampling performed by others. Quality assurance testing, verification sampling and final measurement and payment will be the responsibility of the Illinois Tollway and it's appointed agents.

3. The Contractor's Quality Program shall be implemented in conjunction with the detailed Quality Control Plans for bituminous and Portland Cement Concrete, if required by the Contract Documents.

   a) A detailed Vendor Quality Control Plan shall be provided for Precast/Prestressed Concrete Beams, Structural Precast members, Steel fabrication, or Aluminum fabrication.

   b) A detailed soil modification plan required with testing frequency information.

4. The Contractor shall develop, implement, and maintain a quality program to manage, inspect, control and document the Work to ensure that the Work conforms to the requirements of the Contract. By signing the attached "CQP Acknowledgement" cover sheet, the Contractor accepts full inclusion of this manual as their CQP. 14 days after NTP, the Contractor must submit through the WBPM system.

5. "Quality Plan Review Process" the above mentioned "Acknowledgement Form", organizational chart and key personnel resumes.

6. The CQP shall describe the policies, plans, procedures, and the Contractor's organization necessary to ensure quality. The CQP shall include the specific quality control documentation and/or checklists to be used in documenting that all Work is completed per contract requirements. The CQP shall cover all materials furnished, equipment, workmanship, fabrication, and operations performed both onsite and offsite for all work, including work by all

subcontractors and suppliers, to be performed under the Contract. The CQP "Acknowledgement Form" shall be signed by the Contractor's executive management representative and shall include a revision number and an effective date.

3.2 Development

3.2.1 General

1. The quality control of the Work is defined by the Illinois Tollway in the contract documents. The quality of the Work is the sole responsibility of the Contractor. The Contractors must produce contractually compliant Work and the requisite quality control inspection and documentation to ensure that all Work meets contractual requirements without depending solely on the Illinois Tollway or the Engineer to validate such quality and contract compliance. The Contractor is responsible for the quality of the Work, including that portion completed by its Subcontractors. Quality control inspection must be performed independently of production personnel to ensure that the required quality control documentation represents unimpeachable evidence of contract compliance. The following information is for guidance in the development and delivery of a contractor's quality control process that will meet the Illinois Tollway's contractual requirements.

3.2.2 Critical Components of the Work

1. The Contractor shall complete the Work in steps, phases and components as discussed and agreed upon with the Engineer and according to the submittal and approval of the Contractor's Schedule, and when needed throughout the duration of the contract at the progress meetings and in accordance with requirements of the Contract Documents. Critical components of Work are to be completed and approved prior to beginning the subsequent Component of Work.

2. As Work is completed it shall be presented in the previously defined components and certified by the Contractor to be contract compliant, as follows:

    a) Each Critical Component is not simply the completion of the final portion of Work, but rather broken down into smaller, Critical Components of Work essential to ensuring the Work is contract compliant. Each component will have a list of relevant quality items to be inspected and documented in a consistent manner.

    b) The individual responsible for production of each element of the Work, e.g. the foreman, superintendent, etc., must sign and date the inspection documentation prepared by the Contractor's independent Quality Representative or QC Inspector and will be designated as the Responsible Person for that component of Work. His/her signature represents that the component was completed per contractual requirements. The QC Inspector will then inspect the Work and sign-off on the same inspection documentation. It is understood that operations do not always lend themselves to sign-off by the Responsible Person before the QC checks. Only in those special cases, the QC sign-off can occur prior to the Responsible Person sign-off to ensure the component of work is in compliance. In all cases, the QC inspection documentation will require both the Responsible Person and QC representative signatures.

c) The Contractor is responsible for the quality of all Work performed under the contract and QC inspection documentation will be required regardless of the party completing that particular component including the prime contractor, joint venture partners, and subcontractors. There shall be no reduction in quality control documentation regardless of the party completing the Work. Subcontractors must, therefore, designate a Responsible Person who signs off on work to be Contract Compliant as it is completed and ready for QC inspection.

d) The Quality Representative must ensure that the QC Inspectors complete all inspection documentation for each phase of the Work and that the Responsible Persons sign all such documentation. The Quality Representative shall ensure that the QC documentation has in fact been completed properly and filed as project documentation as that phase of the Work is completed. The Quality Representative shall also be responsible for determining the frequency of quality inspections required to ensure that all Work is performed to contractual requirements dictated by the needs of specific operations.

e) The completed QC inspection documentation will be available to the Engineer prior to starting the next critical component of the Work to allow Quality Assurance (QA) to be performed. If the next component of work must begin immediately, the Contractor shall have coordinated with the Engineer allowing for concurrent Quality Assurance inspections to occur prior to starting the subsequent work. The Contractor's document control procedures shall ensure that the documentation is completed accurately for each component of the Work and are readily accessible for review by the Engineer.

f) The completed QC inspection documentation of Critical Components shall be available to the Engineer prior to starting the next component of the Work to allow (QA) to be performed. If the next component of work must begin immediately, the Contractor shall have coordinated with the Engineer allowing for concurrent QA inspections to occur prior to starting the subsequent work. To ensure the documentation requirements are understood and completed accurately, the QR must be knowledgeable with the contractual requirements for relevant components and shall ensure the QC Inspectors are aware of the relevant items to be inspected and complete the relevant QC documentation.

    i) Pre-construction meetings are often necessary to confirm that Subcontractors are fully aware of their responsibilities and how their work might be affected by changing circumstances, such as weather or access. These meetings should also be held for each Critical Component of the work to ensure that the specific relevant contract requirements are reviewed with the production and inspection team in detail.

g) Extra Work/Force Account shall be considered critical components of work. Contractor's Quality Program ensures that the parties performing the "Work", namely the contractors, are completely responsible for the quality of said Work.

3. It is essential that the Work performed be regarded as contract compliant when certified to be so by the Responsible Person and QC Inspector. A repeat deficiency by a Responsible Person and/or QC Inspector is cause for concern as it indicates a lack of education, experience or level of care. The Illinois Tollway may decide that the individual is no longer approved to act as the Responsible Person and/or QC Inspector, in which case the Contractor must immediately provide an alternate. The Illinois Tollway will also require a revised Quality Plan together with additional and/or different inspection staff.

3.2.3 Quality Control Documentation

1. Those with frontline responsibility for quality shall understand the requirements of the contract documents and then produce documentation to prove compliance. The Contractor shall be responsible for the operation and quality of the Work produced, so consistency in quality documentation will be required. Sample checklists to aide in the QC and QC Documentation can be found with many different agencies (IDOT, CDOT, Illinois Tollway, etc.). It shall be the responsibility of the Contractor to develop or locate the necessary and adequate checklists for those elements of the Work. These checklists, when used are intended to serve as an aide while performing QC and documenting such. The checklists are in no way intended to serve as a substitute or waiver of any of the provisions which apply to the Contract, including but not limited to the terms included in the applicable edition of the Illinois Tollway Supplemental Specifications, IDOT Standard Specifications for Road and Bridge Construction, Special Provisions, or any other applicable inspection or building standard that might apply to the underlying contract.

2. Quality Control inspection documentation shall be required for all construction operations and shall provide an immediate, thorough and concise description of contract requirements – the signing off of each item means that the essential elements of the Work in the relevant phases have been properly performed and inspected.

    a) The QC documentation requirements provided in this Manual, including but not limited to, A-forms and checklists, represent a baseline expectation with regard to completeness of what must be checked. Using the checklists, the Contractor must add items when necessary if the lists do not properly or comprehensively describe the work to be performed.

    b) The construction inspector's checklists are in digital format which can be downloaded from the Tollway's website to allow the Contractor to develop QC Documentation to be used at each location and component of the project. The same form may be used in multiple locations on a project, but shall denote the Contractor's (or Subcontractor's) name, project title and number, critical component description, Responsible Person, QC inspector, and date. The Contractor may choose to separate certain sub-contract functions and produce QC documentation for each of them. The Contractor must ensure that the responsibility for quality of work performed by the Subcontractor has been delegated to the Subcontractor and that the Subcontractor certifies in writing that their work is in conformance with the Contract.

    c) Regardless of the format the Contractor chooses to use, the basic requirements regarding identification of responsibility and completeness of checkoffs remain. The Engineer shall review and comment on the adequacy of the quality inspection documentation in terms of content and frequency.

    d) Sufficiency of inspection requires a list of items to be checked, but in many cases it is appropriate to have the frequency of inspections defined as well. If the Engineer or Tollway regards the planned frequency of inspections to be inadequate the contractor will be required to increase it accordingly.

    e) In the event that an NCR is issued and it reveals that additional steps including additional inspection are required to ensure quality on future work, the Contractor will amend the relevant checklists to ensure that repeat deficiencies do not occur.

f) Generally, it is expected that the Work will be completed in phases defined by critical components and inspected by the QC inspector who will coordinate with the Engineer to ensure that sufficient time is available for a QA check. In unusual situations a tight schedule might require that the Work receives QC and QA inspections concurrently, as Work is being performed. This does not relieve the Contractor of the requirement to inspect and coordinate with the Engineer to enable all QA inspections necessary.

3.2.4 Items Requiring Interpretation

1. The self-inspection process described above is appropriate because the requirements for contract compliance are typically clearly spelled out in the Contract Documents. There can be, however, cases where the requirements of the Contract do not appear to be obvious, or an interpretation is required. In these instances, it is the responsibility of the Contractor's Quality Representative to highlight the issues and arrange for a meeting with the Engineer in order to reach agreement regarding acceptability.

2. Some issues requiring interpretation and coordination between the Contractor and Engineer will also require agreement regarding both acceptability and payment. The most common and significant examples are pile driving and subgrade undercuts. In all cases the Contractor and Engineer must develop a cooperative process to ensure there is an open and efficient communication mechanism in place so that inspections and agreements are made in a timely fashion. The essential steps to be taken are:

   a) Pile Driving

      i) Information gathered during the driving of the test pile will be the basis of the contractor's driving plan developed in conjunction with the Engineer. Test piles will be driven by the Contractor with the Engineer present at all times.

      ii) Driving records will be produced by the Contractor and the Engineer and discussed in a cooperative manner. Although the Engineer will be the final judge as to the driving plan and length of piles to be delivered, the CQP process requires that the Contractor participate fully and constructively to ensure a proper understanding of acceptance criteria.

      iii) The Contactor will be responsible for the recording of blow counts.

      iv) In the case of production piles, the Engineer will either be present when the decision is made that refusal or design bearing has been achieved, or will give explicit written instructions as to the criteria that will constitute proof of refusal if not present. Whether the Engineer is present or not, the Contractor's documentation will be a full and complete record to substantiate the decisions made.

   b) Undercuts

i) The Contractor will excavate to the lines and grades shown on the drawings.

ii) After contacting the Engineer and performing joint inspections the Contractor will recommend either acceptance of the subgrade as adequate to support the roadway, or the undercutting of the subgrade.

iii) It is expected that there will be agreement regarding the necessity for undercutting, but the decision to undercut or not to undercut will be made by the Engineer. In all cases, measurement records relevant to payment will be agreed.

iv) In the event that the Contractor considers the Engineer approved subgrade to be inadequate, a very clear notation of such must be made on the relevant QC checklist. Furthermore, the Contractor must also provide a letter to the Illinois Tollway clearly describing why they believe the subgrade to be inadequate. This will not be a subjective opinion but shall be based on data which is sufficient to support an engineering argument. For example, if the Contractor believes that more undercut is required, it must produce and record data that shows that the subgrade is not in accordance with the IDOT "Subgrade Stability Manual".

v) The Contractor is to note in the daily schedule proof rolls and undercuts in order to coordinate inspection with the Engineer. If proper notification is not provided the Engineer has the right to reject the work. Proof rolls and undercuts will be driven by the Contractor with the Engineer present at all times.

3.2.5 Deficient Work

1. It is essential that the Contractor develop effective methods of self-checking in the production and inspection phases of the Work so that certification of compliance is a reliable statement of fact. If a component of the Work is subsequently found to be noncompliant the Contractor must raise a Non-Conformance Report (NCR) and then effect closure in the normal manner. The generation of NCR's by the Contractor will be seen as evidence that the Contractor has a properly operating CQP. If, however, the Contractor is set to proceed on any completed phase of the Work and a component of the Work is found to be deficient the following actions will occur:

   a) A NCR will be written by the Engineer that addresses the specific deficiencies of the Work to be addressed. No subsequent Work that prevents or hinders any future testing and inspection will be allowed until the Contractor receives approval of the corrective action for the NCR.

   b) A related NCR will be written that addresses the deficiency in the quality control process resulting in the deficient component of the Work. The Contractor's response to this NCR must answer at a minimum the following questions and any others deemed necessary to determine the extent and nature of the deficiency:

      i) Did the Responsible Person and QC inspector have sufficient written information immediately available to them when the Work was performed and/or QC inspection occurred?

ii) Were the Responsible Person and QC inspector sufficiently trained to understand the specific contractual requirement?

iii) Was there a lack of clarity leading to a difference in interpretation regarding contract requirements?

iv) Was there a breakdown in communications with regard to quality requirements?

v) Was the deficiency a result of a lack of care exercised by the production or inspection staff?

vi) Would an increased level of internal self-checking and/or the addition of independent inspections have eliminated the deficiency from occurring?

2. The responses to the above questions will direct the disposition and corrective actions necessary for processing the NCR. These corrective actions can lead to NCR close-out, or in the case of more serious issues the NCR can lead to stoppage of the Work and the requirement to review all previously completed Work and inspection documentation to verify that contract compliance was in fact achieved on the Work previously completed.

3.2.6 System Quality Issues

1. It is essential that operational problems be recognized, and remedial action be taken as early as possible so that quality issues do not become a major impediment to the timely and successful completion of the project. If an unacceptable number of deficiencies occur or they appear to be of a serious nature on the project, the Illinois Tollway will require that the Contractor's Quality Representative and the Contractor's executive manager responsible for quality produce a remediation plan. An unwillingness or inability to operate properly within the requirements of the quality specifications will also be regarded as a systemic issue requiring a corrective plan, in writing. Corrective plans will be reviewed by the Chief Engineering Officer, or his designee, who may require changes and/or give instructions to the CM to provide inspection beyond their normal QA function, at Contractor cost.

2. At any time throughout the course of the Work, the CQP will be subject to review. The Engineer shall perform independent audits to assure contractual compliance is achieved. The Contractor will be required, at the sole discretion of the Engineer, to revisit the CQP if contract compliance is not being obtained.

3.3 Submittal

1. Within 14 calendar days after receiving the letter of Notice-to-Proceed or the Executed Contract, the Contractor shall furnish its internally approved CQP via the QPR process within the WBPM system to the Illinois Tollway for review and acceptance. The Contractor shall include in his schedule, a 14 calendar day period from the day of CQP submittal to the expected date of return with comment. The Contractor's construction schedule shall be revised to include time for re-submittal and an additional 14 day review period to apply to any re-submittal, if required, and resubmittals and review shall not be considered cause for an extension of time to the Contract.

3.4 Acceptance

1. The Contractor's Quality Plan shall be submitted to and accepted by the Illinois Tollway prior to the start of construction. Except for mobilization, no partial payment will be made for any work subject to quality program requirements until the Contractor's Quality Program has been accepted by the Illinois Tollway.

2. The Chief Engineering Officer, or its designee, will be responsible for accepting the CQP. This acceptance is conditional based on satisfactory performance throughout the course of The Work. As work progresses, the Contractor may be required to revisit the CQP to maintain the quality of the Work consistent with the requirements of the Contract. Should any revision of the CQP be required, the revised CQP will again be subject to acceptance by the Chief Engineering Officer, or its designee. Any and all delays related to obtaining acceptance shall be the sole responsibility of the Contractor.

3.5 Proposed Changes

1. The Contractor shall notify the Engineer in writing of any proposed change to the CQP. Any changes to the accepted CQP will be subject to the same acceptance process outlined in the above.

2. Article 3.3. Any and all delays related to obtaining acceptance of the revised CQP shall be the sole responsibility of the Contractor.

SECTION 4.0 PROCEDURES AND FORMS

1. The Contractor's Quality Program (CQP) shall state the procedures necessary to achieve the Contract requirements. Written procedures shall address the reason that the procedure is being initiated, when the procedure is to be initiated, and how the procedure is to be documented.

2. Forms and other documentation items, which are intended to be used for the purposes of documenting procedures and daily activities, are to be provided in the CQP.

3. Construction documentation shall be completed and kept up to date during the course of the construction and become part of the CQP. All Contractor quality documentation shall be accessible for review by the Engineer, the Illinois Tollway, the Program Manager, and the General Engineering Consultant.

4. A-Forms and AC Checklists are located and maintained on the Illinois Tollway's website. Forms designated (MI-xxxx) can be accessed through the IDOT website, http://www.idot.illinois.gov/. Per contractual requirements, A-Forms are to be completed by the Contractor and used for construction documentation.

5. The A-Forms are to be completed in full and kept up to date during the course of the construction project. The Contractor shall develop and use QC Inspection Documentation to document the inspection activities of all Work and shall be included in their Contractors Quality Plan. The Construction Inspection Checklist(s) shall be prepared to provide field inspectors with a summary of easy-to-read, step-by-step requirements that are required in the inspection of the Work. Additional material forms can be located in the WBPM System. The Equipment Watch Rental Rate Blue Book is the source for the equipment rates for extra work (force account billing).

6. Forms and procedures for bituminous and concrete inspection are not included in this manual but shall be included elsewhere in the contract with the specifications for QC/QA Bituminous and Concrete. Data reports for bituminous, concrete and aggregate tests shall be provided in I-MIRS.

7. Any testing or inspection that increases quantity needs to be approved by the Engineer prior to the initiation of the work.

4.1 Contractor Document Control

1. Document control includes management and control of all documents and document changes. Document control includes both the Contractor's internal system and the requirements of the Illinois Tollway's WBPM system.

a) The Contractor shall use the Illinois Tollway's WBPM system, or develop, implement, and maintain documented procedures when the Illinois Tollway's web-based management system is not available, for scheduling and managing Contractor and Subcontractor document control. The Contractor shall define the responsibility for preparing, reviewing, approving, issuing, recording, revising, and distributing documents for activities affecting the quality of the Work.

b) The Contractor shall upload the required documentation per the Illinois Tollway's Documentation Matrix for Construction using the Illinois Tollway's file naming convention within 48 hours of the work taking place unless otherwise specified in the Matrix.

c) The Contractor shall establish a document control system that ensures that the most current approved documents, drawings, and specifications are available prior to the start of the Work and that the Work is performed in accordance with the latest approved documents. Quality Control offices remote from the Document Control Manager shall be electronically integral with the document control system.

d) Changes to documents shall be processed in writing and records shall reflect all changes as they are generated. Changes to documents and data shall be reviewed by the same authorized personnel who reviewed and approved the original documents unless the control procedures specifically allow otherwise. Changes shall be distributed promptly to all locations.

e) The Contractor's document control system shall include methods for elimination of obsolete documents from each work location. Any superseded documents retained for the record shall be clearly identified as such.

f) The Contractor shall maintain a master list of controlled documents enumerating the current revision of each document.

g) The following are documents requiring control:

1) Specifications
2) Drawings
3) Contract modifications
4) Progress schedules
5) Submittals
6) Requests for Information (RFI) and responses
7) Quality Control Inspection procedures and documentation including construction checklists
8) Inspection reports
9) Test procedures
10) Testing reports
11) Plant reports

12) Original weighted tickets, shipping tickets & bill of ladings
13) Material inspection/certifications
14) Non-conformance report (NCR)
15) Survey notes, data and cross-sections
16) Special work instructions
17) Operational procedures
18) Quality program and procedures.
19) Subcontractor approvals
20) Corrective action report

4.2 Contractor Design Control

1. The Contractor is responsible for the professional quality, technical accuracy and coordination of all surveys, designs, drawings, specifications, geotechnical and other services furnished as part of the Contract. Accordingly, the Contractor must verify, independently check, and review all drawings, specifications, and other documentation prepared as a part of the Contract. The Contractor must describe how the checking and review processes are to be documented to verify that the required procedures are followed.

2. Design may be a portion of this project, including performance based specifications that describe the scope. If so, the CQP must include quality control procedures for completing the design scope to meet the Contract requirements as specified in the Special Provisions. This procedure shall document who is responsible for completing the design, how the design shall be reviewed and how all comments are to be incorporated into the final design documents.

4.3 Subcontractor Evaluation and Procurement Control

1. The Contractor is responsible for the overall quality of the Work, including that performed by Subcontractors. The Contractor shall ensure all subcontractors and suppliers comply with all Contractor quality requirements and contract requirements. Subcontractors and suppliers may adopt and implement the Contractor's CQP or use approved in-house quality programs appropriate to their work and meeting all applicable codes, standards, specifications, and guidelines related to their work. The Contractor shall review and approve the Subcontractor or supplier quality programs used to control work on the project in order to verify compliance with these requirements.

2. The Contractor shall ensure that services are procured only from sources capable of meeting the requirements of the Contract and procurement documents. Subcontractors and suppliers under consideration shall be evaluated on the basis of the following:

   a) Technical competence as evidenced by qualifications and experience of the firm and committed personnel.

   b) Familiarity with Illinois Tollway guidelines and other applicable codes and standards.

c) Current commitments of the firm and key personnel.

3. The Contractor shall ensure that contract or procurement documents for Subcontractor services clearly specify the quality expectations of the Illinois Tollway, including relevant standards, drawings, specifications, process requirements, inspection instructions, and approval criteria for materials, processes, and product. As appropriate, the Subcontractor shall define the means and methods for handling, storage, packaging, and delivery of products.

4. The Subcontractor's purchasing documents shall be reviewed and approved by a Contractor designated Quality Representative for adequacy of specified quality requirements prior to release.

5. The Contractor shall evaluate and document all Subcontractor(s) and suppliers per the contract and procurement control activities.

6. As appropriate, the Contractor's contract with its Subcontractor and supplier shall include provisions for source inspection by the Contractor, Illinois Tollway, or other authorized representatives of those quality characteristics which cannot be verified during subsequent processing. Source inspection plans shall include mandatory points where the Contractor or Illinois Tollway shall verify compliance with the Contract requirements.

7. Subcontractors will be reviewed by the Contractor's Quality Representative to determine the Subcontractor's individual responsible for quality control. If the Subcontractor is responsible for quality control, the Contractor's Quality Representative will review and approve the quality control documentation, including checklists, for compliance with contractual requirements. The Contractor's Quality Representative will assign personnel to review and document the quality of the Work performed by the Subcontractor. All quality control documentation, including checklists, shall be reviewed and approved by the Contractor's Quality Representative daily.

8. The Contractor's Quality Representative will review the quality of work each Subcontractor produced while active on the job.

9. Upon approval of the Contractor's CQP, all Subcontractors will be notified in writing of the CQP requirements. The Subcontractors shall be required to return a signed acknowledgement that they have received a copy of the CQP and will abide by it.

4.4 Final Quantities

1. The quantity book table of contents (Form A-4) shall be prepared by the CM, in the same pay item order as the Pay Estimate. Final quantities shall be posted to the A-4 when items are agreed to and balanced. When the Contractor and CM agree to final quantities, initials from both parties shall be provided in the appropriate columns located on the A-4 form. See example A-4 form below.

SECTION 5.0 HANDLING, STORAGE AND CONTROL OF MATERIALS AND EQUIPMENT

1. The Contractor shall develop, implement, and maintain documented procedures for the handling, storage, and control of specialty materials and equipment when required in the individual special provisions or the standard specifications for the item or work specified. Examples of items that will require these procedures are bridge beams, bearings, trusses, electrical components and any item that the manufacturer requires special procedures for handling, storage and control of the item. These shall address the following, as appropriate:

   a) Measures to ensure that storage, handling, lifting, and rigging methods do not degrade or compromise the quality of an item.

   b) Methods for cleaning, preserving, and storing material and equipment.

   c) Verification that adequate and appropriate documentation and evidence of inspection is received and available for review by the Engineer.

   d) Securing or methods to secure adequate and appropriate approval for permission to store materials and equipment on private or public property.

   e) Stating disposal information via correspondence for salvage items rejected by the Illinois Tollway due to surplus of inventory.

5.1 Inspection and Testing

1. The Contractor shall perform or have performed the inspection of the construction methods, in addition to providing evidence of material inspection required to assure conformance to contract requirements. The inspections shall be documented by quality control inspectors and signed off as contract compliant by the person responsible for completing the Work. This includes the inspection and testing defined in the standard specifications or special provisions, such as quality control of concrete mixtures, hot mix asphalt, soils, aggregates, proof rolls, and other materials that are part of the Work, as well as inspection and testing for other items of Work. This may require increased testing, communication of test results to the job site, modification of operations, suspension of suspected work activity, rejection of material, or other actions as appropriate. Inspection shall also include the measurements and documentation necessary to assure the specified thicknesses, dimensions or spacing of individual elements of the Work are contract compliant. Refer to Article 5.3, “Field Acceptance”, for minimum Evidence of Inspection required for commonly used Products for the Types of Construction typically encountered. If the Contract includes any additional products for the types of construction, which have not been included in Article 5.3 “Field Acceptance”, the Contractor shall propose the minimum Evidence of Inspection for the Products in the CQP.

2. The Engineer shall be immediately notified of any failing tests and subsequent remedial action. Passing tests shall be reported to the Engineer within 24 hours or prior to the next material

placement. All tests shall be entered into I-MIRS within 3 days of completion. The Engineer shall be notified by the Contractor as Work is completed to allow sufficient time for QA tests and inspections to be performed in addition to those of the Contractor; however, this in no way relieves the Contractor of performing the tests or for the quality of the Work.

3. The Engineer shall be immediately notified if test results, inspection procedures or field conditions are encountered that may result in a change to the scope of the Contract. Extra Work or substantive quantity changes to the contract cannot be undertaken until issuance of written authorization from the Illinois Tollway is received. Changes will be facilitated as outlined elsewhere in the contract documents.

   a) The Contractor's CQP shall include an inspection and testing plan that defines methods to implement inspections and tests, to verify and document results, and provide the evidence of material inspection, including the QC Inspection Documentation to be used, to assure that items conform to the requirements of the Contract.

   b) The Contractor shall develop, implement, and maintain the approved inspection and testing plan so that it produces objective evidence that structures, systems, components, products, or services meet the requirements specified in the Contract. The Contractor shall update and resubmit the CQP to reflect changes in inspection and testing procedures as they are generated.

   c) The Contractor shall use inspection personnel meeting the certification and training requirements of the Contract who are independent of those performing or directly supervising the work being inspected. Inspection personnel shall not report directly to immediate supervisors responsible for constructing or installing the work being inspected. Inspection personnel shall be given the necessary authority and independence to perform their roles effectively. Personnel performing inspections and tests shall possess a demonstrated competence in the specific area of interest and have a thorough understanding of the requirements. Methods shall be established and implemented by the Contractor to ensure that suitable education, experience, and technical qualifications are maintained for such personnel.

   d) A list of tests which the Contractor is to perform shall be furnished as part of the CQP. The list shall cite the test name, specification references containing the test requirements, frequency of testing and referenced industry standard, and the agency or personnel responsible for each type of test.

   e) The Contractor shall develop, implement, and maintain documented procedures for receiving incoming product to be used for the Work, for work in process, and for final inspection and testing.

i) Receiving inspection shall be performed to verify conformance of products or materials with the Contract requirements. Certificates of conformance and compliance shall be checked.

ii) In-process inspections shall be performed to verify conformance of work processes and quality of items or work to specified requirements to ensure that those requirements are achieved throughout the duration of the Work.

iii) Miscellaneous Inspections: Depending on the contract documents the CM staff shall be notified to witness these additional tests performed by the Contractor including but not limited to: Bridge bolting testing, Stud weld bend tests, Tie bar pull-out tests, and Caisson inspection within the previous working day.

iv) Final inspection and testing shall be performed to ensure that all specified inspections and tests have been carried out, that resulting data meets the Specifications, and that the finished product conforms to the Contract Documents.

f) The Contractor's documented procedures for inspection and testing shall describe what, when, where, how, and by whom steps are to be performed. They shall also include specific responsible personnel, pertinent materials and equipment, controlling documentation, and methods of process control.

g) Required inspections, tests and documentation shall be satisfactorily completed prior to work being completed, including identification and documentation of nonconforming conditions.

h) The Contractor shall demonstrate the acceptability of the construction activities with objective evidence of suitable inspections and testing results. All inspection and testing results shall be documented, reviewed, safely stored on the Illinois Tollway's WBPM system and the Contractor's internal filing system, and maintained by the Contractor. Such records shall be available to the Illinois Tollway throughout the course of the Work and shall be subject to continual surveillance and oversight by the Illinois Tollway. The quality personnel shall include a statement in their daily reports of which activities they inspected, the duration of these inspections, and whether or not the inspected work met the requirements of the contract.

i) The Contractor shall ensure that applicable requirements for testing and inspection are included in their contracts and procurement documents, where appropriate, with their Subcontractors and Suppliers. The Contractor shall review, approve and maintain records of the various inspections and tests performed by its Subcontractors and suppliers to provide evidence that the Work has passed inspection and to verify all tests were performed with defined acceptance criteria.

4. All documentation of material sources and testing shall be in accordance with Article 5.3 "Field Acceptance". Refer to Article 5.2, "Sources of Information for Inspection", for sources of information for the Contractor's inspectors. Refer to Tables 1 and 2 of the Field Acceptance Article for evidence of material inspection required of the Contractor for various products. At a minimum, the tests/certifications for all items of the Work as required in the Contract Documents shall be performed/provided by the Contractor.

    a) In order to adequately document the Work the Thickness Determination Schedule specifies the correct thickness of the various components to Work involved. The schedule has been included as proper procedures for the frequency of testing and can be found in IDOT Documentation Guide.

5. The Contractor shall not apply loads, either dead or live to concrete components until said component has attained the required strength to support the subsequent loading and the curing period has been completed. The Contractor shall perform additional strength testing to monitor strength of previously poured concrete before placement of new concrete. No subsequent pour should occur until the required strength and curing is meet. The Contractor shall provide the Engineer with test information before loading occurs. If the Contractor intends to perform early breaks then they are to notify the Engineer in advance to allow for QA or IA to perform early breaks also.

5.2 Sources of Information for Inspection

1. This list of sources of information for the Contractor's inspectors should be considered a dynamic list. Sources of information may be added to or deleted from this list at any time.

    a) CONTRACT DOCUMENTS
        i) Special Provisions
        ii) Approved Plans
        iii) Recurring Special Provisions
        iv) Supplemental Specifications
        v) Standard Specifications

    b) MANUALS
        i) Manual for Materials Inspection [2]
        ii) Manual of Test Procedures for Materials [1]
        iii) Manual for Inspectors of Precast Prestressed Concrete Beams [2]
        iv) Subgrade Stability Manual [2]
        v) IDOT Highway Construction Manual
        vi) Contractor's Quality Program Manual
        vii) IDOT Geotechnical Manual
        viii) IDOT S-32 Reference Manual
        ix) IDOT S-33 Reference Manual
        x) IDOT District 1 Geotechnical Field Inspector's Manual

1- Available for purchase at the IDOT's web site, http://www.idot.illinois.gov/, or from the Bureau of Highways Administration, Manual Sales Office, (217) 785-8971.

2- Available free of charge from the IDOT Bureau of Highways Administration, Manual Sales Office, (217) 785-8971.

5.3 Field Acceptance for Products and Materials

1. Source of Material

    a) Source of Material must be approved through a WBPM system submittal process before material is delivered to the site. The Contractor shall generate a Submittal Package for approval in the WBPM system. Construction materials do not just "appear" on the jobsite. In most cases, the material has been pre-inspected or may have been produced under an Illinois Tollway approved Quality Control program.

2. Evidence of Material Inspection

    a) Evidence of Material inspection shown in Table 1, is the minimum proof that Method of Acceptance sampling and testing has been performed. This Table identifies the type of evidence that is required.

    b) Additional information on Evidence of Materials Inspection may be found in the IDOT Manual for Materials Inspection. Further, it is not always possible to update all documents concurrently. In case of a conflict, the most current edition should take precedence. If the Evidence of Materials Inspection is not clear, contact the Illinois Tollway for assistance.

    c) This Article does not describe the details for the Method of Acceptance of sampling and testing requirements. Detailed information regarding materials inspection programs such as certified products, QC/QA programs, and warehouse inspections may also be found in the IDOT Manual for Materials Inspection.

    d) If requested by the Engineer, the Contractor is to provide additional information/certification as evidence that a product and/or material meets the requirements of the specification. Even, if said information is not required under the evidence of material inspection or IDOT Manual of Material Inspection.

3. Table 1 Components

    a) Column 1 – Product
        i) The product is arranged in alphabetical order by type of material or construction. An attempt was made to include major items. If an item is not listed, contact the Illinois Tollway.

    b) Column 2 – Specification Reference
        i) The materials specification reference from the IDOT Manual for Materials Inspection, IDOT Article or Tollway SP for the product listed.

    c) Column 3 - Evidence of Materials Inspection
        i) This column lists the minimum information that the Engineer needs to accept the material. Definitions of the most common methods are listed below. It is important to understand that other methods may also be appropriate.

1) A product TEST may be appropriate at any time as determined by the Contractor or Engineer.

2) In addition to the notation in this column, a Visual Examination always applies. A piece of paper or Inspector's stamp does not guarantee that all product defects were caught in the QC and QA process or that it was not damaged in transit.

Table 1

EVIDENCE	COMMENT
BILL OF LADING	A shipping ticket that accompanies a product to the job site and which identifies th product, source, and lot.
CERT	Manufacturer's written certification that indicates material complies with the specifications or contract. Supplier certifications are not acceptable.
DAILY PLANT REPORTS	For PCC and HMA, reports generated that provide mixture test results and other production data. For QC/QA projects, refer to the appropriate special provisions to determine responsibility for Daily Plant Reports.
LIST	The material appears on a current list of IDOT approved products or approved sources found at the IDOT's website, http://www.idot.illinois.gov/ Contact the local district's Materials Office for information on aggregates.
Illinois Tollway LIST	The material appears on a current list of Illinois Tollway approved products or approved sources found at the Tollway's website, http://www.illinoistollway.com/
MARK	A commercial label, tag, or other marking which indicates product specification compliance and/or an approved source/manufacturer.
TEST	Passing test performed by a Tollway approved lab or consultant.
TICK	A ticket from an approved source indicating IDOT material or aggregate gradation, job designation, purchaser, and weight (if applicable).
VIS	Engineer or Inspector's Visual Examination indicating that the material is found to be acceptable based on similar approved source or manufacturer, certification of conformance, and or previous testing.
RFIM	Request for Inspection of Materials – A report of acceptance of fabrication of steel and aluminum products signed by MEC. This documents must be approved by MEC prior to shipping.
ILOK	Material is stamped by an Inspector with an "ISTHA QA OK" stamp indicating prior inspection and acceptance. An inspection tag may be used as Evidence of Materials Inspection and approval.
CBM	Bureau of Materials approval letter.
LA 15	This IDOT form is a supplier's certification indicating material is from approved stock. The form is sometimes used as a Bill of Lading to indicate prior approval. The form should include supplier, proper contract/job designation, material description, manufacturer, specific approved material (test ID number, lots, or batches), and quantity.
NCHRP	National Cooperative Highway Research Program

i) MIXTURES and AGGREGATE

1) In addition to field tests, approval for aggregate and mixtures is based on other final acceptance criteria. The following items identify the initial method of approving such materials.

ii) AGGREGATE:
1) IDOT Approved Aggregate Producer (IDOT CENTRAL BUREAU OF MATERIALS List)
2) Approved quality
3) Approved gradation (ticket)
4) Verify gradation and quality (TEST or INV.) if appropriate.

iii) HOT-MIX ASPHALT (HMA)/ Warm Mix Asphalt (WMA):
1) IDOT approved plant and lab (CENTRAL BUREAU OF MATERIALS)
2) Illinois Tollway or IDOT approved/verified mixture design
3) Warm Mix Asphalt shall be produced using the using the Illinois Tollway Approved List of Warm-Mix Asphalt (WMA) Technologies.
4) IDOT approved materials – Aggregate (above), Asphalt Cement (IDOT CENTRAL BUREAU OF MATERIALS list), Additives (IDOT CENTRAL BUREAU OF MATERIALS list)
5) Compliance with QC/QA mixture and compaction specifications.

iv) PORTLAND CEMENT CONCRETE:
1) IDOT approved plant and lab (CENTRAL BUREAU OF MATERIALS and District)
2) Illinois Tollway or IDOT approved/verified mixture design, the mix design shall be verified through the approved concrete matrix corresponding.
3) IDOT approved materials – Aggregates (above), Cement and Finely Divided Materials (IDOT CENTRAL BUREAU OF MATERIALS lists), Admixtures (IDOT CENTRAL BUREAU OF MATERIALS list)
4) Compliance with QC/QA specifications

v) CONCRETE AGGREGATE MIXTURE (CAM, CAM II) AND POZZOLANIC AGGREGATE MIXTURE:

IDOT approved plant and lab (BUREAU OF MATERIALS & PHYSICAL RESEARCH and District) Illinois Tollway approved/verified mixture design, the mix design shall be verified through the approved concrete matrix corresponding to the end of placement. IDOT approved materials – Aggregates (above), Cement and Finely Divided Materials (IDOT CENTRAL BUREAU OF MATERIALS lists), Admixtures (IDOT CENTRAL BUREAU OF MATERIALS list)

1) Compliance with QC/QA or non-QC/QA specifications and sampling schedules, as applicable.

vi) LIME MODIFIED SOIL, LIME STABILIZED BASE AND SUBBASE, AND SOIL CEMENT:
1) Illinois Tollway or IDOT approved/verified mixture design, the mix design shall be verified through the approved concrete matrix corresponding to the end of placement.

2) IDOT approved materials – Aggregates (above), Cement and Finely Divided Materials (IDOT CENTRAL BUREAU OF MATERIALS list)
3) Compliance with specifications and test requirements, as applicable.

2. Column 4 - Responsible Party
   a) Indicates whether the Contractor, the Tollway-MQA or IDOT is responsible for the establishing the acceptability of the product.

3. Column 5 - Jobsite Sample
   a) Identifies jobsite sampling responsibilities of the Contractor or Tollway-MQA. (NR = not relevant)

4. Column 6 - Sample Size
   a) When a jobsite sample is required, this indicates the sample size requirement.

5. Column 7 - Small Quantity per Contract
   a) Small quantity is the recommended amount of a material per contract that can be accepted or certified without standard testing and documentation. Under no conditions are materials to be used from an unknown source. Field sampling, testing, or source inspection of small quantities may be waived by the Engineer on the basis of one of the two following methods.
      i) Approval on the basis of visual inspection provided the producer or manufacturer has recently furnished similar material found to be satisfactory under the Illinois Tollway's normal sampling and testing procedures.
      ii) Approval on the basis of certification by the producer or manufacturer stating that the material meets the specification requirements. Supplier certifications are not acceptable.
      iii) These procedures are not permitted to be used for structurally critical items or features that could directly affect the safety of the traveling public. Quantities in excess of these amounts must be approved by the Illinois Tollway. For PCC and HMA, QC/QA specifications provide specific small quantity criteria.
   b) Small quantity, where testing may be waived, shall not exceed the following
      i) Concrete for incidental items only, a maximum of 8 cubic yards per day and up to a maximum of 24 cubic yards in total maybe allowed with accompanied concrete batch weights to be verified by a Competent Personnel. The succeeding concrete pour shall be tested by QC/QA for at least 16 cubic yards of material. This procedure is repeated as needed, but not to exceed 100 cubic yards for the entire contract.
      ii) Storm sewer pipe of any size up to 1% percent of the total length placed.

5.3.1 Evidence of Material Inspection – Table 1

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
1. ADHESIVES						
Two part bonding epoxy	427	CERT or MARK	IDOT	NR	--	N/A
Chemical Adhesive (Dowel & Tie Bar)	427	LIST + (MARK or Bill of Lading)	IDOT	NR	--	N/A
Glass Capsules for Anchor Bolts	427	LIST + (MARK or Bill of Lading)	IDOT	NR	--	N/A
2. AGGREGATE IN MIXES						
For Mixtures	001	LIST + TICK + TEST	Contractor	Per Special Provision	Per Special Provision	500 T
3. AGGREGATE – GRANULAR USE						
Fine Aggregate	001	LIST + TICK + TEST	Contractor	See sampling schedules	See sampling schedules	500 T
Coarse Aggregate	001	LIST + TICK + TEST	Contractor	See sampling schedules	See sampling schedules	500 T
4. Recycled Concrete for Aggregate						
On-Site Processed:	S.P.	TEST	Contractor	See sampling schedules	See sampling schedules	500 T
Off-Site Processed:	S.P.	TICK + TEST	Contractor	See sampling schedules	See sampling schedules	N/A
Reclaimed Asphalt Pavement	S.P.	TEST	Contractor	See sampling schedules	See sampling schedules	N/A

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
RAP for Cap On-Site Processed:	S.P.	TEST	Contractor	See sampling schedules	See sampling schedules	500 T
RAP for Cap Off-Site Processed:	S.P.	TICK + TEST	Contractor	See sampling schedules	See sampling schedules	N/A
Riprap, Concrete	001	LIST + TICK	--	NR	--	ALL
Riprap, Stone	001	LIST + TICK	--	NR	--	20 T
5. BRIDGE BEARING PADS						
Elastomeric (Whole pad)	703	List + CERT	IDOT CBM MT	When notified by CMB	1 pad	N/A
Fabric Bearing Pads	703	LA15 or Test	IDOT CBM MT	When directed	12” x 12”	1 per 24 pads
Pot, Floating Bearings (HLMR)	703	CERT + CBM	IDOT CBM MT	When notified by CBM	--	N/A
6. BITUMINOUS MATERIALS						
PG Asphalt Binder	101	(LIST or TEST) + Bill of Lading	IDOT or Tollway	When requested	1 QT	N/A
Road Oil & Cutback Asphalt	103	(LIST or TEST) + Bill of Lading	IDOT or Tollway	When requested	1 QT	N/A
Emulsified Asphalt	103	(LIST or TEST) + Bill of Lading	IDOT or Tollway	When requested	1 gal. uncut emulsion	N/A
Emulsified Asphalt application rate	S.P.	TEST	Engineer	Per Special Provision	Per Special Provision	N/A
7. BITUMINOUS MIXTURES						
Bituminous Concrete Mixture (QC/QA)	195	Daily Plant Reports + TICK + TEST	Contractor	Per Special Provision	Per Special Provision	Special Provision
Warm Mix Asphalt Technologies	S.P.	TOLLWAY LIST	Tollway	--	--	--
8. BLOCK/BRICK						
Clay or Shale Building Brick	S.P.	TEST	Contractor	NR	6	100
Concrete Building Brick	S.P.	LIST + (MARK or Bill of Lading)	--	NR	6	N/A

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
Concrete Masonry Units for Buildings/ Catch Basin/Manhole/Inlet/Valve Vault/ Noise Wall	S.P.	LIST + (MARK or Bill of Lading)	--	NR	6	N/A
Precast Articulated Block Revetment	S.P.	LIST + MARK + Bill of Lading	--	NR	6	N/A
9. CEMENTITIOUS MATERIALS						
Cement (Portland)	376	(LIST or TEST) + Bill of Lading	IDOT	When requested	6 LB	N/A
Finely Divided Minerals - Fly Ash, Ground Granulated Blast-Furnace Slag, Microsilica, High-Reactivity Metakaolin	378	LIST or TEST	IDOT	When requested	6 LB	N/A
10. CHEMICALS / ADMIXTURES						
HMA - Anti-Strip Additive for Bituminous Mixtures	434	LIST	IDOT	NR	1 PT	N/A
HMA - Asphalt Truck Release Agent	434	LIST	IDOT	NR	1 QT	N/A
Calcium Chloride (Dry, Liquid)	804	TEST	Contractor	NR	1 QT	0 T or 500 GAL
Deicer	804	TEST	Contractor	NR	1 QT	1 T or 500 GAL
Dust Palliative	804	TEST	Contractor	NR	1 QT	1 T or 500 GAL
PCC Patching- Calcium Chloride (Liquid)	804	CERT	IDOT	NR	1 QT	N/A
CLSM - Air Entraining Admixture	421	LIST	IDOT	NR	1 QT	N/A
PCC - Corrosion Inhibitor	437	LIST	IDOT	NR	1 QT	N/A

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
PCC - Latex Emulsion	437	CERT + TEST	Contractor	NR	1 QT	N/A
PCC – Air-Entraining Admixture	421	LIST	IDOT	NR	1 QT	N/A
PCC - Type A - G Admixtures	437	LIST	IDOT	NR	1 QT	N/A
PCC - Shrinkage Reducing Admixture	S.P.	TOLLWAY LIST	Tollway	NR	1 QT	N.A.
PCC - Membrane Curing Compound	430	CERT + TEST	Contractor	NR	1 QT	N/A
Bridge Seat Sealer	427	LIST + (MARK or Bill of Lading)	IDOT	NR	1 GAL	N/A
Protective Coat (Linseed Oil/Petroleum Spirits)	426	CERT	--	NR	1 QT	55 GAL
Rock Salt, Sodium Chloride	804	TEST	Contractor	NR	1 QT	N/A
Water, for concrete, mortar, or curing	425	Potable Source or TEST	Contractor	If not potable	1 QT	N/A
Weed Killer	803	MARK or CERT	--	NR	--	N/A
11. CONCRETE						
Portland Cement Concrete - QC/QA	S.P.	Daily Plant Reports + TICK (TICK not req'd for volumetric mixer) + TEST	Contractor	Per Special Provision	Per Special Provision	Special Provision
Portland Cement Concrete – Performance Related Specifications	S.P.	Daily Plant Reports + TICK + TEST	Contractor and Engineer	Per Special Provision	Per Special Provision	Per Special Provision
CAM II - Cement Aggregate Mixture	218 or S.P.	Daily Plant Reports + TICK (TICK not req'd for volumetric mixer) + TEST	Contractor	Per Special Provision	Per Special Provision	600 SY

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
CLSM - Controlled Low-Strength Material	216	Daily Plant Reports + TICK (TICK not req'd for volumetric mixer) + TEST	Contractor	Per Special Provision	Per Special Provision	Special Provision
Latex Concrete Overlay	S.P.	Daily Plant Reports + TICK (TICK not req'd for volumetric mixer) + TEST	Contractor	Per Special Provision	Per Special Provision	Special Provision
Microsilica Concrete Overlay	S.P.	Daily Plant Reports + TICK (TICK not req'd for volumetric mixer) + TEST	Contractor	Per Special Provision	Per Special Provision	Special Provision
Non-Shrink Grout	216	LIST + (MARK or Bill of Lading)	IDOT	NR	--	N/A
Self-Consolidating Concrete (SCC)	216 / S.P.	Daily Plant Reports + TICK + TEST	Contractor	Per Special Provision	Per Special Provision	Special Provision
Bridge Deck Thin Polymer Overlay Systems	216 / S.P.	LIST + (MARK or Bill of Lading)	IDOT	NR	--	N/A
PCC - Curing Blanket - Burlap, Burlap/Poly, Waterproof Paper, White Poly, Cotton Mat, Single Use Curing Blanket	702	VIS EXAM	--	NR	3 LF	N/A
12. CONCRETE, PRECAST*						
Architectural Products	250	LIST + MARK + Bill of Lading	Tollway-MQA	NR	--	N/A
Bridge Beams	253	LIST + MARK + Bill of Lading + QA report	Tollway-MQA	NR	--	N/A
Drainage Products	252	LIST + MARK + Bill of Lading	Tollway-MQA	NR	--	N/A
Noise Abatement Wall Panel	255	LIST + MARK + Bill of Lading	Tollway-MQA	NR	--	N/A

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
Retaining Wall Panels or Units	255	LIST + MARK + Bill of Lading	Tollway-MQA	NR	--	N/A
Traffic Barrier	255	LIST + MARK + Bill of Lading	Tollway-MQA	NR	--	N/A
R.O.W., Drainage, Section, and Permanent Survey Markers	260	LIST + MARK + Bill of Lading	Tollway-MQA	NR	--	N/A
Headwall	257	LIST + MARK + Bill of Lading	Tollway-MQA	NR	--	N/A
Handholes	S.P	LIST + MARK + Bill of Lading	Tollway-MQA	NR	--	N/A
Slabs	255 /S.P.	LIST + MARK +Bill of Lading + QA Report	Tollway-MQA	NR	--	N/A
Prefabricated Permeable Pavement and Sidewalk	S.P.	LIST + MARK +Bill of Lading	Tollway-MQA	NR	--	N/A
*The Tollway requires fabrication date on the Bill of Lading for all Precast items						
13. CONCRETE, PRECAST and PRESTRESSED (Except Piling)						
Prestressed Products	275	QA Report + Bill of Lading + ILOK	Tollway-MQA	NR	--	None
14. CONCRETE REPAIR						
Mortar, Polymer Modified Portland Cement	S.P.	LIST	--	NR	--	N/A
Rapid Hardening Cementitious Material	221, 379	LIST + MARK + Bill of Lading	IDOT	NR	50 LB	N/A
Calcium Aluminate Concrete	S.P.	Daily Plant Reports + TICK (TICK not req'd for volumetric mixer) + TEST	Contractor	Per Special Provision	Per Special Provision	Special Provision
Fiber Wrap Repair	GBSP	Submit Mfg Prod Data	Tollway-MQA	TTP 008	12” x 12”	N/A

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
15. ELECTRICAL						
Cable, conduit, unit duct	305	CERT + MARK + Bill of Lading compared to Approved Submittal	IDOT	NR	--	N/A
Detector Loop	316	CERT + MARK + Bill of Lading compared to Approved Submittal	--	NR	--	N/A
Fiber Optic Cable	315	CERT + MARK + Bill of Lading compared to Approved Submittal	--	NR	--	N/A
Ground Rod	316	CERT + MARK + Bill of Lading compared to Approved Submittal	IDOT	NR	--	N/A
Wire, span or tether	306	TEST	Contractor	NR	3 LF	500 LF
16. FABRIC						
Filter	498	CERT + TEST	Contractor	NR	--	N/A
Geotextile	498	CERT + TEST	Contractor	NR	--	N/A
Crack Control	498	CERT + TEST	Contractor	NR	--	N/A
Geotechnical	498	CERT + TEST	Contractor	NR	--	N/A
17. FENCING						
Fabric, Post, Wire	575	CERT or LA15	--	NR	--	300 LF
Glare Guard, Slats	586	CERT + VIS	--	NR	--	N/A
18. GUARD RAIL						
Cable for Road Guard	552	LA15 or TEST	IDOT	NR	2 @ 4 FT	100 LF
Fasteners	676	(MARK + CERT) or TEST	--	NR	--	N/A
High Tension Cable	S.P./556	LIST + CERT	IDOT CBM MT	NR	--	--

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
Impact Attenuator	S.P.	LIST + CERT	--	NR	--	N/A
Plastic Block Outs	S.P.	LIST + CERT	--	NR	--	N/A
Steel Plate	551	LIST + CERT + BOL	--	NR	--	N/A
Steel Post	553	CERT	--	NR	--	N/A
Traffic Barrier Terminal End Section	556	LIST + CERT + NCHRP 350	--	NR	--	N/A
Wood Post, Plank	553	MARK + CERT	IDOT	NR	--	N/A
19. JOINT FILLERS & SEALERS						
Concrete Sealer	427	LIST + CERT	IDOT	NR	1 QT	N/A
Mastic for Precast Concrete Pipe	617	MARK compared to approved submittal	IDOT	NR	1 QT	N/A
Hot-Poured Sealer	619	TEST	Contractor	NR	1 Mfg. Sealed Box	200 LB
Cold-Poured Sealer	619	TEST	Contractor	NR	1 GAL	200 LB
Polysulfide Sealer	619	CERT or MARK	IDOT	NR	--	N/A
Asphalt Fillers (PAF)	620	TEST	Contractor	NR	1 QT	200 LB
Preformed- Bituminous, cork, foam, fiber	616	CERT + Bill of Lading	IDOT	NR	2 SF	300 LF
Preformed Elastomeric Compression	619	CERT + Bill of Lading	IDOT	NR	4 LF	100 LF
Preformed Neoprene, EPDM	621	CERT + Bill of Lading	IDOT	NR	2 LF	100 LF
PCC – Silicone	S.P.	CERT or MARK (if it contains spec info.)	--	NR	--	N/A
Water Seal, PVC	618	CERT + MARK	IDOT	NR	1.5 LF	100 LF
20. LANDSCAPING						
Agricultural Lime (Dept of Ag. Program)	002	LIST or IDOT Approved + TICK	Contractor	NR	6 LB	N/A
Excelsior Blanket	562	TEST + CERT	Contractor	NR	3 LF	200 SY
Fabric, Silt Fence	498	CERT product test	--	NR	--	N/A

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
Fiber Mat	562	CERT	IDOT	NR	3 LF x width	200 SY
Fertilizer*	561	CERT (bulk) or MARK (bags)	--	NR	--	20 LB
Mulch	562	CERT + VIS	--	NR	--	N/A
Peat Moss	563	CERT	--	NR	--	N/A
Seed (including temporary)	563	CERT + TICK	--	NR	--	N/A
Sod	567	CERT	--	NR	--	N/A
Trees, Shrubs, Plants	565	CERT	--	NR	--	N/A
21. LIGHTING & SIGNALS						
Controllers & Cabinets	330	VIS compared to approved submittals + CERT + Bill of Lading	--	NR	--	N/A
Lamps, Luminaires & Ballast	330	VIS compared to approved submittals + CERT + Bill of Lading	--	NR	--	N/A
Traffic Signal Components	335	VIS compared to approved submittals + CERT + Bill of Lading	--	NR	--	N/A
Break-away Supports	335	VIS compared to approved submittals + CERT + Bill of Lading	--	NR	--	N/A
Helical Light Pole Foundation	335	VIS compared to approved submittals + CERT + Bill of Lading	--	NR	--	N/A
Poles - Steel, Aluminum	331	CERT + QA Report/RFIM	Tollway-MQA	NR	--	N/A
Poles - Wood Poles	334	MARK +CERT	--	NR	--	N/A
Poles - Mast Arm Assemblies	330	CERT + QA Report/RFIM	Tollway-MQA	NR	--	N/A

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
Junction Boxes - Composite	261	VIS compared to approved submittals + CERT + Bill of Lading	--	NR	--	N/A
Junction Boxes - Steel & Cast Iron	684	VIS compared to approved submittals + CERT + Bill of Lading	IDOT	NR	--	N/A
Handholes - Concrete (Cast-in-place)	261	Daily Plant Reports + TICK + TEST	Contractor	NR	--	N/A
Handholes - Precast	S.P.	LIST + MARK + Bill of Lading	Contractor	NR	--	N/A
Handholes - Frame & Cover	210	CERT				
Handholes - Composite	684	VIS compared to approved submittals + CERT + Bill of Lading	IDOT	NR	--	N/A
22. LUMBER/ TIMBER						
Treated Lumber	1007	MARK +CERT	IDOT	NR	--	N/A
23. METAL PRODUCTS, MISCELLANEOUS						
Aluminum Drains	785	CERT	IDOT	NR	--	N/A
Aluminum Railing	541	CERT	IDOT	NR	--	N/A
Copper Water Pipe	779	MARK	IDOT	NR	1 LF	N/A
Name Plate	782	CERT + VIS	IDOT	NR	--	N/A
Rodent Shield	785	VIS compared to approved detail	IDOT	NR	--	N/A
Survey Markers	783	VIS	IDOT	NR	--	N/A
24. MISCELLANEOUS						
Manhole Step, Plastic	495	MARK	IDOT	NR	--	N/A

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
Geotextile Drainage Fabric	498	CERT + MARK or TEST	Contractor	When requested	3 LF x width	400 SY
25. PAINT						
Bridge Paint	414 or S.P.	TEST (Approved Lot)	IDOT	NR	1 PT	20 GAL
Pavement Marking Paint	404	LIST + CERT	Contractor	NR	1 PT	20 GAL
26. PAVEMENT MARKING						
Epoxy	404	CERT	IDOT	NR	--	N/A
Glass Beads	604	CERT+ LIST	IDOT	NR	3 QT	100 LB
Multi-Polymer Pavement Markings	S.P.	TOLLWAY LIST + CERT	Tollway	--	--	--
Polyurea I / II	S.P.	CERT	IDOT	NR	--	N/A
Raised Reflective Marker	708	LIST + CERT + Bill of Lading	IDOT	NR	3 EA	N/A
Reflective Tape	705	CERT	IDOT	NR	3 SF	N/A
Reflectors	612	LIST+CERT	--	NR	--	N/A
Temporary Pavement Tape	705	CERT	IDOT	NR	3 SF	N/A
Thermo Letters	705	CERT	IDOT	NR	--	N/A
Thermoplastic - granular/block	706	CERT + TEST	Contractor	NR	1 Gal from 3 diff. bags	100 LB
Thermoplastic Tape	705	CERT + TEST	Contractor	NR	3 SF	150 LF
Multi-Polymer Pavement Marking	SP	Tollway Approved List	Tollway-MQA	Sample at source	1 QT	N/A
27. PILING						
Metal Shell or Steel H	367	CERT or Mill Analysis + Bill of Lading	IDOT	NR	--	N/A
Precast Concrete	366	LIST + Bill of Lading	Contractor	NR	--	N/A
Precast, Prestressed Concrete	366	Daily Plant Report + Bill of Lading	Contractor	NR	--	N/A

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
Sheet Piling	367	CERT or Mill Analysis + Bill of Lading	IDOT	NR	--	N/A
Timber	370	MARK +CERT+ Bill of Lading	IDOT	NR	--	N/A
28. PIPE, CULVERT & DRAIN						
Cast or Ductile Iron Pipe	511	CERT + Bill of Lading	IDOT	NR	--	100 LF
Clay Pipe & Drain Tile	500	CERT or TEST + Bill of Lading	Contractor	NR	2 per size	100 LF
Metal Corrugated & Components	452	CERT +Bill of Lading	IDOT	NR	--	100 LF
Pipe - Plastic, PVC, HDPE- water/sewer	491	CERT + TEST + Bill of Lading	Contractor	NR	4 LF	100 LF
Pipe Liner, PE	496	MARK + CERT	IDOT	NR	4 LF	100 LF
Pipe Underdrain	493	CERT +TEST + Bill of Lading	Contractor	NR	3 x 3 LF	100 LF
Plastic, Fiberglass Deck Drain	499	CERT + MARK	IDOT	NR	--	N/A
Precast Concrete Drain Tile	252	LIST + CERT	IDOT	NR	--	N/A
Precast Concrete Pipe or Box Culvert	475	LIST + MARK+ Bill of Lading	IDOT	NR	--	N/A
Underdrain Mat, Wall Drain	496	CERT	IDOT	NR	3 x 3 LF	500 LF
29. SIGNING						
Completed Sign Panels & Standard-Reflective Sheeting	602	CERT + TEST	Contractor	NR	13" x 13"	N/A
Completed Sign Panels & Standard-Aluminum Sheeting	601	CERT + List	Contractor	NR	13" x 13"	N/A
Post, Break-away	607	CERT + Bill of Lading	IDOT	NR	--	N/A

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
Posts, Metal & Hardware	606	CERT + Bill of Lading	IDOT	NR	--	N/A
Posts, Steel Delineator	606	CERT + Bill of Lading	IDOT	NR	--	N/A
Posts, Wood	610	MARK + CERT	IDOT	NR	--	N/A
Reflectors: Delineator, Barrier Wall & Curb	612	CERT + List	Contractor	NR	--	N/A
Reflectors, Prism	613	CERT	Contractor	NR	--	N/A
Sheeting, Reflective	602	CERT + TEST	Contractor	NR	13" x 13"	N/A
Sheeting, Aluminum	601	CERT + TEST	Contractor	NR	1 SF	N/A
Sign Structure, Overhead	613	CERT + VIS of approved shop drwgs.+ Bill of Lading	Contractor	NR	--	N/A
30. SOIL / MODIFICATION / STABILIZATION						
Topsoil	563	TEST	Contractor	Yes	3 LB	N/A
IBR - Fine-Grained Soil	563	TEST	Contractor	NR	75 LB	N/A
IBR - Coarse-Grained Soil	563	TEST	Contractor	NR	100 LB	N/A
Moisture-Density Fine-Grained Soil	563	TEST	Contractor	Yes	30 LB	N/A
Moisture-Density Coarse-Grained Soil	563	TEST	Contractor	Yes	100 LB	N/A
Cement (Portland)	376	(LIST or TEST) + Bill of Lading	Contractor	Yes	20 LB	1 Ton
Fly Ash	378	LIST + TEST	Contractor	Yes	20 LB	1 Ton
Lime	003	(LIST or IDOT Approved) +TEST	Contractor	Yes	20 LB	1 Ton
Modified Soil with Lime, Portland Cement	750	TEST	Contractor	Yes	See Test Manual	600 SY
Lime Stabilized Subbase or Base Course	750	TEST	Contractor	Yes	See Test Manual	600 SY

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
Soil-Cement Base Course	750	TEST	Contractor	Yes	See Test Manual	600 SY
Geogrid	S.P.	TOLLWAY LIST or Tollway Approved or TEST	Contractor	NR	--	N/A
31. STEEL & CASTING						
Cast Frames & Grates/Lids	200	CERT	IDOT	NR	--	5 EA
Cast Manhole Steps	210	CERT	IDOT	NR	--	N/A
Deck Drains	686	CERT	IDOT	NR	--	N/A
Gabions, Slope Mattress	680	CERT	IDOT	NR	--	N/A
Pipe Casing	680	CERT	IDOT	NR	--	N/A
Steel Frames & Grates	684	CERT	IDOT	NR	--	N/A
32. STEEL, REINFORCING						
Rebar Splicers – Black or Epoxy Coated or Stainless Steel	632	LIST + CERT;	IDOT CBM MT	Yes is contract quantity of all splicers > 100	3 assemblies ea size & source – min 18" rebar on ea side	N/A
Dowel Bars – Black or Epoxy Coated	626	LIST + CERT + BOL	IDOT CBM MT	Yes per CBM policy memo	2 @ 6FT ea for each size, grade & source	N/A
Dowel Bar Assembly	627	(CERT or LA15) + BOL	IDOT CBM MT	NR	--	N/A
Pavement Fabric & Wire Reinforcement	628	LIST + CERT + BOL	IDOT CBM MT	Yes per CBM policy memo	See MMI	N/A
Prestressing Strand	631	CBM	IDOT CBM MT	NR	2 @ 4FT for ea reel	N/A
Reinforcing Bar - Black	629	LIST + MARK + Mill CERT + Bill of Lading	IDOT CBM MT	Yes per CBM policy memo	2 @ 6 FT	N/A
Reinforcing Bar - Epoxy Coated	629	LIST + Bill of Lading + MARK +Mill + Epoxy cert	IDOT CBM MT	Yes per CBM policy memo	2 @ 6 FT	N/A

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
Reinforcing Bar – Stainless Steel	629 & S.P.	BOL + Mark + Mill Cert	IDOT CBM MT	Yes per S.P.	2 @ 6 FT	
33. STEEL, STRUCTURAL						
Anchor Bolts	676	(CERT + TEST) or CBM	IDOT CBM MT	Yes	3 pcs of ea full size or 3 FT plus threads from ea heat	N/A
Bridge Rail (Vehicular)	1006	CERT + TEST	Contractor	NR	2 LF	N/A
Fasteners	655	(CERT + TEST) or CBM	IDOT CBM MT	NR	5 pieces per lot	N/A
Structural Steel	650	CERT + QA Report/RFIM	Tollway-MQA	NR	--	N/A
Stud Shear Connectors	658	MARK + CERT	IDOT	NR	5 pieces per lot	N/A
34. TEMPORARY ITEMS						
Temporary Items, except those noted below	Various	VIS EXAM				
Reflective Material	Various	See Paint, Pavement Marking and Signing requirements	--	--	--	--
Precast Concrete Barrier	S. P.	MARK + VIS	--	--	--	--
Seed	S. P.	See Landscaping requirements	--	--	--	--
Erosion Control Items	Various	CERT + BOL	--	--	--	--
Poles - Wood Poles	334	MARK + CERT	--	NR	--	N/A
35. WATERPROOFING MATERIALS						
Asphalt Emulsion	381	LIST + TEST + Bill of Lading	Contractor	NR	1 GAL	55 GAL

Product	Material Series / S.P.	Evidence of Materials Inspection	Responsible Party	Jobsite Sample	Sample Size	Small Quant. Per Contract
Membrane System - CoalTar Pitch Emulsion & Primer	382, 386	TEST	Contractor	NR	1 QT EA	55 GAL
Fabric, Glass	385	TEST	Contractor	NR	3 LF x width	N/A
36. Reflective Crack Control (Art. 1062)						
Reinforcing Fabric	498	MARK or TEST	Contractor	When requested	3 LF x width	N/A
37. Fiberglass Repair System (Art. 1063)						
Fiberglass Fabric	385	TEST	Contractor	NR	3 LF x width	N/A
Bit. Adhesive	385	TEST	Contractor	NR	1 Mfg. Sealed Box	N/A
Wood Surface Stain/Sealer	S.P.	TEST	Contractor	NR	Per Special Provision	N/A

38. INTELLIGENT TRANSPORTATION SYSTEM (ITS) MATERIALS

For ITS system materials, the material submittal approval (utilizing the submittal checklist found in the special provisions) shall be acceptable for material acceptance certification documentation.

5.3.2 Sampling/Testing Schedules

SAMPLING SCHEDULE 1: EMBANKMENTS, SUBGRADES, AND GRANULAR COURSES

MATERIAL	SPECIFICATION REFERENCE		PROPERTY/ QUALITY	FREQUENCY
	IDOT	Illinois Tollway		
Earth, Stone, or Gravel, Embankments	Article 205.06*	Embankment Special Provisions	**Cohesive: Standard Moisture Density Control Curve, Organic Content, Atterberg Limits, & Hydrometer**	Compaction curve data is required for per every 5000 cu.yd or each major change in embankment material. The GC is to provide Proctors for material.
			Cohesionless: Standard Moisture Density Control Curve and Gradation	
	Article 205.06*	Embankment Special Provisions	**Density, Moisture and Stability using Dynamic Cone Penetrometer**	1 test per 500 cu for a continuous operation and not less than 3 tests per day in confined areas. 1 test per 3 ft of lift and not less than 3 tests per fill area.
Subgrades	Article 301.04*	-	**Density, Moisture and Stability using Dynamic Cone Penetrometer per Subgrade Stability Manual**	1 test per 500 ft of entire length per lane of subgrade cut areas and not less than 3 tests per day. Fill areas are to follow "Embankment' special provisions
Modified Soil with Lime, Portland Cement, Portland Blast-Furnace Slag Cement, or Fly Ash	Article 302.09* or Special Provision	Subgrade Modification Special Provisions	**Density, Moisture and Stability using Dynamic Cone Penetrometer**	1 test per 500 ft treated area per lane and not less than 3 tests per day.
	Special Provision*	Embankment Special Provisions	**Density, Moisture and Stability using Dynamic Cone Penetrometer**	Embankment Modification: To follow "Embankment" special provisions. The Contractor is to get this testing frequency approved with the CQP

SAMPLING SCHEDULE 1: EMBANKMENTS, SUBGRADES, AND GRANULAR COURSES, (Continued)

MATERIAL	SPECIFICATION REFERENCE		PROPERTY/QUALITY	FREQUENCY
	IDOT	Illinois Tollway		
Lime	Section 1012	-	**Various**	Minimum of 1 sample on 1st day, and then 1 sample per 750 tons [or 400,000 gal lime slurry] thereafter
Portland Cement and Portland Blast-Furnace Slag Cement	Section 1001	-	**Various**	When requested by Bureau of Material & Physical Research or Tollway
Fly Ash	Special Provision	-	**Various**	When requested by BUREAU OF MATERIALS & PHYSICAL RESEARCH or Tollway
Granular Courses				
Base Course and Granular Embankment, Type A	Article 351.05*	-	**Density**	1 test per 1000 ft of pavement per Lane and not less than 3 tests per day.
Subbase Granular Material, Type A	Article 311.05*	-	**Gradation**	AGGREGATE GRADATION CONTROL SYSTEM Sources:1 test per 2000 tons of delivered material.
Aggregate Surface Course Type A	Article 402.05*	-		Non-AGGREGATE GRADATION CONTROL SYSTEM Sources: 1 test per 500 tons of delivered material.

SAMPLING SCHEDULE 1: EMBANKMENTS, SUBGRADES, AND GRANULAR COURSES, (Continued)

MATERIAL	SPECIFICATION REFERENCE		PROPERTY/QUALITY	FREQUENCY
	IDOT	Illinois Tollway		
Granular Courses, continued				
Selected Subgrade	N.A.	Special Provision	**Density**	1 test per 1000 ft of pavement per Lane and not less than 3 tests per day.
Granular Subbase	Section 311	-		
Porous Granular Backfill	N.A.	Special Provision	**Gradation**	AGGREGATE GRADATION CONTROL SYSTEM Sources: 1 test per 2000 tons of delivered material.
Aggregate Shoulders	N.A.	Special Provision		Non-AGGREGATE GRADATION CONTROL SYSTEM Sources: 1 test per 500 tons of delivered material
Aggregate Shoulders, 12"	Special Provision	Special Provision		

* Test information contained in the IDOT *Manual of Test Procedures for Materials*.
** See IDOT *Subgrade Stability Manual*

SAMPLING SCHEDULE 2: NON-BITUMINOUS STABILIZED SUBBASE, STABILIZED BASE COURSE, AND STABILIZED SHOULDERS

MATERIAL	SPECIFICATION REFERENCE		PROPERTY/ QUALITY	FREQUENCY
	IDOT	Illinois Tollway		
Fine Aggregate, Coarse Course Aggregate	Sect 1003* Sect 1004*	-	**Gradation**	1 test per week of production.
Portland Cement	Sect 1001	-	**Various**	When requested by BUREAU OF MATERIALS & PHYSICAL RESEARCH or Tollway
Lime	Sect 1012	-	**Various**	Minimum of 1 sample on 1st day, and then 1 sample per 500 tons.
Fly Ash (for CAM II)	Art 1010.02	-	**Various**	When requested by BUREAU OF MATERIALS & PHYSICAL RESEARCH or Tollway
Fly Ash (for Pozzolanic Mixtures)	Art 1010.02	-	**Various**	Minimum of 1 sample on 1st day, and then 1 sample per 500 tons.
Stabilized Base and Subbase Courses				
Cement Aggregate Mixture	Art 312.10*	-	**Density**	1 test per 1000 ft of pavement
	Art 312.09*		**Air**	1 test per 1000 ft.
Cement Aggregate Mixture II	Art 312.09*		**Slump**	1 test per 1000 ft formed; 1 test per day slip formed.

SAMPLING SCHEDULE 2: NON-BITUMINOUS STABILIZED SUBBASE, STABILIZED BASE COURSE, AND STABILIZED SHOULDERS, Continued

MATERIAL	SPECIFICATION REFERENCE		PROPERTY/ QUALITY	FREQUENCY
	IDOT	Illinois Tollway		
Pozzolanic Stabilized Base Course	Article 357.04*	-	**Density**	1 test per 1500 ft of pavement per lane and not less than 3 tests per day.
Pozzolanic Stabilized Subbase Course	Article 312.26*	-		
Lime Stabilized Soil Base Course	Article 350.01* or Special Provision*	-	**Density**	1 test per 1500 ft of pavement per lane and not less than 3 tests per day.
	Special Provision*	-	**Immediate Bearin Value Using Dynamic Cone**	As determined by the Tollway Material Engineer
Lime Stabilized Soil Subbase Course	Article 310.09 or Special Provision	-	**Density**	1 test per 1000 ft of pavement per lane and not less than 3 tests per day.
Soil Cement	Art 352.11*	-	**Density**	1 test per 1000 ft of pavement per lane and not less than 3 tests per day

SAMPLING SCHEDULE 3: NON-QC/QA CONCRETE

MATERIAL	SPECIFICATION REFERENCE		PROPERTY/ QUALITY	FREQUENCY
	IDOT	Illinois Tollway		
Grout, Motor	Special Provision	Special Provision	**Air**	Occasionally, or as specified by Special Provision
	Special Provision	Special Provision	**Flow**	Occasionally, or as specified by Special Provision
	Special Provision	Special Provision	**Strength (28-day)**	Occasionally, or as specified by Special Provision
High Performance Shot Crete (Wet Mix)	Special Provision	Special Provision	**Air**	1 test per 50 cu yd
	Special Provision	Special Provision	**Strength**	1 test panel, per day (Special Provision)

* Test information contained in the IDOT *Manual of Test Procedures for Materials*.
** See IDOT *Subgrade Stability Manual*

5.4 Equipment Calibration

1. The Contractor shall supply and maintain all measuring and testing equipment necessary to perform the required inspections and tests to ensure that material conforms to the requirements of the Contract.

2. The Contractor shall control the calibration and maintenance of equipment required for inspection, measuring, and testing consistent with the contract documents.

3. Controls for calibration and maintenance of inspection, measuring, and testing equipment shall be documented. The controls shall include the following:

    a) The equipment shall meet the standards of accuracy for the measurements which are required.

    b) The equipment shall be calibrated according to national standards where available or as specified, and to documented standards where no national standards exist.

    c) The equipment shall be re-calibrated at specified regular intervals consistent with the programs included in the contract, and the re-calibration shall be properly documented as follows:

        i) A calibration log shall be maintained for all equipment requiring calibration.
        ii) A record of calibration status shall be maintained.
        iii) All calibrated equipment shall be labeled with the current calibration date and due date of the next calibration.

    d) The equipment shall be maintained properly to ensure its fitness for use.

    e) Prior to and during use, the user of the equipment shall ensure that the environmental conditions are suitable for the use of the equipment.

    f) If the equipment is found to be out of calibration, the validity of previous inspection and test results shall be assessed and documented.

4. The Contractor shall maintain records of calibration and maintenance of inspection, measuring, and testing equipment.

SECTION 6.0 NON-CONFORMANCE

- A sign of a robust and effective CQP is the identification, documentation and resolution of Non-Conformances by the Contractor. In cases where Work items are not found to be in compliance with the Contractor's Quality Plan or the Contract requirements, where the Contractor has failed to properly maintain or operate the Contractor's Quality Plan, as determined by the Illinois Tollway and/or its agents through quality assurance testing, verification testing and general construction observations, the Illinois Tollway or its representative will notify the Contractor of the Non-Conformance.

- A "NCR (Non-Conformance Report)" identifying the specific deficiencies and requiring the Contractor to develop a corrective action to be approved by the Engineer or designee will be issued to the Contractor. The Contractor's corrective actions shall not be cause for extension of time to the Contract or additional compensation to the Contractor. The Contractor shall correct all deficiencies in the NCR per the agreed upon corrective action.

- In such instances that a Non-Conformance is issued to the Contractor, the Illinois Tollway may order the Contractor to stop operations until appropriate corrective actions are taken to replace ineffective or unqualified personnel, remove the work that has been found to be nonconforming and/or withhold payments for specific pay items that are determined to be nonconforming. The Illinois Tollway may also require the Contractor to revise their CQP to prevent any reoccurrence of the deficiency addressed by the NCR.

- The Illinois Tollway encourages Contractors to identify Non-Conformances themselves and work with the Illinois Tollway and their representatives towards prompt resolutions of all Non-Conformances. However, the Contractor may be subject to a penalty as designated per negative pay items in contracts (i.e. 999NEG pay items) and if a pay item does not exist then a $1000.00 penalty per each Non-Conformance when the Illinois Tollway determines that the Contractor or their Subcontractor is not in full Contract conformance and is deemed unresponsive to adequate disposition to any NCRs in addition to any other costs incurred by the Contractor in association with the resolution of said Non-Conformance.

    a. The Contractor shall develop, implement, and maintain documented procedures for identifying nonconforming items, including provisions for re-inspecting and retesting repaired and reworked items.

    b. The Contractor shall document Non-Conformances and their disposition by following procedures outlined in accordance to the Illinois Tollway's WBPM system. If the Illinois Tollway's WBPM system is not available, the Contractor shall monitor their status by maintaining logs. The Contractor shall be responsible for promptly identifying and segregating nonconforming items from the conforming items and immediately notify the Engineer.

    c. The CQP shall contain provisions for documenting activities affected by the nonconforming Work, detailing both the Non-Conformance and its disposition.

d. The responsibility for review and for disposition of nonconforming work shall be defined in documented procedures. Contractor staff, under the QR's direction, performing evaluations to determine conformance and disposition shall have demonstrated competence in the specific area of interest, a thorough understanding of the requirements, and access to pertinent background information. Dispositions shall be as follows:

i. Accept As Is
ii. Rework
iii. Repair
iv. Reject

a. Nonconforming items that have been disposed, Accept As Is and Repair shall be justified, documented, and evaluated to ensure the validity of the design by using the same design bases (input documents) that were used in the original design. Accept As Is and Repair dispositions shall have a design justification for such disposition. These changes shall be reviewed and approved by the same design organization that reviewed and approved the original design or by an alternate organization approved in writing by the Engineer and shall have the Chief Engineer's or his/her designee's approval.

b. Applicable contract documents shall be revised to reflect all facility changes resulting from resolution of Non-Conformance.

c. The Contractor shall ensure that applicable requirements for control of nonconforming Work or materials by Subcontractors and Suppliers are included in their contract and procurement documents with each Subcontractor and Supplier.

6.1 Corrective and Preventive Action

1. The Contractor shall investigate the cause of any Non-Conformance and take appropriate corrective action to prevent recurrence. The identification, cause, and corrective action planned and taken shall be documented. Corrective action taken with respect to nonconforming Work shall be proactive so as to prevent recurrence. The Engineer will have the final approval of all proposed corrective actions.

2. The Contractor shall develop, implement, and maintain documented corrective action procedures for the following:

a) The analysis of processes meant to detect and eliminate potential causes of Non-Conformance.

b) Initiate preventive actions to deal with problems to an extent that corresponds to the risks encountered.

c) Ensure implementation and effectiveness of corrective actions.

d) Implement and record changes in procedures resulting from corrective actions.

3. The Illinois Tollway's WBPM system will accurately document this process.

4. The Contractor shall ensure that applicable requirements for corrective action by their Subcontractors and Suppliers are included in their contract and procurement documents.

SECTION 7.0 QUALITY RECORDS AND INTERNAL QUALITY AUDITS

7.1 Quality Records

1. The CQP shall contain provisions for identification of types of quality records to be maintained and for their ability to be retrieved. The Contractor shall maintain quality records in accordance with applicable procedures as evidence that all of its activities and those of its Subcontractors and Suppliers comply with the requirements of the CQP. This includes all of the documents and forms for Aggregate, Concrete and Hot Mix Asphalt materials quality control, which shall be maintained on a computer program that is compatible with the Tollway's web based I-MIRS database for materials quality control and quality assurance test data.

2. The Contractor shall develop, implement, and maintain documented procedures for control of quality records. Responsibility for production, collection, indexing, filing, storage, maintenance, and disposition of quality records shall be established.

3. Quality records shall be legible and shall specify the type of activities involved. Records shall be kept in a suitable environment to prevent deterioration, damage, and unauthorized access. Retention times and final disposition shall be established and recorded.

4. Subcontractor and Supplier quality records shall be included in the Contractor's quality records.

5. Quality control records shall include, but not be limited to, the following:

    a) Inspection reports or documents that are acknowledged or generated by the contractor, A Forms (Example: A-38 and A1-B) and checklists.

    b) Test data

    c) Qualification records for personnel, processes, and equipment.

    d) Calibration records.

    e) Non-Conformance and corrective action reports.

    f) Documentation of audit and surveillance activities.

    g) Material and equipment certificates of conformance or compliance or both; certified material test reports.

    h) Drawings, procedures, and the CQP.

i) Design input, output, and verification for performance based Alternative Methods.

j) Certification and training records.

k) Subcontractor and supplier evaluations.

l) Subcontractor and supplier documentation.

m) Elevations of compacted subbase, base course.

n) Superstructure Steel Measurements.

   i) Thickness and width of flange plates (recorded for all sections between full penetration butt welded splices and bolted splices).
   ii) Thickness of web plates (recorded for all sections between full penetration butt welded splices and bolted splices).
   iii) Thickness and width of all splice plates.
   iv) Length of web plates (top and bottom, along edge; mid along chord) (prior to attachment of bearing and diaphragm plates).
   v) Camber (in each section between bolted splices) at 3 quarter points.
   vi) Radius of curvature (between bolted splices).
   vii) Fillet weld sizes (between bolted splices, both sides).
   viii) Thickness & length of diaphragm members and plates (each typical intermediate & end).

o) Precast Concrete Superstructure Measurements.

p) Substructure Measurements.

   i) Elevation of bottom of structure excavation.
   ii) Thickness of unsuitable soil replacement (as applicable).
   iii) Elevation of top of cured seal coat (as applicable).
   iv) Thickness of footing.
   v) Length of columns or stem.
   vi) Bearing seat elevations.
   vii) Beam center line bearing stations.
   viii) Station to station field length.

q) The Contractor shall provide a revised copy of the ITS Local Communications Diagrams; to be updated in Microsoft Visio by the Contractor to reflect all pertinent changes and additions to relevant systems. A copy of the original ITS Local Communications Diagrams will be provided to the Contractor by the Illinois Tollway ITS Unit.

7.2 Internal Quality Audits

1. The Contractor shall develop, implement, and maintain documented procedures for the control of audit and surveillance activities. Audits, surveillance, and follow-up actions shall be scheduled and conducted by qualified quality personnel. All audit and surveillance activities shall be documented.

2. The Contractor shall establish and maintain a system of internal audits conducted quarterly at a minimum to verify and assess its compliance with the requirements of the CQP.

3. The Contractor shall establish and maintain a system of surveillance or external audits to verify and assess compliance by its Subcontractors and Suppliers with the CQP or other approved quality program.

4. Results of audits and surveillance shall be presented to the personnel having responsibility in the area being audited. Responsible management personnel shall take timely corrective action on the deficiencies found by internal audits.

5. The Contractor shall ensure that requirements for surveillance and internal audit by Subcontractors and Suppliers are included in their Contract with their Subcontractors and Suppliers as well as procurement documents for this issue.