Construction
Quality Assurance Program
for
LA DOTD
Design-Build Projects

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Federal Highway Administration

DOTD
LOUISIANA DEPARTMENT OF
TRANSPORTATION & DEVELOPMENT

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SECTION 1 - INTRODUCTION

1.1 General

The Construction Quality Assurance Program (CQAP) for design-build Projects established by the Louisiana Department of Transportation and Development (LA DOTD) ensures that materials and workmanship incorporated into the highway construction project are in reasonable conformance with the approved plans and specifications, including any approved changes. Prior to the commencement of any design or construction activities, the Design-Builder shall develop and implement a CQAP for all phases of construction.

This program is developed based on 23 CFR 637.207(b) and Federal Highway Administration (FHWA) Technical Advisory T6120.3, which are available at the following links:

23 CFR 637.207(b) - http://www.access.gpo.gov/nara/cfr/waisidx_03/23cfr637_03.html

TA 6120.3 - http://www.fhwa.dot.gov/legsregs/directives/techadvs/t61203.htm

The program consists of a quality control program, an acceptance program and an independent assurance (IA) Program. The CQAP allows for the use of Design-Builder-performed quality acceptance (QA) test results as part of an acceptance decision if the QA results are validated by the Owner Verification (OV) testing results performed by LA DOTD.

The purpose of this Program is to provide statewide consistency and a programmatic approach to quality assurance for design-build projects where the contractor's test results are used in the acceptance decision regardless of how the project is funded. It clarifies federal requirements relating to quality assurance and statistical analysis procedures. Any modification to this CQAP requires review and approval by LA DOTD and FHWA ninety days prior to construction.

Failure by the Design-Builder to follow the CQAP will result in suspension of work by the Construction Quality Acceptance Firm (CQAF), Owner Verification Firm (OVF), or LA DOTD. The Design-Builder shall present the CQMP at a meeting/workshop to the OVF, DOTD, and FHWA prior to submittal of final Quality Plan.

Acronyms and definitions for terms used in the CQAP are provided in ***Appendix A – Acronyms and Definitions***.

The CQAP is comprised of several components and the relationships between the parties and functions are shown in Figure 1.

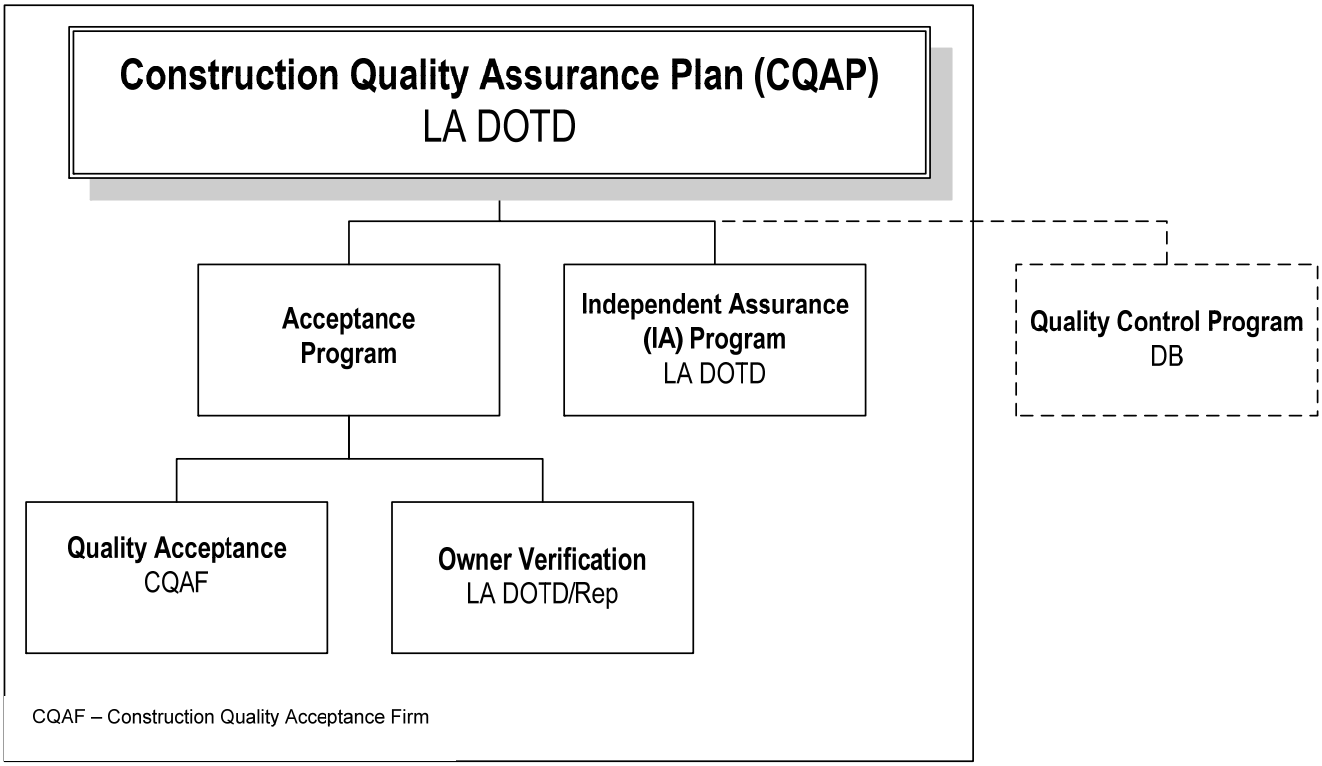
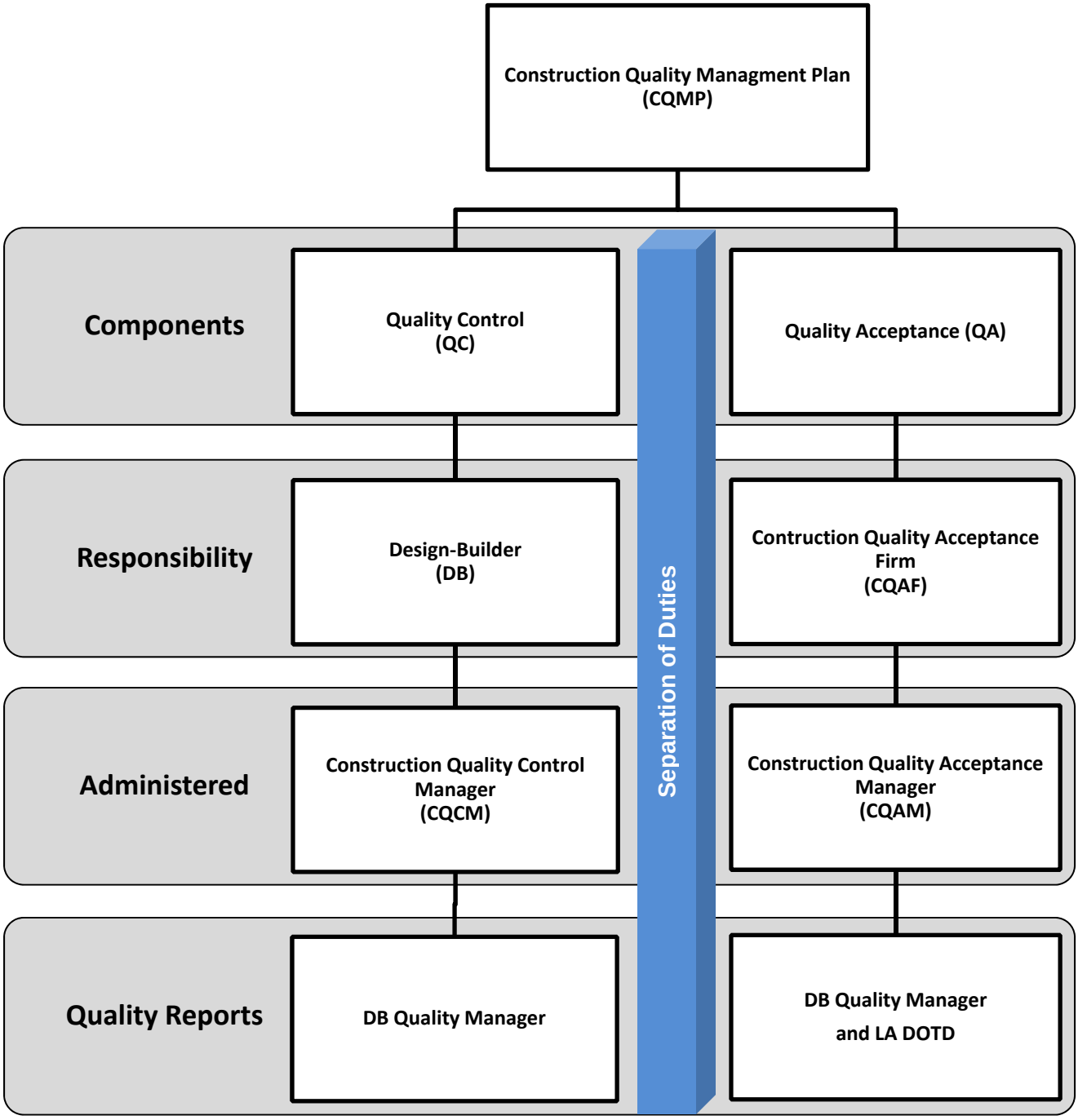


Figure 1 – Components and Relationship in the CQAP

1.2 Construction Quality Management Plan

Design-Builder's Construction Quality Management Plan (CQMP) shall consist of both Quality Control (QC) and Quality Acceptance (QA) with respect to performance of the Work. Requirements for the QC portion of the CQMP are described in Section 2 – Quality Control Program. Requirements for the QA portion of the CQMP are described in Section 3 – Acceptance Program. The CQMP shall establish a clear distinction between QC and QA activities and the persons performing each function. See Contract DB Section 113 for additional details of the CQMP. The CQMP shall be submitted 60 days after notice to proceed and must be approved by LA DOTD and FHWA before construction may begin. The components and the relationships between the parties and functions responsible for the CQMP are shown in Figure 2.

Figure 2 – CQMP Flow Chart



1.3 Owner Verification Testing and Inspection Plan

LA DOTD's Owner Verification Testing and Inspection Plan (OVTIP) shall describe LA DOTD's commitments to perform owner verification (OV) of the Design-Builder's QA testing and inspection. Requirements for the OVTIP are described in Section 3 – Acceptance Program.

1.4 Conflict of Interest

To avoid an appearance of a conflict of interest, any independent qualified laboratory shall perform only one of the following types of testing on the same project:

A. Quality control testing;
B. Quality acceptance testing;
C. Owner verification testing*;
D. Independent assurance testing*; or
E. Referee testing*.

* LA DOTD may perform OV, IA, and referee testing as long as separate equipment and personnel are performing tests.

SECTION 2 – QUALITY CONTROL PROGRAM – (QC)

2.1 General

Design-Builder shall be responsible for the quality of the Work. Project quality will be enhanced through the daily efforts of all the workers involved with the Work, supported by Design-Builder's CQMP. Design-Builder's QC portion of the CQMP shall include the internal procedures used by the Design-Builder that will ensure that the Work is delivered in accordance with the released-for-construction plans, approved shop drawings, working drawings, and specifications. This involves the active participation of the entire work force in working to achieve "quality" initially and to minimize/eliminate re-work. The Design-Builder's QC shall not be part of the acceptance program; this is for Design-Builder's internal process control only.

2.2 Design-Build Quality Control Requirements

The Design-Builder's CQMP shall establish a systematic approach to define the processes, methods, procedures, and documentation for delivery of QC on the Project. These methods and procedures shall clearly define the authority and responsibility for the administration of the Design-Builder's QC plan.

2.2.1 Staffing

The Design-Builder shall assign an on-site Construction Quality Control Manager (CQCM) who shall be responsible for management of the quality control aspect of the CQMP. The CQCM shall be on the project on a daily basis and always available upon four (4) hours' notice to administer the CQMP. The CQCM shall not be involved with scheduling or production activities, and shall report directly to the Design-Builder's Quality Manager. The CQCM shall ensure that the methods and procedures contained in the approved CQMP are implemented and followed by Design-Builder, Subcontractors, fabricators, suppliers, and vendors both on-site and off-site in the performance of the Work. The CQCM shall be a Louisiana-Licensed Professional Engineer.

Design-Builder's and Subcontractors' construction work force are all considered to be members of Design-Builder's quality control staff as each and every one is responsible for the quality of the Work. Personnel responsible for performing the quality control inspection shall be knowledgeable and trained to perform their quality control duties. Personnel performing quality control sampling and testing shall be knowledgeable in the testing methods and procedures.

Although not used for acceptance, QC testing and inspection shall ensure quality has been incorporated into all elements of work prior to requesting acceptance testing and inspection. The QC program should be sufficient in scope to remedy repeated discoveries of non-compliant work by those performing acceptance inspection and testing. Repeated observations of QC quality shortfalls shall be considered a breakdown of the QC program and shall be cause for investigation and corrective action prior to commencement of work areas affected. Corrective action may include the addition of new QC procedures, revision to existing QC procedures, re-training of QC personnel, removal and replacement of QC personnel, or other such actions which will restore the effectiveness of the QC program.

2.2.2 CQMP Requirements for Quality Control

Design-Builder's CQMP shall clearly address, at the minimum, how the Design-Builder's QC staff will address the following requirements:

A. A construction quality control organizational chart and staffing plan, which shall include the period of time that the QC staff members will be present on the site and the experience/knowledge/skill levels of QC staff.

B. Procedures to ensure that the education, training, and Qualification of personnel performing CQMP activities are achieved and maintained and that all Work is performed in accordance with the approved designs, plans, and specifications.

C. Procedures to ensure that the Design-Builder, Suppliers, and Subcontractors designate individuals on each crew responsible for performing daily field inspections of their own Work and for preparing a daily QC report to document the inspection performed and applicable Progress Check Point (PCP) code. Report forms to be used by the responsible quality control personnel shall be included in the Design-Builder's CQMP.

D. Documents specifying that all activities undertaken by or on behalf of the Design-Builder affecting the quality of the Work shall be prescribed and accomplished by documented instructions, procedures, and appropriate drawings. Such instructions, procedures and drawings shall include quantitative and qualitative criteria to be used to determine compliance.

E. Procedures to ensure that critical elements of the Work are not started or continued without QA personnel on site for acceptance inspection and testing. Inspection or hold points shall be identified and communicated to the CQAM, CQCM, and LA DOTD. Procedures to proceed beyond inspection or hold points shall be developed.

F. Procedures for inspecting, checking, and documenting the Work. Inspection, examinations and measurements shall be performed for each operation of the Work to assure quality.

G. Procedures for identification and control of materials, equipment, and elements of the Work. These procedures shall ensure that identification of an item is maintained by appropriate means, either on the item or on records traceable to the item, as necessary, throughout fabrication, erection, installation and use of the item.

H. Procedures to ensure that materials, equipment or elements of the Work that do not conform to requirements of the applicable Law or the Design Documents are not used or installed. These procedures shall include identification, documentation, segregation, disposition and notification to LA DOTD and, if appropriate, Governmental Entities and other affected third parties, as well as procedures for LA DOTD to review Nonconforming Work.

I. Procedures for processing a request for information (RFI) to resolve discrepancies and/or questions in the plans and specifications so that all changes are documented and approved by the Design-Builder's design engineers and LA DOTD.

J. Procedures to indicate, by the use of markings such as stamps, tags, labels, routing cards, or other suitable means, the status of inspections and tests performed upon individual items of the Work.

K. A program for coordination of all CQAF inspections and testing with Governmental Entities and Utility Owners.

L. A Program to ensure performance of all testing required to demonstrate that all materials, equipment and elements of the Work will perform satisfactorily for the purpose intended and meet the standards specified in the Contract Documents. It shall specify written test procedures which include provisions for ensuring that all prerequisites for the given test have been met and that adequate test instrumentation is available and used. The CQMP shall require test results be documented and evaluated by the CQCM to ensure that test requirements have been satisfied.

M. Measures to ensure that tools, gauges, instruments, and other measuring and testing devices used in activities affecting quality are properly maintained, controlled, calibrated, certified and adjusted at specified periods to maintain accuracy within industry standards.

N. The preparation of all Portland Cement Concrete (PCC), soil-lime treatment, soil-cement treatment, and hot mix asphaltic concrete mix designs by personnel who hold the required certifications as specified in Appendix C. Additionally, the designs shall be reviewed and signed by a Louisiana-licensed Professional Engineer attesting that the design meets LA DOTD requirements, Project Special Provisions or Specifications, for the specified class or grade for which it was prepared.

O. Sampling and testing of all materials during the production or manufacturing processes so that only materials meeting the specifications are supplied for ultimate incorporation into the Work. Minimum sampling and testing guidelines are supplied in Appendix G.

P. Procedures to control the handling, storage, shipping, cleaning and preservation of materials and equipment to prevent damage or deterioration.

Q. Procedures to ensure that conditions adverse to quality, such as failures, malfunctions, deficiencies, defective material and equipment, adverse weather conditions (hot, cold, rain, etc.), deviations and other Nonconforming Work are promptly identified and corrected. The procedures shall ensure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition and the corrective action taken shall be documented and reported in writing to LA DOTD and to appropriate levels of the Design-Builder's management to ensure corrective action is promptly taken.

R. Measures to control the receipt and issuance of documents, such as instructions, procedures, training manuals and drawings, including changes thereto, which prescribe activities affecting quality. These measures shall ensure that approved documents, including authorized changes thereto, are reviewed for adequacy and approved for release by authorized personnel of the Design-Builder and are distributed to and used at the location where the prescribed activity is performed. Changes to documents shall be reviewed and approved by the same organizations that performed the original review and approval unless LA DOTD consents, in writing, to another responsible organization.

S. Requirements and methods for controlling documents (such as Certificates of Delivery (CD), mill certs, batch certifications, dailies, test results, etc.).

T. Procedures for checking and verifying the accuracy and adequacy of construction stakes, lines, and grades established by the Design-Builder.

U. Procedures for ensuring that construction alignment and grades are in accordance with the Contract documents.

2.2.3 Reporting, Record Keeping, and Documentation

Design-Builder shall maintain construction workmanship and materials quality records of all inspections and tests performed per the approved CQMP. These records shall include factual evidence that the required inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken. These records shall cover both conforming and defective or deficient features, and shall include a statement that all supplies and materials incorporated in the Work are in full compliance with the terms of the Contract Documents. These records shall be available for review and audit to CQAF and to LA DOTD.

SECTION 3 –ACCEPTANCE PROGRAM

3.1 General

There are two types of acceptance on design-build projects. The first type of acceptance is LA DOTD-performed acceptance where frontline acceptance testing and inspection are performed by LA DOTD or its representative. The second type of acceptance is Design-Builder-performed acceptance where frontline acceptance testing and inspection are performed by the Design-Builder's CQAF.

This project acceptance program will require Design-Builder-performed acceptance inspection, sampling and testing. Under Design-Builder-performed acceptance, OV and QA together are the basis for the acceptance decision. LA DOTD may use Design-Builder-performed QA results for acceptance when they are statistically validated and/or verified by the OV results. QA is performed by the Design-Builder CQAF and the OV is performed by LA DOTD or its representative.

Design-Builder's QA portion of the CQMP shall include the internal procedures used by the Design-Builder's CQAF to ensure that the Work is inspected and tested to verify compliance with the released-for-construction plans, approved shop drawings, working drawings, and specifications and approved Change Orders. Design-Builder's QA shall be separate from the Design-Builder's QC program. The Design-Builder's CQAF must not be owned by or be an affiliate of the Design-Builder, any principal participant, or construction subcontractor (see DB Sections 101 and 112). LA DOTD's OV program shall include internal procedures used by LA DOTD to ensure that the Design-Builder's frontline acceptance is performed in accordance with the approved CQMP and to verify the Design-Builder's QA testing and inspection. The Construction QA Inspections must include the observations, measurements, and documentation specified in the Appendix F – Minimum CQAF Construction Quality Acceptance Inspection and this document.

3.1.1 LA DOTD-Performed Verification

LA DOTD will perform verification sampling and testing as part of this Construction Quality Assurance Program (CQAP). The CQAF shall perform acceptance sampling and testing as defined by Appendix G – CQAF's Minimum Sampling and Testing Manual. Materials which are monitored or pre-approved by LA DOTD under the QPL are subject to QA and OV sampling and testing as part of Design-Builder-performed acceptance unless otherwise specified by this document.

3.1.2 Quality Acceptance Decision

Under Design-Builder-performed acceptance, both the QA and OV testing make up the acceptance decision. Section 3.2 – Sampling and Testing describes sampling and testing requirements for both the QA and OV groups. Section 3.3 – Design-Build Quality Acceptance Requirements describes materials acceptance specific to QA requirements and Section 3.4 – Owner Verification Requirements describes owner verification testing, statistical analysis, and reporting requirements specific to OV requirements.

3.2 Sampling and Testing

This section provides FHWA and LA DOTD's guidance on sampling, testing, inspection, and acceptance requirements to be used in the acceptance decision. References in the Contract to a Louisiana test method or test designation of the American Association of State Highway and Transportation Officials (AASHTO), The American Society for Testing and Materials (ASTM), or any other recognized national organization means the latest revision of that test method or specification for the work in effect on the proposal due date.

3.2.1 Sample Types and Uses

Sampling is either random or fixed, depending on whether the location was selected randomly (random) or if a specific location was subjectively identified (fixed). Sampling is also either independent or dependent, based on whether the location was independently selected (independent) or whether is based on the location of another sample (dependent/split). The F- and t- tests described in Section 3.4.3 – Material Validation Reporting are only valid when using random independent samples.

However, split samples may be used outside of the statistical analysis for owner verification of Design-Builder-performed acceptance tests under LA DOTD's Owner Verification Program. A comparison process for performing and analyzing split samples between LA DOTD and CQAF is necessary during the startup operation of the CQAP as described in Appendix B. These samples will be analyzed by LA DOTD and the results discussed with the CQAF to assure laboratory and technician test results compare favorably. When the acceptable tolerance limits in Section 4 Table 2 – Schedule of Allowable Deviation Values between Split Samples are exceeded, corrective actions for either or both parties will be identified and corrective actions will be incorporated as appropriate. This process will help provide initial alignment of the LA DOTD and CQAF laboratories and testing procedures.

Split samples may also be performed throughout the life of the project as necessary to investigate non-validating material categories and verify or realign testing equipment and personnel.

3.2.2 Notification

The Design-Builder shall, on a weekly basis, provide the CQAF and LA DOTD with a three-week look-ahead schedule of planned activities to include all anticipated material quantities for sampling, testing and IA preparations. The Design-Builder shall also, on a daily basis, communicate changes to the scheduled work, for each current day to the CQAF and LA DOTD, and shall notify the CQAF, OVF and LA DOTD when materials are ready for sampling and testing.

The LA DOTD's OV may observe any sampling testing performed by the CQAF. If the LA DOTD OV observes a deviation from the specified sampling or testing procedures, the LA DOTD OV will verbally describe the observed deviation within 24 hours to the Design-Builder CQAM, followed by a written Non Compliance Report (NCR) covering the deviation to the Design-Builder's CQAM and the Design-Builder's Project Manager.

3.2.3 Quantities and Testing Frequency

The CQAF shall continuously track and record the quantity of material incorporated into the Project. Generate a weekly report to ensure CQAF compliance with Appendix G – CQAF's Minimum Sampling and Testing Manual. LA DOTD shall use the report to verify compliance of both the QA and OV testing frequency. Manufacturers' warranties, guarantees, Certificate of Compliance, Certificate of Analysis, Certificate of Delivery, instruction sheets, parts lists and other materials that are furnished with articles or materials incorporated into the Work, shall be made available to LA DOTD with the weekly report.

At a minimum, the CQAF shall perform material sampling and testing at locations and frequency defined in Appendix G – CQAF's Minimum Sampling and Testing Manual. This minimum testing frequency must be met with random independent samples as defined in Section 3.2 – Sampling and Testing. During the start-up of new categories of work and when there are any concerns over the quality of material, the CQAF shall conduct testing at a 4-fold increase (or as required by Appendix B) testing frequency to reduce risk. The intent of increasing testing at the start of production is to insure that the Design-Builder's processes are in control and to establish acceptability requirements early.

While the testing of random independent samples are required to meet the guide schedule testing requirements, the CQAF shall perform additional (fixed) tests when the quality of material is questionable at a location other than the randomly selected location. This fixed test shall constitute an acceptance test and a failing result shall be addressed in a similar manner to a failing random independent test. Fixed tests shall not count towards meeting minimum CQAF testing frequencies.

LA DOTD, or their designee, will perform oversight inspection and material verification sampling/testing. To verify QA test results, OV testing shall be performed at a frequency shown in Appendix G – CQAF's Minimum Sampling and Testing Manual. Split sample testing defined in Appendix D does not replace or relieve the requirements found in Section 4.0 – Independent Assurance Program. Frequency will be based on each job mix formula source or class of concrete.

3.3 Design-Builder Quality Acceptance Requirements

Design-Builder's CQMP shall establish a systematic approach to define the processes, methods, procedures, and documentation for delivery of QA on the Project. These methods and procedures shall clearly define the authority and responsibility for the administration of the Design-Builder's CQMP.

3.3.1 Staffing

Design-Builder's CQAF shall assign an on-site Construction Quality Acceptance Manager (CQAM) who shall be responsible for management of the quality acceptance aspect of the CQMP. The CQAM shall be on the project on a daily basis and always available upon 4 hours' notice to administer the CQMP. The CQAM shall be a Louisiana-licensed Professional Engineer and shall be an employee of the CQAF. The CQAM shall report to the Design-Builder's Quality Manager. The CQAM shall not report to any person or party directly responsible for design or construction production.

The OVF shall resolve any issues concerning methods or procedures requiring the "Engineers' review, approval, authorization, examination, interpretation, confirmation, etc." which are contained in the project Specifications.

A quality acceptance inspection and material sampling/testing staff shall be provided under the direction of the CQAM to perform inspection and material sampling/testing of all Work performed and materials incorporated into the Project by any member of the Design-Builder's group. If approved in writing in advance by LA DOTD, qualified individuals who are employees of or retained by manufacturers, Vendors or Suppliers may inspect certain portions of Work.

The quality acceptance inspection staff shall be employees of the CQAF and shall be certified in the applicable inspection and material sampling and testing procedures. The quality acceptance staff shall be experienced in highway inspection and material testing. The training and experience of the quality acceptance staff shall be commensurate with the scope, complexity, and nature of the activity to be inspected and tested. Qualifications shall include appropriate LA DOTD certifications for testing and inspection listed in Appendix C. Documentation of the training and certification shall be maintained by the CQAF and available for review and audit.

The size of the CQAF's quality acceptance staff shall reflect the volume of quality acceptance activities necessary for the Work in progress and shall be maintained in accordance with the approved CQMP.

The CQAF's staffing requirements shall be updated as necessary throughout the term of the Work to reflect changes in the actual construction schedule. Design-Builder shall ensure that adequate CQAF staff is available and that CQMP activities are undertaken in a manner consistent with the Project Schedule and in a manner that will enable the Design-Builder to achieve the Final Acceptance deadline.

3.3.2 Quality Acceptance Facilities and Equipment

Certification must also be obtained for AASHTO and ASTM test methods that are modified or referenced by Louisiana test methods. Unless otherwise approved by LA DOTD, the laboratory or field laboratory shall be located on site or within thirty (30) miles of the Project.

3.3.3 CQMP Requirements for Quality Acceptance

Design-Builder's CQMP shall clearly address, at the minimum, how the Design-Builder's QA staff will address the following requirements:

A. Methods and procedures that clearly define the authority and responsibility for the administration of the Design-Builder's CQMP.

B. Procedures for inspecting, checking, and documenting the Work for acceptance, both on and off-site (including fabricators, prestressed plants, etc). Inspection, examinations and measurements shall be performed for each operation of the Work to assure quality.

C. Procedures to ensure that the education, training, and certification of personnel performing CQMP activities are achieved and maintained and that all Work is performed in accordance with the approved designs, plans, specifications, and approved change orders.

D. Procedures documenting and tracking the disposition of any identified noncompliance with the plans and specifications and applicable Progress Check Point (PCP). These procedures shall include a clearly defined process for communicating identified non-compliances to LA DOTD and the Design-Builder Quality Manager.

E. Measures to ensure that purchased materials, equipment, and services conform to the Contract Documents, the Governmental Approvals, applicable Laws, Rules, and the Design Documents. These measures shall include provisions for source evaluation and selection, objective evidence of quality furnished by Subcontractors and Suppliers, inspection at the manufacture or vendor source, and examination of products upon delivery.

F. Measures to ensure that tools, gauges, instruments, and other measuring and testing devices used in activities affecting quality are properly maintained, controlled, calibrated, certified and adjusted at specified periods to maintain accuracy within industry standards.

G. A comprehensive system of planned and annual audits of the Design-Builder's CQMP to determine adherence to and the effectiveness of the CQMP. CQAF personnel shall perform the audits in accordance with the written procedures or checklists. Audit results shall be documented, reviewed, transmitted to LA DOTD, and acted upon by the Design-Builder. Follow-up action, including re-audit of deficient areas following corrective action, shall be taken where indicated.

H. The Design-Builder must develop and maintain a robust document control system for materials sampling and testing, construction inspections and NCR’s etc. which is acceptable to LA DOTD.,

I. Inspection of all Work to verify and document that the Work has been constructed in conformance with the released-for-construction plans, approved change orders, specifications, and approved working and shop drawings.

J. Procedures on how quality acceptance material sampling and testing will be performed including the process for generating random test locations, tracking material samples, processing material samples, review and approval of test records, tracking compliance with material testing frequency, and identification of PCP for each test.

K. Procedures for addressing failed tests. For a failed random independent test, a fixed test at the original failing test location and a new random independent test at a new location in the same lot are required. For a failed fixed test, a new fixed test is required at the original failing test location.

L. Procedures for reviewing QA test results for compliance with mutually agreed-upon processes and naming conventions to ensure data integrity for accurate statistical analyses.

M. Procedures for auditing of QC and QA records, documentation, procedures, and processes to verify compliance with the Contract Documents and approved CQMP.

N. Procedures for the review and approval of all Portland cement concrete, soil-lime treatment, soil-cement treatment, and hot mix asphaltic concrete mix designs by a Louisiana Registered Professional Engineer. The CQAF shall also verify trial batches.

O. Procedures for ensuring quality acceptance testing shall be performed at the frequency stipulated in the Appendix G – CQAF's Minimum Sampling and Testing Manual.

P. Procedures for ensuring the size of quality acceptance staff shall reflect the volume of quality acceptance activities necessary to provide oversight and perform audits of the quality control inspection and material sampling/testing operation.

Q. Procedures for ensuring that pre-approved materials used on the project maintain their approved status on the QPL. Materials which do not maintain QPL approval shall be sampled and tested on a project-level basis.

R. Procedures for notifying the LA DOTD's Representative when construction activities requiring IA sampling and testing will be in progress in accordance with Section 4 – Independent Assurance Program.

3.3.4 Reporting, Record Keeping, and Documentation

The Design-Builder shall document and maintain documentation showing how the CQAF has complied with the CQMP requirements in Section 3.3.3.

The Design-Builder's CQAF shall maintain electronically and transmit to LA DOTD daily inspection reports within twenty-four (24) hours after the work shift in Site Manager Daily Reports. The daily inspection reports must be in narrative form and shall document the day's events, activities, materials and quantities placed, identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed, weather conditions, asserted occurrences, events and conditions causing or threatening to cause any significant delay or disruption or interference with the progress or any or the work, significant injuries to person or property, a listing of each Progress Check Points (PCP) activity depicted on the current monthly plan updated which is being actively prosecuted, and traffic accidents in the project area as well as lane closures in effect at the time of the accident. The responsible inspector and supervisor shall sign the daily inspection reports.

The CQAF shall be responsible for entering Quality Acceptance materials test data into LA DOTD's database. The responsible technician and his/her supervisor shall sign the daily test reports and the results of the daily tests shall be entered into the database and

electronically signed within 24 hours of test completion. This electronic reporting is intended to allow the Design-Builder and LA DOTD to make timely and accurate decisions on workmanship and material quality issues. All categories used in the Microsoft Access Database shall be submitted to LA DOTD for approval prior to using the database.

The CQAF inspection and material test results shall be simultaneously transmitted to both LA DOTD and the Design-Builder. The Design-Builder shall not receive the CQAF inspection or material test results prior to LA DOTD.

The Design-Builder's Project Manager will provide information to the LA DOTD's representative to verify that Progress Check Points (PCP) are met as per the Design-Builder's Schedule of PCPs. A monthly audit of PCPs will be performed and any required correction will be made to the subsequent progress payment. The LA DOTD's designated representative's review and audit will assure that the PCP achievement and correct quantities are show. Document for payment of Change Orders must also contain sufficient information to satisfy an audit. Documents for the closure of each Change Order will be reviewed and included in the final payment. Additionally, in accordance with the DB Sections 105 and 109, the Department's Project Manager will have the authority to suspend the work if at any time the Manager determines that the Design-Builder is not in conformance with the contract requirements.

3.4 Owner Verification Requirements

3.4.1 General

LA DOTD has the ultimate responsibility for verifying that the Project is designed and constructed in compliance with the Contract Documents. As such, LA DOTD or its representative will perform owner verification sampling, testing and inspection, and conduct audits to verify the Design-Builder's compliance with the approved CQMP.

LA DOTD shall establish a system for managing the materials acceptance process. This process shall include the performance and approval of OV tests at the stipulated test frequency, review of QA test results, performance of statistical analysis on OV and QA test results, and any associated tasks arising out of the statistical analysis.

OV laboratory shall meet the requirements described in Section 4 – Independent Assurance Program.

3.4.2 Owner Verification Testing and Inspection Plan

The Owner Verification Firm (OVF) will develop a comprehensive Owner Verification Testing and Inspection Plan (OVTIP). This plan will be provided prior to construction, as dictated by the OVF's contract with LA DOTD, to the LA DOTD's Project Manager for review and approval.

The OVTIP shall clearly address, at the minimum, how LA DOTD's OV staff will address the following requirements:

A. Methods and procedures that clearly define the authority and responsibility for the administration of OVTIP.

B. Procedures for overseeing and inspecting the Work for compliance with the Design-Builder's CQMP for each operation. OVF shall randomly inspect the CQAF's construction quality acceptance inspection requirements included in Appendix F as required in the OVF's contract with LA DOTD.

C. Procedures to ensure that the education, training, and certification of personnel performing OV activities are achieved and maintained and that all Work is performed in accordance with the approved OVTIP.

D. Procedures to oversee the status and disposition of any identified noncompliance with the plans and specifications.

E. Measures to ensure that tools, gauges, instruments, and other measuring and testing devices used in activities affecting quality are properly maintained, controlled, calibrated, certified and adjusted at specified periods to maintain accuracy within industry standards.

F. A system of planned and periodic audits of the Design-Builder's CQMP to determine adherence to and the effectiveness of the CQMP. Audit results shall be documented, reviewed, sent to FHWA, LA DOTD and the Design-Builder. Follow-up action, including re-audit of deficient areas following corrective action, shall be taken where indicated.

G. A system of planned and periodic audits of the OV firm to determine adherence to and the effectiveness of the OVTIP. Audit results shall be documented, reviewed, sent to FHWA and LA DOTD. Follow-up action, including re-audit of deficient areas following corrective action, shall be taken where indicated.

H. Procedures for performing periodic inspection of all Work components at the time of placement or installation, including workmanship and quality of the finished product, to verify that the CQAF has performed work in compliance with the released-for-construction plans, approved change orders, specifications, and approved working and shop drawings. The procedure should identify a target oversight inspection rate, methods for performing verification inspections for all QC and CQAF inspectors.

I. Procedures on how OV material sampling and testing will be performed including the process for generating random test locations, tracking material samples, processing material samples, review and approval of test records, tracking compliance with material testing frequency.

J. Procedures for reviewing QA and OV test results for compliance with mutually agreed-upon processes and naming conventions to ensure data integrity for accurate statistical analyses.

K. Procedures for ensuring that only tests performed by qualified CQAF testing personnel are submitted to LA DOTD.

L. Procedures for auditing of QC and QA records, documentation, procedures, and processes to verify compliance with the Contract Documents and approved CQMP.

M. Procedures for reviewing Portland Cement Concrete (PCC), soil-lime treatment, soil-cement treatment, and hot mix asphaltic concrete mix designs.

N. Procedures for ensuring OV testing shall be performed at the frequency stipulated in this CQAP.

O. A system for ensuring continuous statistical analyses in compliance with procedures outlined in this CQAP.

P. Procedures for notifying the District Laboratory when construction activities requiring IA sampling and testing will be in progress in accordance with Section 4 – Independent Assurance Program.

Q. Procedures for observing and reviewing the CQAF's initial start-up testing operations and periodically during ongoing production operations verifying compliance with test procedures.

3.4.3 Material Validation Reporting

The OVF will submit quarterly reports to LA DOTD and FHWA for concurrence with project compliance with the approved CQAP. The report will be submitted 3 weeks after Design-Builder has provided all quarterly inspection and testing documentation. Approved reports shall be distributed to the CQAF after receiving FHWA concurrence. The reporting period for specific pay items or materials is dependent on the pace of construction and the number of tests performed in each analysis category, the time period of the sampling, and the specification and quality requirements. Each report shall cover a period of construction not greater than three months.

The Material Validation report shall address the following areas:

A. Statistical analysis results, to include specification requirements and status of validation process during start-up and completion of an item;

B. Non-validation investigation;

C. Non-conformance log;

D. Engineering judgment log; and

E. Monthly CQAM Material Certification

3.4.3.1 Statistical Analysis. F-tests and t-tests will be used to analyze OV and QA data of Level 1 materials. The F-test is a comparison of variances to determine if the OV and QA population variances are equal. The t-test is a comparison of means to determine if the OV and QA population means are equal. In addition to these two types of analyses,

independent verification and observation verification will also be used to validate the QA test results. The type of analysis is described, and recommended level of significance for specific tests are shown in Appendix B – OVT Levels for Materials Testing Validation.

Before performing any statistical analyses, it is important to ensure that the data contained in each analysis categories are in reasonable compliance with the underlying assumptions of the F-test and t- test. F-tests and t-test may be used for additional tests as directed by LA DOTD.

3.4.3.2 Non-Validation Investigation. If the OV test results do not validate the QA test results, the Design-Builder may proceed working at their own risk until an investigation shall be conducted to determine the reason for not verifying. Assuming that the analysis categories were established appropriately, other areas for investigation include data integrity and accuracy, testing equipment and procedures, sampling variability and material variability. Material quality when non-validation occurs is further discussed in Section 3.5 – Dispute Resolution. Results of the investigation should be reported for the non-validating categories.

3.4.3.3 Engineering Judgment Log. Material test results that indicate reasonable conformance with specification requirement, but did not meet the minimum specification requirements, may be adequate for their intended use. As such, LA DOTD may allow the CQAM to exercise Engineering Judgment to accept such material. The Design-Builder shall provide a proposed list of Engineering Judgments, including tolerances and remedial actions for LA DOTD/FHWA approval (i.e. Concrete truck out of time by 'x' minutes but still workable, Slump out of tolerance by 'x' inches, Aggregate sieve out of specification by 'x'%, etc…). However, each occurrence has to be properly documented. Documentation shall include the location where the material is incorporated, the specification requirement, the recorded test value, and the Engineering Judgment applied to allow use of that material. If the CQAM does not choose to exercise Engineering Judgment or LA DOTD does not allow Engineering Judgment to accept material failing specifications, the material in question may still be accepted through the NCR process, brought into conformance with specifications, or removed from the project.

3.4.3.4 Non-Conformance Log. Materials that do not meet the minimum specification requirements may be adequate for their intended use. The incorporation of the material in questions is subject to the review and approval by the design engineer; however, LA DOTD has final approval on the incorporation of this material. The approval process has to be documented through the Nonconformance Record (NCR) process.

The Design-Builder shall identify, document and report to LA DOTD all instances of Work that have not been constructed with the strictest adherence to the approved drawings and specifications and with the requirements of the Contract Documents, the Governmental Approvals and applicable Law. This reporting shall be in the form of an NCR as described below and shall be submitted to LA DOTD in writing within twenty-four (24) hours of the Design-Builder obtaining knowledge of the same. The Design-Builder shall simultaneously send a copy of each NCR to the Design-Builder's design engineer and the CQAF.

The NCR shall clearly describe the element of Work that is non-conforming and the reason for the non-conformance. The engineer, who stamped and sealed the drawings for the Work, shall evaluate the effect of the Nonconformance on the performance, safety, durability, and effect of the long-term maintenance of the project and the specific element

affected. If the Engineer in Responsible Charge determines remedial actions are necessary, the proposed remedial action shall be documented and bear the stamp of the original responsible Registered Professional Engineer or the responsible Registered Professional Engineer from the same firm assigned to replace the original one. The NCR will then be submitted to LA DOTD for review and final approval. The Design-Builder will be responsible for the cost of the remedial actions.

The Design-Builder shall maintain a log of all NCRs and submit this log to LA DOTD and the CQAF on a bi-weekly basis. Each NCR shall be numbered sequentially, given a brief description, a status and, if it is not closed, an expected date for closure. All NCRs must be closed with the stamp of Design Firm's qualified engineer in charge or the responsible Registered Professional Engineer from the same firm assigned to replace the original one and LA DOTD approval.

3.4.3.5 Monthly CQAM Material Certification. The CQAM shall provide a monthly written material certification, delivered to LA DOTD with each payment request, indicating that the CQMP and all of the measures and procedures provided therein are being fully complied with and are functioning properly (see Appendix E – Material Certification Example Letter). The CQAF shall maintain and submit records monthly that include factual evidence that required activities and tests have been performed, including the following: (i) type, number, and results of CQMP activities, including reviews, inspections, tests, audits, monitoring of Work performance and materials analysis; (ii) related data such as qualifications of personnel, procedures and equipment used; (iii) the inspector or data recorder, the type of test or observation employed, the results and the acceptability of the Work and action taken in connection with deficiencies; (iv) nature of Nonconforming Work and causes for rejection; (v) proposed corrective action for Nonconforming Work; (vi) corrective actions taken with respect to Nonconforming Work; and (vii) results of such corrective actions.

At the completion of the Project, the Design-Builder shall submit with the final invoice a certificate of compliance signed by the Design-Builder's Project Manager and CQAM indicating that all material incorporated in the Project conform to Contract requirements with all exceptions listed.

3.5 Dispute Resolution

Through the life of the Project, there may be differences in material test results or statistical sample populations between the CQAF and the OV Firm. Due to the natural variability in construction materials testing and unavoidable biases in sampling and testing, these differences are often difficult to avoid. It is important to recognize the difference between material quality and statistical validation.

Material quality is measured by whether a test passes or fails and is an indication of whether material will perform its intended purpose. Engineering judgment may be used to substantiate the use of material failing to meet the specification if the material still meets the intended purpose and does not affect the service life equivalent to design service life. Statistical validation is a measure of whether the OV and QA populations are statistically equal. It does not represent the quality of material being incorporated into the Project.

3.5.1 Non-Validation and Status of Material Quality

When OV test results do not statistically validate the QA test results as outlined in Section - 3.4.3.1 Statistical Analysis, LA DOTD District Laboratory Engineer will investigate the source of non-validation. The OV Firm and CQAF will assist in the investigation. The District Laboratory Engineer, or independent laboratory, will provide the DOTD Project Manager with a probable cause of the non-validation and a resolution recommendation. If the non-validation persists over two consecutive analyses as required in Appendix B, a NCR process shall be issued by LA DOTD to formally document and seek resolution to the non-validation.

In addition to the need to investigate the non-validation, the material in question has to be immediately evaluated to determine if it can be left in place or has to be removed, reworked or repaired. The material in question will be evaluated using the process described in this section. The LA DOTD may exercise Engineering Judgment to determine that the material will perform its intended purpose. There are four possible combinations of passing and failing results between the QA and OV test results.

1. Both the QA and OV test results pass specification limits:

   Although statistical validation has not occurred, both the CQAF and OV Firm test results are passing the established specification limits. Thus, material quality in question is considered acceptable.

2. QA test results fail and OV test results pass specification limits:

   The acceptance of material is subject to one of the two scenarios below.

   a. CQAM may exercise approved Engineering Judgment to accept the material if results from all other levels of related OV material testing, within the same lot, pass specification limits.

   b. For those materials not on the Approved Engineering Judgment Log, the CQAF needs to provide OVF an explanation of error and/or proposed correction for acceptance of materials thru the NCR process.

3. Both the QA and OV test results fail the specification limits:

   Material may be left in place if the LA DOTD determines that Engineering Judgment may be used to accept the material or if the material is accepted through the NCR process. Results from all other levels of related OV material testing, within the questionable area, will be included in Judgment decision.

   The acceptance of material is subject to one of the two scenarios below.

   a. OV test result indicates reasonable conformance with specification requirements for the lot in question, the CQAF shall provide to the OVF an explanation of error and/or proposed correction for acceptance of material thru the NCR process.

b. OV test result and/or the results of other levels of related OV testing does not indicate reasonable conformance with specification requirement for the lot in question, the CQAF must perform additional testing within the lot in question to identify the problem area. Based on the results of CQAF testing, all local OV testing of related materials and subsequent investigation discussions between LA DOTD and the Design-Builder, a determination of the material disposition is made and documented through the NCR process.

4. QA test results pass but OV test results fail specification limits:

   Material may be left in place if the LA DOTD determines that Engineering Judgment may be used to accept the material or if the material is accepted through the NCR process. Results from all other levels of related OV material testing, within the questionable area, will be included in Judgment decision.

   This is subject to LA DOTD response in the two scenarios below.

   a. OV test result indicates reasonable conformance with specification requirements for the lot in question, the CQAF shall provide to the OVF an explanation of error and/or proposed correction for acceptance of material thru the NCR process.

   b. OV test result and/or the results of other levels of related OV testing does not indicate reasonable conformance with specification requirement for the lot in question, the CQAF must perform additional testing within the lot in question to identify the problem area. Based on the results of CQAF testing, all local OV testing of related materials and subsequent investigation discussions between LA DOTD and the Design-Builder, a determination of the material disposition is made and documented through the NCR process.

3.5.2 Referee Testing

Disputes over specific test results may be resolved in a reliable, unbiased manner by referee testing and evaluation performed by a referee laboratory. The referee laboratory shall be the LA DOTD Materials and Testing Laboratory or a testing laboratory qualified according to Section 3.3.2, Quality Acceptance Facilities and Equipment, and approved by LA DOTD. The decision by the referee laboratory shall be final and binding on both parties and not subject to dispute resolution under DB Section 107-28. The party whose sampling and testing results are not confirmed and/or supported by the referee laboratory will be responsible for payment for the referee services. If the Design-Builder is the unsuccessful party, the cost of the referee laboratory services will be deducted from payments otherwise due and the LA DOTD will make payment to the referee laboratory on behalf of the Design-Builder.

SECTION 4 - INDEPENDENT ASSURANCE PROGRAM (IA)

4.1 General

LA DOTD District Laboratories shall implement the Independent Assurance (IA) program. This IA program evaluates all sampling and testing procedures, personnel, and equipment used as part of an acceptance decision. The IA Program is required by the Federal Highway Administration (FHWA) and conducted for projects constructed on the National Highway System (NHS). The Louisiana NHS may be viewed at:

http://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/louisiana/index.cfm

This chapter establishes the administration of this program, including lines of responsibility, uniform reporting procedures, and the minimum number of samples and tests required.

Samples and test results from this program are used to independently analyze the reliability of acceptance program by ensuring that tests are performed by qualified personnel and that laboratory facilities and equipment are adequate to perform the required sampling and testing methods.

Personnel designated to conduct IA sampling and testing are not to be directly involved in QA and OV program sampling and testing. In addition, the independent assurance test samples are not to be tested with the same equipment as QA and OV program samples, except when approved by the Materials Engineer Administrator.

4.2 Personnel Qualifications

All personnel performing sampling and testing for the QA, OV, or IA program for the project must be qualified in the appropriate test method in accordance with Appendix C – LTRC Inspector/ Technician Certification. Sampling and testing personnel must obtain and keep current their certifications during the time they are involved for this project.

4.3 Laboratory Qualification

Laboratories where IA tests will be performed must be qualified in accordance with this section.

4.3.1 Laboratory Qualification Responsibility

The LA DOTD Central Laboratory will be accredited under the American Association of State Highway and Transportation Officials (AASHTO) Laboratory Accreditation Program.

LA DOTD Central Laboratory is responsible for overseeing the statewide laboratory qualification program and for qualifying the IA laboratory.

4.3.2 Accreditation

In addition to LA DOTD laboratory qualification, QA, OV, and referee laboratories shall be accredited under the AASHTO Accreditation Program (AAP). The accreditation must be maintained throughout the life of the project. The laboratory must also participate in the AASHTO Materials Reference Laboratory /Concrete and Cement Reference Laboratory (AMRL/CCRL) proficiency programs, or CMEC for HMA. A copy of AAP accreditation certificate(s) shall be transmitted to LA DOTD upon their receipt by the testing laboratory. Certification must also be obtained for AASHTO and ASTM test methods that are modified or referenced by Louisiana test methods.

4.4 Sampling and Testing

The samples for the IA program shall be taken by the District Laboratory personnel. In order to ensure that the IA program evaluates the sampling procedures, testing, and the testing equipment the samples taken by this program shall be either Split Sample or Independent Samples in close proximity to QA or OV samples.

Split Samples shall be split or quartered in accordance with DOTD TR 108 and one portion randomly selected as the IA sample. The splitting or quartering of the sample will be observed by district laboratory personnel.

Independent Samples shall be taken at the same time as the acceptance sample when practical in order to evaluate the sampling procedure.

The testing of IA samples shall be performed by the District Laboratory, with the exception of reinforcing steel which will be submitted to the Materials and Testing Section for testing. All the equipment use by the IA program will not be the same as that used for the QA and OV program samples.

The quantities and testing frequency for the IA program is listed in TABLE 1, Schedule of Independent Assurance Sampling and Testing. The frequencies listed in the schedule are minimums and are to be used as a general guide. The District Laboratory Engineer increased these values as construction procedures and/or conditions warrant.

4.5 Responsibility of the District Laboratory

The District Laboratory will responsible for the implementation and administration of the Independent Assurance Sampling and Testing Program in each district. The District Laboratory shall address, at the minimum the following requirements:

A. At the beginning of construction of the Project, the District Laboratory Engineer will use TABLE 1, Schedule of Independent Assurance Sampling and Testing to establish the minimum required IA sampling and testing for the project. The District Laboratory Engineer will notify the CQAF and OV Firm of the anticipated IA sampling and testing by a Memorandum of Anticipated Independent Assurance Sampling and Testing (Figure 1). This memorandum will list each phase of construction for which sampling and testing is anticipated and the number and types of samples required for each phase.

B. The District Laboratory personnel will review the QA and OV sampling & testing procedures when Split Samples or Independent Samples as part of the independent assurance program. The District Laboratory personnel will observe the sampling and testing procedures and compare them to the Department's standard procedures.

C. The District Laboratory personnel will compare the IA test results for the independent or split sample with the appropriate QA and OV test results. The Table 2 - Schedule of Allowable Deviation Values between Split Samples Test Results will be used to identify discrepancies. The District Laboratory Engineer shall report the IA test results to the Materials Engineer Administrator and the Department's Project Manager as soon as they are completed. Any discrepancies in procedures or test results shall be identified and explanations included on the test report.

D. The District Laboratory Engineer may adjust in sampling and testing schedule at any time during the construction. The District Laboratory personnel may take additional IA tests or samples to resolve concerns about the reliability of acceptance sampling and testing results. Any discrepancies will be resolved prior to the signing of the Independent Assurance Certification referenced in 4.8 D.

4.6 Responsibility of the CQAF and OV Firm

The CQAF and OV Firm will be responsible for:

A. Notifying the District Laboratory Engineer when construction activities requiring IA sampling and testing in accordance with the Memorandum of Anticipated Independent Assurance Sampling and Testing will be in progress. This notification is imperative due to the number of IA samples that require split sampling.

B. If the IA sampling was not accomplished due to the lack of notification by the CQAF or the OV Firm, they shall provide a written explanation to the District Laboratory Engineer of the causes and corrective actions implemented to prevent a recurrence.

C. Notifying the District Laboratory Engineer of plan changes which will affect anticipated IA sampling and testing.

D. Assisting the District Laboratory Engineer in resolving discrepancies between IA sampling and testing and acceptance sampling and testing. This assistance will include co-investigation, taking additional samples, performing additional tests, checking equipment, checking procedures, checking the qualifications of personnel performing sampling and testing, and other cooperative activities necessary to resolve any discrepancies in procedures or results.

4.7 Responsibility of Materials and Testing Section

The Materials and Testing Section will monitor and review the IA program statewide to ensure standardization. Additionally, the Materials and Testing Section will implement modifications or updates to the program, as needed. The Materials and Testing Section is responsible for direct IA testing of reinforcing steel and identifying discrepancies between IA and acceptance results. The District Laboratory Engineer will be notified of these results.

4.8 Reporting

A. Documentation

Documentation will be maintained in the Department's Material Test (MATT) reporting system when possible. Exception reports or copies of screens showing test results (Purpose Code 8, Spec Code 3) are to be used for reporting purposes. Also, results entered into the MATT System are to be accumulated under one item number, Item No. IA-__. (Example: The Item No. for all District 04 IA test results would be IA-04.)

B. Test Reports

The review of the IA sampling and testing procedures and the test results will be documented on an IA test report as illustrated in Submittal 1. The report is to indicate the type of sample (independent or split) and will include all explanations of discrepancies and corrective actions taken. If there are no discrepancies, the word "Verifies" is to be entered into Remarks. If there are discrepancies, the words "Does not verify" are to be entered into Remarks. Each person who reviews any portion of the report or makes comments will sign the reviewed section or comment.

The identification number (laboratory number, lot number, zone and test number, log number, etc.) of the acceptance test report will be referenced on the IA report. A copy of this acceptance report will be attached to the IA report. These documents will be placed in the District Laboratory IA file for the project, but will not be included in the certification or otherwise distributed. When discrepancies occur, the information from this review will be included with the Supplement to the Certification at the completion of a phase of construction.

C. Supplement to the Certification

At the completion of the IA sampling and testing of a phase of construction, all data is to be compiled and checked for accuracy and completeness. When discrepancies occur, the data is to be reported by a memorandum to the Materials Engineer Administrator. A Supplement to the Certification which will include explanations of discrepancies between IA and acceptance test results (Submittal 1) will be attached to this memorandum. If there are no discrepancies, a memorandum and Supplement to the Certification will not be required for this phase of construction, but the data will be included with memoranda for other phases of construction.

D. Independent Assurance Certification

After IA sampling and testing has been completed for a project, an Independent Assurance Certification (with a listing of all memoranda reporting completed phases of construction) will be completed and forwarded by memorandum to the Materials Engineer Administrator (Submittal 2). Any Supplement to the Certification and all memoranda will be attached to the Independent Assurance Certification.

When the Memorandum of Anticipated Sampling and Testing indicates there are no samples to be taken on a project, the Independent Assurance Certification will not be required.

E. Distribution

The distribution for the test reports and memoranda mentioned in this step and in step 4.4. shall be as outlined below.

1. Memorandum of Anticipated Independent Assurance Sampling and Testing

   Directed to: OVF
   Copies to: District Engineer Administrator
   Materials Engineer Administrator
   FHWA Area Engineer

2. Independent Assurance Test Reports

   a. With Test Results

      Directed to: OVF
      Copies to: District Construction Engineer

   b. With Review and Comments

      Placed in District Laboratory IA file with no distribution.

3. Supplement to the Certification

   Directed to: Materials Engineer Administrator
   Copies to: District Engineer Administrator
   OVF
   FHWA Area Engineer

4. Independent Assurance Certification

   Directed to: Materials Engineer Administrator
   Copies to: District Engineer Administrator
   OVF
   FHWA Area Engineer

4.9 Disqualification

If a concern arises as to the competence of any certified individual on this project, this concern must be documented in writing by the District Laboratory Engineer to the Materials Engineer Administrator and the Department's Project Manager. The Concern will be investigated as deemed necessary by the Department. If this investigation substantiates the concern, corrective action, or decertification will be implemented in accordance with the procedures established by the LA DOTD. See also DB Section 108.

TABLE 1: SCHEDULE OF INDEPENDENT ASSURANCE SAMPLING AND TESTING

TYPE OF CONSTRUCTION	MATERIAL		TEST	FREQUENCY	REMARKS
EMBANKMENT[1]	Non-Plastic Embankment[1]		Gradation, PI, Foreign Matter	1/10,000 lin ft/rdwy/lift	
	All Embankments		Density	1/2 weeks of construction activity	
BASE OR SUBBASE[1]	Soil, Aggregate, or Granular Material[2]		Classification and/or Gradation	1/10,000 lin ft/rdwy 1/20,000 lin ft/shoulder	Check % cement for stabilization or treatment if required
			Density	1/10,000 lin ft/rdwy	
ASPHALTIC CONCRETE WEARING AND BINDER COURSES	502 SUPERPAVE	Mixture[2]	$G_{mm,}$	1/15,000 tons	
		Briquette	Voids, VMA	1/15,000 tons	
		Cores	Density		
STRUCTURAL PORTLAND CEMENT CONCRETE[4]	Fresh Concrete		Compressive Strength	1 set of 3/2000 yd^3	
			Air (when used) and Slump	1/2000 yd^3	
	Aggregate: Fine and Coarse[3]		Gradation	1/2000 yd^3 of concrete	

[1] Does not apply when embankment, base or subbase contract quantity is less than 5000 linear feet.
[2] Split samples of acceptance samples will be taken at random and used for Independent Assurance testing.
[3] Does not apply when contract quantity is less than 5000 tons.
[4] Does not apply when contract quantity is less than 500 cubic yards

TABLE 2: SCHEDULE OF ALLOWABLE DEVIATION VALUES BETWEEN SPLIT SAMPLES

TYPE OF CONSTRUCTION	MATERIAL	TEST	TEST VARIATION
EMBANKMENT	Non-Plastic Embankment	Gradation PI Foreign Matter	No. 4 +- 5%; No. 200 +-2% passing +2% +-2%
	All Embankments	Density	+-3 lb/ft^3
BASE PR SUBBASE	Soil	Classification Gradation PI Density	Subgroup +-1 No. 4 & larger +-5%; No. 10 +-4%; No. 40 +-4%; No. 200 +-3% passing +-3 +-3 lb/ft^3
	Aggregate or Granular Material	Gradation PI Density	No. 4 & larger +-5%; No. 10 +-4%; No. 40 +-4%; No. 200 +-2% passing +-3 +-3 lb/ft^3
ASPHALTIC CONCRETE WEARING, BINDER & BASE COURSES	Mixture	G_{mm} [1,2,3] Gradation[1,3] % Crushed[1,3] A.C. Content[1,3]	+-0.015% No. 4 & larger +-5%; smaller than No. 4 +-2% passing +-7% +-0.4%
	Briquette	Air Voids[1,2,3] VMA[1,2,3]	+-1.0% +-0.5% +-500 lb
	Core	Density (Pavement)[1,2,3]	+-0.7% of individual core
STRUCTURAL PORTLAND CEMENT CONCRETE	Fresh Concrete	Compressive Strength,28 days. Slump Air	+-7% of average of set . +-0.5 in. +-0.5%
	Aggregates Fine Coarse	Gradation Gradation	No. 4 & larger +-5%; No. 16 +-4%; No. 50 +-4%; No. 100 +-1% passing No. 4 & larger +-5%; No.8 +-4% passing

[1] Applies to Marshall.

[2] Applies to Superpave .

[3] Applies to SMA.

Figure 1
July 1, 1991
STATE PROJECT NO. 024-05-0031
F.A.P. NO. F-01-02(031)
LA 26 DERIDDER HIGHWAY - (SEC 2)
ROUTE LA-US 171
BEAUREGARD PARISH

MEMORANDUM TO:

NAME
OVF

This is to advise you of the anticipated independent assurance sampling and testing schedule for the above captioned project. Independent assurance samples will be taken and tests performed representing the following phases of construction:

EMBANKMENT:
A. One density test will be taken per two weeks of construction activity. (Please advise the District Laboratory Engineer at commencement of construction activity.)

SUBBASE (6" LIME OR CEMENT TREATED SUBGRADE LAYER):
A. Two density tests; one per roadway.

ASPHALTIC CONCRETE BASE COURSE (ROADWAY):
A. One loose mix sample for gradation and AC content.
B. Two cores for density; one per roadway.

ASPHALTIC CONCRETE WEARING OR BINDER COURSE (ROADWAY):
A. One loose mix sample for gradation and AC content.
B. Two cores for density; one per roadway.

STRUCTURAL PORTLAND CEMENT CONCRETE:
A. One set of concrete cylinders.
B. One slump test.
C. One fine aggregate sample for gradation.
D. One coarse aggregate sample for gradation.
E. One reinforcing steel sample.

Advise this office of any plan changes or work orders affecting quantities or material requirements. Note that this anticipated independent assurance sampling and testing schedule is only the minimum Independent Assurance tests required.

If additional information is needed, please advise this office.

NAME
DISTRICT ENGINEER ADMINISTRATOR

NAME - SIGNATURE
DISTRICT LABORATORY ENGINEER

cc: District Engineer Administrator
Materials Engineer Administrator
FHWA

SUBMITTAL 1
July 21, 1991
STATE PROJECT NO. 024-05-0031
F.A.P. NO. F-01-02(031)
LA 26 DERIDDER HIGHWAY - (SEC 2)
ROUTE LA-US 171
BEAUREGARD PARISH

MEMORANDUM TO:

NAME
MATERIALS ENGINEER ADMINISTRATOR

This is to report results of Independent Assurance Sampling and Testing performed on the project referenced above.

EMBANKMENT:

A. One density test, zone and test number 07-801.

SUBBASE (6" LIME OR CEMENT TREATED SUBGRADE LAYER):

A. Two density tests, zone and test numbers 07-802 and 07-803.

ASPHALTIC CONCRETE BASE COURSE (ROADWAY):

A. One test of loose mix for gradation and asphalt content, Lab. No. 07-341051.
B. Two tests of cores for density, Lab. Nos. 07-341071 and 07-341072.

All IA test results verify except asphaltic concrete base course gradation test Lab. No. 07-341051. See attached "Supplement to Certification" for explanation of non-verifying test.

This is the initial report. Additional reports will be submitted as phases of construction are completed.

NAME
DISTRICT ENGINEER ADMINISTRATOR

NAME - SIGNATURE
DISTRICT LABORATORY ENGINEER

cc: District Engineer Administrator
OVF
FHWA

SUBMITTAL 1

STATE PROJECT NO.

F.A.P. NO. F-01-02(031)

SUPPLEMENT TO THE CERTIFICATION

The Independent Assurance loose mix sample (Lab. No. 07-341051) test does not verify the acceptance sample (Lab. No. 07-341021). The amount of material passing the No. 10 sieve for the independent assurance sample is 7% less than that for the acceptance sample. The allowable deviation is ±5%. To determine cause of this deviation, testing equipment and procedures used were checked. Procedures used were acceptable; however, the No. 10 sieve of the acceptance sample was found to be badly worn. The No. 10 sieve of the IA sample was found to be acceptable. The acceptance sample was retested using a new No. 10 sieve. The amount of material passing the No. 10 sieve was 51%. Thus, independent assurance sample test results verified acceptance test results.

Gradation - 07-341051
Marshall Test - 07-341052

NAME - SIGNATURE
DISTRICT LABORATORY ENGINEER

These test results do not verify acceptance test results, Lab. No. 07341021. On the acceptance sample, the material passing the No. 10 was 54%. The allowable deviation value is ±5%.

COMMENT: Procedures used in sampling, splitting and sieving the acceptance and IA samples were done correctly. Both No. 10 sieves were checked. The No. 10 sieve of the acceptance sample was found to be badly worn. The No. 10 sieve of the IA sample was found to be OK. The acceptance sample was retested using a new No. 10 sieve checked by me. The amount of material passing the No. 10 sieve was 51%.

IA sample test results verified acceptance test results.

NAME - SIGNATURE
ENGINEERING TECHNICIAN

SUBMITTAL 2
September 1, 1991

STATE PROJECT NO.
F.A.P. NO. F-01-02(031)
LA 26 DERIDDER HIGHWAY - (SEC 2)
ROUTE LA-US 171
BEAUREGARD PARISH

MEMORANDUM TO:

NAME
MATERIALS ENGINEER ADMINISTRATOR

This is to report results of Independent Assurance Sampling and Testing performed on the project referenced above.

ASPHALTIC CONCRETE WEARING OR BINDER COURSE (ROADWAY):

A. One test of loose mix for gradation, % crushed and asphalt content, Lab. No. 07341115.
B. Two tests of cores for density, Lab. Nos. 07-341125 and 07-341126.

STRUCTURAL PORTLAND CEMENT CONCRETE:

A. Tests on one set of concrete cylinders, Lab. Nos. 07-341480, 07-341481 and 07-341482.
B. One slump test (See above referenced reports).
C. One test of fine aggregate for gradation, Lab. No. 07-341381.
D. One test of course aggregate for gradation, Lab. No. 07-341382.
E. One test of reinforcing steel, Lab. No. 22-512400.

The above Independent Assurance tests verify with the corresponding acceptance tests.

This is the final report to be submitted by this office, unless additional information is requested.

An Independent Assurance report was previously sent by memorandum, dated July 21, 1991, as follows:

EMBANKMENT
SUBBASE (6" LIME OR CEMENT TREATED SUBGRADE LAYER)
ASPHALTIC CONCRETE BASE COURSE (ROADWAY)

NAME
DISTRICT ENGINEER ADMINISTRATOR

NAME - SIGNATURE
DISTRICT LABORATORY ENGINEER

cc: District Engineer Administrator
OVF
FHWA

SUBMITTAL 2
DOTD 03-22-1033 Rev 1/92
State of Louisiana
Department of Transportation and Development

INDEPENDENT ASSURANCE CERTIFICATION

DISTRICT 07

DATE Sept.1, 1991
STATE PROJECT NO. 024050031

FEDERAL AID PROJECT NO. F-01-02(031)

PROJECT NAME LA 26-DeRidder Highway

ROUTE LA-US 171

PARISH Beauregard

CERTIFICATION
All independent assurance samples and test are within tolerance limits to the samples and tests that are used in the acceptance program, except as noted as supplement to this certification.

July 21, 1991	Embankment Subbase Asphaltic Concrete Base Course
September 1, 1991	Asphaltic Concrete Wearing or Binder Course Structural Portland Cement Concrete

DISTRICT ENGINEER ADMINISTRATOR

BY:

Independent assurance reports sent by memoranda listed below are attached:

DISTRICT LABORATORY ENGINEER

REMARKS See attached supplement to this certification in memo dated July 21, 1991.

copies to:

District Engineer Administrator
Materials Engineer Administrator
OVF
FHWA

Appendix A
Acronyms and Definitions

The following terms and definitions are referenced in this manual and have the meanings set forth below:

AAP	AASHTO Accreditation Program
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AMRL	AASHTO Materials Reference Laboratory
CA	Certificate of Analysis
CC	Certificate of Conformance
CD	Certificate of Delivery
CQAP	Construction Quality Assurance Program
CCRL	Concrete and Cement Reference Laboratory
CQAF	Construction Quality Acceptance Firm
CQAM	Construction Quality Acceptance Manager
CQCM	Construction Quality Control Manager
CQMP	Construction Quality Management Plan
DB	Design-Build
FHWA	Federal Highway Administration, United States Department of Transportation
IA	Independent Assurance
LA DOTD	Louisiana Department of Transportation and Development
NCR	Non-conformance Report
OV	Owner Verification
OVF	Owner Verification Firm
OVT	Owner Verification Test
OVTIP	Owner Verification Testing and Inspection Plan
PCC	Portland Cement Concrete
QA	Quality Acceptance
QC	Quality Control
RFI	Request for Information

Acceptance Program shall mean all factors that comprise the Louisiana Department of Transportation and Development's (LA DOTD) Construction Quality Assurance Program (CQAP) to determine quality of the product as specified in the contract requirements. These factors include the Design-Builder's acceptance and the Owner's verification sampling, testing, and inspection.

Construction Quality Acceptance Firm shall mean an independent engineering/testing firm employed by the Design-Builder responsible for administering and managing the construction QA inspection, sampling, and testing. The CQAF and any subcontractors or subconsultants thereto must not be owned or controlled by the Design-Builder, any Principal Participant of the Design-Builder, any Affiliate of any Principal Participant, any Construction Subcontractor, the Designer, a firm associated with or subsidiary to the Designer, or any design subcontractor or subconsultant of any tier to the Design-Builder.

Construction Quality Assurance Program shall mean the overall quality program and associated activities including the LA DOTD's Owner Verification, the Design-Builder's internal QC and independent Quality Acceptance Firm's QA, the Contract quality requirements, and the Design-Builder's Construction Quality Management Plan.

Construction Quality Management Plan shall mean the Design-Builder's plan for complying with its obligations for construction quality control/process control and quality acceptance as required by the Construction Quality Assurance Program for LA DOTD Design-Build projects. This plan will be written as a stand-alone document, but will also be a part of the Design-Builder's overall Quality Plan required by the Contract documents. The plan must be provided and maintained in accordance with the Contract following Consultation and Written Comment thereof by the Department's Project Manager.

Design Firm shall mean the qualified Registered Professional Engineer's firm responsible for the design of the Project.

Design Documents shall mean all drawings (including plans, profiles, cross-sections, notes, elevations, sections, details and diagrams), specifications, reports, studies, calculations, electronic files, records and submittals necessary for, or related to, the design of the Project and/or the Utility Adjustments in accordance with the Contract Documents, the Governmental Approvals and applicable Law.

Design Builder shall mean the entity contractually responsible for delivering the Project design and construction.

Engineer in Responsible Charge shall mean the professional engineer accountable for direction, control and supervision to assure that the Work has been critically examined and evaluated for compliance with appropriate professional standards and the requirements of the Contract Documents.

Engineering Judgment shall mean determinations as to whether a material failing to meet specification requirements and not within applicable tolerances should be accepted, or not accepted, shall be based upon sound engineering principles, experience, and/or related results of applicable material tests, and be made by a Louisiana Licensed Professional Engineer.

Final Acceptance shall mean the acceptance of the Work by the LA DOTD's designated representative upon the completion of the Work as defined in the Contract and through Oversight and Design Acceptance of that Work by the LA DOTD. Final Acceptance does not relieve the Design-Builder's obligations pursuant to any guaranty or warranty under the terms of the Contract.

F-test shall mean the statistical analysis to compare the variances of two sets of data.

Governmental Approval shall mean any permit, license, consent, concession, grant, franchise, authorization, waiver, variance or other approval, guidance, protocol, mitigation agreement, or memoranda of agreement/understanding, and any amendment or modification of any of them provided by Governmental Entities, including State, local, or federal regulatory agencies, agents, or employees, which authorize or pertain to the Work

or the Project, but excluding any such approvals given by or required from any Governmental Entity in its capacity as a Utility Owner.

Governmental Entities shall mean any federal, State or local government and any political subdivision or any governmental, quasi-governmental, judicial, public or statutory instrumentality, administrative agency, authority, body or entity other than LA DOTD.

Independent Assurance Program shall mean all activities that are included in an unbiased and independent (of the Design-Builder or Project staff) evaluation program for all the design, sampling and testing procedures, equipment calibration, and qualifications or personnel (Design-Builder's or LA DOTD's) used in the Acceptance Program, including the Design-Builder's Quality Control (QC) and acceptance (QA), as well as Verification Sampling (OV) and Testing. The LA DOTD, or the designated Consultant retained by the LA DOTD, will preform Independent Assurance (IA).

LA DOTD Project Manager shall mean the LA DOTD primary point of contact for the Design-Build Project. All correspondence to/from LA DOTD shall be thru this contact.

LA DOTD Representative shall mean the consultant acting for LA DOTD through delegated authority for the duration of the project.

LA DOTD Standard Specifications shall mean the Louisiana Department of Transportation and Development Standard Specifications for Construction of Highways, Streets and Bridges, adopted by the Louisiana Department of Transportation and Development including all revisions thereto applicable on the effective date of the agreement.

Law or Laws means (a) any statute, law, code, regulation, ordinance, rule or common law, (b) any binding judgment (other than regarding a Claim or Dispute), (c) any binding judicial or administrative order or decree (other than regarding a Claim or Dispute), (d) any written directive, guideline, policy requirement or other governmental restriction (including those resulting from the initiative or referendum process, but excluding those by LA DOTD within the scope of its administration of the Contract Documents) or (e) any similar form of decision of or determination by, or any written interpretation or administration of any of the foregoing by, any Governmental Entity, in each case which is applicable to or has an impact on the Project or the Work, whether taking effect before or after the Effective Date, including Environmental Laws. "Laws", however, excludes Governmental Approvals.

Level of Significance (alpha) shall mean the probability of erroneously rejecting the null hypothesis when it should have been accepted.

Nonconforming Work (Nonconformance) shall mean Work that has not been constructed with the strictest adherence to the approved drawings and specifications and with the requirements of the Contract Documents, the Governmental Approvals and applicable Law.

Nonconformance Record (NCR) shall mean a record of how Nonconforming Work was accepted for incorporation into the Work.

Proficiency samples shall mean homogenous samples that are distributed and tested by two or more laboratories and/or personnel. The test results are compared to assure that the laboratories and/or personnel are obtaining the same results.

Project shall mean the improvements to be designed and constructed by the Design-Builder and all other Work product to be provided by the Design-Builder in accordance with the Contract Documents.

Qualification shall mean a quality, ability, or accomplishment that makes a person technically competent for a particular position or task.

Quality Acceptance shall mean all planned and systematic actions performed by the CQAF and LA DOTD's Representative including design reviews and checks; inspection of material handling and construction; calibration and maintenance of sampling and testing equipment; working plan review; document control; and any inspection, sampling, and testing done for the LA DOTD's Acceptance Decision. The DB's QA test results will be used as part of the LA DOTD's Acceptance Decision.

Quality Assurance shall mean all planned and systematic actions performed by the CQAF, DB, OVF, and IA necessary to provide confidence that a product or service will satisfy given requirements for quality.

Quality control shall mean all Design-Builder process control and operational techniques/activities that are performed or conducted to fulfill the contract requirements.

Random Sampling shall mean a process whereby each element of the population has an equal chance of being selected.

Registered Professional Engineer shall mean a person who is duly licensed and registered by the Louisiana Board of Professional Engineers to engage in the practice of engineering in the State.

Rules shall mean Louisiana Administrative Code.

Subcontractor shall mean an individual, partnership, corporation, or any other legal entity or any acceptable combination thereof, or JV or LLC, to which the Design-Builder sublets part of the Work. Any individual, partnership, corporation, or any other legal entity will not be considered to be a Subcontractor if it is a subsidiary which is wholly-owned or majority-owned by the Design-Builder or the Principal Participants of the Design-Builder, or an Affiliate of the Design-Builder, or affiliated or otherwise controlled by the Design-Builder or Principal Participants of the Design-Builder such that a true and independent Subcontractor-Design-Builder relationship reached by bidding or arms-length negotiation does not result therefrom.

Supplier shall mean any Person not performing work at or on the Site which supplies machinery, equipment, materials, hardware, software, systems or any other appurtenance to the Project to Design Builder or to any Subcontractor in connection with the performance of the Work. Persons who merely transport, pick up, deliver or carry materials, personnel, parts or equipment or any other items or persons to or from the Site shall not be deemed to be performing Work at the Site.

t-test shall mean the statistical analysis to compare the variances of two sets of data.

Utility or **utility** shall mean a public, private, cooperative, municipal and/or government line, facility or system used for the carriage, transmission and/or distribution of cable television, electric power, telephone, telegraph, water, gas, oil, petroleum products, steam, chemicals, hydrocarbons, telecommunications, sewage, storm water not connected with the drainage of the Project, and similar substances that directly or indirectly serve the public.

Utility Owner shall mean the owner or operator of any Utility (including both privately held and publicly held entities, cooperative utilities, and municipalities and other governmental agencies).

Vendor shall mean a supplier of project-produced material that is not the contractor.

Verification Testing shall mean sampling and testing performed to validate the quality of the product. The sampling and testing are to be performed by qualified testing personnel employed by the LA DOTD or its designated agent, excluding the Design-Builder.

Work shall mean the labor, Materials, services, Equipment, and incidentals necessary for successful completion of the Project and the carrying out of all obligations imposed by the Contract prior to Final Acceptance and excluding any warranty or guaranty work included under the Contract

Appendix B – OVT Levels for Materials Testing Validation

B.1 Start-Up Requirements

During start-up operations, the CQAF (Construction Quality Acceptance Firm) and OV (owner verification) firm will perform split sample testing for the first 10 acceptance tests for all tests listed as Level 1 and Level 2. The OV firm will evaluate split sample results against LA DOTD's split sample tolerance limits contained in Section 4 Table 2 Schedule of Allowable Deviation Values between Split Samples.

For those test methods that do not validate during start-up operations, both the CQAF and OV firm will collaborate to determine the cause(s) of the non-validation and will both take appropriate corrective actions during the early phases of material production to align the testing operations. When there is a failure to validate, the Design-Builder shall not proceed until appropriate action has been taken. For tests listed as Level 3, the OV firm will observe and review the CQAF's initial start-up testing operations.

Start-up split sampling procedures must be repeated when operations have become idle for more than 6 months due to phasing or other project circumstances, or an investigation is needed.

The level of significance (α) used for statistical analyses are provided in Table 1 of this Appendix unless otherwise approved in writing by LA DOTD.

NOTE: OV Use of QA Proctors:

- During startup operations, test 5 split samples with the QA and ensure that all values are within the split sample tolerance, as specified in Section 4 Table 2.
- The QA must provide OV laboratory with complete curve data for all proctor tests. Prior to testing in-place densities, QA shall furnish the selected curve for each in-place density point.
- The OV either agrees that the QA proctor is representative of the material being tested or the OV will obtain in-place density values and sample the material to conduct a one-point proctor to ensure that proctor values are within 3.0 pcf of curve estimates.

B.2 Level 1 Tests: F & t-test

F- and t- Tests: The OV firm will perform continuous F- and t- test analyses on Level 1 tests with the OV testing frequency, unless otherwise noted in this document, at the following testing frequency:

- The OV Firm will meet a testing frequency of one to five (1:5) ratio of the QA testing frequency for each Material Validation reporting quarter, and will ensure that a minimum of seven (7) OV tests are obtained for each Material Validation reporting quarter.

- When QA sample populations for a reporting quarter are less than 7 samples, the OV Firm will sample one to one (1:1) ratio of the QA testing frequency for the Material Validation reporting quarter.

The continuous statistical analysis will be run daily with new OV test results being added to the OV sample population as older OV test results are removed. The analyses will be performed against the corresponding QA CQAF sample population.

B.2.1 Continuous Statistical Analysis Algorithm

The following describes the continuous statistical analysis referenced in this Appendix.

B.2.1.1 Categorizing For Analysis

When a test version record is added, the first step is to assign it to any applicable analysis categories. A test record must have Sample Type “Random-Independent” or “Random-Split” to be associated with any category. Assignment to a category is done immediately when the record enters the system, but the record will not be included in any analyses until the record had been approved for analysis (i.e. it is Approved or intermediate break data is Reviewed).

Note: A new version of an existing record can actually belong to a different analysis category than a previous version if the header values were changed. This is not a problem, as an analysis run represents a snapshot of the current data in the system at the time the analysis was done.

B.2.1.2 Finding Categories to Analyze

Every night, the OVF will scan data in the system for categories that need to be analyzed. A category is triggered for analysis whenever a new OV record appears. A record is new if it had been approved for analysis and has never been analyzed before. Some examples of new OV records are:

- A test was added and approved today.
- A test was added a month ago and approved/reviewed today.
- A test that was added and analyzed last week was revised and reapproved. This new version has never been analyzed, so it will trigger an analysis the same as if it were the first version of the record.

B.2.1.3 Analyzing a Category

The first step in the analysis is to find the date range of the analysis populations. The age of a record is determined by its sampled date. LA DOTD has set the maximum desired number of days to 90 days. In addition, the desired maximum number of OV records to include in one analysis run has been set to 25 records. The end date of analysis will always be the current date. The start date of the analysis is determined by the following:

- If there is an unanalyzed record for either the OVF or CQAF that is OLDER than 90 days, the start date is that record's Sampled Date. The OVF will analyze ALL records from that date forward.
- If there are less than 25 OV records within the last 90 days, the start date will be 89 days before the current date (i.e. 90 days total in the analysis).
- If there are 25 OV records or more within the last 90 days, the OVF will use a smaller date range. The Sampled Date of the 25th OV record back from the current date will be the start date of the analysis.

The next step is to pull all of the data points for the analysis. The OVF will pull values for all records approved for analysis from the OVF and CQAF between the start date and the end date, using ONLY the latest versions of those records.

Last, the OVF will perform the F and t statistical analysis and save the P-values for review by the Project Manager. The analysis requires at least two points from each population to calculate. If there are less than two data points for either OVF or CQAF, the OVF will skip the analysis. The category will be picked up again the next time an approved OV record comes in.

B.3 Level 2 Tests: Independent Verification Samples

Independent Verification: The OV firm will perform independent verification on Level 2 tests with the OV testing frequency once per quarter with lower frequency tests missed during one quarter being specifically targeted the next quarter, or at a frequency specified by LA DOTD. This verification shall be performed by comparing the independent OV test results with a group of corresponding QA test results as an independent check of the QA test results.

B.4 Level 3: Observation Verification

The OV firm will observe and review the CQAF's initial start-up testing operations and periodically during ongoing production operations to verify compliance with test procedures.

Table 1- Level of Significance for Level 1 Tests

MATERIAL CATEGORY	TEST FOR	LEVEL OF SIGNIFICANCE (α)
Embankment Cut and Fill	In Place Density	0.01
	In Place Moisture	0.01
Non Plastic Embankement	In Place Density	0.01
	In Place Moisture	0.01
Select Soil	In Place Density	0.01
	In Place Moisture	0.01
	Plasticity Index	0.01
Base Material on Roadway	In Place Density	0.01
	In Place Moisture	0.01
Soils on Roadway for Soils Cement	In Place Density	0.01
	In Place Moisture	0.01
Material for Base prior to spreading Cement	In Place Density	0.01
Mixture with Cement on Roaway (soil cement)	In Place Density	0.01
	In Place Moisture	0.01
Mixture on Roadway (Lime Treatment)	In Place Density	0.01
	In Place Moisture	0.01
Asphaltic Concrete (Loose Material)	Gmm	0.025
	In-Place Density	0.025
	In-Place Joint Density	0.025
Concrete Pavement-Plastic	Unit Weight	0.025
Backfill	In-Place Density	0.01
Granular Material on Roadway	In-Place Density	0.01
Structural Concrete	Compressive Strength	0.025
	Surface Resistivity	0.025
Precast Concrete	Compressive Strength	0.025
	Surface Resistivity	0.025
Concrete Minor Structure	Compressive Strength	0.025

Appendix C
LTRC Inspector/ Technician Certification

Embankment and Base Course

Qualifies inspectors to perform complete inspection and acceptance on embankment and base course projects, excluding base courses constructed of hot mix or pcc.

Asphaltic Concrete Plant

Qualifies technicians and inspectors to design mixes and perform QC/QA operations at Asphaltic Concrete Plant. Is currently based on Marshall Mix Design.

Asphaltic Concrete Paving

Qualifies inspectors to perform complete inspection and acceptance on asphaltic concrete paving projects.

PCC Paving

Qualifies inspectors to perform complete inspection and acceptance on PCC paving projects.

Structural Concrete

Qualifies inspectors to perform complete inspection and acceptance on structural project using concrete as the prime building material.

PCC Technician- Non Department Only

Qualifies technicians to design mixes and perform QC operations at a Portland Cement Concrete Plant.

Profilograph Operator – not yet under activity

Qualifies a technician or inspector to perform rideability testing using a 25 foot California Type profilograph.

Profilograph Evaluator

Qualifies a technician or inspector to perform rideability testing using a 25 foot California Type profilograph and to interpret the resulting trace in accordance with LA DOTD specifications. Includes Profilograph Operator Authorization.

PCC Field Tester- Non Department Only

Qualifies technicians to perform QC testing for PCC materials. Is reasonably equivalent to ACI- Level 1.

Appendix D
Test Methods for Split / Proficiency Evaluation

The following chart is a list of test methods LA DOTD uses for Independent Assurance Testing. Results must compare to the IA test results to within the established tolerance as described in Section 4 Table 2 – Schedule of Allowable Deviation Values between Split Samples.

MATERIAL	TEST PROCEDURE	DESCRIPTION
Embankment	DOTD TR 407	Gradation
	DOTD TR 428	Plasticity Index
	DOTD TR 119	Foreign Matter
	DOTD TR 401	Density
Base or Sub-Base	DOTD TR 423	Classification
	DOTD TR 113	Gradation
	DOTD TR 401	Density
Asphalt	DOTD TR 327	Gmm
	DOTD TR 309	Gradation
	DOTD TR 306	Percent Crushed
	DOTD TR 303	AC Content
	DOTD TR 304	Voids
	DOTD TR 304	VMA
	DOTD TR 304	Density
Structural Concrete	DOTD TR 230	Compressive Strength
	DOTD TR 202	Air
	DOTD TR 207	Slump
	DOTD TR 113	Gradation

Appendix E
Material Certification Example Letter

The intent of the material certification is to ensure that the quality of all materials incorporated into the project is in conformance with the plans and specifications, thus ensuring a service life equivalent to the design life. Any material represented by an acceptance test that does not meet the criteria contained in the plans and specifications is considered an exception. Exceptions should be investigated to determine if in fact the material is in reasonably close conformity with the plans and specifications. Nonconforming materials and workmanship will be tracked, monitored and appropriately addressed.

Submit a monthly CQAM Material Certification Letter. Include CQAM Material Certification Letters in the quarterly Material Validation Report for the months covered on the quarterly report. An example follows.

Date_____

To_____

From_____

Project No._____

RE: Monthly CQAM Material Certification

This is to certify that:

The results of the tests used in the acceptance program indicate that the materials incorporated in the construction work, and the construction operations controlled by sampling and testing, were in conformity with the approved plans and specifications.

Exceptions to the plans and specifications are as follows:

1.
Description

Description

_____
CQAM Signature Block

Appendix F
Minimum CQAF Construction Quality Acceptance Inspection

Activity	**INSPECTION REQUIREMENT**	**DOCUMENTATION FORM(S)**
All	Location and type of work Personnel and Equipment Weather and Site Conditions Checks for compliance with Design Plans and Project Specifications Extent of Work Problems Encountered	DOTD Form 03403093, Project Diary
Signs and Barricades	Location, stationing and distance from edge of road Visability, height above road, condition of signs Daily to ensure condition Night inspections initial and periodic for reflectivity	
Clearing and Grubbing	Clearing and grubbing limits Disposal Protection of surroundings from damage Removal of large roots and stumps Blading the site to ensure drainage Temporary Erosion Control -Mulch -Seeding -Slope Drains -Silt Fencing -Hay Bales	
Removals	Ensure that only designated structures, facilities, or obstructions are removed or relocated. **Obtain certificates of release** Proper notifications given for removal of Underground Storage Tanks and other hazardous materials. Disposal of materials	DOTD Form 03420671, Certificate of Release 202 Sample Form
Utility Relocation	Located clear of Construction Backfills adequately compacted	

Activity	INSPECTION REQUIREMENT	DOCUMENTATION FORM(S)
Culverts and Storm Drains	Adequate structure Backfill material, bedding material, and fabrics sampled and approved Damage in transit Certificate of Delivery (CD) Excavation Laying Pipe Bedding and backfill Joints closed and wrapped Compaction and compactive effort	DOTD Form 03220750, Density and Moisture Content Worksheet Certificate of Delivery- Culverts 701 Sample Form
Earthwork	Area preparation Soils sampled and approved Lift Thickness Compaction and compactive effort Slope and Grade	DOTD Form 03220750, Density and Moisture Control Worksheet 203 Sample Form
Trench, Culvert, and Structural Excavation	Safety Support and protective system Disposal of excavated material	
Geotextile	Brand name and type Protection of material Material acceptance	
Cement Stabilized Base and Sub-base Course	Subgrade approved Select soils sampled and approved Cement approved Pulverization and moisture content Spread rate Shaping and finishing Time limitations Curing	DOTD Form 03220750, Density and Moisture Content Worksheet Certificate of Delivery- Cement 301 Sample Form
Lime Treatment	Area preparation Lime approved Equipment used Compaction and compactive effort Spread rate Shaping and finishing Curing	DOTD Form 03220750, Density and Moisture Content Worksheet Certificate of Delivery – Lime 304 Sample Form

Activity	INSPECTION REQUIREMENT	DOCUMENTATION FORM(S)
Stone Base	Area preparation Material Sampled and approved Compaction and compactive effort Curing membrane	DOTD Form 03220750, Density and Moisture Content Worksheet 301 Sample Form
Asphaltic Concrete	Surface prepared Materials sampled and approved Plant and Equipment calibrated and approved Temporary traffic tape Signing and flagging Certified technicians Weather Conditions Mix design submitted and approved Plant operation Temperature of mix Spreading and finishing Compaction/pavement density Joints Surface tolerances	DOTD Form 03223080, Asphaltic Concrete Pavement Report 501 Sample Form Certificate of Delivery – Asphaltic Materials Asphaltic Concrete Plant Report
Portland Cement Concrete Paving	Surface prepared Materials sampled and approved Plant and Equipment calibrated and approved Forms Dowels and load transfer devices Mix design submitted and approved Placing and spreading concrete Finishing and texturing Joints Surface tolerance Slump and air Curing Removing forms (fixed form paving) Protection of pavement Sealing joints	DOTD Form 03224028, Batch Certification DOTD Form 03224035, Portland Cement Concrete Pavement Report

Activity	INSPECTION REQUIREMENT	DOCUMENTATION FORM(S)
Aggregate Surface Course	Surface prepared Materials sampled and approved Equipment approved Compaction and compactive effort	401 Sample Form
Incidental Concrete Work – Sidewalks and Drives	Surface prepared Forms Mix design submitted and approved Depth Cylinders Curing	706 Sample Form
Driven Piles	Type, size, and length of pile Test piles driven and loaded Pile lengths approved Installation plan and equipment approved Location of piles Storing, handling, and damage to piles before and during driving. Adequate bearing capacity achieved	804-01 Sample Form
Drilled Shafts	Installation Plan Safety Excavation methods Casings – temporary and/or permanent Slurry Location, size, and alignment Reinforcing steel Concrete placement and finishing Verification of integrity of shafts	
Structural Concrete	Forms, re-steel and equipment Weather Ambient Temperature Slump and Air tests Placement and vibrating Cylinders Surface finish Curing	805-01 Sample Form

Activity	INSPECTION REQUIREMENT	DOCUMENTATION FORM(S)
Reinforcing Steel	Storing and handling Sampled and approved Placement and fastening Splices	805-01 and 805-03 Sample Forms
Prestressed Concrete Units	Fabrication -Equipment approval -Concrete mix design -Concrete placement and vibration -Approved forms -Curing -Tensioning -Storage and Transportation When receiving units -Inspector's stamp of approval -Certificate of Delivery -Damage during shipment -Dimensional tolerance and camber -Visual defects Erection Repair of defects	
Structural Steel	Fabrication -Shop drawings -Mill test reports -Storage of materials and fabricated items -Shop assembly -Certified test reports for bolts and nuts -Coating Field Erection -Sequence -Falsework -Site storage and handling -Connections	
Bridge Bearings	Materials Fabrication Protective coatings Bearing surface preparation Anchor bolts Pad installation	

Activity	INSPECTION REQUIREMENT	DOCUMENTATION FORM(S)
	Materials Fabrication Cleaning Assembly Installation -Preparation -Handling and Storage	
Structural Steel Paint Systems	Materials -Abrasive -Paint -Paint Inspection Equipment Cleaning Paint application methods Shop painting Field painting	
Superstructure Slabs and Approach Slabs	Forming -Forms -Support systems -Haunch depths -Joints -Drainage Placing and fastening reinforcing steel Concrete Operations -Prior to placing -Placing sequence -Adequacy of personnel and equipment -Concrete supply -Curing materials -Admixtures +Weather and temperature +Placing +Finishing +Curing	805-03 and 806-01 Sample Forms
Permanent Erosion Control	Final dressing of area Area determinations Spread rate for seed and fertilizer Watering	714-01 and 720-01 Sample Forms

Activity	INSPECTION REQUIREMENT	DOCUMENTATION FORM(S)
Maintenance and Protection of Traffic	Materials Surface condition Intersecting traffic Dust control and spillages Flaggers Delineation and guiding devices Construction signs, temporary barriers, barricades and lighting Pavement markings Pavement drop-off protection	
Signs	Materials Fabrication Sign face construction Work sequence Location Erection Transporting, handling, and storage Foundations Sign post Breakaway bases	
Traffic Signals	Materials Underground facilities Schedule Excavation Pole excavation and concrete foundations Poles Grounding Conduit and direct burial cable Pull boxes Signal control cable and shielded communications cable Cable splices Span wire assemblies Messenger assemblies Buy assemblies Signal heads	

Activity	INSPECTION REQUIREMENT	DOCUMENTATION FORM(S)
Traffic Signals- continued	Wiring color code Concrete base for controller assembly Power meter base Overhead traffic signs	
Pavement Markings	Atmospheric conditions General requirements Materials Surface cleaning and preparation Equipment Application of markings	

Appendix G
CQAF's Sampling and Testing Manual

The following pages are the Design-Builder's Sampling and Testing Manual. A list of methods of sampling used in conjuction with these spreadsheets are as follow:

LA DOTD APPROVED SAMPLING PROCEDURES

S 101-03 Aggregates and Aggregate Mixtures
S 102-03 Mineral Filler, Portland Cement, Fly Ash and Hydrated Lime
S 201-03 Asphaltic Materials
S 203-03 Asphaltic Mixtures
S 301-99 Sampling Fresh Concrete
S 303-99 Water
S 401-99 Sampling Soils
S 501-99 Metals
S 601-99 Miscellaneous Materials
S 602-99 Automotive Fluid, Lubricants, and Solvents
S 604-99 Paints and Thinners
S 605-99 Using Random Number Tables
S 608-99 Traffic Paint and Glass Beads
S 609-99 Preformed Plastic Pavement Markings (Cold Applied Tape)
S 610-99 Thermoplastic Compound (Hot applied pavement markings)
S 611-99 Joint Sealant
S 612-03 Asphalt Anti-Strip Additives and Concrete Admixtures
S 613-03 Erosion Control Systems
S 614-99 Geotextile Fabric
S 701-05 IA Sampling and Testing Program
S 801-99 Source Approval, Sampling and Testing Program of Recycled Portland Cement Concrete

These Sampling Procedures may be found at:
http://www.dotd.la.gov/highways/construction/lab/msm/2006_Specs/tableofcontents.shtml

SECTION 201 CLEARING & GRUBBINC

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
BACKFILL SOIL (HOLES)	Usable Soil	201.03	**SEE SECTION 203 OF THIS MANUAL**						
	Density	201.03	**SEE SECTION 203 OF THIS MANUAL**						
EROSION CONTROL MATERIALS		201.01	**SEE SECTION 204 OF THIS MANUAL**						

SECTION 202 REMOVING OR RELOCATING STRUCTURES AND OBSTRUCTIONS

MATERIAL		REF.	METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
BACKFILL	Usable Soil	202.02	**SEE SECTION 203 OF THIS MANUAL**						
	Density	202.02	**SEE SECTION 203 OF THIS MANUAL**						
FRIABLE ASBESTOS		202.05(b)		1ADVF/ structure	-----	-----	-----	3	DEQ to provide Confirmation Letter & Asbestos Disposal Verification Form (ADVF).
UST'S	Environmentally Regulated Material	202.05(c)		-----	-----	-----	-----	3	Chain of Custody Record to become part of Permanent Project Records.
	Tank Fill Material	205.05(c)		1/tank	-----	-----	-----	3	Filled material test report provided by Design-Builder.
CONTAMINATED SOIL		202.05(d)		1/site	-----	-----	-----	3	Certificate of Disposal to become part of Permanent Project Records. Chain of Custody Record to become part of Permanent Project Records.
CONTAMINATED FLUIDS		202.05(d)		1/site	-----	-----	-----	3	Chain of Custody Record to become part of Permanent Project Records.
PAINT & TIMBER		205.05		1/site	-----	-----	-----	3	Certificate of Disposal to become part of Permanent Project Records.

SECTION 203 EXCAVATION & EMBANKMENT

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
EMBANKMENT, CUT & FILL AREAS	Density	203.12 203.06 203.07 203.08	In-Place Moisture TR 403	1/1,000 lin ft/ 2-lane rdwy /lift*	-----	-----	-----	1	
			In-Place Density TR 401		-----	-----	-----	1	
		203.06 203.07 203.08	Max Dry Density and Optimum Moisture TR 415 or 418	1/section/lift as needed	-----	-----	-----	2	
	Embankment lift (Uncompacted Thickness) or Subgrade Preparation	203.07 203.8 203.12		1/1,000 lin ft/ 2-lane rdwy /lift	-----	-----	-----	3	DB to check lift thickness during placement & thickness of top layer during preparation.
	Soil on Cut Slope	203.06	PI TR 428	1/1,000 lin ft/ slope/soil type	1 full sample sack	-----	-----	2	To determine the need for plastic soil blanket or soil modification option.
			pH TR 430			-----	-----	3	
GEOTEXTILE FABRIC		203.11 1019.01	Table 1019-1	1/type/ shipment/ source	3 lin ft of full width of fabric roll*	CC 1	150 yd^2	3	(QPL 61) Visually inspect seams & UV damage. Seams other than 401 or "J" shall be approved by the Materials & Testing Section. See QA Manual. *Sample a minimum of 18 ft^2. Avoid sampling at end of roll.
LIME	Agricultural	203.06 1018.17	**SEE SECTION 718 OF THIS MANUAL.**						
	Hydrated or Quick Lime	203.06 1018.03	**SEE SECTION 304 OF THIS MANUAL.**						

SECTION 203 EXCAVATION & EMBANKMENT (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
NON-PLASTIC EMBANKMENT	Density	203.07 203.12	In-Place Moisture TR 403	1/1,000 lin ft/ 2-lane rdwy/lift	-----	-----	-----	1	DOTD TR 415 or TR 418 will be completed by the for each section/lift as needed for optimum moisture content and determining % compaction.
		203.07 203.12	In-Place Density TR 401	1/1,000 lin ft/ 2-lane rdwy/lift				1	DOTD TR 415 or TR 418 will be completed by the for each section/lift as needed for optimum moisture content and determining % compaction.
	Embankment Lift (Uncompacted Thickness)	203.07 203.12		1/1,000 lin ft/ 2 lane rdwy/ lift	-----	-----	-----	3	Check lift thickness during placement.
	Blended Calcium Sulfate	203.09 1003.09	pH TR 430	1/2,000 yd^3	6 full sample sacks	-----		3	Source shall be approved by the Materials and Testing Lab prior to use.
		203.12 1003.09	Gradation TR 113	1/2,000 yd^3	1 full sample sack	-----	500 yd^3	2	Shall be from an approved source.
	Sand	1003.09	Gradation TR 112 or 113	1/2,000 yd^3	1 full sample sack	-----	500 yd^3	2	
	Stone	1003.09	Dry Rod Unit Weight AASHTO T19	1/2,000 yd^3	1 full sample sack	-----	500 yd^3	2	Shall check sufficient to ensure specifications are met.
		1003.09	Gradation TR 112 or 113	1/2,000 yd^3		-----	500 yd^3	2	Shall check sufficient to ensure specifications are met.

SECTION 203 EXCAVATION & EMBANKMENT (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
PLASTIC SOIL BLANKET	Thickness (Compacted)	203.1	Design-Builder	1/1,000 lin ft /slope	-----	-----	-----	3, EXCEPT TOP LIFT IS LEVEL 2	
	Plastic Soil	203.1	PI TR 428	1/1,000 yd^3*	1 full sample sack	-----	300 yd^3	3	*Not required if tested & approved as excavation or borrow pit material. Pit approval allowed if identifiable strata can be isolated. Shall support a satisfactory stand of grass in accordance with Sections 714 or 717.
		203.1	% Silt TR 407			-----		3	
		203.1	pH TR 430			-----		3	
		203.1	% Organic TR 413			-----		3	
		203.12	In-Place Moisture TR 403	1/1,000 lin ft/ 2-lane rdwy/lift	-----	-----	-----	3	DOTD TR 415 or TR 418 will be completed by the for each section/lift as needed for optimum moisture content and determining % compaction.
			In-Place Density TR 401	1/1,000 lin ft/ 2-lane rdwy/lift				3	
SELECTED SOIL	In-Place on Roadway	203.06	Classification TR 423	1/1,000 lin ft/ 2-lane rdwy or 1/2,000 lin ft / shoulder	1 full sample sack	-----	-----	2	
			PI TR 428					1	
			% Organic TR 413					2	
			Liquid Limit TR 428					2	
			% Silt TR 407					2	
		203.12	In-Place Moisture TR 403	1/1,000 lin ft/ 2-lane rdwy or 1/2,000 lin ft / shoulder*	1 full sample sack			1	*DOTD TR 415 or TR 418 will be completed by the for each section/lift as needed for optimum moisture content and determining % compaction.
			In-Place Density TR 401					1	
			Lines, Grades, Thickness, cross-section					3	-----

SECTION 203 EXCAVATION & EMBANKMENT (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
SELECTED SOIL continued	Stockpile	203.06 203.12	Classification TR 423	1/1,000 yd^3	-----	-----	-----	3	
			PI TR 428					1	
			% Organic TR 413					3	
			Liquid Limit TR 428					3	
			% Silt TR 407		-----	-----	-----	3	-----
USABLE SOIL	Borrow Pit	203.06	Classification TR 423	1 boring/acre for first 2 acres; 1/boring /2 acres there after	1 full sample sack	-----	-----	3	
	Excavation	203.12		as required				3	
	Stockpile	203.06	Classification TR 423	1/1,000 yd^3	-----	-----	-----	3	
			PI TR 428					3	
			% Organic TR 413					3	
			% Silt TR 407					3	
Water		1018.01	Potable Water AASHTO T26	1/source	1 qt plastic bottle	-----	-----	3	Visual inspection by Design-Builder & DOTD Rep. Sample only if questionable.

SECTION 204 TEMPORARY EROSION CONTROL

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
BURLAP		204.03		1/5000 lin ft/ source	3 lin ft of full width of fabric roll*	-----	-----	3	Visual inspection by Design-Builder & DOTD Rep. Sample only if questionable.
FERTILIZER		1018.16	**SEE SECTION 718 OF THIS MANUAL.**						
HAY BALES		204.03	-----	-----	-----	-----	-----	3	Visual inspection by Design-Builder & DOTD Rep.
SILT FENCE	Geotextile Fabric (Wire Supported)	204.03 1019 Class F		1/5000 lin ft/ source	3 lin ft of full width of fabric roll*	CC	-----	3	(QPL 61) *Visual inspection by Design-Builder & DOTD Rep. Sample only if questionable. Sample a minimum of 18 ft2.
	Geotextile Fabric (Self Supported)	204.03 1019 Class G				-----	-----	3	
JUTE FABRIC		204.03		1/5000 lin ft/ source	-----	-----	-----	3	Visual inspection by DOTD Rep. Sample only if questionable.
LIME (Agricultural)		1018.17	**SEE SECTION 718 OF THIS MANUAL.**						Visual inspection by Design-Builder & DOTD Rep. Sample only if questionable.
LIVESTOCK WIRE		204.03		1/project/ source	-----	-----	-----	3	Visual inspection by Design-Builder & DOTD Rep. Sample only if questionable.
TEMPORARY CONSTRUCTION ENTRANCE	Geotextile Fabric	204.03 1019		1/project/ source	3 lin ft of full width of fabric roll*	CC	-----	3	(QPL 61) Visual inspection by Design-Builder & DOTD Rep. Sample only if questionable. *Sample a minimum of 18 ft2.
	Recycled PCC	204.03 711.02 1003.01	**VISUAL INSPECTION AND/OR GRADATION CHECK (AT SOURCE, PROJECT SITE, OR BOTH, AT ENGINEER'S OPTION.)***			-----	-----	3	*Visual inspection by DOTD Rep. Sample only if questionable. Sample size and unit weight determined by Dist. Lab. Must be from approved source.
	Stone	204.03 711.02 1003.01	**VISUAL INSPECTION AND/OR GRADATION CHECK (AT SOURCE, PROJECT SITE, OR BOTH, AT ENGINEER'S OPTION.)***			CC	-----	3	(QPL 2) *Visual inspection by Design-Builder & DOTD Rep. Sample only if questionable. Sample size and unit weight determined by Dist. Lab. Must be from an approved source.

SECTION 204 TEMPORARY EROSION CONTROL (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
MULCH	Emulsified Asphalt	204.03 1002.01	**SEE SECTION 716 OF THIS MANUAL.**						QPL 41
	Fiber Mulch	204.03 1018.19	**SEE SECTION 716 OF THIS MANUAL.**						QPL 72
	Tacking Agent	204.03 1018.19	**SEE SECTION 716 OF THIS MANUAL.**						QPL 72
	Hay or Straw	204.03 1018.19	**SEE SECTION 716 OF THIS MANUAL.**						Visual inspection by Design-Builder & DOTD Rep. Sample only if questionable.
POSTS	Wood or Steel	204.03		*	-----	-----	-----	3	*Visual inspection by Design-Builder & DOTD Rep.
SEED		204.03	**SEE SECTION 717 OF THIS MANUAL.**						
SLOPE DRAINS	Fiber Mats	204.03	-----	*	-----	-----	-----	3	*Visual inspection by Design-Builder & DOTD Rep. Sample only if questionable.
	Pipe	204.03	-----	*	-----	-----	-----	3	*Visual inspection by Design-Builder & DOTD Rep.

SECTION 301 CLASS I BASE COURSE

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
AGGREGATE BASES (DEDICATED STOCKPILE)	Recycled PC Concrete	301.02 1003.03c	Gradation TR 113	1/1000 yd^3	1 full sample sack	-----	-----	2	Must be controlled so that materials placed in stockpile will conform to specifications when tested. *Material must be source approved.
		301.11 301.16	Optimum Moisture TR 403	1/half day	-----	-----	-----	2	
			Max Density TR 418					2	
	Sand-Clay-Gravel	301.02 1003.03a 301.07	Gradation TR 113	1/1,000 yd^3	1 full sample sack			2	Must be accepted prior to mixing with cement. If individual components are to be mixed in the pugmill, approval procedure shall be approved by the Materials Engineer Administrator. Material must be source approved
			Plasticity Index and Liquid LimitTR 428					2	
			Organic Content TR 413					3	
		301.11 301.16	Optimum Moisture TR 403	1/half day	-----	-----	-----	2	
			Max Density TR 418					2	
	Stone or Crushed Slag	301.02 1003.03b,d	Gradation TR 113	1/1000yd^3	1 full sample sack	-----	-----	2	Must be controlled so that materials placed in stockpile will conform to specifications when tested. Material must be source approved.
			Organic Content TR 413			-----	-----	3	
			Plasticity Index and Liquid Limit TR 428			-----	-----	2	
		301.07	Moisture Content TR 403	1/half day				2	(QPL 2) For moisture-density relationships.

SECTION 301 CLASS I BASE COURSE (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
ASPHALTIC CONCRETE BASES		**FOR ALL RELATED MATERIALS, SEE SECTION 502 OF THIS MANUAL. SEE INDEPENDENT ASSURANCE PROGRAMS S 701.**							
ASPHALTIC MATERIAL	Curing Membrane	**SEE SECTION 506 OF THIS MANUAL.**							
	Prime Coat	**SEE SECTION 505 OF THIS MANUAL.**							
CEMENT (HYDRAULIC)	Types I, II & IP	1001.01 301.02	AASHTO M85	1/project/ source	1 gal friction top can or acceptable moisture proof container	CD 1 & 7	-----	3	(QPL 7) Composited and blended from daily plant samples and submitted for verification.
PORTLAND CEMENT CONCRETE BASES		**SEE SECTION 706 & 901 OF THIS MANUAL.**							
MIXTURE WITH CEMENT AT CENTRAL MIX PLANT	Percent Cement	301.16	TR 436	1/half day*	-----	-----	-----	2	*In addition to start-up of plant each day and after each shut down.
	Gradation	301.07	TR 112 and TR 113	1/half day*	1 full sample sack	-----	-----	2	*When gradation is a requirement of specifications. *Gradation will be run when questionable or individual components of SCG are mixed in a pugmill.
	Moisture Content		TR 403		-----	-----	-----	2	*In addition to start-up of plant each day and after each shut down
	Proportions		TR 436		-----	-----	-----	3	*Shall be monitored continuously.
	Pulverization		TR 431		-----	-----	-----	3	-----

SECTION 301 CLASS I BASE COURSE (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
BASE MATERIAL ON ROADWAY	In-Place Density (95%)	301.11 301.16	Design-Builder TR 401	1/1000 lin ft/ 2 lane rdwy or 1/2000 lin ft/shoulder	-----	-----	-----	1	
	Cross Slope & Grade	301.11 301.16		1/half day	-----	-----	-----	3	
	Moisture Content (For Soil Cement or Cement Stabilized Mixtures)	301.11 301.16	TR 403	1/half day	-----	-----	-----	2	
	Thickness & Width	301.11 301.16	TR 602	1/half day	-----	-----	-----	3, EXCEPT TOP LIFT IS LEVEL 2	
SOIL (RAW)	Dedicated Stockpile	301.02 301.05 301.11	Classify TR 423	1/1000 yd^3	6 full sample sacks**	-----	-----	2	**When soils are to be blended, each component must meet specifications before blending. Design and final acceptance will be conducted on the blend.
			Plasticity Index and Liquid Limit TR 428					3	
			Organic Content TR 413					3	
			Gradation TR 407					2	
			Optimum Moisture TR 403	1/half day	-----	-----	-----	3	
			Max Density TR 418					3	
WATER		1018.01	AASHTO T 26	1/source*	1 qt plastic bottle	-----	-----	3	*Drinkable water need not be sampled.

SECTION 302 CLASS II BASE COURSE

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
NOTE: WHEN A CLASS II BASE COURSE IS PRODUCED BY CENTRAL PLANT MIXING, USE THE SAMPLING SCHEDULES IN SECTION 301 OF THIS MANUAL.									
AGGREGATE BASES	Recycled PC Concrete	302.02 1003.03c	Gradation TR 113	1/1000 yd^3	1 full sample sack	-----	-----	2	Must be controlled so that materials placed in stockpile will conform to specifications when tested. Material must be source approved.
		302.05 302.12	Optimum Moisture TR 403	1/half day	-----	-----	-----	2	
			Max Density TR 418					2	
	Sand-Clay-Gravel	302.01 302.02 302.08	Gradation TR 113	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	1 full sample sack			2	Must be accepted prior to mixing with cement. If individual components are to be mixed in the pugmill, approval procedure shall be approved by the Materials Engineer Administrator. Material must be source approved.
			Plasticity Index and Liquid Limit TR 428					2	
			Organic Content TR 413					3	
		302.05 302.12	Optimum Moisture TR 403	1/half day	-----	-----	-----	2	
			Max Density TR 418					2	
	Stone or Crushed Slag	302.01 302.02 302.08 1003.03b,d	Gradation TR 113	1/1000yd^3		-----	-----	2	Must be controlled so that materials placed in stockpile will conform to specifications when tested. Material must be source approved.
			Organic Content TR 413			-----	-----	3	
			Plasticity Index and Liquid Limit TR 428					2	
		302.05 302.12	Optimum Moisture TR 403	1/half day	-----	-----	-----	2	
			Max Density TR 418					2	

SECTION 302 CLASS II BASE COURSE (cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
ASPHALTIC CONCRETE BASES		**FOR ALL MATERIALS, SEE 502 OF THIS MANUAL. SEE INDEPENDENT ASSURANCE PROGRAM S 701.**							
ASPHALTIC MATERIALS	Curing Membrane	**SEE SECTION 506 0F THIS MANUAL.**							
	Prime Coat	**SEE SECTION 505 0F THIS MANUAL.**							
CONCRETE, PORTLAND CEMENT, BASE		**SEE SECTION 901 OF THIS MANUAL.**							
CEMENT (HYDRAULIC)	Types I, II & IP	1001.01 302.02	AASHTO M85	1/project/ source	1 gal friction top can or acceptable moisture proof container	CD 1 & 7	-----	3	(QPL 7) Composited and blended from daily plant samples and submitted for verification.
BASE MATERIAL ON ROADWAY (Cont'd)	Cement Spread Rate (cement treated base only)	302.12	TR 436	1/day				2	
	Cross Slope & Grade	301.11 302.08		1/half day	-----	-----	-----	3	Use 10' metal static straight edge.
	Thickness & Width	302.12	TR 602	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/shoulder	-----	-----	-----	2	
	In-Place Density (93%)	302.01 302.08	TR 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/shoulder				1	
	In place Moisture Content (For Soil Cement or Cement Stabilized Mixtures)	302.01 302.08	TR 403					1	
	Pulverization (soil cement only)	302.01 302.08	TR 431	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/shoulder				3	
GEOTEXTILE SEPARATOR FABRIC	Class D	**See Section 203 of this manual**							
SOILS (RAW) IN STOCKPILE FOR SOIL CEMENT	Soils/Soil-Aggregate	302.01 302.02 302.08 302.05	Max Density TR 415 or 418	1/1000yd^3	1 full sample sack	-----	-----	2	Shall test sufficient to ensure specifications will be met when placed on roadway. Check M.C. % before spreading cement.
			Optimum Moisture TR 415 or 418	1/1000yd^3	6 full sample sacks of blend & 1 full sample sack	-----	-----	2	For cement content and moisture-density relationships. Design will be conducted on blend.
			Percent Cement TR 432	2/half day				2	

SECTION 302 CLASS II BASE COURSE (cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
SOILS (RAW) ON ROADWAY FOR SOIL CEMENT	In-Place Density (93%)	302.01 302.02 302.08 302.05 Design-Builder	In-Place Density TR 401	1/half day	----	-----	----	1	
	Soils/Soil-Aggregate	302.01 302.05 302.08	In-Place Moisture TR 403	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/shoulder	----	-----	-----	1	For cement content and moisture-density relationships. Design will be conducted on blend.
			Spread Rate TR 436	each transport	----	-----	-----	2	Shall test sufficient to ensure specifications will be met when placed on roadway. Check M.C. % before spreading cement.
			Percent Cement TR 432	1/1000 yd^3				2	
WATER		1018.01	AASHTO T 26	1/source*	1 qt plastic bottle	-----	-----	3	*Drinkable water need not be sampled.

SECTION 303 IN-PLACE CEMENT STABILIZED BASE COURSE

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FOR DETAILS ON HYDRAULIC CEMENT AND WATER, REFER TO SECTION 301 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CURING MEMBRANE, REFER TO SECTION 506 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CONCRETE OR PORTLAND CEMENT CONCRETE, REFER TO SECTIONS 502 AND 901 OF THIS MANUAL, AS APPLICABLE.									
MATERIAL FOR BASE PRIOR TO SPREADING CEMENT (Existing or Furnished Soils/Soil-Aggregate)	Design-Builder Furnished Soil	303.07 303.02 302.02a	Gradation TR 113	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	1 full sample sack			3	Must be accepted prior to mixing with cement. If individual components are to be mixed in the pugmill, approval procedure shall be approved by the Materials Engineer Administrator. Material must be source approved.
			Plasticity Index and Liquid Limit TR 428					3	
			Organic Content TR 413					3	
	In Place Density (93%)	303.04 303.07	TR 401					1	
	In-Place Material on Roadway	303.04 303.05	Optimum Moisture TR 415 or 418	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder		-----	-----	2	For cement content and moisture-density relationships (if needed). Design will be conducted on the final blend.
		303.04	Maximum Density TR 415 or 418					2	
		303.05	Cement Content TR 432					2	
	Pulverization	303.04 303.07	TR 431	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	3	Shall be obtained after blending of any Design-Builder furnished material. Pulverization shall be approved prior to spreading cement.

SECTION 303 IN-PLACE CEMENT STABILIZED BASE COURSE (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FOR DETAILS ON HYDRAULIC CEMENT AND WATER, REFER TO SECTION 301 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CURING MEMBRANE, REFER TO SECTION 506 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CONCRETE OR PORTLAND CEMENT CONCRETE, REFER TO SECTIONS 501,501 AND 901 OF THIS MANUAL, AS APPLICABLE.									
MIXTURE WITH CEMENT ON ROADWAY	Cement Spread Rate	303.07 303.11	TR 436	1/day		-----	-----	3	The Design-Builder shall determine the length of spread prior to mixing. Use an approved sampling device. The CQAF will verify the length of spread prior to mixing.
	Cross Slope & Grade	303.11		1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	3	Use an approved 10 ft. metal static straightedge or other approved device.
	Density	303.07 303.11	TR 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/shoulder	-----	-----	-----	1	
	Moisture Content	303.05 303.07 303.11	TR 403	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	1 gal friction top can*	-----	-----	1	*May be obtained by M.C.% determined during application of TR 415 B, if available on in-place moisture at the time of compaction (TR 403).
	Thickness & Width	303.11	TR602	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/shoulder	-----	-----	-----	3	

SECTION 304 LIME TREATMENT

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FOR DETAILS ON HYDRAULIC CEMENT AND WATER, REFER TO SECTION 301 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CURING MEMBRANE, REFER TO SECTION 506 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CONCRETE OR PORTLAND CEMENT CONCRETE, REFER TO SECTIONS 502 AND 901 OF THIS MANUAL, AS APPLICABLE.									
CURING MEMBRANE	Type B (only)	**SEE SECTION 506 OF THIS MANUAL.**							
LIME (Hydrated and Quicklime)		304.02 1018.03	TR 525	1/project/ source*	-----	CD 1 & 7	-----	3	(QPL 34) *Not required if sampled under another item.
MIXTURE ON ROADWAY	Density- (Type B)	304.07 304.08	TR 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder				1	For moisture density relationship
	Density- (Type C & D)	304.07	TR 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	1	Compact to the satisfaction of the Design-Builder & DOTD Rep.
	Density- (Type E)	**SEE SECTION 203 OF THIS MANUAL.**							
	Lime Spread Rate	304.05 304.08	TR 436	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	**	-----	-----	2	The Design-Builder shall determine the length of spread. The CQAF shall verify the length of spread. **Use an approved sampling device.

SECTION 304 LIME TREATMENT (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
MIXTURE ON ROADWAY (Cont'd)	Pulverization (Type B & C)	304.06 304.08	TR 431	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	1 gal friction top can	-----	-----	3	Shall Check sufficient to ensure specifications are met.
	Pulverization (Type D & E)	304.06		-----	*	-----	-----	3	*Satisfaction of Design-Builder & DOTD Rep.
	Thickness & Width (Type B)	304.08 304.05	TR 602	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	----	3	
	Thickness & Width (Type C & D)	304.05			-----	-----	-----	3	Satisfaction of the Design-Builder & DOTD Rep. Documents in field book.
	Thickness & Width (Type E)	**FOR LIFT THICKNESS REQUIREMENTS SEE SECTION 203 OF THIS MANUAL.**							
SOIL OR SOIL-AGGREGATE	% Lime*	304.04 304.05	TR 416	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder		-----	-----	2	
Water		304.02 1018.01	AASHTO T26	1/source*	1 qt plastic bottle	-----	-----	3	*Drinkable water need not be sampled.

SECTION 305 SUBGRADE LAYER

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
NOTE: WHEN A SUBGRADE LAYER IS PRODUCED BY CENTRAL PLANT MIXING, USE THE SAMPLING SCHEDULES IN SECTION 301 OF THIS MANUAL. FOR PLACEMENT AND CONSTRUCTION REFER TO APPLICABLE SECTIONS OF THIS MANUAL.									
AGGREGATES	Stone, Recycled PC Concrete, Crushed Slag								
	Asphaltic Concrete								
	Blended Calcium Sulfate	305.04 1003.01 1003.10	Optimum Moisture TR 415 or 418	1/1000 yd^3	1 full sample sack	-----	-----	3	Must be source approved *For moisture-density relationships.
			Max Density TR 415 or 418	1/1000 yd^3	6 full sample sacks	-----	-----	3	Shall not be placed within 10 ft of metal pipe. Shall be from an approved source.
CEMENT		**SEE SECTION 302 OF THIS MANUAL.**							
ASPHALTIC MATERIALS	Curing Membrane	**SEE SECTION 506 OF THIS MANUAL.**							
	Prime Coat	**SEE SECTION 505 OF THIS MANUAL.**							
GEOTEXTILE FABRIC		305.02 1018.19 Mat. Lab							
LIME (Hydrated or Quicklime)		**SEE SECTION 304 OF THIS MANUAL.**							
MIXTURE WITH LIME AND/OR CEMENT ON ROADWAY	Pulverization*	305.04	TR 431	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	2	For soil after mixing with cement and/or lime.
SOIL		305.04	Optimum Moisture TR 415 or 418	1/1000 yd^3	1 full sample sack	-----	-----	2	For Moisture Density relationships.
		305.04	Max Density TR 415 or 418	1/1000 yd^3	6 full sample sacks			2	
		305.04	Gradation TR 407	1/1000 yd^3		----	----	2	
		305.04	Plasticity Index TR 428	1/1000 yd^3		----	----	2	
SUBGRADE LAYER	Density (Stone Recycled PCC, Soil Cement, Crushed Slag)	**SEE SECTIONS 302 AND 308 OF THIS MANUAL**							
	Max Density /Opt Moisture (Blended Calcium Sulfate)	305.01 305.04	TR 415 or 418	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	2	Shall not be placed within 10 ft of metal pipe. Shall be from an approved source.
	Thickness & Width	305.04		**See Section 302, 303 or 304 of this Manual as applicable. District Lab not required to perform DOTD TR 602 Measurements.**					
WATER		305.02 1018.01	AASHTO T26	1/source	1 qt plastic bottle	-----	-----	3	Drinkable water need not be sampled.

SECTION 306 SCARIFYING & COMPACTING ROADBED

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
EXISTING MATERIAL	Density	306.02	TR 401, TR 415 or TR 418	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	1	
ASPHALTIC MATERIAL	Prime Coat	306.02							

SECTION 307 PERMEABLE BASES

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
AGGREGATE	Stone	307.02 1003.06	Gradation TR 113	1/1000yd3	1 full sample sack	-----	-----	3	(QPL 2)
ASPHALTIC MATERIALS	Asphalt Cement	307.02	**SEE SECTION 502 OF THIS MANUAL**						(QPL 41)
ANTI-STRIP		307.02 1002.02	**SEE SECTION 502 OF THIS MANUAL**						(QPL 57)
ADMIXTURE		307.02 1011.02	**SEE SECTION 901 OF THIS MANUAL**						(QPL 58)
CEMENT (HYDRAULIC)		307.02 1001	**SEE SECTION 901 OF THIS MANUAL**						(QPL 7)
CURING COMPOUND		307.03 601.10 1011.01	**SEE SECTION 601 OF THIS MANUAL**						(QPL 65)
PERMEABLE ASPHALT BASE (PLANT)	JMF	307.02	-----	1/mix/plant	-----	-----	-----	-----	Design-Builder shall submit to the Dist. Lab Engr. The proposed job mix formula with supporting design data. Approval is required prior to starting work.
	Anti-Strip Additive %	307.02	TR 317	1/2500 tons	*	-----	-----	3	*% AS from meter.
	Asphalt Cement	307.02	TR 317	1/2500 tons	*	-----	-----	3	*% AC from meter.
	Loose Mixture (Gradation, % AC, & % Crushed	307.02	**SEE SECTION 502 OF THIS MANUAL**					3	-----
PERMEABLE CONCRETE BASE (PLANT)	Mix Design	307.02	*	1/mix/plant	-----	-----	-----	---	*Design-Builder shall submit to the Dist. Lab Engr. the proposed job mix formula with supporting data. Approval is required prior to starting work. *Obtain "batch tickets" to verify quantities from mix design.
PERMEABLE BASES	Cross Slope & Grade	307.05		1/day	-----	-----	-----	3	Under thickness shall not exceed 1/2" (12 mm). Use 10 ft metal static straight edge or approved device.
	Thickness & Width	307.01 307.06	TR 602	1/2000 lin ft	-----	-----	-----	3	Shall measure sufficiently to ensure specifications are met. Under thickness shall not exceed 1/2" (12 mm).
	Temperature	307.03		1/5000 tons	-----	-----	-----	3	Required for Asphaltic Concrete only.
WATER		1018.01	AASHTO T26	1/source*	1 qt plastic bottle	-----	-----	3	*Drinkable water need not be sampled.

SECTION 308 IN-PLACE CEMENT TREATED BASE COURSE

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FOR DETAILS ON HYDRAULIC CEMENT AND WATER, REFER TO SECTION 301 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CURING MEMBRANE, REFER TO SECTION 506 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CONCRETE OR PORTLAND CEMENT CONCRETE, REFER TO SECTIONS 502 AND 901 OF THIS MANUAL, AS APPLICABLE.									
MATERIAL FOR BASE PRIOR TO SPREADING CEMENT (Existing or Furnished Soils/Soil-Aggregate)	Design-Builder Furnished Soil	308.07	Optimum Moisture TR 415 or 418	1/1000 yd^3	1 full sample sack	-----	-----	2	Must test sufficient to ensure material will meet specification requirements before placing on roadway. Check M.C.% on all materials before spreading cement.
		308.02 303.04	Max Density TR 415 or 418	1/1000 yd^3	1 full sample sack	-----	-----	2	Design-Builder furnished material will be approved before incorporation into existing material. Furnished material not meeting the requirement of specification Subsection 302.02(a) will not be incorporated in the base. If A-4 or A-6 soil group is used, the blend shall meet the durability requirements of DOTD TR 432, Method D.
		308.02	Durability TR 432	1/1000 yd^3	1 full sample sack			3	
	Density (93%)	308.04 307.02	TR 401	1/half day	-----	-----	-----	1	
	In-Place Material on Roadway	308.05	Durability and Blend Rate TR 432	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	6 full sample sacks	-----	-----	3	For cement content and moisture-density relationships (if needed). Design will be conducted on the final blend.
			Optimum Moisture TR 415 or 418			-----	-----	2	For cement content and moisture-density relationships (if needed). Design will be conducted on the final blend.
	Pulverization	308.05 303.07 308.11	TR 431	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	3	

SECTION 308 IN-PLACE CEMENT TREATED BASE COURSE (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FOR DETAILS ON HYDRAULIC CEMENT AND WATER, REFER TO SECTION 301 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CURING MEMBRANE, REFER TO SECTION 506 OF THIS MANUAL. FOR DETAILS ON ASPHALTIC CONCRETE OR PORTLAND CEMENT CONCRETE, REFER TO SECTIONS 501,501 AND 901 OF THIS MANUAL, AS APPLICABLE.									
MIXTURE WITH CEMENT ON ROADWAY	Cement Spread Rate	308.05 308.07 308.11	TR 436	1/day	*	-----	-----	3	The Design-Builder shall determine the length of spread prior to mixing. The CQAF will verify the length of spread prior to mixing. *Use and approved sampling device.
	Cross Slope & Grade	308.07 308.11		1/half day	-----	-----	-----	3	Use an approved 10 ft. metal static straightedge or other approved device.
	Density	308.07 308.11	TR 401	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	1	
	Moisture Content	308.05 303.07 308.11	TR 403	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	3	May be obtained by M.C.% determined during application of TR 415 B, if available on in-place moisture at the time of compaction (TR 403).
	Thickness & Width	308.07 308.11	TR 602	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft/ shoulder	-----	-----	-----	3	Shall be measured sufficiently to ensure specifications are met.

SECTION 401 AGGREGATE SURFACE COURSE

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
AGGREGATES	Sand- Clay-Gravel, (Limetreated) Stone, Recycled Portland Cement Concrete, Reclaimed Asphaltic Pavement, Crushed Slag	401.02 1003.04	Gradation TR 113	1/1000 yd^3 dedicated stockpile*	1 full sample sack	-----	200 yd^3	2	(QPL 2 for stone) (RPCC shall be from an approved source) For sampling on roadway, minimum frequency shall be 1 per 1,000 lin ft per two lanes of roadway or 1 per 2,000 lin ft per shoulder.
			Organic Content TR 413					3	
			Plasticity Index and Liquid Limit TR 428					2	
AGGREGATES ON ROADWAY	Thickness & Width	401.08	TR 602*	-----	-----	-----	300 lin ft	3	*For net section only.
LIME (Hydrated and Quicklime)		401.02 1018.03		1/shipment	-----	CD 1 & 7	-----	3	(QPL 34)
SUBGRADE SOIL (New or Reconstructed	Usable Soil*	401.04(b),(c) 203.06g	Plasticity Index and Liquid Limit TR 428	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft shoulder	1 full sample sack	-----	100 yd^3	2	See Specification Section 203.06. For existing shoulder or roadway, no sample is required.
			Silt Content TR 407					2	
			pH TR 430					2	
			% Organic TR 413					2	
	Max Density*	401.04(b),(c)	TR 415 or 418	1/1000 lin ft/ 2-lane rdwy or 1/2000 lin ft shoulder				2	
WATER		1018.01	AASHTO T 26	1/source*	1 qt plastic bottle	-----	-----	3	*Drinkable water need not be sampled.

SECTION 402 TRAFFIC MAINTENANCE AGGREGATE

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
AGGREGATES		402.02	-----	as needed	-----	-----	-----	3	Visual inspection by DOTD Rep.

SECTION 403 AGGREGATE ROADWAY SURFACING

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
AGGREGATES	Gravel, Stone, Recycled PCC	403.02 1003.08(c)(1) 1003.04(c)	Gradation TR 113	1/1000 yd^3/ dedicated stockpile	1 full sample sack	-----	200 yd^3	3	(QPL 2 for Gravel and Stone.) Must be from approved source.

SECTION 502 SUPERPAVE ASPHALTIC CONCRETE MIXTURES

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FOR PROJECTS, OR SEPARATE LOCATIONS WITHIN A PROJECT, REQUIRING LESS THAN 250 TONS, THE JMF, MATERIALS, AND PLANT AND PAVING OPERATIONS SHALL BE SATISFACTORY TO ENGINEER. SEE SUBSECTION 502.14 FOR FURTHER DETAILS.									
ADDITIVES	Anti-Stripping	502.02 1002.02(a)	TR 317	1/shipment/ plant*	1 pt friction top can	CD 1 & 7	-----	3	(QPL57) *Sample when not accompanied by CD or questionable.
	Hydrated Lime	502.02 1018.03(a)	TR 525	1/shipment*	1 pt friction top can	CD 1 & 7	-----	3	(QPL 34) *Sample only if questionable.
AGGREGATES	Combined Aggregates (Moisture Content)	503.03(c)	TR 319	1/day/plant	1 gal suitable container	-----	-----	3	-----
	All Aggregates	502.02 1003.06(a)(1)	Deleterious material TR 119	1/source/ plant/size	1 full sample sack	-----	-----	3	(QPL 2) Bulk Specific Gravity G_{sb}.
			Friction Rating 1003.06(a) (1)	1/source/ plant/size	1 full sample sack			3	
	Coarse Aggregate (+ No. 4)	502.02 1003.06(a)	Angularity TR 306	1/source/ plant	1 full sample sack	-----	-----	3	CAA & Flat and Elongated
			Polish Value AASHTO T278 & 279	1/source/ plant	1 full sample sack			3	
	Fine Aggregate (- No. 4)	502.02 1003.06(a)(2)	Angularity TR 121	1/source/ plant	1 full sample sack	-----	-----	3	Sand Equivalent and Fine Aggregate Angularity
			Sand Equivalent TR 120	1/source/ plant	1 full sample sack			3	
	Natural Sand	502.02 1003.06(a)(3)	Deleterious Materials TR 119	1/source/ plant	1 full sample sack	-----	-----	3	Sand equivalent testing.
			Sand Equivalent TR 120	1/source/ plant	1 full sample sack			3	
	Reclaimed Asphaltic Pavement (RAP)	502.02(c)(2) 1003.06(a)(5)	Max % of Mix	1/stockpile	3 full sample sacks	-----	-----	3	% AC, % crushed and gradation, Effective Specific Gravity G_{se}.
ASPHALT MIX RELEASE AGENT		1018.25 503.13	-----	as needed	-----	-----	-----	3	(QPL 25) Visual inspection for performance by CQAM.

SECTION 502 SUPERPAVE ASPHALTIC CONCRETE MIXTURES (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
ASPHALTIC CONCRETE (PLANT)	Anti-Strip Additive, %	502.02(b)(2)	TR 322	1/half lot	*	-----	-----	3	*% AS from meter.
	Asphalt Cement, %	502.02(a)	TR 323	1/half lot	*	-----	-----	3	*% AC from meter.
	Gyratory Specimens Moisture Sensitivity (Lottman) (Tensile Strength Ratio)	502.03	Lottman, Tensile Strength Ratio TR 322	1set/JMF	6 briquettes/ set	-----	-----	3	Results submitted with JMF. Sampled on first production day after validation.
			Moisture sensitivity TR 319					3	
	Gyratory Specimens (Volumetric)	502.05	Volumetric Mix Design TR 323	1/sublot	-----	-----	-----	3	Aged or unaged N_{max}. Shall be acceptance samples representing each lot of plant operation.
			Mechanical Analysis TR 309					3	
			% Crushed TR 306					3	
			Moisture Content TR 319					3	
	Job Mix Formula (JMF)	502.03	-----	1/mix type	-----	-----	-----	---	Contractor shall submit to the Dist. Lab Engr. the proposed job mix formula with supporting design data. Approval is required prior to starting work.

SECTION 502 SUPERPAVE ASPHALTIC CONCRETE MIXTURES (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
ASPHALTIC CONCRETE (Plant) (Cont'd)	Loose Mixture	502.05	Theoretical Maximum Specific Gravity Gmm TR 327	1/1000 tons	suitable sampling bucket	-----	-----	1	Aged or unaged samples.
		503.08	Particle Coating TR 328	*	1 gal friction top can	-----	-----	2	*Sample only if coating is questionable.
		502.05	Gradation TR 309	1/1000 tons	suitable sampling bucket	-----	-----	2	
			% AC TR 323					2	
			% Crushed TR 306					2	
		502.05	Moisture Content TR 319	1/5000 tons	1 gal friction top can	-----	-----	2	
		503.08	Temperature*	1/1000 tons	-----	-----	-----	2	*Temperature of mixture at discharge chute.

SECTION 502 SUPERPAVE ASPHALTIC CONCRETE MIXTURES (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
ASPHALTIC CONCRETE (IN-PLACE)	Density	502.11(a)	TR 304	3/sublot*	4 or 6 in. diameter core	-----	-----	1	* For different mix uses take 1 additional core/mix use. For validation lots take 1 core/validation sublot, 5 total.
	Joint Density	*NEW REQUIRED	*	1/2500 lin ft	----	----	----	1	*Non-Destructive density measure must be within 2% of adjacent wheel path.
	Longitudinal Surface Tolerance	502.10(b) 502.11(b)	TR 644	each wheelpath segment	-----	-----	-----	2	Applies to travel lane wearing and binder. Applies to shoulder, parking, airport runway and taxiway wearing.
	Loose Mixture* (Temperature)	502.08		2/sublot	-----	-----	-----	2	At paver hopper or on roadway.
	Transverse Surface Tolerance, Cross Slope	502.10(b)	10' Metal static straightedge	2/day*	-----	-----	-----	2	*As needed to control project within spec. requirements. *Test at selected locations for conformance to specs.
	Grade	502.10(b)	Stringline	2/day*				2	
	Thickness & Width	502.12	TR 602	*	-----	-----	300 lin ft per location	2	*Applies to mixtures specified for payment on a cubic yard or square yard basis.

SECTION 502 SUPERPAVE ASPHALTIC CONCRETE MIXTURES (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
ASPHALTIC MATERIAL	Asphalt Cement	1002	S 201	1/supplier tank	1 qt friction top can	CA 7; CD 8 & 9	-----	3	(QPL 41) **Non Self Certified.** Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified. DOTD results use for approval.
									(QPL 41) **Self Certified.** Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified, and supply CA to Mat. Lab along with 1 qt sample for verification testing. Supplier results used for approval.
				1/plant working tank/day of production	1 qt friction top can	-----	-----	3	(QPL 41) Test original binder DSR, including phase angle. If sample does not meet criteria, the plant will be investigated and the Dist. Lab will notify the OVF, the HMA producer and the Mat. Lab. Rotational viscosity to be tested 1/working tank/week for information. A record of results will be kept on file.
				1/working tank	1qt friction top can	-----	-----	3	Sample after 72 hour shut down period.
				1 transport/ project/ grade	1 qt friction top can	-----	-----	3	(QPL 41) Send directly to Materials Lab for comparison to refinery sample.
	Curing Membrane	**SEE SECTION 506 OF THIS MANUAL**							
	Prime Coat	**SEE SECTION 505 OF THIS MANUAL**							
	Tack Coat	**SEE SECTION 504 OF THIS MANUAL.**							

SECTION 504 ASPHALTIC TACK COAT

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
THIS SECTION IS TO BE USED AS A GUIDE FOR OTHER ITEM NUMBERS WHEN REFERENCE IS MADE TO SECTION 504 OF THIS MANUAL. THERE ARE NO PAY ITEMS UNDER SECTION 504.									
ASPHALTIC TACK COAT	Emulsified Asphalt	1002	Refinery S 201	1/storage tank	1 gal plastic bottle	CA 7; and CD 1 & 7	No CD required if less than 250 gal.	3	(QPL 41) **Non Self Certified** Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified.
									(QPL 41) **Self Certified** *Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
									(QPL 41) *Visual inspection by CQAF Sample only if questionable.
	Rate of Application	504.06		1/day	-----	-----	-----	2	-----

SECTION 505 ASPHALTIC PRIME COAT

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
THIS SECTION IS TO BE USED AS A GUIDE FOR OTHER ITEM NUMBERS WHEN REFERENCE IS MADE TO SECTION 505 OF THIS MANUAL. THERE ARE NO PAY ITEMS UNDER SECTION 505.									
ASPHALTIC PRIME COAT	Cutback	1002		1/storage tank	1 qt screw top can	CA 7; and CD 1 & 7	500 gal	3	(QPL 41) **Non Self Certified** Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified.
				1/supplier tank whenever asphalt is added to tank or modified*	1 qt screw top can		-----	3	(QPL 41) **Self Certified** *Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
				1/shipment*	1 qt screw top can		500 gal	3	(QPL 41) *Visual inspection by CQAF Sample only if questionable.
	Emulsified Asphalt	1002 505.02		1/storage tank	1 gal plastic bottle	CA 7; and CD 1 & 7	500 gal	3	(QPL 41) **Non Self Certified** Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified.
				1/supplier tank whenever asphalt is added to tank or modified*	1 gal plastic bottle		-----	3	(QPL 41) **Self Certified** *Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
			-----	1/shipment*	1 gal plastic bottle			3	(QPL 41) *Visual inspection by CQAM. Sample only if questionable.
	Rate of Application	505.06		1/day	-----	-----	-----	2	-----

SECTION 506 ASPHALTIC CURING MEMBRANE

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
THIS SECTION IS TO BE USED AS A GUIDE FOR OTHER ITEM NUMBERS WHEN REFERENCE IS MADE TO SECTION 506 OF THIS MANUAL. THERE ARE NO PAY ITEMS UNDER SECTION 506.									
ASPHALTIC CURING MEMBRANE	Emulsified Asphalt	1002 506.02	S 201	1/storage tank	1 gal plastic bottle	CA 7; and CD 1 & 7	250 gal	3	(QPL 41) **Non Self Certified** Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified.
				1/supplier tank whenever asphalt is added to tank or modified*	1 gal plastic bottle		-----		(QPL 41) **Self Certified** *Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
				1/shipment*	1 gal plastic bottle				(QPL 41) *Visual inspection by CQAF. Sample only if questionable.
	Emulsified Petroleum Resin	1002.00 506.02	S 201	1/storage tank	1gal plastic bottle	CA 7; and CD 1 & 7	250 gal	3	(QPL 41) **Non Self Certified** Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified.
				1/supplier tank whenever asphalt is added to tank or modified*	1 gal plastic bottle		-----		(QPL 41) **Self Certified** *Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
				1/shipment*	1 gal plastic bottle				(QPL 41) *Visual inspection by CQAM. Sample only if questionable.
	Rate of Application	506.06		1 day	-----	-----	-----	2	-----
	Water	506.02 1018.01	AASHTO T26	1/source	1 qt plastic bottle	-----	250 gal	3	Drinkable water need not be sampled.

SECTION 507 ASPHALTIC SURFACE TREATMENT

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
AGGREGATES	Rate of Application	507.06(b)		Prior to and after first pass of aggregate spreader*	-----	-----	-----	2	*Must check sufficient to ensure materials being applied meet specification requirements.
	Size 1,2,3 (for cold application)	507.01	Emusion Rate S 101	1/1000yd^3/ size	1 full sample sack	CA 1	2,000 yd^2	3	(QPL 2)
	Size 1,2,3 (for hot application)	507.01 1003.05	S 101	Sufficient to ensure quality	1 full sample sack	CA 1	2,000 yd^2	3	(QPL 2) Certification from supplier for asphalt coating & gradation.
ASPHALTIC MATERIAL	Emulsified Asphalt	1002 507.02	S 201	1/storage tank	1 gal plastic bottle	CA 7; and CD 1 & 8	2,000 yd^2	3	(QPL 41) **Non Self Certified** Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified.
				1/supplier tank whenever asphalt is added to a tank or modified*	2-1 gal plastic bottles		-----		(QPL 41) **Self Certified** *Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
				1/transport or storage tank*	2-1 gal plastic bottle**		-----		(QPL 41) *Send 1 gal to Mat. Lab for failing or nonverifying material. **Two one-gallon plastic bottles.
				1/type/ project**	1 gal plastic bottle	-----			(QPL 41) For complete analysis. *Shall be selected at random by the Dist. Lab from the acceptance samples submitted by the CQAF. **Not required if sampled under another item.
	Rate of Application	507.06(a)	507.06(a)	1/each pass of distributor	-----	-----	-----	2	-----

SECTION 507 ASPHALTIC SURFACE TREATMENT (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OV LEVEL	REMARKS
ASPHALTIC MATERIAL (Cont'd)	Asphalt Cement	1002 507.02	S 201	1/supplier tank	1 qt friction top can	CA 7; and CD 1 & 8	2,000 yd^2	3	(QPL 41) **Non Self Certified.** Must have tank approved by Mat. Lab prior to shipping whenever asphalt cement is added or modified. DOTD results use for approval.
				1/supplier tank whenever asphalt is added to a tank or modified*	1 qt friction top can		-----		(QPL 41) **Self Certified** *Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
				1/transport or storage tank	2-1qt friction top can		-----		(QPL 41) Send 1qt. to Mat. Lab for failing or nonverifying material.
				1/type/ project**	1 qt friction top can	-----			(QPL 41) For complete analysis. Shall be selected at random by the Dist. Lab from the acceptance samples submitted by the OVF. **Not required if sampled under another item.
	Rate of Application	507.06(a)	507.06(a)	1/each pass of distributor	-----	-----	-----	2	-----

SECTION 509 COLD PLANING ASPHALTIC PAVEMENT

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
COLD PLANED SURFACE	Longitudinal Surface Tolerance* (for single lift overlays only)	502.10(b) 509.03(b)	TR 644	each wheelpath segment	-----	-----	2,000 yd^2	3	*When a single lift is to be placed over the cold planed surface it must meet the requirements of binder course in Section 502 of this Manual. See table 502-8b.
	Transverse Surface Tolerance, Cross Slope	502.10(b)	10ft metal static straightedge	2/day*	-----	-----	-----	3	*As needed to meet requirements of binder. See table 502-4
	Grade	502.10(b)	String line	2/day*				3	*As needed to meet requirements of binder. See table 502-4
TEMPORARY PAVEMENT MARKING	**SEE SECTION 713 OF THIS MANUAL.**								

SECTION 510 ASPHALTIC CONCRETE PAVEMENT PATCHING, WIDENING AND JOINT REPAIR

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
ASPHALTIC CONCRETE		**For details on Additives, Aggregates, Asphalt Cements, Asphaltic Concrete, Asphaltic Tack Coat, Asphalt Mix Release Agent and Mineral Filler, See Section 502 of this Manual.**					-----	-----	-----
	Density	502.11(a)	TR 304	3/sublot	4 or 6 in. diameter core		-----	2	Top 4 inches of finished section.

SECTION 601 PORTLAND CEMENT CONCRETE PAVEMENT

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FOR DETAILS ON CONCRETE MIX DESIGNS, TESTS AND MATERIALS, SEE SECTION 901 OF THIS MANUAL.									
ADHESIVE-LUBRICANT	For Preformed Elastomeric Compression Joint Seal	1005.03(b)	ASTM D4070	1/lot or shipment	1 qt friction top can	-----	2,000 yd^2	3	(QPL 8) Mix well before sampling. Seal can tightly.
BOLSTER BLOCKS	Concrete	601.09(h)							
CONCRETE-CURED	Cores - Thickness & Compressive Strength	601.18	TR 225	5/1500 ln. ft. of 2 lane pavement or 3/1500 ln. ft. of shoulder		-----	3 cores for less than 1500 ln. ft. of 2 lane pavement or shoulder	2	Alternative non-destructive method of verifying thickness may be proposed for DOTD acceptance when used in conjunction with Flexural Strength Beams.
	Beams-Flexural Strength	601.07	TR 226	1 set/lot*				2	*If DOTD approves flex beams in lieu of cores, increase frequency to 1 set/ 50 cy.
	Surface Tolerance	601.11	TR 641	1/location/ 300 ft*		-----	-----	3	*Shoulders, turnouts, and crossovers will be checked with approved 10 ft metal static straightedge
	Tine Texturing	601.08(h)	TR 229	2/1500 ln. ft. of 2 lane pavement				3	

SECTION 601 PORTLAND CEMENT CONCRETE PAVEMENT (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	OVT LEVEL	REMARKS
					CONTAINER	DISTR.			
CONCRETE-PLASTIC	Compressive Strength*	601.06 901.12	TR 226	3 cyl/pour/ 100yd^3 max.	6 in. x 12 in. cylinder mold	-----	-----	3	Used to determine early opening date for traffic or construction equipment.
	Rate of Application for Curing Compound	601.1O		1/day		-----	200 yd ^{2} visual inspection	3	The curing compound must be applied uniformly to cover the surface of the plastic concrete.
	Surface Finish	601.08(f)		entire surface area	-----	-----	-----	3	Tested for trueness with an approved 10 ft metal static straightedge.
	Thickness	601.19	depth check	1/ lane/ 50 lin ft	-----	-----	-----	3	Shall test sufficient to ensure specifications are met.
	Tine Texturing	601.08(h)	TR 229	*	-----	-----	-----	3	*Sufficient number of random checks to ensure the required texture depth is achieved.
	Unit Weight	*NEW REQUIREMNENT	TR 201	1/ 10 trucks or max of 1/100cy				1	Mix must be maintained within 1% of design unit weight during batching.
CURING MATERIALS	Burlap Cloth	601.02 1011.01(b)	AASHTO M182 Class 3	1/shipment*	36 in. x 36 in.	-----	-----	3	*Visual inspection by CQAF Sample only if questionable. For cold weather protection.
	Burlap & White Polyethylene Sheeting	601.02 1011.01(e)	AASHTO M171	1/shipment*	36 in. x 36 in.	-----	-----	3	*Visual inspection by CQAF Sample only if questionable. For cold weather protection.

SECTION 601 PORTLAND CEMENT CONCRETE PAVEMENT (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
CURING MATERIALS (Cond't)	Liquid Membrane Forming Compound	601.02 1011.01(a)	AASHTO M148	1/6 months	1 qt friction top can	CC 1	-----	3	(QPL 65) Visual inspection by CQAF. Sample only if questionable.
	Waterproof Paper	601.02 1011.01(c)	AASHTO M171	1/shipment*	36 in. x 36 in.	-----	-----	3	(QPL 65) *Visual inspection by CQAF. Sample only if questionable.
	White Polyethylene Sheeting	601.02 1011.01(d)	AASHTO M171	1/shipment*	36 in. x 36 in.	-----	-----	3	(QPL 65) *Visual inspection by CQAF. Sample only if questionable.
EPOXY RESIN SYSTEMS	Type I, Grade C	601.02 1017.02	Table 1017-1	1/lot or shipment*	1 qt each component friction top can	CC 1	50 lin ft of joint	3	(QPL 32) Visual inspection by CQAF Rep. Sample only if questionable.
GEOTEXTILE FABRIC		601.02 1019	Table 1019-1	1/type/ source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd^2 of fabric	3	(QPL 61) *Sample a minimum of 18 ft^2.

SECTION 601 PORTLAND CEMENT CONCRETE PAVEMENT (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	OVT LEVEL	REMARKS
					CONTAINER	DISTR.			
JOINT FILLERS	Preformed Polyurethane Foam	601.02 1005.06	ASTM D3204 Type II	1/5000 lin ft/ type	36 in. length	-----	2,000 yd^2	3	-----
	Wood	601.02 1005.01(b)		1/5000 lin ft	36 in. length	-----	2,000 yd^2	3	-----
JOINT FORMER/ SEALER (Combination)	Preformed Joint Former/ Sealer	1005.04	TR 636	1/5000 lin ft	6 ft length	-----	2,000 yd^2	3	-----
JOINT SEALANT (Extruded)	Silicone Polymer (single or two-component rapid cure)	1005.02(c),(d)	ASTM D5893 and D5249 Type 3	1/batch or shipment*	1 gal friction top can	CA 7; and CD 1 & 7	2,000 yd^2	3	(QPL 42) *When material is not accompanied by a CD Or if questionable.
JOINT SEALANT (Hot Poured)	Rubberized Asphaltic Type	1005.02(a)	ASTM D6690 type II and D5249 Type I	1/batch or shipment*	one container	CA 7; and CD 1 & 7	-----	3	(QPL 67) *When material is not accompanied by a CD or if questionable

SECTION 601 PORTLAND CEMENT CONCRETE PAVEMENT (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
JOINT SEALANT (Backing Material)	Rods	1005.02(c),(d)	D5249 Type 3	-----	-----	-----	-----	3	(QPL 42) For use with polyurethane silicone polymer joint seals. Visual inspection by CQAF.
	Rods (Heat Resistant)	1005.02(a) Mat. Lab	D5249 Type I	-----	-----	-----	-----	3	(QPL 42) For use with polyurethane silicone polymer joint seals. Visual inspection by CQAF.
JOINT SEALANTS (Primer)		1005.02(b),(c),(d)	-----	-----	-----	-----	-----	3	For use with polyurethane and silicone polymers (QPL 42) joint sealants. Visual inspection by CQAF.
JOINT SEAL (Preformed)	Elastomeric Compression	1005.03(a)	TR 612	1/lot or shipment	8 ft length	CA 7	2,000 yd^2	3	(QPL 6) Design-Builder forwards CA with sample to Mat. Lab.
LIME	Hydrated	1018.03	TR 525	1/shipment	-----	CD 1	-----	3	(QPL 34) Visual inspection by Design-Builder & DOTD Rep.

SECTION 601 PORTLAND CEMENT CONCRETE PAVEMENT (cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FOR DETAILS ON CONCRETE MIX DESIGNS, TESTS AND MATERIALS, FLY ASH. SEE SECTION 901 OF THIS MANUAL. EACH REHABILITATION ITEM WILL SPECIFY THE SPECIFIC TYPE OF MATERIALS TO BE USED.									
LUBRICANT-ADHESIVE		1005.03(b) 1005.07	ASTM D4070	-----	-----	-----	-----	3	(QPL 8 & 18) For use with preformed polyurethane foam joint seal. Visual inspection by CQAF.
NON-SHRINK PATCHING SYSTEM	Non-Shrink Grout	601.13(a) 1018.26	ASTM C 1107	1/source	1 sack	-----	20 sacks	3	(QPL 47) Sample shall be submitted in an unbroken moisture proof sack.
REINFORCEMENT	Adhesive Anchor System	601.09	S 501	1/type	-----	-----	2,000 yd^2	3	(QPL 32 or 52)
	Dowel Bars	1009.04	AASHTO M254	1/shipment	2 bars *	-----	2,000 yd^2	3	*For mechanical placement, only one dowel bar required. Basket assemblies checked for dimensional conformance by DOTD Rep.
	Mechanical Butt Splicing Devices	806.07	S 501	1/size/ shipment	-----	-----	2,000 yd^2	3	(QPL 44)
	Tie Bars	1009.03	S 501	1/size/grade/ 150,000lb/ source*	2 bars	CA 1	2,000 yd^2	3	*If listed on QPL 71, material with a CA (Distr. 1) need not be sampled. Sample for verification if questionable.
TAR PAPER		601.09 (b),(h)	S 601	1/source*	2 ft x 2 ft	-----	-----	3	For Bolster Blocks. *Visual inspection by CQAF. Sample only if questionable.

SECTION 602 PORTLAND CEMENT CONCRETE PAVEMENT REHABILITATION

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
CONCRETE-CURED	Surface Tolerance (Grinding)	602.11	TR 641	Each lane each wheel path	-----	-----	-----	3	Design-Builder must furnish an approved 25 ft profilograph or approved alternate. Tested prior to as well as after grinding.
	Surface Finish (Patching)	601.11	straight edge*	each patched area	-----	-----	-----	2	Design-Builder must furnish an approved 10 ft metal static straightedge. To be tested as soon as concrete has hardened.
	Tine Texturing (Patching)	602.07,08,09 & 10	TR 229	each patched area*	-----	-----	-----	3	*Match texture of adjoining pavement.
CONCRETE-PLASTIC	Compressive Strength	602.07, 08, 09, 10, and 18(d) 901.12	TR226	6 cyl/lot; min 3 cyl/day	6 in. x 12 in. cylinder mold	-----	-----	2	-----
	Rate of Application for Curing Compound	601.1		1/day	*	-----	-----	3	*The curing compound must be applied uniformly to cover the surface of the plastic concrete.
	Thickness	602		*	-----	-----	-----	3	*Shall test sufficient to ensure specifications are met.
CURING MATERIALS	Burlap Cloth	601.02 1011.01 (e)	AASHTO M171	1/shipment*	36 in. x 36 in.	-----	-----	3	*Visual inspection by CQAF Sample only if questionable. For cold weather protection.
	Burlap & White Polyethylene Sheeting	601.02 1011.01(e)	AASHTO M171	1/shipment*	36 in. x 36 in.	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable. For cold weather protection.

SECTION 602 PORTLAND CEMENT CONCRETE PAVEMENT REHABILITATION (Cont.'d)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
CURING MATERIALS (Cont.'d)	Liquid Membrane Forming Compound	601.02 1011.01(a)	AASHTO M 148	1/6 months	1 qt friction top can	CC 1	-----	3	(QPL 65) *Visual inspection by CQAF. Sample only if questionable.
	Waterproof Paper	601.02 1011.01(c)	AASHTO M 171	1/shipment*	36 in. x 36 in.	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable. For cold weather protection.
EPOXY RESIN SYSTEMS	Type I, Grade as specified	602.04, 602.09, 602.15 1017.02	Table 1017-1	1/lot or shipment*	1 qt each component friction top can	CC 1	50 lin ft of joint	3	(QPL 32) *Visual inspection by CQAF Rep. Sample only if questionable.
JOINT SEALANT (Extruded)	Silicone Polymer (single component)	1005.02(c)	ASTM D5893 and D5249 Type 3	1/batch or shipment*	1 gal friction top can	CA 7; and CD 1 & 7	2,000 yd^2	3	(QPL 42) *When material is not accompanied by a CD Or if questionable.
JOINT SEALANT (Hot Poured)	Rubberized Asphaltic Type	1005.02(a)	ASTM D6690 type II and D5249 Type I	1/batch or shipment*	one container	CA 7; and CD 1 & 7	-----	3	(QPL 67) *When material is not accompanied by a CD or if questionable
JOINT SEALANT (Backing Material)	Rods	1005.02(b),(c)	D5249 Type 3	-----	-----	-----	-----	3	(QPL 42) For use with polyurethane silicone polymer joint seals. Visual inspection by CQAF.
	Rods (Heat Resistant)	1005.02(a)	D5249 Type I	-----	-----	-----	-----	3	(QPL 42) For use with hot poured joint seals. Visual inspection by CQAF.
JOINT SEALANTS (Primer)		1005.02(c)	-----	-----	-----	-----	-----	3	(QPL 42) For use with silicone polymers joint sealants. Visual inspection by CQAF.

SECTION 602 PORTLAND CEMENT CONCRETE PAVEMENT REHABILITATION (Cont.'d)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
LOW-SHRINK PATCHING MATERIAL		602.15	Compressive strength ASTM C109	1/3 hr and 1/24 hr	6 cubes	CC 1	-----	3	(QPL 24) For Dowel Bar retrofit 602.15(b).
		602.15	Shrinkage ASTM C157	1/4 day production	6 cubes	-----	-----	3	Tested at 3 and 25 hours.
POWDERED AMMONIUM LIGNIN SULPHONATE		602.14		1/half day	-----	CC 1	-----	3	For undersealing and slabjacking.
REINFORCEMENT	Adhesive Anchor System	602.08	S 501	1/type	-----	-----		3	(QPL 32 or 52)
	Dowel Bars	1009.04	AASHTO M254	1/shipment	2 bars *	-----		3	*For mechanical placement, only one dowel bar required. Basket assemblies checked for dimensional conformance by DOTD Rep.
	Steel Fibers	602.09		1/ shipment	1 Qt can	CC 1		3	(QPL 44)
	Tie Bars	1009.03	S 501	1/size/grade/ 150,000lb/ source*	2 bars	CA 1		3	*If listed on QPL 71, material with a CA (Distr. 1) need not be sampled. Sample for verification if questionable.
SLURRY	Time of Efflux	602.14	TR 633	1/ half day	3 gal suitable container	-----	-----	3	For undersealing and slabjacking.

SECTION 701 CULVERTS & STORM DRAINS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
BACKFILL	Density	701.08	TR 401	As needed*	-----	-----	-----	2	*To ensure density requirements are met for each lift of backfill. DOTD to do TR 415 or TR 418.
	Density, when required by specifications	701.08	TR 401	1/200 LF Pipe/Location/ Side of Pipe/3' of Backfill*	-----	-----	-----	1	*Test first lift at 1/3 the pipe height, and at least 1 test for each additional 3' of backfill thickness.
	Density (Non-paved Side Drains)	701.08	TR 401	*	-----	-----	-----	3	*Visual inspection by CQAF of compaction to the density of the surrounding soil with the exception of plastic pipe.
	Granular Material*	701.02 701.08 1003.07	Resistivity TR429*	1/1,000 yd^3	1 full sample sack	-----	-----	3	*pH and resistivity required for metal pipe. Plastic pipe requires granular material, or Type A backfill material.
			pH TR 430*	1/1,000 yd^3	1 full sample sack			3	*pH and resistivity required for metal pipe. Plastic pipe requires granular material, or Type A backfill material.
		1003.07	Gradation TR 407	1/1,000 yd^3	1 full sample sack			2	
	Flowable Fill	701.08 (1)(d)	**SEE SECTION 710 OF THIS MANUAL.**						
	Moisture Content	701.08	TR 403	1/location*	-----	-----	-----	2	*To ensure moisture requirements are met at time of compaction. DOTD to do TR 415 or TR 418.
	Plastic Soil Blanket	701.02	**SEE SECTION 203 OF THIS MANUAL**						Not required if tested & approved as required excavation or borrow pit material.
	Selected Soil*	203.06 701.02 701.08	Resistivity TR429*	1/1,000 yd^3	1 full sample sack	-----	-----	3	*pH and resistivity required for metal pipe. Plastic pipe requires granular material, or Type A backfill material.
			pH TR 430*	1/1,000 yd^3	1 full sample sack			3	*pH and resistivity required for metal pipe. Plastic pipe requires granular material, or Type A backfill material.
		203.06	**SEE SECTION 203.06(b) OF THIS MANUAL**						
BEDDING MATERIAL		701.02 701.04 1003.08	**SEE SECTION 726 OF THIS MANUAL.**						

SECTION 701 CULVERTS & STORM DRAINS (Cont'd

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
CONCRETE PIPE AND PIPE ARCH	Non-Reinforced (Concrete Sewer Pipe)	701.02 1006.02	**Inspected and stamped by Const. Fab. Insp. prior to use.**			CD 1 & 6	-----	3	Three-edge bearing test. Each joint shall be stamped when approved. Visual inspection by CQAF. CD to include lot number for gasket materials.
	Reinforced	701.02 1006.03 1006.04	**Inspected and stamped by Const. Fab. Insp. prior to use.**			CD 1	-----	3	(QPL 77) Three-edge-bearing test or compressive strength test. The placement of elliptical reinforcement must be approved by the Const. Fab. Insp. Unit. Includes concrete pipe arch. Shall not exceed 30 joints. The use of 6 in. X 12 in. compressive strength cylinders for Source Approval or Verification shall be at the discretion of the Const. Fab. Ins. Unit. Each joint shall be stamped when approved. Visual insp. by CQAF. CD to include lot number for Gasket Materials.

SECTION 701 CULVERTS & STORM DRAINS (Cont'd

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
CONCRETE PIPE AND PIPE ARCH (Cont'd)	Absorption Test	701.02 1006.03 1006.04	S 601	*	-----	-----	-----	3	*This test will be conducted at the discretion of the CQAF in cases where the pipe exhibits visual porosity.
	Admixtures	701.02 1011.02	TR 224	*	1 pt friction top can	-----	-----	3	(QPL 58) *Visual inspection by CQAF. Sample only if questionable.
	Cement for Concrete Pipe	701.02 1001	AASHTO M85	*	1 gal friction top can**	CD 6 & 7	-----	3	(QPL 7) *See Section 901 of this manual. **Visual inspection by CQAF. Sample only if questionable.
	Coarse & Fine Aggregate for Concrete Pipe	701.02 1003.02	TR 113	*	1 full sample sack	-----	-----	3	(QPL 2) *Visual inspection by CQAF. Sample only if questionable.
	Hydrostatic Test	701.02 1006.05	**This test shall be used as a basis for source approval of new joint designs and repairs and for evaluation of new products such as gasket materials, etc.**			-----	-----		-----
	Mix Design	701.02 1006	ASTM C 76	1/plant/ source	-----	-----	-----	3	-----
	Permeability Test	701.02 1006		*	1 joint	-----	-----	-----	One pipe per lot of sizes up to and including 48 in. in diameter. *This test will be conducted at the discretion of CQAF in cases where the pipe exhibits visual porosity.
	Reinforcing Steel for Concrete Pipe	701.02 1009	S 501	1/shipment*	36 in. x 36 in.	-----	-----	3	Sample shall include an area which will have the welded splice at approximately the midpoint. *Visual Inspection by CQAF. Sample only if questionable.

SECTION 701 CULVERTS & STORM DRAINS (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
CONCRETE PIPE AND PIPE ARCH (Cont'd)	Water	305.02 1018.01	S 303	1/source	1 qt plastic bottle	-----	-----	3	Drinkable water need not be sampled.
CONDUIT PLUG & COLLARS	Concrete (Class R)		**SEE SECTION 901 OF THIS MANUAL.**						
GASKET MATERIAL (For Pipe)	Flexible Plastic Gasket	701.02 1006.06(b)	AASHTO M198	*	3 ft length	CC** 1	-----	3	(QPL 4) *Visual inspection by the CQAF. Sample only if questionable. **Gasket lot no. listed on pipe CC. Primer used according to gasket manufacturer's recommendation; sample not required.
	Rubber Gaskets	701.02 1006.06(a)	AASHTO M315	*	1 gasket	CC** 1	-----	3	(QPL 4) *Visual inspection by the CQAF. Sample only if questionable. **Gasket lot no. listed on pipe CC. Lubricant used according to gasket manufacturer's recommendation; sample not required.
GEOTEXTILE FABRIC		701.02 1019.01	Table 1019-1	1/type/source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd^2	3	(QPL 61) *Sample a minimum 18 ft^2. For pipe wrap visual inspection by CQAF. Sample only if questionable.

SECTION 701 CULVERTS & STORM DRAINS (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
METAL PIPE		1007	AASHTO M36	1/180 day production per plant	1 -3 in. triangle	CA 6	-----	3	Connecting bands for metal pipe shall be inspected, approved and the pipe lab no. painted on the band and in the pipe by MFR.
	Bituminous Coated Corrugated Steel Pipe & Pipe Arch	701.02 1007.02	**Inspected, approved and marked by MFR. prior to use.**			CD 1 & 6	-----	3	Visual inspection by CQAF. CD includes gage, diameter, coupling bands, gasket materials and hardware.
	Corrugated. Aluminum Pipe & Pipe Arch	701.02 1007.05	**Inspected, approved and marked by MFR. prior to use.**			CD 1 & 6	-----	3	Visual inspection by CQAF. CD includes gage, diameter, coupling bands, gasket materials and hardware.
	Structural Plate For Pipe & Pipe Arch	701.02 1007.04	**Inspected, approved and marked by MFR prior to use.**			CD 1 & 6	-----	3	Visual inspection byCQAF. CD includes gage, diameter, coupling bands, gasket materials and hardware.
	Bituminous Material for Metal Pipe	1007.02	AASHTO M190	*	1 qt friction top can	CC 6	-----	3	*Visual inspection. Sample only if questionable.
	Galvanizing Repair Compound	1007.01 1008.05	ASTM B117	1/type*	1 can	-----	-----	3	(QPL 23) *Visual inspection. Sample only if questionable.

SECTION 701 CULVERTS & STORM DRAINS (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
METAL PIPE (Cont'd)	Hardware	1007.09(d)	ASTM A153 or B633	1/source/ shipment	1 of each item*	CA 6	-----	3	Visual inspection. Sample only if questionable. Includes steel rod, lugs, bolts and nuts. *One of each type of hardware used is to be submitted.
	Hydrostatic Test	701.02 1007.09	**This test shall be used as a basis for source approval of new joint designs and repairs and for evaluation of new products such as gasket materials, etc.**			-----	-----	-----	-----
	Steel Coils for Metal Pipe	701.02 1007		-----	-----	CA 6	-----	3	CQAF reviews CA.
MORTAR	Cement, Sand & Water	701.02 702.02	-----	-----	-----	-----	-----	3	Visual inspection by CQAF. Sample only if questionable.
PLASTIC CULVERT PIPE		701.02 1006.04	MFR	1/size/lot	-----	CA 6	-----	3	(QPL 66)
		701.02 1006.07	-----	-----	-----	CC 1	-----	3	(QPL 66) Visual inspection by CQAF. CC includes split coupling bands, straps and gasket material.
	Hydrostatic Test	701.02 1006	**This test shall be used as a basis for source approval of new joint designs and repairs and for evaluation of new products such as gasket materials, etc.**			-----	-----	-----	-----
	Mandrel Test	701.09(a)		1/line of pipe	-----	-----	-----	3	For 36 in. diameter or less. CQAF. to observe and approve. For pipe larger than 36 inches in diameter deflection shall be determine by a method approved by the Engineer.
PLASTIC YARD DRAIN PIPE & JOINTS		701.02 1006.09	1006.09	1/type/size/ shipment*	6 ft length	CA 4 & 7	-----	3	(QPL 73) *For corrugated Polyethylene 4 pieces 5 ft. length.
FITTINGS FOR PLASTIC YARD DRAIN PIPE & JOINTS		701.02 1006.09	AASHTO M198	1/type/size/ shipment*	1 item	CC 4 & 7	-----	3	* Visual Inspection by CQAF. Sample only if questionable.

SECTION 702 MANHOLES, JUNCTION BOXES, CATCH BASINS & END TREATMENTS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FOR DETAILS ON CONCRETE TEST, MIX DESIGNS AND MATERIALS (ADMIXTURES, AGGREGATES, CEMENT AND WATER) SEE SECTION 901 OF THIS MANUAL. (CLASS M)									
BACKFILL	Density	702.04 701.08(c)(1)	**SEE SECTION 701 OF THIS MANUAL.**						
	Flowable Fill	701.08(c)(1) 702.04	**SEE SECTION 710 OF THIS MANUAL.**						
	Granular Material	702.04 701.08(c)(1)	**SEE SECTION 701 OF THIS MANUAL.**						
	Selected Soil	702.04 701.08(c)(1)	**SEE SECTION 701 OF THIS MANUAL.**						
BRICK	Sewer	702.04 1004.01	ASTM C139 OR AASHTO M91	1/25,000/ type*	5 bricks	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
COVERS, FRAMES & GRATES		702.02 1018.04	**When questioned by CQAM or OVF; one tension test bar, ASTM A 48, specimen B, (threaded), representing lot of material from which item is cast to be submitted to Const. Fab. Insp. See section 807 of this manual.**			CA 1	-----	3	Visual inspection by CQAF. CQAF to receive form 4148 and CA for physical and chemical properties, from the Design-Builder.
CULVERT SAFETY ENDS	Pipe Runners & Hardware	702.04(c)(3)	-----	-----	-----	CA 1	-----	3	Visual inspection by CQAF.
	Epoxy Resin Systems	702.04(c)(3) 1017.02	Table 1017-1 and 2	1/lot or shipment*	1 qt each component friction top can	CC 1	1 gal	3	(QPL 32) *Visual inspection byCQAF. Sample only if questionable.
	Adhesive Anchor Systems	702.04(c)(3) 1017.02	Table 1017-1 and 2	1/lot or shipment*	1 qt each component friction top can	-----	1 gal	3	(QPL 52) *Visual inspection by CQAF. Sample only if questionable.
DRY-BATCHED SACKED CONCRETE	Compressive Strength	702.04(b)(4) 712.02(e)	TR 226 TR 230	1 set/1,000 sacks 3 cyl/set	1 sack 6 in. x 12 in. cylinder mold*	CC** 1	-----	3	(QPL 48) *Cylinders made from contents of sack mixed with water to produce a slump of 2to 5 inches. **CC should show mix proportions.
GASKET MATERIALS	Flexible Plastic Gasket	702.04 1006.06(b)	AASHTO M198	*	3 ft length	CC** 1	-----	3	(QPL 4) *Visual inspection by CQAF. Sample only if questionable. **Gasket Lot no. listed on precast unit CC.
GEOTEXTILE FABRIC		702.02 1019.01	Table 1019-1	1/type/ source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd^2	3	(QPL 60) *Sample a minimum of 18ft^2.

SECTION 702 MANHOLES, JUNCTION BOXES, CATCH BASINS & END TREATMENTS (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
JOINT FILLER		702.04 1005.01(c)	ASTM D994	-----	36 in.	-----	-----	3	Visual inspection by CQAF. Sample only if questionable.
METAL WORK COATINGS	Metal Work Paint	702.04(a) 702.02 1008.05	ASTM B117	1/batch	1 qt friction top can	-----	-----	3	Visual inspection by CQAF.
	Asphaltic Varnish	702.02 1008.03	ASTM D1640	1/batch*	1 qt friction top can	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
MORTAR	Cement, Sand & Water	702.02	-----	-----	-----	-----	-----	3	Visual inspection by CQAF. Sample only if questionable.
PRECAST REINFORCED CONCRETE UNITS		702.02 1016	Compressive Strength TR230	1/300 joints/size or 4 cy/300 joints/size or 3 consecutive days production/ size*	1 joint or 4 cyl. 6 in. x 12 in. cylinder mold	-----	-----	-----	(QPL 77) Three-edge-baring test or compressive strength test. Includes concrete pipe arch. *Shall not exceed 300 joints. The use of 6 in. x 12 in. compressive strength cylinders for Source Approval or verification shall be at the discretion of the CQAF. Each joint shall be stamped when approved.
		702.02 1016	**Inspected approved and stamped by MFR. prior to use.**			CD 1	-----	3	(QPL 77) Visual inspection by CQAF. CC to include lot number for Gasket Materials.
REINFORCEMENT	Bars	702.02 1009	ASTM A615	1/size/grade/ 150,000 lb/ source*	48 in. length	CA 1	-----	3	*If listed on QPL 71, materials with a CA (Distr. 1) need not be sampled. Sample for Verification if questionable.
	Chairs	702.04 805 806.06		1/type*	1 chair	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable. Chairs with plastic coated tips need not be sampled.
	Wire Fabric	702.02 702.04 1009.01(d)	ASTM D185	1/shipment	48 in. x 48 in.	-----	-----	3	Sampled by CQAF for precast items.
SACKS		702.04(b)(3) 1018.20	AASHTO M182	1/type/ source*	1 sack	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
STONE		702.04(b)(5) 712.02(d)	**Visual inspection and/or gradation check (at source, Proj. Site, or both, at Engineer's option).***			-----	-----	-----	(QPL 2) *Materials Lab available for assistance prior to use.

SECTION 703 UNDERDRAIN SYSTEMS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FOR ASPHALTIC CONCRETE BASE COURSE & SURFACING SEE SECTIONS 502 AND 510 OF THIS MANUAL.									
BACKFILL	Aggregate (Size 3)	703.02 1003.05	% Crushed TR 306	1/1,000 yd^3	1 full sample sack	-----	-----	2	-----
			Deleterious TR 119					2	
			Gradation TR 113					2	
	Granular Material	703.02 1003.07	Gradation TR 113	1/1,000 yd^3	1 full sample sack	-----	-----	2	-----
GEOCOMPOSITE WALL DRAINS		703.02 1019.02		1/type/lot*	4 ft^2	CA 7	-----	3	(QPL 62) *Sample fittings 1 per type per shipment.
GEOTEXTILE FABRIC		703.02 1019.01	Table 1019-1	1/type/ source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd^2	3	(QPL 61) *Sample a minimum if 18 ft^2.
HARDWARE CLOTH	Rodent Screen	703.02 1018.21		1/shipment*	1 screen	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
METAL PIPE	Perforated Bituminous Coated Corrug. Steel	703.02 1018.22	**See Section 701 of this manual for Const. Fab. Insp. sampling.**			CD 1 & 6	-----	3	Visual inspection by CQAF. CD includes gage, diameter, coupling bands, gasket material and hardware.
	Perforated Corrugated Aluminum	703.02 1007.06	**See Section 701 of this manual for Const. Fab. Insp. sampling.**			CD 1 & 6	-----	3	Visual inspection by CQAF. CD includes gage, diameter, coupling bands, gasket material and hardware.

SECTION 703 UNDERDRAIN SYSTEMS (Cond't)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
PLASTIC PIPE		703.02 1006.08		1/type/size/ shipment	6 ft. length*	CA 4 & 7	less than 1,000 ft	3	*For corrugated Polyethylene 4 pieces 5 ft. length.
PLASTIC PIPE FITTINGS		703.02 1006.08		3/type/size/ shipment	-----	CC 4 & 7	less than 1,000 ft	3	Visual inspection by CQAF. Sample only if questionable.
PORTLAND CEMENT CONCRETE	Headwalls (Class M)	703.03(b)(5)	**SEE SECTION 901 OF THIS MANUAL.**					-----	-----
PRECAST CONCRETE HEADWALLS		703.02 1016.03	**Inspected, stamped and approved by MFR prior to use. See Section 805 of this Manual.**			CD 1 & 6	-----	3	Visual inspection by CQAF. If questionable, contact Const. Fab. Insp. Unit prior to use.
REINFORCING STEEL	Bars	1009.01		1/source*	48 in. length	CA 1	-----	3	*If listed on QPL 71 material with CA (Distr. 1) need not be sampled. Sample for verification if questionable.
	Wire Fabric	1009.01(d)	ASTM A185	1/shipment*	48 in. X 48 in.	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.

SECTION 704 GUARD RAIL

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
CONCRETE (Class M)	Mix Designs, Materials & Tests	704.02	**SEE SECTION 901 OF THIS MANUAL**						Sample only if questionable.
GALVANIZING REPAIR COMPOUND		704.03(b) 811.12		1/type*	1 can	-----	-----	3	(QPL 23) *Visual inspection by CQAF. Sample only if questionable.
HARDWARE	Accessories, Bolts, End Anchor Rods, Fittings, Nuts and Washers	704.02 1010.10		1/size/type/ shipment*	1 of each item	CC 1	-----	3	*Visual inspection sample only if not listed on CC or if questionable.
METAL BEAM RAIL		704.02 1010.08	-----	-----	-----	CC 3	-----	3	(QPL 81) Visual inspection by CQAF. Rail shall be stamped with the name or brand of manufacturer, ID symbol or code for heat, no. and coating of lot, AASHTO spec. no., and class and type.
POSTS AND SPACER BLOCKS	Steel	704.02 1010.09(b)	-----	-----	-----	CC 1 & 6	-----	3	Visual inspection by CQAF.
	Timber	704.02 1010.09(a)	-----	-----	-----	CC 1 & 6	-----	3	Visual inspection by CQAF.
REINFORCEMENT	Wire Fabric	1009.01(d)	ASTM A185	1/shipment*	48 in x 48 in.	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
WIRE ROPE & FITTINGS		1010.11	-----	-----	-----	CC* 3	-----	3	*Wire rope only. CQAF visually inspects fittings.
WELDING		704.02							

SECTION 705 FENCES

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
CHAIN LINK FENCE, GATES AND APPURTENANCES	Fabric (Wire)	705.02 1010.07 Standard Plans	AASHTO M181	1/lot or shipment	36 in. length	-----	1,000 lin ft of fence	3	-----
	Fittings and Misc. Hardware	705.02 1010.07 Standard Plans	AASHTO M181	1/type/size*	1 of each item**	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable. **One piece of each type of fitting or hardware used is to be submitted.
	Gate Frames, Posts, Rails	705.02 1010.07 Standard Plans	AASHTO M181	1/type/lot or shipment	1 post or 7 ft section	-----	1,000 lin ft of fence	3	-----
	Hog Rings, Tension Wire, Wire Fabric Ties, & Wire Ties	705.02 1010.07 Standard Plans	AASHTO M181	1/type/lot or shipment	48 in. length or 3 pieces*	-----	1,000 lin ft of fence	3	*Wire ties, wire fabric ties and hog rings require only 3 precut pieces for samples.
CONCRETE (Class R)	Mix Designs, Materials & Tests	705.02	**SEE SECTION 901 OF THIS MANUAL**					-----	-----
FIELD & LINE TYPE FENCE	Barbed Wire	705.02 1010.01(a) Standard Plans		1/lot or shipment*	30 ft length	CC or MFR Label	1,000 lin ft of fence	3	*Visual inspection by CQAF. Sample only if questionable.
	Gates	705.02 1010.06(a) Standard Plans		-----	-----	CC 1	-----	3	Visual inspection and dimensional check by CQAF.
	Gate Hardware	705.02 1010.06© Standard Plans		1/type*	1 of each item	-----	1,000 lin ft of fence	3	*Visual inspection by CQAF. Sample only if questionable.

SECTION 705 FENCES (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FIELD & LINE TYPE FENCE (Cont'd)	Metal Fasteners	705.02 1010.05 Standard Plans	ASTM A90	1/type/ shipment*	12 fasteners	-----	1,000 lin ft of fence	3	*Visual inspection by CQAF. Sample only if questionable.
	Staples & Nails	705.02 1010.04 Standard Plans	ASTM A90	1/size/ shipment*	12 staples	-----	1,000 lin ft of fence	3	*Visual inspection by CQAF. Sample only if questionable.
	Steel Braces	705.02 1010.06(b)(2) Standard Plans	ASTM A53	1/type/lot or shipment*	1 brace	-----	1,000 lin ft of fence	3	*Visual inspection by CQAF. Sample only if questionable.
	Steel Gate Posts	705.02 1010.06(b)(2) Standard Plans	ASTM A53	1/type/lot or shipment*	1 post	-----	1,000 lin ft of fence	3	*Visual inspection by CQAF. Sample only if questionable.
	Steel Gate Stops	705.02 1010.06(d)(2) Standard Plans		1/type/lot or shipment*	1 stop	-----	1,000 lin ft of fence	3	*Visual inspection by CQAF. Sample only if questionable.
	Steel Posts with Anchor Plates	705.02 1010.03(b) Standard Plans		1/type/llot or shipment*	1 post with plate	CC or MFR Label 1	1,000 lin ft of fence	3	*Visual inspection by CQAF. Sample only if questionable.
	Timber Posts	705.02 1010.03(a)		-----	-----	CC 1	-----	----	Visual inspection by CQAF.
	Woven Wire	705.02 1010.02		1/lot or shipment*	36 in. length	CC or MFR Label 1	1,000 lin ft of fence	3	*Visual inspection by CQAF. Sample only if questionable.

SECTION 705 FENCES (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FIELD & LINE TYPE FENCE (Cont'd)	Timber Gate Posts, Timber Gate Stops, Timber Stop Posts	705.02 1010.06(b)(1)	-----	-----	-----	CC 1	-----	-----	Visual inspection by CQAF.
GALVANIZING REPAIR COMPOUND		705.06(d)	-----	-----	-----	-----	-----	-----	(QPL 23) Visual inspection by CQAF. See Subsection 1008.05 of the Standard Specifications.
GROUND ROD ASSEMBLY	Ground Rod, Wire & Clamp	705.02 1018.05		1/item*	1 of each item Wire 18 in. length	-----	-----	3	*Visual inspection by CQAF. (Note: Coated steel hardware is not permitted.) Sample only if questionable.

SECTION 706 CONCRETE WALKS, DRIVES AND INCIDENTAL PAVING

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
CONCRETE (Class M)	Mix Designs, Materials & Tests	706.02	**SEE SECTION 901 OF THIS MANUAL.**						Air entrainment is required for slip forming.
CURING MATERIALS		706.02 1011.01	**SEE SECTION 601 OF THIS MANUAL.**						
JOINT FILLER	Preformed Bituminous Type	706.02 706.03(e)(1) 1005.01(c)	-----	-----	36 in. length	-----	-----	3	Visual inspection by CQAF. Sample if questionable
REINFORCING STEEL		706.02 1009.01	**SEE SECTION 601 OF THIS MANUAL.**						
DETECTABLE WARNING SURFACE FOR HANDICAP RAMPS (Truncated Domes)		706.03 (g)	-----	-----	-----	CC 3	-----	-----	Visual inspection by CQAF. Sample if questionable

SECTION 707 CURBS AND GUTTERS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
ASPHALTIC CURB		**For details on Additives, Aggregates, Asphalt Cement, Asphaltic Concrete, Asphaltic Tack Coat, Asphalt Mix Release Agent and Mineral Filler, See Section 502 of this Manual.**					-----	-----	No requirement for density and surface tolerance.
BACKFILL	Usable Soil	707.02 203.06(a)	-----	-----	-----	-----	-----	-----	Visual inspection by CQAF.
CONCRETE (Class M)	Mix Designs, Materials & Tests	707.02	**SEE SECTION 901 OF THIS MANUAL.**						Air entrainment is required for slip forming.
CURING MATERIALS		707.02 1011.01	**SEE SECTION 601 OF THIS MANUAL.**						
FORM RELEASE AGENT		707.02 1018.24		1/lot	1 qt plastic bottle	-----	-----	3	(QPL 29) Visual inspection by CQAF. Sample only if questionable.
JOINT MATERIALS (Sealants, Filler, & Seals)		707.02 1005		1/5,000 lin ft*	35 in. length or 1 gal	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
REINFORCEMENT	Tie Bars	1009.03		1/size/ source*	1 bar	-----	-----	3	(QPL 71) *Visual inspection CQAF. Sample only if questionable.

SECTION 708 RIGHT-OF-WAY MONUMENTS

MATERIAL		REF.	TEST METHOD / MIN. FREQ. / MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
RIGHT-OF-WAY MONUMENTS	Monuments, Steel Stakes & Witness Posts	708.02	**Type as shown on plans or approved by the Location & Survey Section Administrator.**	-----	-----	-----	Approval letter from Location & Survey Section Administrator required for substitutions. Visual inspection by CQAF.

SECTION 709 STEEL CATTLE GUARDS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
BACKFILL	Density	709.03		1/location	-----	-----	-----	-----	Six (6) inch layer to density of surrounding soil in the roadway see section 203.07.
CONCRETE (Class M)	Mix Designs, Materials & Tests	709.02	**SEE SECTION 901 OF THIS MANUAL.**						
HARDWARE	Bolts, Nuts and Washers	709.02	ASTM A307 and 563	1/size/type/ shipment*	1 of each item**	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable. **One piece of each size and type of hardware used is be submitted.
PAINT PROTECTIVE COATINGS		709.02	**SEE SECTION 811 OF THIS MANUAL.**						
REINFORCING STEEL	Bars	709.02 1009.01		1/size/ source*	48 in. length	-----	-----	3	(QPL 71) *Visual inspection by CQAF. Sample only if questionable.
STEEL CATTLE GUARD	Rails & Pipe Wings	709.02 1007.13 Std. Pl. KG-01	**Inspected by Const. Fab. Insp. Prior to use. See Section 807 of this Manual**			-----	-----	-----	OVF to receive inspection report from CQAF
TREATED TIMBER		1014.01	-----	-----	-----	CC 1 & 6	-----	-----	Visual inspection at project site by CQAF

SECTION 710 FLOWABLE FILL

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
PORTLAND CEMENT		710.02 1001.01	**SEE SECTION 901 OF THIS MANUAL.**						
FLOWABLE FILL	Mix Design	710.02	*	1/mix design	-----	-----	-----	3	*OVF to approve before work begins. Trial batch required.
FLY ASH		710.02 1018.15	**SEE SECTION 901 OF THIS MANUAL.**						
MIX DESIGN		710.02		1/mix design	-----	-----	-----	----	Approved trial batch mix design-DB to submit to OVF. For approval.
SAND		710.02 1003.02	**SEE SECTION 901 OF THIS MANUAL.**						
WATER		710.02 1018.01	AASHTO T26	1/source*	1 qt plastic bottle	-----	-----	3	*Drinkable water need not be sampled.

SECTION 711 RIPRAP

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
GEOTEXTILE FABRIC		711.02 1019.01	Table 1019-1	1/type/ source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd^2	3	(QPL 61) *Sample a minimum of 18 ft^2.
RECYCLED CONCRETE		711.02 1003.01	**Visual inspection and/or gradation check (at source, project site, or both, at LA DOTD's option.)**			-----	-----	-----	Gradation and unit weight provided suppliers. Must be from an approved source.
STONE		711.02 1003.01	**Visual inspection and/or gradation check (at source, project site, or both, at LA DOTD's option.)**			-----	-----	-----	(QPL 2)

SECTION 712 REVETMENTS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
BACKFILL	Usable Soil	712.03	Classifiction TR 423	1/1,000 yd^3	1 full sample sack	-----	-----	3	-----
CONCRETE (Class R)	Mix Designs, Materials & Test	712.02	**SEE SECTION 901 OF THIS MANUAL**						
CURING MATERIALS		1011.01	-----	-----	-----	-----	less than 300 yd^2	-----	See Section 601 of this manual.
DRY-BATCHED PREPACKAGED SACKED CONCRETE	Compressive Strength	712.02(e)	TR 226 TR 230	1 set of 3 cy/set/1,000 sacks*	1 sack 6 in. x 12 in. cylinder mold	CC 1	-----	3	(QPL 48) *Cylinders made from contents of sack mixed by DB. Water to produce a slum of 2 to 5 inches. CC should show mix proportions.
GEOTEXTILE FABRIC		1019.01	Table 1019-1	1/type/source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd^2	3	(QPL 61) *Sample a minimum of 18 ft^2.

SECTION 712 REVETMENTS (cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
REFER TO SPECIFICATIONS FOR DETAILS ON NCHRP 350 REQUIREMENTS FOR PORTABLE WORK ZONE DEVICES									
JOINT FILLER		1005.01		1/5,000 lin ft/ type*	36 in. length	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
RECYCLED CONCRETE & STONE		712.02(d)	**SEE SECTION 713 OF THIS MANUAL**						
SACKS		1018.20.		1/type/ source*	1 sack	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
USABLE SOIL		712.02(F)	**SEE SECTION 203 OF THIS MANUAL**						

SECTION 713 TEMPORARYTRAFFIC CONTROL

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
ADVANCE WARNING ARROW PANEL		713.04(b)	-----	-----	-----	CC 1	-----	3	Visual inspection by CQAF.
BARRICADE WARNING LIGHTS		713.02 1018.12		1/type*	1 unit	CC** 1	-----	3	(QPL 16) *Visual inspection by CQAF. Sample only if questionable. **See Specification Subsection 1018.12(c) for certification requirements.
DRUMS, CONES, TUBULAR MARKERS, AND FLEXIBLE DELINEATORS		Std. Pl. TC Series	-----	-----	-----	CC 1	-----	3	(QPL 37 for plastic drums) Visual inspection by CQAF. Sample only if questionable.
	Sheeting	713.02 1015.05(f)		-----	-----	CC 1	-----	3	(QPL 13) Visual inspection by CQAF. Sample only if questionable.
GLASS BEADS FOR THERMOPLASTIC PAVEMENT MARKINGS AND TRAFFIC PAINT	Drop-on Application	713.06 1015.13	Gradation ASTM D1214	1/lot	1-50 lb bag	CD* 1 & 7	-----	3	*CD issued when presampled by Dist. Lab and preapproved. Sample only if questionable.
PORTABLE FLASHER SUPPORTS		Std. Pl. TC Series	-----	-----	-----	CC 1	-----	3	Visual inspection by CQAF.
RAISED PAVEMENT MARKERS & ADHESIVES		713.02 1015.09	**SEE SECTION 731 OF THIS MANUAL.**						
TEMPORARY PAVEMENT MARKING TAPE	Temporary Striping Tape (Type I & II)	1015.08	ASTM D4592 type I or II	1/shipment*	6 ft length	CC 1	-----	3	(QPL 60) *Visual inspection by CQAF. Sample only if questionable.

SECTION 713 TEMPORARY TRAFFIC CONTROL (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
TEMPORARY SIGNS, VERTICAL PANELS & BARRICADES	Barricades, Vertical Panels & Signs	MUTCD, Project Plans 713.07*	**When questioned by CQAM, visual inspection by Const. Fab. Insp.**			CA/CC 1	-----	----	Visual inspection by CQAF. Const. Fab. Insp. to receive CA/CC when requested. *Required documentation is detailed in 713.07
	Reflective Sheeting, Paste, Paint, Overlay Fill	713.02 1015.05 1015.07	**When questioned by CQAM or OVF, sample from original lot of reflective sheeting, paste, paint and/or overlay film to be obtained by Const. Fab. Insp. for testing. Random sampling by Const. Fab. Insp. for Quality Assurance. See Section 729 of this Manual.**			CA/CC 1	-----	-----	(QPL 13) Visual inspection by CQAF.
	Substrate	713.02 713.07* 1015.04	**When questioned by CQAM or OVF, sample from original substrate lot by the Const. Fab. Insp. for testing. Random sampling by Const. Fab. Insp. for Quality Assurance.**			CA/CC** 1	-----	-----	Visual inspection by CQAF. *Required documentation is detailed in 713.07. **CA for aluminum, CC for wood, no certification for plastics.
THERMOPLASTIC PAVEMENT MARKINGS		713.02	**SEE SECTION 732 OF THIS MANUAL.**						
TRAFFIC PAINT		713.02	**SEE SECTION 737 OF THIS MANUAL.**						
BARRIERS	Precast Concrete	713.05	**SEE SECTION 733 OF THIS MANUAL**						
	Water Filled	713.07* Std. Pl. TC Series	-----	-----	-----	CC** 1	-----	-----	Visual inspection by CQAF. *Required documentation is detailed in 713.07. **CA for aluminum, CC for wood, no certification for plastics.

SECTION 714 SODDING

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
AGRICULTURAL LIME		714.02 1018.17	**SEE SECTION 718 OF THIS MANUAL.**						
FERTILIZER		714.02 1018.16	**SEE SECTION 718 OF THIS MANUAL.**						
SOD		714.02*	-----	-----	-----	-----	-----	-----	*Visual inspection by CQAF or Roadside Development personnel.
WATER		714.02	AASHTO T26	1/source*	1 qt plastic bottle	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.

SECTION 715 TOPSOIL

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
AGRICULTURAL LIME		715.02 1018.17	**SEE SECTION 718 OF THIS MANUAL.**						
TOPSOIL		715.02	PI -TR 428 pH-TR 430 % Org.-TR 413	1/1,000 yd3	1 full sample sack	CA 3	200 yd3	3	DB to provide report from established soil testing entity.

SECTION 716 VEGETATIVE & FIBER MULCH

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
TACKING AGENTS	Emulsified Asphalt	716.03(a) 1002.01	**SEE SECTION 506 OF THIS MANUAL.**						
		716.03 (a) 1002.01	-----	1/shipment	-----	CD* 1 & 7	No CD required if less than 500 gal	3	(QPL 41) Visual inspection by CQAF. *Sample when not accompanied by CD or questionable.
	Tacking Agent	713.03(a)	-----	-----	-----	CA* 1 & 7	-----	-----	Visual inspection. *Must be an approved product for QPL 72 items.
VEGETATIVE MULCH		716.03(a) 1018.19(a)	-----	-----	-----	-----	-----	-----	Visual inspection by CQAF. or Roadside Development personnel.
FIBER MULCH		716.03(b) 1018.19(b)	-----	-----	-----	-----	-----	-----	(QPL 72) Visual inspection by CQAF. or Roadside Development personnel.

SECTION 717 SEEDING

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
AGRICULTURAL LIME		717.02 1018.17	**SEE SECTION 718 OF THIS MANUAL.**						
FERTILIZER		717.02 1018.16	**SEE SECTION 718 OF THIS MANUAL.**						
SEED		1018.18	-----	-----	-----	-----	50 lb	-----	Analysis tag plus test report for LA Department of Agriculture. Seed test reports from other states are acceptable provided specification requirements are met. Consult Roadside Development personnel for seed selection.
TOPSOIL		715.02	PI -TR 428 pH-TR 430 % Org.-TR 413	1/1,000 yd3	1 full sample sack	CA 3	200 yd3	3	DB to provide report from established soil testing entity.
WATER		717.02	AASHTO T26	1/source*	1 qt plastic bottle	**-----**	**-----**	3	*Visual inspection by CQAF. Sample only if questionable.

SECTION 718 FERTILIZER AND AGRICULTURAL LIME

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
AGRICULTURAL LIME		718.03(b) 1018.17	-----	-----	-----	CA 1	10 tons	-----	Visual inspection. Sample only if questionable.
FERTILIZER		718.03(a) 1018.16	-----	-----	-----	CA* 1	-----	-----	For bag shipments, visual inspection of bag markings by CQAF. *For bulk shipments, CQAF to receive CA.

SECTION 719 LANDSCAPING

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
AGRICULTURAL LIME		719.03 1018.17	**SEE SECTION 718 OF THIS MANUAL.**						
BACKFILL SOIL	Mortar Sand, Pine Bark, Water Management Gel, Manure, Mycorrhizal Inoculant & Topsoil	719.03(b)	-----	-----	-----	-----	-----	-----	Visual inspection by CQAF of all ingredients prior to mixing.
FERTILIZER		719.03 1018.16	**SEE SECTION 718 OF THIS MANUAL.**						
MULCHING	Other Materials	719.03		1/source*	3 full sample sacks	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
	Pine Bark	719.03		1/source*	3 full sample sacks	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
PLANTS	Containered	719.05(e)	**Documented visual determination of specification compliance by DOTD Landscape Architect at nursery source. All plants shall be legibly tagged. Acceptance is based on inspection at the end of one full growing season.**						
	Native Stock	719.05(e) Landscape Architect	**Documented visual determination of specification compliance by DOTD Landscape Architect at nursery source. All plants shall be legibly tagged. Acceptance is based on inspection at the end of one full growing season.**						
SOIL	Planting Area	719.06(c)	pH TR 430	1/planting area	1 full sample sack	CA 3	-----	3	DB to provide report from established soil testing entity.
TOPSOIL		719.03(e)	**SEE SECTION 715 OF THIS MANUAL**						DB to provide report from established soil testing entity.
WATER		719.03 719.06(i)	AASHTO T26	1/source*	1 qt plastic bottle	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.

SECTION 720 EROSION CONTROL SYSTEMS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
EROSION CONTROL SYSTEMS	Rolled Products	720.02(b) 1018.23	S 613	1/200 rolls/ Mfr.'s Lot	3 yd^2*	CD** 1 & 7	-----	3	(QPL 72) *When sampling moisture sensitive material use moisture proof bag. **Sample when not accompanied by a CD or questionable.
	Bagged Products	720.02(b) 1018.23	S 613	1/200 bags/ Mfr.'s Lot	1 bag	CD* 1 & 7	-----	3	(QPL 72) *Sample when not accompanied by a CD or questionable.
	Hardware	720.02(b) 1018.23	S 601	1/item/type/ size	1 item	CD* 1 & 7	-----	3	(QPL 72) *Sample when not accompanied by a CD or questionable.
	Additives	720.02 1018.23	S 601	1 quart/mfr's lot	1 item or 1 quart	CD* 1 & 7	-----	3	(QPL 72) *Sample when not accompanied by a CD or questionable.

SECTION 721 MOWING, TRIMMING & DEBRIS COLLECTION

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
HERBICIDES		721.03(e)	Dist. Roadside Development Coordinator	-----	-----	-----	-----	-----	Approval of the District's Roadside Development Coordinator for use, type & rate of application.

SECTION 723 GRANULAR MATERIAL

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
GRANULAR MATERIAL		723.02 1003.07	Max Dry Density TR 415 or 418	1/1,000 yd^3	1 full sample sack	-----	50 yd^3	2	-----
		723.02 1003.07	Optimum Moisture TR 415 or 418					2	
		723.02 1003.07	Gradation TR 113					2	
MATERIAL ON ROADWAY	Density	723.03	In-Place Density TR 401	1/1,000 lin ft/ 2-lane rdwy or 1/2,000 lin ft/ shoulder	-----	-----	-----	1	-----
	Thickness & Width	723.04	TR 602	1/1,000 lin ft/ 2-lane rdwy or 1/2,000 lin ft/ shoulder*	-----	-----	300 lin ft per location	3	*See DOTD TR 602. For small quantity, CQAF documents in daily.

SECTION 725 TEMPORARY DETOUR ROADS AND BRIDGES

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
For details on Temporary Signs, Barricades and Pavement Markings, see Section 713 of this Manual. **For details on Gard Rail, see Section 704 of this Manual.** **For details on Median Roadway Barriers, see Section 733 of this Manual.** **For details on Seed, see Section 717 of this Manual.** **For details on Fertilizer, see section 718 of this Manual.** **For details on Embankments, see section 203 of this Manual.**									
BASE COURSE (Roadway)		**SEE SECTIONS 301 OR 302 OF THIS MANUAL.**							
PILES & TIMBER		752.02 1014.01	-----	-----	-----	-----	-----	-----	Visual inspection by CQAF.
SURFACE COURSE (Roadway)		**SEE APPLICABLE SECTIONS OF THIS MANUAL (i.e. 507)**							
TEMPORARY CULVERT PIPE		752.02	-----	-----	-----	-----	-----	-----	Visual inspection by CQAF.

SECTION 726 BEDDING MATERIAL

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
AGGREGATES	Bedding Material	726.02 1003.01 1003.08	Gradation TR 113	1/1,000 yd^3 stockpile*	1 full sample sack	-----	50 yd^3	2	(QPL 2 for stone, expanded clay, gravel and slag) *Each ingredient may be sampled and approved prior to mixing. Recycled PCC must be from an approved source.
			Plasticity Index TR 428					2	
			Deleterious Material TR 119					2	
GEOTEXTILE FABRIC		726.02 1019.01	Table 1019-1	1/type/source/ shipment	3 lin ft/roll width of fabric*	-----	150 yd^2	3	(QPL 61) *Sample a minimum of 18 ft^2.
PLASTIC SOIL BLANKET		726.02 203.10	**SEE SECTION 203 OF THIS MANUAL**						Not required if tested and approved as required excavation or borrow material

SECTION 728 JACKED OR BORED PIPE

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
GROUT		728.03	**SEE SECTION 901 OF THIS MANUAL.**						
PIPE & JOINTS		701.02	**SEE SECTION 701 OF THIS MANUAL.**						

SECTION 729 TRAFFIC SIGNS AND DEVICES

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
BACKFILL (Soil)		701.08 802.09	-----	-----	-----	-----	-----	-----	Visual inspection by CQAF.
CONCRETE	Mix Designs, Materials & Tests	729.02(g)	**SEE SECTION 901 OF THIS MANUAL**						
DELINEATORS		713.07* 729.02(a) 1015.05	----	-----	----	CC 1	-----	---	*Required documentation is detailed in 713.07. Supplier Certification of product crashworthiness.
GALVANIZING REPAIR COMPOUND	Ferrous Metal	729.02(b)	**SEE SECTION 811 OF THIS MANUAL**						(QPL 23)
GROUND ROD ASSEMBLY	Ground Rod, Wire & Clamp	Traffic Sign Plan Details		1/item	1 of each item wire-10 in. length	-----	-----	3	Visual inspection by CQAF. Sample only if questionable. Coated steel hardware is not permitted.
DEAD END ROAD INSTALLATION	Hardware (Guard Rail)	729.02(e) 729.06 1010.10	ASTM A307 and A563	1/size/type/ shipment	1 of each item**	CC* 3	-----	3	*Sample not required if listed on CC for metal beam rail. **One piece of each size and type of hardware used is to be submitted.
	Guard Rail	729.02(e) 729.06 1010.08	AASHTO M180	-----	-----	CC 3	-----	3	Fabricator must file Brand Registration and guarantee with Mat. Lab. Visual inspection by CQAF.
	Steel Posts & Spacer Blocks	729.02(i) 1010.09(b)	AASHTO M270 grade 36 or A769 grade 40	-----	-----	CC 3	-----	3	Visual inspection by CQAF.
	Timber	729.02(f) 1014.01	AASHTO M168	-----	-----	CC 1 & 6	-----	3	Visual inspection by CQAF.

SECTION 729 TRAFFIC SIGNS AND DEVICES (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
DEAD END ROAD INSTALLATION (Cont'd)	Wood Posts & Spacer Blocks	729.02(e) 1010.09(a)	AASHTO M168	-----	-----	CC 1	-----	-----	Visual inspection by CQAF.
HARDWARE	Bolts, Nuts & Washers	729.02(d) 1015.02(c)	ASTM A325 or A307 Grade A or B	1/size/source	2 of each item*	CC 4 & 6	-----	3	Smaller than 3/8 in. Larger than 3/8 in. *Two bolts, two nuts and two washers are to be submitted.
	Mounting Bracket, Strap, Seal	729.02(d) 1015.02(c)	ASTM B316, Alloy1100-H14	-----	-----	CC 4	-----	3	Visual inspection by CQAF. Sample only if questionable.
	Rivets	729.02(d) 1015.02(c)	ASTM B316, Alloy1100-H14	-----	-----	CC 4	-----	3	-----
PILING	Timber	729.02(f) 1014	**Inspected and stamped by Const. Fab. Insp. prior to use. See Section 812 of this Manual.**			CD 1 & 6	-----	3	Visual inspection by CQAF.
POSTS (Sign, Marker & Delineator)	Flexible	729.02(h) 1015.03		1/shipment* (not to exceed 500)	1 post	CC 1	-----	3	(QPL 39 for delineator posts) *Visual inspection by CQAF. Sample only if questionable.
	Steel, U-Channel & Square Post for small signs	729.02(j) 1015.02(a)(3)	ASTM A499 Grade 60 or ASTM A576 Grade1080	One/ shipment* (not to exceed 500 tons)	1 post	CC 1	-----	3	*Visual inspection by CQAF. Sample only if questionable.
	Aluminum, Steel, other than U-Channel & Square posts	1015.02(a)(1) 1015.02(b) 729.02(b) 729.02(c)	**SEE STRUCTURAL STEEL & ALUMINUM IN SECTION 807 OF THIS MANUAL.**						

SECTION 729 TRAFFIC SIGNS AND DEVICES (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
OBJECT MARKERS		1015	-----	-----	-----	CC 1	-----	-----	Visual inspection by CQAF Sample only if questionable.
REINFORCEMENT	Bars	729.02(b) 1009	ASTM A615	1/size/source*	48 in. length	CA 1	-----	3	*If listed on QPL 71, material with a CA (Distr. 1) need not be sampled. Sample for verification if questionable.
	Stirrups	729.02(b) 1009.03	ASTM A615	1/size/source*	2 stirrups	CA 1	-----	3	*If listed on QPL 71, material with a CA (Distr. 1) need not be sampled. Sample for verification if questionable.
SIGN MOUNTING		729.02	**Inspected and stamped by Const. Fab. Insp. prior to use. See Section 807 of this manual.**			CA 4	-----	-----	OVF receives report form CQAF.
TRAFFIC SIGNS & MILEPOST MARKERS	All Permanent Signs	729.07	**Inspected and stamped by Const. Fab. Insp. prior to use. See Section 807 of this manual.**			CC 1	-----	----	Visual inspection of all incidental Permanent Signs and Markers by CQAF
	Sign & Marker Sheeting, Paste, Paint and Overlay Film	729.02(a) 1015.05 1015.07	ASTM D4956 Type III	1/lot/type/ color	5 ft^2	CA 6	-----	3	(QPL 13) For reflective sheeting. When questioned by CQAF, sample form original lot of reflective sheeting, paste, paint and/or overlay film to be obtained for testing.
		729.02(a) 1015.05 1015.07		1/color/ 180 days	5 ft^2	CA 6	-----	3	QPL 13 for overlay film
	Aluminum Structural Shapes	729.02(c) 1015.02(b) 1015.04(a)	ASTM B221 or B429	1/thickness	1 ft x 2 ft or 2 ft. for Structural Shape	CA 6	-----	3	When questioned by CQAF, sample from original lot of aluminum panel and or Structural Shape shall be obtained for testing.
	Aluminum Panels	729.02(c) 1015.02(b) 1015.04(a)	ASTM B209 or B221	1/year/source	1 ft x 2 ft or 2 ft. for Structural Shape	CA 6	-----	3	-----
WELDING		**SEE SECTION 815 OF THIS MANUAL.**							

SECTION 730 ELECTRICAL SYSTEMS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
ALL ELECTRICAL COMPONENTS & MATERIALS NOT SPECIFICALLY MENTIONED IN THIS SECTION SHALL BE HANDLED IN ACCORDANCE WITH THE REQUIREMENTS FOR ELECTRICAL EQUIPMENT BELOW.									
ANCHOR BOLTS, NUTS AND WASHERS		730.02 1018.08(c)	ASTM A193 Grade B8; ASTM A194 Grade 8 or 8A	1/size/type	1 of each item*	CA 7	-----	3	*One of each size and type of bolt, nut and washe is to be submitted.
BACKFILL	Soil or Granular Material	730.02	**SEE SECTION 701 OF THIS MANUAL**						
CONCRETE	Mix Designs, Materials & Tests	730.02	**SEE SECTION 901 OF THIS MANUAL**						
CONDUIT		730.02 1018.09	**BRIDGE DESIGN APPROVES AND DISTRIBUTES TO CQAF**						
ELECTRICAL CONDUCTORS		730.02	-----	-----	-----	CA 1	-----		Visual Inspection by CQAF.
ELECTRICAL EQUIPMENT	Brochures, Certified Dimension Sheets & Description Data	730.04 801.03	**BRIDGE DESIGN APPROVES AND DISTRIBUTES TO CQAF**						
GROUND ROD ASSEMBLY	Ground Rod, Wire & Clamp	730.02 1018.05		1/item	1 of each item Wire - 18 in. length	-----	-----	3	Visual inspection by CQAF. Sample only if questionable. Coated steel hardware is not permitted.
GUARANTY	Contractor's Guaranty	104.05	**LA DOTD PROJECT MANAGER AND BRIDGE DESIGN APPROVES AND FILES.**						
	Manufacturer's Standard Warranty	104.05	**LA DOTD PROJECT MANAGER AND BRIDGE DESIGN APPROVES AND FILES**						

SECTION 730 ELECTRICAL SYSTEMS (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
HIGH MAST POLES		730.02	**Inspected and stamped by Const. Fab. Insp. Prior to use. See section 807 of this Manual.**			CA 6	-----	----	Inspection report from CQAF shall be sent to the OVF
LIGHT POLES	Brochures, Certified Dimension Sheets & Description Data	730.04 801.03					-----	-----	-----
REINFORCING STEEL	Bars	730.02 1009.01	ASTM A615	1/size/ source*	48 in. length	CA 1	-----	3	*If listed on QPL 71, material with a CA (Distr. 1) need not be sampled. Sample for verification if questionable.
SYSTEM TESTS		730.06	-----	-----	-----	-----	-----	-----	CQAF to observe tests and receive report of test results
TIMBER		730.02 1014	**Inspected stamped by Const. Fab. Insp. Prior to use. See section 812 of this Manual.**			CD 1 & 6	-----	----	Visual inspection by CQAF

SECTION 731 RAISED PAVEMENT MARKERS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
ADHESIVE (For Pavement Markers)	Bituminous	731.02(b)(2) 1015.09(c) (2)	ASTM D4280	1/lot	0.5 gal friction top can	CD 1 & 7	-----	3	(QPL 59) When not accompanied by CD. See S 606 for details.
	Epoxy- Type V	731.02(b)(1) 1017.02	Table 1017-2	1/lot/ component	0.5 gal friction top can	CD 1 & 7	-----	3	(QPL 32) When not accompanied by CD. See S 606 for details.
RAISED PAVEMENT MARKERS		731.02(a) 1015.09	ASTM D4280	1/10,000/ type/source	20 markers	CD 1 & 7	-----	3	(QPL 9) When not accompanied by CD. See S 607 for details.

SECTION 732 PLASTIC PAVEMENT MARKINGS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
SURFACE PRIMER		732.02(c)	-----	-----	-----	-----	-----	-----	Visual inspection by CQAF. to ensure that manufacturer recommendations are being followed.
GLASS BEADS		732.02(d) 1015.13	Gradation ASTM D1214	1/lot	1 - 50 lb bag 1 gal can	CD*&CA CD (Physical) CA (Chemical) 1 & 7	-----	3	*CD issued when presampled by Dist. Lab and preapproved. Sample only if questionable. Use Sampling Method S 608 when glass beads are shipped in 50 lb bags. Use AASHTO TP 97-11 Section 4 when glass beads are shipped in bulk containers.
			Embedment Coating TR 530				-----	3	
PREFORMED PLASTIC MARKING TAPE		732.02(b) 1015.11	ASTM D 4505, Type I; D4061; E303	1/lot	2-6 ft lengths*	CD** 1 & 7	-----	3	(QPL 64) *Coiled and placed in a gallon can. **CD issued when presampled by Dist. Lab and preapproved. Sample only if questionable.
THERMOPLASTIC MARKING (Hot Applied)		732.02(a) 1015.10	AASHTO M 249; ASTM D6628	1/lot	1 gal can (app. 9 -12 lbs.)	CD* 1 & 7	-----	3	(QPL 63) *CD issued when presampled by District Lab. and preapproved. Sample only if questionable.

SECTION 733 CONCRETE ROADWAY BARRIERS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
BARRIER (Precast)		733.01 733.02	**Inspected and stamped by Const. Fab. Insp. prior to use.**			CD 1 & 6	**-----**	**-----**	Visual inspection by CQAF.
FOR BARRIERS FABRICATION INSPECTION BY CQAF, SEE BELOW									
CONCRETE	Mix Designs, Materials & Tests	733.02	**SEE SECTION 901 OF THIS MANUAL.**						Air entrainment is required for slip forming.
CURING MATERIALS		733.02 1011.01	**SEE SECTION 805 OF THIS MANUAL.**						
JOINT MATERIALS		733.02 1005	**SEE SECTION 805 OF THIS MANUAL.**					----	**-----**
REINFORCING STEEL	Deformed Steel Bars	733.02 1009.01	ASTM A615	1/size/ source*	48 in. length	CA 1	**-----**	3	*If listed on QPL 71, materials with a CA (Dist. 1) need not be sampled. Sample for verification if questionable.
SPECIAL SURFACE FINISH	Masonry Finish	733.02 1011.03	TR 620	1/lot or shipment	1 qt friction top can	CC 1	**-----**	3	(QPL 14) Sample if not accompanied by CC or if questionable.

SECTION 734 RUBBLIZING PORTLAND CEMENT CONCRETE PAVEMENT

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
BACKFILL MATERIAL	Base Course Aggregate	1003.03	Gradation TR 113	1/1,000 yd^3	1 full sample sack	-----	50 yd^3	2	-----
			Liquid Limit and PI TR 428					2	
TEST PIT		734.03		-----	-----	-----	-----	-----	For purpose of approving equipment and pattern. Document in Field Book.

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SECTION 735 MAILBOXES AND MAILBOX SUPPORTS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
MAILBOXES AND MAILBOX SUPPORTS	**VISUAL INSPECTION BY CQAF.**								

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SECTION 736 TRAFFIC SIGNALS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
ANCHOR BOLTS (Pedestal)		736.02 1020.03(c)	ASTM A153	1/type/lot or shipment	1 bolt	-----	-----	3	-----
BACKFILL	Usable Soil	736.02 203.06(a)	**SEE SECTION 701 OF THIS MANUAL**						
CONCRETE	Mix Designs, Materials & Tests	736.02	**SEE SECTION 901 OF THIS MANUAL**						
ELECTRICAL CONDUCTORS		736.02 1018.10	-----	-----	-----	CA 1	-----	-----	Visual inspection by CQAF.
ELECTRICAL JUNCTION BOX		736.02 1020.03(g)	-----	-----	-----	CC 1*	-----	----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by CQAF
GROUND RODS		736.02 1018.05		1/item*	1 of each item Wire - 18 in. length	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable. Coated steel hardware is not permitted.
GUY COMPONENTS (Hardware)		736.02 1020.03(e)	ASTM A123 OR A153	1/type/lot or shipment	1 of each item*	-----	-----	3	*One piece of each type of hardware used is to be submitted.
MANHOLE FRAMES AND COVERS		736.02 1018.04	**SEE SECTION 807 OF THIS MANUAL**						
METAL POLES FOR TRAFFIC SIGNAL SYSTEMS		736.02 1020.04	-----	-----	-----	CA 1 & 6*	-----	-----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by CQAF

SECTION 736 TRAFFIC SIGNALS (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
PRECAST REINFORCED CONCRETE JUNCTION BOXES & MANHOLES		736.02 1016.03	-----	-----	-----	CC 1*	-----	-----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by CQAF.
REINFORCING STEEL	Bars	736.02 1009.01	ASTM A615	1/size/ source*	48 in. length	CA 1	-----	3	*If listed on the QPL 71 materials with a CA (Dist. 1) need not be sampled. Sample for verification if questionable.
RIGID METAL ELECTRICAL CONDUIT	Brochures, Drawings, Equipment Submittals	736.02 1018.09	-----	-----	-----	CA 1*	-----	-----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by CQAF
STEEL STANDARDS & MAST ARMS		736.02 1020.04(c)	-----	-----	-----	CC 1*	-----	-----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by CQAF.
SUPPORT CABLE		736.02 1020.03(d)	-----	-----	-----	CC 1*	-----	-----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by CQAF.
TIMBER POLES		736.10 1014 1020.04	**Inspected and stamped by Const. Fab. Insp. prior to use. See Section 812 of this Manual.**			CD 1 & 6	-----	-----	Visual inspection by CQAF.
TRAFFIC SIGNAL CABLE, SIGNAL HEADS, DETECTORS, SIGNAL HARDWARE AND EQUIPMENT	Brochures, Drawings, Equipment Submittals	736.02 1020	-----	-----	-----	CC 1*	-----	-----	*Submit to Traffic Services. Traffic Services will return approved copy. Visual inspection by CQAF.

SECTION 737 PAINTED TRAFFIC STRIPING

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
GLASS BEADS		737.02 1015.13	Gradation ASTM D1214	1/lot	1 - 50 lb bag 1 gal can	CD*&CA CD (Physical)	-----	3	*CD issued when presampled by Dist. Lab and preapproved. Sample only if questionable. Use Sampling Method S 608 when glass beads are shipped in 50 lb bags. Use AASHTO TP 97-11 Section 4 when glass beads are shipped in bulk containers.
			Embedment Coating TR 530			CA (Chemical) 1 & 7	-----	3	
TRAFFIC PAINT	Water-based	737.02 1015.12(b)	Table 1015-10	1/lot	1 pt friction top can	CD* 1 & 7	-----	3	(QPL 36) *CD issued when presampled by the Dist. Lab and preapproved. Sample only if questionable.

SECTION 738 MULCH SODDING

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
AGRICULTURAL LIME		738.02 1018.17	**SEE SECTION 718 OF THIS MANUAL.**						
FERTILIZER		738.02 1018.16	**SEE SECTION 718 OF THIS MANUAL.**						
MULCH SOD		738.02*	-----	-----	-----	-----	-----	-----	*Visual inspection by Roadside Development personnel prior to mulching.
WATER		738.02	AASHTO T26	1/source*	1 qt plastic bottle	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
TOPSOIL			**SEE SECTION 715 OF THIS MANUAL.**						

SECTION 739 HYDRO-SEEDING

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
AGRICULTURAL LIME		739.02 1018.17	**SEE SECTION 718 OF THIS MANUAL**						
FERTILIZER		739.02 1018.16	**SEE SECTION 718 OF THIS MANUAL**						
MULCHING	Other Materials	739.03		1/source*	3 full sample sacks	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
	Wood Fiber	739.03		1/source*	3 full sample sacks	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
SEED		739.03	**SEE SECTION 717 OF THIS MANUAL**						
WATER		739.03	AASHTO T26	1/source*	1 qt plastic bottle	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
WATER MANAGEMENT GEL, POLYACRYLAMIDE TACKIFIER, AND MYCORRHIZAL INOCULUM		739.03	-----	-----	-----	-----	-----	-----	Visual inspection by CQAF of all ingredients prior to mixing.

SECTION 802 STRUCTURAL EXCAVATION AND BACKFILL

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
BACKFILL	Reinforced Box Culverts	802.09(b)	**SEE SECTION 701 OF THIS MANUAL.**						
	Structures other than Reinforced Box Culverts	802.09	-----	-----	-----	-----	-----	-----	Material shall be of acceptable quality and uniformly compacted by approved methods to the satisfaction of the CQAF.
CONCRETE	Compressive Strength	802.09(e)	TR 226	3 cyl/location	6 in. x 12 in. cylinder mold	-----	-----	2	*Used to determine earliest date for placement of backfill next to structures.

SECTION 803 SHEET PILES

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
HARDWARE		803.02 1018.08	Bolts-ASTM A307; Dowels-AASHTO M270	1/size/type/ shipment	2 of each item*	-----	-----	3	*Two (2) pieces of each size and type of hardware used are to be submitted.
PAINT AND PROTECTIVE COATINGS	Coal Tar Epoxy	803.02 803.06 1008.04	**SEE SECTION 811 OF THIS MANUAL**						
SHEET PILES	Aluminum or Steel	803.02(b) 1010.10	-----	-----	-----	CA 2	-----	-----	-----
	Precast Concrete	803.02(a)	**Inspected and stamped by Const. Fab. Insp. prior to use. See Section 805 of this**			CD 1	-----	-----	Visual inspection by CQAF.
	Timber Treated & Untreated	803.02© 1014	**Inspected and stamped by Const. Fab. Insp. prior to use. See Section 812 of this manual.**			CD 1 & 6	-----	-----	Visual inspection by CQAF.
TREATMENT OF PILE HEADS		803.05	**SEE SECTION 812 OF THIS MANUAL**						
WELDING		**SEE SECTION 815 OF THIS MANUAL.**							

SECTION 804 DRIVEN PILES

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
BACKFILL	Granular Type Material	804.08(a)		1/1,000 yd^3	1 full sample sack	-----	-----	3	Visual inspection by CQAF. Sample only if questionable
CONCRETE PILES (Cast-in- Place)	Concrete (Mix Designs, Materials & Tests)	804.02 804.03	**SEE SECTION 901 OF THIS MANUAL**						
	Reinforcing Steel	804.02 804.03 1009	ASTM A615	1/size/grade/ 150,000 lb/ source	48 in. length	CA 1	-----	3	(QPL 71) If listed on QPL 71, material with a CA (Distr. 1) need not be sampled. Sample for verification if questionable.
	Steel Pipe Pile	804.03 1013.11	ASTM A252 Grade 2	-----	-----	CA 4	-----	-----	Visual inspection by CQAF.
	Steel Shell	804.06	-----	-----	-----	-----	-----	-----	Visual inspection by CQAF.
CONCRETE PILES (Precast)	Pile	804.02 805.14	**Inspected and stamped by Const. Fab. Insp. Unit prior to use. See Section 805 of this Manual.**			CD 1 & 6	-----	-----	Visual inspection by CQAF. For specific details see EDSM III.2.5.7.
HYDRAULIC JACKS		804.11(g)(3)	**Calibrated by an approved, independent calibration service and a certified lab report furnished to the Mat. Lab for approval and distribution to the OVF**			CA 5	-----	3	The system must be calibrated at the beginning of each project and as required.
PAINT AND PROTECTIVE COATINGS	Coal Tar Epoxy	804.02 804.07(b)(3) 1008.04	**SEE SECTION 811 OF THIS MANUAL**						

SECTION 804 DRIVEN PILES (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
STEEL PILES, STEEL PIPE PILES		804.02 1013.09 1013.11	-----	-----	-----	CA 4	-----	-----	Visual inspection by CQAF.
TIMBER PILES	Treated and Untreated	804.02 1014	**Inspected and stamped by Const. Fab. Insp. prior to use. See Section 812 of this**			CD 1 & 6	-----	-----	Visual inspection by CQAF.
TREATMENT OF PILE HEADS	Canvas	804.08(I)(3) 812.06(b)		1/shipment*	18 in. x 18 in.	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
	Coal Tar Pitch, Creosote Oil, Asphalt & Copper Napthanate	804.08(I)(3) 812.06(b)		1/shipment*	1 qt friction top can	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
	Fabric Covering	804.08(I)(3) 812.06(b)	ASTM D173	1/shipment*	18 in. x 18 in.	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
	Galvanized Metal Covering	804.08(I)(3) 812.06(b)		1/shipment*	6 in. x 6 in.	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
	Galvanized Nails, Staples & Wire	804.12 812.06(c)		1/size/type/ shipment*	12 of each item** wire - 24 in. length	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable. **Twelve nails and twelve staples are to be submitted.
WELDING		**SEE SECTION 815 OF THIS MANUAL.**							

SECTION 805 STRUCTURAL CONCRETE

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FOR DETAILS ON CONCRETE TESTS, MIX DESIGNS AND MATERIALS (ADMIXTURES, AGGREGATES, CEMENT AND WATER) SEE SECTION 901 0F THIS MANUAL.									
BACKFILL		802.09 805.01	**SEE SECTION 802 OF THIS MANUAL.**						
BEARING PADS	Electrometric	805.02 1018.14	AASHTO M251	1/100 pads*/type** /lot	1 pad	CA 5	-----	3	(QPL 3) *CQAF sample at destination only if not sampled at site of source supplier. **Plain or Laminated.
	Masonry	805.02 1018.06		1/type	1 pad	CA 5	-----	3	-----
BOX CULVERT UNITS (Precast)	Gasket Material	805.02 1006.06(b)	**SEE SECTION 701 OF THIS MANUAL.**			CC 1	-----	-----	(QPL 4) Gasket test report lab no. listed on precast unit CC.
	Precast Concrete Unit	805.02 805.03(b) 1016.02 MFR	**Inspected and stamped by MFR prior to use.**			CD 1	-----	-----	(QPL 77) *Shall not exceed 300 joints. Each joint shall be stamped when approved. Visual Inspection by CQAF. CD to include lot number for Gasket Materials.
			Compressive Strength TR230	1/300 joints/size or 3 consecutive days production/ size*	4 cyl/set 6 in. x 12 in. cylinder mold	-----	-----	3	
BRIDGE MEMBERS	Concrete Precast	805.14	Compressive Strength TR230	-----	-----	CD 1	-----	3	Visual inspection by CQAF. For specific details see EDSM III.2.5.7.
CONCRETE ANCHOR SYSTEMS	Anchor Bolts	805.15 1018.22 Plans		1/size/ shipment	2 bolts*	-----	-----	2	QPL 40 *Two bolts of each size used are to be submitted.

SECTION 805 STRUCTURAL CONCRETE (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	OVT LEVEL	REMARKS
					CONTAINER	DISTR.			
CONCRETE ANCHOR SYSTEMS (Cont'd)	Cartridge Systems	805.15 1018.22	S 601	1/size/type/ lot or shipment**	2 of each item*	-----	-----	3	(QPL 40) Includes bolts & nuts intended to be used with the system. *Two pieces of each size and type of item used are to be submitted. **Visual inspection by CQAF. Sample only if questionable.
	Grout Systems (Resin or Cementitious)	805.15 1018.22	S 601	1/lot or shipment	1 qt friction top can	-----	-----	3	(QPL 40) Includes bolts & nuts intended to be used with the system. Visual inspection by CQAF. Sample only if questionable.
	Mechanical Systems	805.15 1018.22	S 601	1/size/type/ lot or shipment**	3 of each item*	-----	-----	3	(QPL 40) *Three of each size and type of item used are to be submitted. **Visual inspection by CQAF. Sample only if questionable.
CONCRETE (In-Place)	Compressive Strength	805.03(a),© 805.11	TR226	3 cyl/ structural member	6 in. x 12 in. cylinder mold			1	To determine strength for form removal or exposure to construction traffic.
	Surface Resistivity	Special Provision 901	TR 233	4 readings /cylinder				1	Surface Resistivity per Special Provision replacing Section 901. Design Requirement 27 kΩ-cm
	Deck Surface Finish	805.13(d)(2)	*	each deck	-----	-----	-----	3	Plastic Concrete *Surface must be checked on bridge decks using an approved 10 ft metal static straightedge supplied by the DB.
	Tine Texturing	805.13(d)(3)	TR 229	2/lot	-----	-----	-----	3	Plastic Concrete Sufficient number of random checks to assure the required texture depth is achieved.

SECTION 805 STRUCTURAL CONCRETE (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
CURING MATERIALS	Burlap Cloth	805.02 1011.01(b)	AASHTO M182 Class 3	1/shipment*	36 in. x 36 in.	-----	-----	3	*Visual inspection by the CQAF. Sample only if questionable.
	Burlap & White Polyethylene Sheeting	805.02 1011.01(e)	AASHTO M171	1/shipment*	36 in. x 36 in.	-----	-----	3	*Visual inspection by the CQAF. Sample only if questionable.
	Liquid Membrane-Forming Compounds	805.02 1011.01(a)	AASHTO M148	1/shipment*	1 qt friction top can	CC 1	-----	3	(QPL 65) *Visual inspection by CQAF. Sample only if questionable.
	Waterproof Paper	805.02 1011.01(c)	AASHTO M171	1/shipment*	36 in. x 36 in.	-----	-----	3	(QPL 65) *Visual inspection by CQAF. Sample only if questionable.
	White Polyethylene Sheeting	805.02 1011.01(d)	AASHTO M171	1/shipment*	36 in. x 36 in.	-----	-----	3	(QPL 65) *Visual inspection by CQAF. Sample only if questionable.
EPOXY RESIN SYSTEMS	Epoxy	805.02 1017.02	Table 1017-1	1/lot or shipment	1 qt each component friction top can	CC 1	1 gal	3	(QPL 32) Copy of CC shall be submitted with sample.
FORM RELEASE AGENTS		805.02 1018.24	-----	-----	-----	-----	-----	-----	(QPL 29) Product verification by CQAF.
GEOTEXTILE FABRIC		805.02 1019	Table 1019-1	1/type/ source/ shipment	3 lin ft/roll width of fabric*	CC 1	150 yd^2	3	(QPL 61) *Sample a minimum of 18ft^2. Visual inspection, sample only if questionable.

SECTION 805 STRUCTURAL CONCRETE (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
JOINT MATERIALS	Adhesive-Lubricant	805.12(c)(2) 1005.03(b)	ASTM D4070	1/lot or shipment	1 qt friction top can	-----	-----	3	(QPL 8) For use with preformed elastomeric compression joint seal. Mix well before sampling. Seal can tightly.
	Polyurethane Polymer	1005.02(b)	1005.02(b)	1/batch or shipment	one unit of each component*	CA 7 & CD 1 & 7	-----	3	(QPL 5) *One unit of each component selected at random and submitted as sample. *When material is accompanied by a CD, sample only if questionable.
	Reinforced Elastomeric Joint Seal	805.02 1005.06 M	ASTM D3204	-----	-----	CC & CA 3	-----	----	Elastomer - CA; Steel - CC. Visual inspection by CQAF.
	Steel Joint	805.02 805.12(f)	**Inspected and stamped by Const. Fab. Insp. Unit prior to use. See Section 807 of this Manual.**			CA 6	-----	-----	OVF to receive inspection report from CQAF.
	Strip Seal Joint	805.02 805.12(d) 1005.05	**Inspected and stamped by Const. Fab. Insp. Unit prior to use. See Section 807 of this Manual.**			CA 6	-----	-----	OVF to receive inspection report from CQAF.
NON-SHRINK GROUT		805.15 1018.26 Plans	ASTM C1107	1/shipment/ lot	1 full sack, 15 lb min.*	-----	-----	2	(QPL 47) *Sample shall be submitted in an unbroken moisture proof sack.
PRECAST CONCRETE (Non-Prestressed other than Bridge Members)	Precast Unit	805.03	**Inspected and stamped by Const. Fab. Insp. Unit prior to use.**			CD 1 & 6	-----	-----	CD must include Lab No. for gasket material if applicable.

SECTION 805 STRUCTURAL CONCRETE (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
PRECAST CONCRETE (Non-Prestressed Other than Bridge Members) (Cont'd)	Admixtures	805.02 1011.02	TR 224	1/type/mfr. batch	1 pt friction top can	CC 6	-----	3	(QPL 58) Visual inspection by CQAF.
	Aggregate (Coarse & Fine)	805.02 1003.02	Deleterious material TR 119	*	1 full sample sack	-----	-----	3	(QPL 2) *Visual inspection by CQAF. Sample only if questionable.
			Gradation TR 113					3	
	Cement	**SEE SECTION 901 OF THIS MANUAL.**				CD 1 & 6	-----		-----
	Compressive Strength	805.03	TR 226	1/pour*	Three 6 in. x 12 in. cylinder molds	-----	-----	1	*A pour is an identifiable pour not to exceed 50 yd^3.
	Gasket Material	805.02	**SEE SECTION 701 OF THIS MANUAL**			CD 1 & 6	-----	-----	-----
	Mix Design	805.02 901.06(a)	--	1/class/ material source/plant	-----	-----	-----	-----	DB shall submit to OVF the standard mix design form indicating the intended source of all materials and mix design. Approval by OVF required prior to work.
	Reinforcing Steel Bars	805.02 1009	ASTM A615	1/size/ grade/ 150,000 lb/ source	48 in. length	CA 6	-----	3	(QPL 71) Material with CA need not be sampled, unless questionable.
	Welded Wire Fabric	805.02 1009.01	ASTM A185	1/shipment	48 in. x 48 in.	CA 6	-----	3	Sample only if questionable.
PRECAST CONCRETE (Prestressed & Non-Prestressed Bridge Members	Precast Unit	805.03	**Inspected and stamped by Const. Fab. Insp. prior to use.**			CD 1 & 6	-----	-----	CD must include lot no. for elastormeric bearing pads if applicable.
	Admixtures	1011.02	TR 224	1/type/mfr. batch	1 pt friction top can	-----	-----	3	(QPL 58)

SECTION 805 STRUCTURAL CONCRETE (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
PRECAST CONCRETE (Prestressed & Non-Prestressed Bridge Members (Cont'd)	Aggregate (Coarse & Fine)	805.02 1003.02	Deleterious material TR 119	1/lot*	1 full sample sack	-----	-----	3	(QPL 2) Gradation and Moisture. *Lot to be identifiable pour up to 200 yd^3 of concrete. *CQAF. to witness manufacturer's QA testing.
			Gradation TR 113		1 full sample sack	-----	-----	2	
			Moisture TR 106					2	
	Cement	**SEE SECTION 901 OF THIS MANUAL.**				CD 6 & 7	-----	-----	-----
	Compressive Strength	805.14(e)	TR 226	7 cyl/pour*	-----	-----	-----	1	*Cylinder cured under same conditions as members. Two cylinders are tested for 28 day strength. For precast box culverts, cylinders shall be in accordance with ASTM C789.
	Surface Resistivity	Special Provision 901	TR 233	4 readings /cylinder				1	Surface Resistivity per Special Provision replacing Section 901. Design Requirement 27 kΩ-cm
	Elastomeric Bearing Pads	805.02 1018.14	AASHTO M251	1/100 pads/type/lot	1 pad	CA 5	-----	3	(QPL 3)
	Epoxy Resin Systems	805.02 1017.02	Table 1017-1	1/lot or shipment	1 qt/component friction top can	-----	-----	3	(QPL 32)
	Mix Design	805.02 901.06(a)	*	1/class/ material source/plant	-----	-----	-----	-----	*DB shall submit to OVF the standard mix design for indicating the intended source of all materials and the mix design. Approval by OVF required prior to work.
	Steel Bars & Spiral Reinforcement	805.02 1009	ASTM A615	1/size/grade/ 150,000 lb/ source	48 in. length	CA 6	-----	3	(QPL 71) Material with CA need not be sampled, unless questionable.

SECTION 805 STRUCTURAL CONCRETE (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
PRECAST CONCRETE (Prestressed & Non-Prestressed Bridge Members (Cont'd)	Strands for Prestressing	805.02 1009.05	ASTM A416	1/size/ grade/ source/proj.* per heat no.	3 strands 5 ft length	-----	-----	2	*Not to exceed 200 tons. Manufacturer's Load/Elongation curve to accompany sample.
	Welded Wire Fabric	805.02 1009.01	ASTM A185	1/shipment	48 in. x 48 in.	CA 6	-----	3	Visual inspection by CQAF Sample if questionable.
PRECAST PRESTRESSED FORMS	Bearing Strips and Adhesive	805.14(k)(1)h	-----	-----	-----	-----	-----	-----	Visual inspection by CQAF
	Concrete Deck Forms (Stay In Place Panels)	805.14(k)	**Inspected and stamped by Const. Fab. Insp. Unit prior to use. See precast concrete (Prestressed & Non-Prestressed Bridge Members) in this section.**			CD 1	-----	-----	Visual inspection by CQAF. For specific details see EDSM III.2.5.7.
REINFORCEMENT	Bars	805.02 1009	**SEE SECTION 806 OF THIS MANUAL**						
SPECIAL SURFACE FINISH	Concrete	805.02 1011.03	TR 620	1/lot or shipment*	1 qt. component friction top can	CC 1	-----	3	(QPL 14) *Visual inspection by CQAF. Sample if questionable.
WATER STOPS	Copper	805.02 1005.07(a)	ASTM B370	1/lot or shipment*	24 in. length	CA 3	-----	3	*Visual inspection by CQAF. Sample if questionable.
	Polyvinyl Chloride	805.02 1005.07(b)	CRD-C 572	1/shipment*	36 in. length	CC 3	-----	3	*Visual inspection by CQAF. Sample if questionable.
	Rubber	805.02 1005.07(c)	CRD-C 572	1/lot or shipment*	36 in. length	CA 3	-----	3	*Visual inspection by CQAF. Sample if questionable.

SECTION 806 REINFORCEMENT

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
REINFORCEMENT	Bars (Epoxy Coated)	806.02(b) 1009.01(e)	ASTM A615; AASHTO M284	1/size/grade/ 150,000 lb /source	2 bars approx. 48 in. in length	CC 3	-----	3	(QPL 51) Cert. of Compliance provided by the applicator.
	Bars & Spirals	806.02 1009	ASTM A615	1/size/grade/ 150,000 lb /source*	48 in. length	CA 1	-----	3	(QPL 71) *If listed on QPL 71, material with a CA (Distr. 1) need not be sampled. Sample for verification if questionable.
	Chairs or Metal Bar Supports	806.02(b) 1009.01(f)	AASHTO M284	1/type*	1 chair	-----	-----	3	*Visual inspection by the CQAF. Sample only if questionable.
	Patching Material (Epoxy Coated Bars)	806.02(a) 1009.01 1009.03	AASHTO M284	1/source	1 qt friction top can	CC 3	-----	3	(QPL 51)
	Stirrups, Tie Bars	806.02(a) 1009.03	ASTM A615, A996 OR A82	1/size/ 150,000 lb*	2 of each item	CA 1	-----	3	(QPL 71) *If listed on QPL 71, material with a CA (Distr. 1) need not be sampled. Sample for verification if questionable.
SPLICING	Mechanical Butt Splice	806.07	S 501	1/size*	1/size/25 splices	-----	-----	3	(QPL 44) *Separate samples per horizontal and vertical positions. Test prior to use. *May be reduced to 1 per size per 100 splices after the first hundred splices.
	Welded Butt Splice	**SEE SECTION 815 OF THIS MANUAL.**							

SECTION 807 STRUCTURAL METALS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
BEARING & EXPANSION	Bronze	807.02 1013.07(a)	-----	-----	-----	CA 4	-----	-----	Visual inspection by CQAF.
	Copper-Alloy (Rolled)	807.02 1013.07(b)	-----	-----	-----	CA 4	-----	-----	Visual inspection by CQAF.
	PTFE Bearing Assembly	807.46(c)	-----	-----	-----	CA 4	-----	-----	Visual inspection by CQAF. Fabrication to be inspected in accordance with Standard Specification Subsection 807.05.
BEARING PADS	Elastomeric	807.46(a) 1018.14	AASHTO M251	1/100 pads/type** /lot	1 pad	CA 5	-----	3	(QPL 3) CQAF samples at destination only if not sampled at site of source or supplier. **Plain or Laminated.
	Masonry	807.46 1018.06	MIL-C-882C	1/type/size	1 pad	CA 5	-----	3	-----
CASTINGS	Metal for Castings	807.02 1013.06	AASHTO M306, M47 or M536	1/heat	1 test bar*	CA 6	-----	3	*CQAF may submit samples to Mat. Lab for testing if questionable.
	Unit	807.2	AASHTO M270 Grade 36	-----	-----	CA 6	-----	-----	CQAF to receive form 4148 (Certificate of Cast Iron Covers, Grates, etc.) from DB
CONCRETE ANCHOR STUDS		807.02 1013.24	-----	-----	-----	CA 4	-----	-----	-----
FASTENERS (Field Installation)	Bolts, Nuts & Washers	807.20 1013.08(a)	ASTM A307 Grade A	1/diameter/ shipment	2 of each item*	CC 1	-----	3	*Two bolts, two nuts and 2 washers are to be submitted. Copy of CC to accompany sample and ID.

SECTION 807 STRUCTURAL METALS (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FASTENERS (Field Installation) (Cont'd)	High Strength Bolts, Nuts & Washers and Tension Device Indicators	807.02 807.21 1013.08(b)	ASTM A325 OR A490	1/type/ diameter/ heat	2 of each item*	CA 1	-----	3	*Two bolts, 2 nuts and 2 washers of each type and diameter are to be submitted. This shall include the tension device indicator. Copy of CA to accompany sample and ID.
	Rotational Capacity	807.21(d)	ASTM A 325	2 assemblies/ each combination bolt lot, nut lot & washer lot	-----	-----	-----	3	-----
	Steel Lockpins and Collars	807.02 1013.08(c)	ASTM A325 OR A490	1/lot or shipment	1 pin and collar	CC 1	-----	3	Copy of CC to accompany sample ID.
FASTENERS (Shop Installation)	Bolts, Nuts & Washers	807.20 1013.08(a)	ASTM A307 or A563	1/diameter/ shipment	3 of each item*	CC 4	-----	3	OVF to receive inspection report from CQAF * Three bolts, 3 nuts and 3 washers are to be submitted. Copy of CC to accompany sample ID.
	High Strength Bolts, Nuts & Washers and Tension Device Indicators	807.21 1013.08(b)	ASTM A325 OR A490	1/type/ diameter/ heat	3 of each item*	CA 4	-----	3	OVF to receive inspection report from CQAF. * Three bolts, 3 nuts and 3 washers are to be submitted. This shall include the tension indicator device. Copy of CA to accompany sample of ID.
	Rotational Capacity	807.21(d)	ASTM A 325	2 assemblies/ each combination bolt lot, nut lot & washer lot	-----	-----	-----	3	-----
	Steel Lockpins and Collars	807.02 1013.08(c)	ASTM A325 OR A490	1/lot	1 pin and collar	CA 4	-----	3	OVF to receive inspection report from CQAF
GROUT (Non-Shrink)		807.46 1018.26	ASTM C1107	1/shipment	1 full sack, 15 lb min.	-----	-----	3	(QPL 47) Sample shall be submitted in a unbroken, moisture proof sack.

SECTION 807 STRUCTURAL METALS (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
PAINT AND PROTECTIVE COATINGS		807.44 1008	**SEE SECTION 811 OF THIS MANUAL**						
SHEAR CONNECTORS		807.02 807.42 1013.23	-----	-----	-----	CA 4	-----	-----	Shop and field inspection requirements per Specification Subsection 807.42.
STEEL FORGINGS & SHAFTING		807.02 809.07	**Inspected and stamped by the Const. Fab. Insp. Unit prior to use.**						OVF to receive inspection report from CQAF
	Steel for Forging & Shafts	807.02 1013.04	-----	-----	-----	CA 6	-----	-----	-----
STRUCTURAL STEEL & ALUMINUM		807.02 807.05	**Inspected and stamped by the Const. Fab. Insp. Unit prior to use.**						OVF to receive inspection report from CQAF
	Metal for Fabrication	807.02 1013	AASHTO M 270	1/heat/grade*	Plates- 6 in. x 24 in. Shapes, bars, pipe and tubing - 24 in. length	CA 6	-----	3	Test report to CQAF *Sample only if questionable.
WELDING		**SEE SECTION 815 OF THIS MANUAL.**							
WRENCH	Calibrated Wrench	807.21(h)-(k)	-----	*	3 assemblies/ size	-----	-----	-----	DB's calibration procedure to be witnessed by CQAF AND OVF. *See Specification Subsection 807.21(h)-(k) for frequency of calibration.
	Job Inspection Torque Wrench	807.21(h)(2)	-----	*	5 assemblies/ size	-----	-----	-----	*See Specification Subsection 807.22(h)(2) for frequency of calibration.

SECTION 808 STEEL GRID FLOORING

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
CONCRETE (Structural)	Mix Designs, Materials & Tests	808.02	**SEE SECTION 901 OF THIS MANUAL**						
PAINT AND PROTECTIVE COATINGS		808.13 1008	**SEE SECTION 811 OF THIS MANUAL**						
STRUCTURAL STEEL	Flooring	808.02 1013.21	**Inspected and stamped by the Const. Fab. Insp. Unit prior to use. See Section 807 of this manual.**			CA 6	-----	-----	OVF to receive inspection report from CQAF.
WELDING		808.12	**SEE SECTJION 815 OF THIS MANUAL**						

SECTION 809 MOVABLE BRIDGES

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
CONCRETE (Structural)	Mix Designs, Materials & Tests	809.38	**SEE SECTION 901 OF THIS MANUAL**						OVF to witness test for unit weight as per Specification Subsection 809.38 for counterweights. Bridge Design must approve calculations for determining unit weight.
ELECTRICAL EQUIPMENT	Brochures, Certified Dimension Sheets & Descriptive Data	801.03 809.04 809.05 Bridge Design	**Bridge design approves and distributes to OVF for all items listed in Bridge Electrical Equipment List.**						No component shall be incorporated into the work without approval from Bridge Design.
GUARANTY	Contractor's Guarantee	104.05 809.02	**OVF and Bridge Design approves and files.**						-----
	Manufacturer's Standard Warranty	104.05 809.02	**OVF and Bridge Design approves and files.**						-----
HARDWARE	Bolts, Fasteners, Fittings, Nuts, Washers & Misc. Hardware	809.07 1013.08 1018.08	ASTM A307, A563, A490, A325	1/size/type/ shipment	2 of each item**	-----	-----	3	When sampled by CQAF and listed on report to OVF, project samples are not required. **Two pieces of each size and type of hardware used are to be submitted.
MAINTENANCE & OPERATION INSTRUCTION BOOKLETS		801.03(e)(2) 809.05 Bridge Design	**OVF submits to Bridge Design for approval, then distributes in accordance wit EDSM III.2.5.6.**						-----
MECHANICAL EQUIPMENT	Brochures, Certified Dimension Sheets & Descriptive Data	801.03 809.04 809.05 Bridge Design	**Bridge Design approves and distributes to OVF.**						CQAF inspects materials and components to ensure conformance.

SECTION 809 MOVABLE BRIDGES (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
MECHANICAL EQUIPMENT (Cont'd)	Parts List (Gears & Bearing in Gear Box)	809 Bridge Design	**Bridge Design approves and distributes to OVF.**						-----
OPERATING HOUSE (All Furnishings)	Brochures	809.04 Bridge Design	**Bridge Design approves and distributes to OVF.**						-----
PAINT AND PROTECTIVE COATINGS		809.09 807.44 1008	**SEE SECTION 811 OF THIS MANUAL**						
POWER PLANT		809.36	**SEE SECTION 730 OF THIS MANUAL**						
STRUCTURAL METALS		809.07 1013	**SEE SECTION 807 OF THIS MANUAL**						
TRAFFIC BARRIERS	Drawings & Brochures	729.02 809.04 Bridge Design	**Bridge Design approves and distributes to OVF.**						Structural Fabrication Inspect in accordance with Sections 729 & 807 of this manual.
WELDING		**SEE SECTION 815 OF THIS MANUAL.**							
WIRE ROPE & ATTACHMENTS	Counterweight Rope Assemblies	809.08	**Inspected and stamped by Const. Fab. Insp. Unit prior to use.**						OVF to receive inspection report on counterweight ropes and sockets from CQAF
	Counterweight Ropes	809.08 1009.10 1009.11	RR-W-410D	1/reel	2 ropes*	CA 6	-----	-----	*Two ropes per reel are to be submitted. Each rope length shall not be less than 25 times the rope diameter nor more than 12 ft.
	Sockets for Counterweight Ropes	809.08 1009.11	ASTM A688, Class D; A148 Grade80-50	1/lot	4 sockets*	CA 6	-----	-----	*Four sockets for each lot are to be submitted. Tested with the counterweight rope sample.
	Wire Rope	809.08 1009.10	Table 1009-1	1/type or class/ shipment	6 ft length	-----	-----	3	Does not include counterweight ropes.

SECTION 810 BRIDGE RAILINGS AND BARRIERS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FOR DETAILS ON CONCRETE AND ASSOCIATED MATERIALS, SEE SECTIONS 805 AND 901 OF THIS MANUAL AND SECTION 1012 OF THE STANDARD SPECIFICATIONS.									
HARDWARE	Galvanized Steel	810.02 1012.04	ASTM A53	1/size/type/ shipment	2 of each item*	-----	-----	3	*Two pieces of each size and type of hardware used are to be submitted.
METAL CASTINGS, FITTINGS, POSTS & RAILINGS	Steel	810.02 1012.03	**Inspected and stamped by the Const. Fab. Unit prior to use. See Section 807 of this manual.**			CA 6	-----	-----	OVF to receive inspection report from CQAF
	Pipe (Galvanized)	810.02 1012.04	**Inspected and stamped by the Const. Fab. Unit prior to use. See Section 807 of this manual.**			CA 6	-----	-----	OVF to receive inspection report from CQAF
PAINT AND PROTECTIVE COATINGS		810.03 1008	**SEE SECTION 811 OF THIS MANUAL**						
WELDING		**SEE SECTION 815 OF THIS MANUAL.**							
SPECIAL SURFACE FINISH	Concrete	805.13(b) 1011.03	TR 620	1 lot or shipment*	1 each friction top can	CC 1	-----	3	(QPL 14) *Visual inspection by CQAF. Sample only if questionable.

SECTION 811 PAINTING AND PROTECTIVE COATINGS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
THIS SECTION IS TO BE USED AS A GUIDE FOR OTHER ITEM NUMBERS WHEN REFERENCE IS MADE TO SECTION 811. THERE ARE NO PAY ITEMS UNDER SECTION 811.									
PAINT AND PROTECTIVE COATINGS	Paint for Field Painting	811.03 811.10 1008	SSPC SP11	1/batch	1 pt each component*	CD* 1	-----	3	(QPL 68 & 78) *Multiple component paints must be submitted in separate containers with the mixing proportions indicated on the sample identification and cans. *Sample when not accompanied by CD. Sampling technique is sensitive, contact Dist. Lab prior to sampling.
	Galvanizing Repair Compound	811.03© 1008.05	1008.06	1/type*	1 bar, can or rod	-----	-----	3	(QPL 23) *Visual inspection by CQAF. Sample only if questionable.
	Paint for Shop Painting	811.03 811.09 1008	1008	1/batch	1 pt each component	CD*/CA** 6	-----	3	(QPL 68 & 78) *Sample when not accompanied by CD. Multiple component paints must be submitted in separate containers with the mixing proportions indicated on the sample identification and cans. Contractor to notify Bridge Design Engineer and Consultant Engineer of the paint system to be used prior to submitting shop drawings. **For inorganic zinc primers, showing slip coefficient.

SECTION 812 TREATED TIMBER

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
CONNECTORS		812.02 1018.07	ASTM A711, Grade 1015; or ASTM A47, Grade 32510	1/type/ shipment*	1 of each item**	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable. **One of each type of connector used is to be submitted.
CASTINGS		812.02 1013.05(a) 1013.06(a)	ASTM A27 Grade 70-26; or ASTM A148; or ASTM A743	1/type/ shipment	1 of each item*	-----	-----	3	*One of each type of casting used is to be submitted.
HARDWARE & STRUCTURAL SHAPES		812.02 1018.08	ASTM A307, AASHTO M270	1/type/ shipment	1 of each item*	CA 3	-----	3	*One piece of each type and size of item used is to be submitted.
PAINT AND PROTECTIVE COATINGS		812.18	**SEE SECTION 811 OF THIS SECTION**						
ROOFING PITCH		812.02 1018.13	-----	-----	-----	-----	-----	-----	Visual inspection by CQAF.
TIMBER & LUMBER (Treated)		812.02 1014	**Inspected and stamped (Hammered) by Const. Fab. Insp. Unit prior to use.**			CD 1 & 6	-----	-----	Visual inspection by CQAF.
	CCA & Petachlorophenol Treated, Creosote & Creosote solution Treated	812.02 1014	AWPA P1/P13; AWPA P2; AWPA P8; AWPA P5, Type BorC	1/charge*	20 borings plastic bottle; 1 qt friction top can	CC 6; CA 6	-----	3	(One) 1 sample consist of 20 borings. *Visual inspection by CQAF. Sample only if questionable.

SECTION 812 TREATED TIMBER (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
Timber & Lumber (Treated) (Cont'd.)	Untreated Timber	812.02 1014	AASHTO M168	-----	-----	-----	-----	-----	Visual inspection by CQAF. for soundness, dimensions and infestation.
TREATMENT OF PILE HEADS	Canvas	812.06(b)		1/shipment*	18 in x 18 in.	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
	Coal Tar Pitch, Creosote Oil, Asphalt & Copper Napthanate	812.06(a)		1/shipment*	1 qt friction top can	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
	Fabric Covering	812.06(c)	ASTM D173	1/shipment*	18 in. x 18 in.	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
	Galvanized Metal Covering	812.06(b)		1/shipment*	6 in. x 6 in.	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
	Galvanized Nails, Staples & Wire	812.06(c)		1/size/type/ shipment*	12 of each item** Wire - 24 in. length	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable. **Twelve nails and 12 staples are to be submitted.

SECTION 813 CONCRETE APPROACH SLABS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FOR DETAILS ON CONCRETE TESTS, MIX DESIGNS AND MATERIALS (ADMIXTURES, AGGREGATES, CEMENT AND WATER) SEE SECTION 901 OF THIS MANUAL.									
AGGREGATES	Bedding Material	813.02 1003.08	Gradation TR113	1/1,000 yd^3	1 full sample sack	-----	-----	3	-----
BEARING PILES	Timber	813.02 813.06 1014	**Inspected and stamped by the const. fab. Insp. Unit prior to use. See section 812 of this manual.**			CD 1 & 6	-----	-----	Visual inspection by CQAF.
CONCRETE (In-Place)	Compressive Strength	805.03(a) 805.03© 813.07	TR 230	1/pour	Three 4 in. x 12 in. cylinder mold	-----	-----	2	To determine strength for form removal or exposure to construction traffic.
	Surface Tolerance	813.07 805.13(d)(2)	-----	each wheel path, each traffic lane	entire lot	-----	-----	2	Plastic Concrete Surface must be checked using an approved 10 ft metal static straightedge supplied by the DB.
	Tine Texturing	813.08 805.13(d)(3)	TR 229	2/lot*	-----	-----	-----	3	Plastic Concrete. *Sufficient number of random checks to assure the required texture depth is achieved. Performed on hardened concrete.
CURING MATERIALS		813.07 1011.01	**SEE SECTION 601 OF THIS MANUAL**						

SECTION 813 CONCRETE APPROACH SLABS (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
GEOCOMPOSITE DRAINAGE SYSTEM	Wall Drain	813.02 1019.02	ASTM D1621	1/lot or shipment	$4ft^2$	CA 5	-----	3	(QPL 62)
GEOTEXTILE FABRIC		813.03 1019.01	Table 1019-1	1/type	3 lin ft/roll width of fabric*	CC 1	150 yd^2	3	(QPL 61) *Sample a minimum of 18 ft^2.
HARDWARE CLOTH		813.02 1018.21	ASTM A740	1/shipment*	18 in x 18 in.	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
JOINT MATERIAL	Preformed Closed Cell Polyethylene	813.02 1005.01(e)	ASTM D7174, Type I	1/5,000 lin ft/ Width	36 in. length	-----	-----	3	(QPL 18)
JOINT SEAL (Preformed)	Elastomeric Compression	813.02 1005.03	TR 612	1/lot or shipment	8 ft length*	CA** 1	-----	3	(QPL 6) *When width is over 2 in., 4 ft length is sufficient. **CQAF forwards CA with sample to Mat. Lab.
ADHESIVE LUBRICANT-	For Preformed Closed Cell polyethylene Joint Filler	813.02 1005.01(e)	----	-----	-----	-----	-----	----	(QPL 18) Visual inspection by CQAF.
	For Preformed Elastomeric Compression Joint Seal	813.02 1005.03	ASTM D4070	1 Project/lot	1qt friction top can	-----	-----	3	(QPL 8) Mix well before sampling. Seal can tightly.
POLYETHYLENE FILM		813.02 1011.01(d)	AASHTO M171	1/lot or shipment*	36 in. length	-----	-----	3	*Visual inspection by CQAF. Sample only if questionable.
REINFORCING STEEL		813.02 1009.01	ASTM A615	1/size/ source*	48 in. length	CA 1	-----	3	*If listed on QPL 71, material with a CA (Dist. 1) need not be sampled. Sample for verification if questionable.
UNDERDRAIN PIPE		813.04	**SEE SECTION 703 OF THIS MANUAL**						

SECTION 814 DRILLED SHAFT FOUNDATIONS

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	OVT LEVEL	REMARKS
					CONTAINER	DISTR.			
CONCRETE (Structural)	Mix Designs, Materials & Test	814.02	SEE SECTION 901 OF THIS MANUAL						
GRANULAR MATERIAL	Pea Gravel or Granular Material	814.02 1003.07	-----	-----	-----	-----	-----	-----	Visual inspection by CQAF.
REINFORCEMENT		814.02 1009	ASTM A615	1/size/ source*	48 in. length	CA 1	-----	3	*If listed on QPL 71, material with a CA (Dist. 1) need not be sampled. Sample for verification if questionable.
SLURRY		814.12	*	as needed	-----	-----	-----	-----	*DB tests to be observed by the CQAF & documented in field book.

SECTION 815 WELDING

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
THIS SECTION IS TO BE USED AS A GUIDE FOR OTHER ITEM NUMBERS WHEN REFERENCE IS MADE TO SECTION 815. THERE ARE NO PAY ITEMS UNDER SECTION 815.									
WELDING QUALIFICATION AND TESTING	Field	807.50 815 .02	**Welders and procedure qualified by licensed, bonded testing laboratory.**		-----	-----	-----	-----	
	Shop	807.23 815.02	**Qualified, inspected and approved by licensed, bonded testing laboratory prior**		-----	-----	-----	-----	OVF receives inspection report from CQAF.

SECTION 901 PORTLAND CEMENT CONCRETE (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
AGGREGATES (Structural)	Fine & Coarse	901.02 1003.01 1003.02	Gradation TR 113	1/lot	1 full sample sack	-----	-----	2	(QPL 2) Gradation and moisture content to be run. Lot to be identifiable pour up to 200 yd^3 max of concrete. Gradation results shall be plotted on control charts which are required for documentation. See "Application of Quality Assurance Specifications for Portland Cement Concrete Pavement and Structures" for details.
			Moisture TR 106					2	
		901.02 1003.01 1003.02	Deleterious TR 119	1/every 5 day of production or 400 y^3 of aggregate*	1 full sample sack	-----	50 yd^3	3	(QPL 2) Check gradation and foreign matter. *For structural concrete produced from non-dedicated stockpiles.
CEMENT (Hydraulic)	Types I, II, IP & IS (Pavement & Structural) Types I, II, IP, IS & III (Precast)	901.02 1001.01 1001.02 1001.04	AASHTO T 127	1/shipment*	Five - 1 gal friction top cans or acceptable moisture proof container	CD** 1 & 7	-----	3	(QPL 7) Composited and blended from daily plant samples. *Maximum of one sample per day per source unless questionable. **Copy of CD shall be submitted with sample.

SECTION 901 PORTLAND CEMENT CONCRETE (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	OVT LEVEL	REMARKS
					CONTAINER	DISTR.			
CONCRETE (Minor Structure)	Compressive Strength	Table 901-3	TR 230	3cyl/50yd^3	1 ft^3 6 in. x 12 in. cylinder mold	-----	50 yd^3	1	-----
	Mix Design	901.06(a)	*	1/mix class or type/material source/plant	-----	-----	-----	3	(QPL 58 - Admixtures, QPL 2-Aggregates, QPL 7 - Cement, QPL 50 Fly Ash and QPL 80 Microsilica (Silica Fumes)) *The DB shall submit to the Dist. Lab Engr. the standard Mix Design form indicating the intended source of all materials and the mix design. Acceptance by the Dist. Lab Engineer is required prior to starting work.
	Air	Table 901-3	TR 202	1/50 yd^3	0.5 ft^3	-----	50 yd^3	2	When required in Table 1 or individual section.
	Slump	Table 901-3	TR 207	1/50 yd^3	0.5 ft^3		50 yd^3	3	When required in Table 1 or individual section.
CONCRETE (Pavement)	Entrained Air	901.06(b)	TR 202	2/half day	0.25 ft^3	-----	-----	2	Air test results shall be plotted on control charts which are required for documentation. Air tests will only be required when an air-entraining admixture is used.

SECTION 901 PORTLAND CEMENT CONCRETE (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	OVT LEVEL	REMARKS
					CONTAINER	DISTR.			
CONCRETE (Pavement) (Cond't)	Flexural Strength		TR 226	1 set/lot*				2	*If DOTD approves flex beams in lieu of cores, increase frequency to 1 set/ 50 cy.
	Mix Design	901.06(a)	*	1/mix type/material source/plant	-----	-----	-----	3	*DB shall submit to the Dist. Lab Engr. the standard Mix Design form indicating material sources, proportions, and composite gradation calculations. Acceptance by the Dist. Lab Engr. is required prior to starting work.
	Mix Temperature	901.06(b) 901.11		*	-----	-----	-----	3	*When temperature control is needed, testing must be sufficient to prevent exceeding appropriate limits.
	Slump	901.06(b)	TR 207	2/half day	0.5 ft^3	-----	-----	3	Slump test results shall be plotted on control charts which are required for documentation.
	Unit Weight	901.06(b)	TR 201	1/ 100 cy	1.5ft^3 0.5 or 1 ft^3 yield bucket	-----	-----	1	
CONCRETE (Structural)	Entrained Air	901.06(b)	TR 202	2/lot	0.25 ft^3	-----	-----	2	Air test results shall be plotted on control charts which are required for documentation. When pump placement is used, see "Application of Quality Assurance Specifications for Portland Cement Concrete Pavement and Structures" for details.

SECTION 901 PORTLAND CEMENT CONCRETE (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
CONCRETE (Structural) (Cont'd)	Compressive Strength	Table 901-3	TR 226	3 cyl/batch 2 batches/lot	1ft^3 4 in. x 12 in. cylinder mold	-----	-----	1	A lot is an identifiable pour not to exceed 200 yd^3. For specific details see Specification Subsection 805.17.
	Surface Resistivity	Special Provision 901	TR 233	4 readings /cylinder				1	Surface Resistivity per Special Provision replacing Section 901. Design Requirement 27 kΩ-cm
	Mix Design	901.06(a)	*	1/mix class/material source/plant	-----	-----	-----	3	*DB shall submit to the Dist. Lab Engr. the standard Mix Design form indicating the intended source of all materials and the mix design. Acceptance by the Dist. Lab Engineer is required prior to starting work.
	Mix Temperature	901.06(b) 901.11		*	-----	-----	-----	-----	*When temperature control is required, testing must be sufficient to prevent exceeding appropriate limits.
	Slump	901.06(b)	TR 207	2/lot	0.5 ft^3	-----	-----	3	Slump test results shall be plotted on control charts which are required for documentation. When pump placements used, see "Application of Quality Assurance Specifications for Portland Cement Concrete Pavement and Structures" for details.

SECTION 901 PORTLAND CEMENT CONCRETE (Cont'd)

MATERIAL		REF.	TEST METHOD	MIN. FREQ.	MIN. QUANT. CONTAINER	CERT. DISTR.	SMALL QUANTITY	OVT LEVEL	REMARKS
FLY ASH	Cement Replacement	901.02 1018.15	AASHTO M295	1/shipment	Five - 1 gal friction top cans or acceptable moisture proof	CD* 1 & 7	50 yd^3	3	(QPL 50) *Copy of CD shall be submitted with sample
GROUND GRANULATED BLAST-FURNACE SLAG	Cement Replacement	901.02 1018.27	AASHTO M302	1/shipment	Five - 1 gal friction top cans	CD* 1 & 7	50 yd^3	3	(QPL 70) *Copy of CD shall be submitted with sample.
WATER		901.02 1018.01	AASHTO T26	1/source	1 qt plastic bottle	-----	50 yd^3	3	Drinkable water need not be sampled.