

The Contractor	PROCESS SYSTEM PROCEDURE	Rev. 1
PSP #1.0	Process-Quality Management Plan	10/31/211

PROCESS-QUALITY MANAGEMENT PLAN

PREPARED FOR:
THE CONTRACTOR

MISSOURI DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER

J4X1X1X

PREPARED BY:
THE CONTRACTOR

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PREFACE

The Contractor is the general contractor responsible for constructing the Route XX Project from south of Route Z to Route Y. The Project is in a Mo State County and the MoDOT Job Number is J4X1X1X. The Project consists of approximately 4.455 miles of grading, drainage, alternate and optional paving, and a bridge to improve this section of Route XX.

The State of Missouri is the owner of the Project. It is represented officially by the Missouri Department of Transportation (MoDOT). Federal Funds are being used in the cost of construction of this project.

This document has been prepared to present the Process-Quality responsibilities of The Contractor and its Subcontractors.

SAMPLE

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APPROVALS

Submitted by: The Contractor PQ Manager

Signature: _____ Date: _____

Approved by: The Contractor Project Manager

Signature: _____ Date: _____

Approved by: MoDOT Resident Engineer

Signature: _____ Date: _____

REVISIONS INDEX

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1.0 SCOPE

1.1 Process-Quality Management Plan (PQMP)

This document has been prepared to meet the requirements of Section KK. Contractor Process-Quality/Process Assurance of the Job Special Provisions for MoDOT Job No. J4P1138. This Process-Quality Management Plan describes the policies, processes, and procedures that Contractor will use to verify the materials and workmanship incorporated into the project meet the requirements of the plans, specifications, and contract documents. The PQMP will be maintained and revised as necessary during the project.

2.0 REFERENCE DOCUMENTS

The following are reference documents from which this PQMP was derived:

- MoDOT Job No. J4P1138 Section Q. Contractor Process-Quality/Process Assurance of the Job Special Provisions
- 2011 Missouri Standard Specification Book for Highway Construction
- General Provisions and Supplemental Specifications to 2011 Missouri Standard Specifications
- 2009 Missouri Standard Plans for Highway Construction
- Supplemental Plans to 2009 Missouri Standard Plans – 12/01/09
- CQMP for J6U0807

3.0 PROCESS-QUALITY CONTROL ORGANIZATION

3.1 Process-Quality Management Organization Chart

Refer to Appendix 1. Figure 1.1

3.2 Process-Quality Control Personnel

3.2.1 Purpose

To provide a general description of the duties and responsibilities of the Contractor Process-Quality Inspection and Technician personnel performing construction inspection and materials testing activities. The goals of the Process Management Organization are to provide adequate inspections and tests of Contractor and subcontractors/suppliers work activities to ensure compliance with approved design, plans, and project specifications.

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3.2.2 Responsibilities

Process-Quality Manager (PQM) – The Process-Quality Manager is responsible for the overall management, coordination, supervision, and performance of all Process-Quality control activities performed by or on behalf of Contractor as outlined in this plan. The PQM reports directly to the Project Manager.

The PQM is responsible for:

- Development, implementation, management and revision of the Process-Quality Management Plan (PQMP)
- Determining the staffing levels required for performing the management and administrative duties of the Process-Quality team
- Identifying processes or activities that require written Process-Quality procedures and assigning Process-Quality staff to define the scope and content and to prepare each written procedure
- Overseeing Process-Quality document management activities to ensure Process-Quality records are appropriately maintained
- Ensuring the PQ test and inspection reports are reviewed and approved by authorized personnel
- Assuring PQ activities are performed by properly qualified personnel or testing firms
- Reviewing and approving Inspection and Testing Plans for specific construction work elements
- Attending Construction Pre-Activity Meetings
- Reviewing, approving, and distributing PQ procedures
- Issuing a Non-Conformance Report (NCR) when work is found to be nonconforming and addressing and resolving nonconformance issues
- Develop, review, approve, and implement corrective plans to address systemic issues within the PQ organization
- Maintain copies of training and certifications for the Inspectors working for him/her and for the sub-Contractors.

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Process-Quality Inspectors and Technicians – Contractor Process-Quality Inspectors and Technicians will perform daily inspections, testing, and sampling during construction as outlined in this plan. In general, the term “Inspector” is used to indicate a person responsible for PQ inspection activities whereas the term “Technician” is used to indicate a person responsible for sampling and testing activities. As it relates to this project, inspection, sampling, and testing activities may be performed by the same person referred to as either “Inspector” or “Technician”. PQ Inspectors will be experienced and/or certified as appropriate for the work being inspected, sampled, and tested. PQ Inspectors will report directly to the Process-Quality Control Manager.

Process-Quality Inspectors and Technicians have the following duties:

- Are responsible for the examination of materials supplied for construction and the evaluation of the work for compliance with plans and specifications. They are responsible for documenting inspections and tests in accordance with written procedures, and for generating deficiency documentation when work does not comply.
- Inspectors and technicians will interface daily with production crews, superintendents, and corresponding MoDOT field representatives. (*Inspectors should be internal to Contractors production activities*)
- Inspectors and technicians will work closely with and communicate daily with the PQM.
- Inspectors and technicians will conduct onsite material sampling and testing in conformance with the appropriate methods and frequencies listed in the MoDOT Inspection and Testing Plan.
- Inspectors and technicians will perform required tests and generate test records, and if necessary, generate associated inspection reports.
- Inspectors and technicians are responsible to ensure their measuring and test equipment is properly maintained and suitably calibrated

Process-Quality Laboratories – Contractor will utilize its off-site laboratory and personnel and may employ third party testing laboratories to perform construction material testing in accordance with the policies and procedures specified in the plan. This work may include sampling and testing of soils, concrete, aggregates, etc. either on site or in the laboratory. Process-Quality laboratories shall participate in and achieve a score of three or greater in the AASHTO Materials Reference Laboratory (AMRL) and/or Cement and Concrete Reference Laboratory (CCRL) proficiency sample programs for the test performed by the laboratory. The PQ Laboratory Manager will maintain copies of training and certifications for the Technicians working in the laboratory. Refer to Process-Quality Procedure (PQP) 4.2, PQ Laboratory (Appendix 2). Each laboratory selected to perform testing for the project shall submit a PQ plan. These plans will be reviewed and accepted by the PQM.

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4.0 INSPECTION AND TESTING

4.1 Planning and Execution

4.1.1 Construction Pre-Activity Meetings

A construction pre-activity meeting will be conducted prior to the start of every definable feature of work (DFOW). A DFOW is a construction task that is separate and distinct from other tasks and that has separate control requirements. These meetings will establish an understanding of the Process-Quality and procedures to be used by production crews performing the work. Planned PQ and PA processes and procedures associated with the work will also be communicated. Additional hold points (Appendix 3), which require witnessing or inspection, are identified during this phase and added to the applicable PQ Checklists. Reference PSP 4.1, Construction Pre-Activity Meetings (Appendix 2), for the procedure.

4.1.2 Inspection and Testing Plan

Verification of the Process-Quality is typically described in the Inspection and Test Plans (ITP's) and PQ checklists. Acceptance criteria and frequency of inspection or testing is listed in the Inspection and Test Plan. The PQ checklists and ITP have been provided by MoDOT and are appended to this PQMP (Appendices 4 and 5, respectively). An updated ITP will be submitted as required for key inspection and testing activities added as the result of a new DFOW not currently covered under the ITP.

The Process-Quality Manager (PQM) is responsible for ensuring that all works and products are inspected and tested in accordance with the specified Contract requirements, specifications and PQ inspection and test plans. All Process related activities are conducted under controlled conditions using appropriate equipment to properly accomplish the task at hand.

Inspections are performed during all phases of the work from start to completion in order to assure that the work meets, and is performed in accordance with, the Contract requirements, specifications, and all approved submittals.

Initial inspection is performed as soon as work begins on a representative item or segment of work. The inspection's purpose is to verify that Contractor's personnel are familiar with all pertinent construction documents that pertain to their responsibilities. An examination of workmanship Process is conducted to confirm that all work is performed in accordance with the established Project standards.

Follow-up inspections are continuously performed, as any work item or segment progresses, to assure compliance with Contract requirements. Appropriate inspections, sampling and acceptance testing of materials, equipment and elements of work that are incorporated in a work item or segment are conducted to assure satisfactory performance of the completed work in service.

Failed inspections or tests will result in a non-conformance report. Follow up inspections or tests will be attached to the report with the corrective action documented.

Frequency of testing is as prescribed in the ITP and Project Specifications, as applicable. Should it appear that the type and frequency of testing are not sufficiently detailed or explained in these

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sources then MoDOT, the PQM, and the Project Manager confer and mutually agree as to the type and frequency of the tests required. MoDOT's decision shall be final in the event of a disagreement between parties.

4.1.3 PQ/PA Hold Points

Hold Points are steps/events in the work process that require approval from PQ/PA prior to continuing work. PQ/PA Hold Points occur between different definable features of work (DFOW) or progress phase when the succeeding work depends on the acceptance of the preceding work. PQ/PA Hold Points are attached in Appendix 3.

PQ and PA Hold Points occur at the same point in the work process, however, PQ Hold Points and related inspection and testing shall occur prior to MoDOT PA verification. Non-conforming, deficient, and incomplete work discovered during PQ Hold Points shall be corrected prior to the MoDOT PA Hold Point. MoDOT identified issues shall be corrected prior to continuing work and new Hold Point scheduled. PQ DIR's, inspection checklists, test reports, and pour cards will be complete and provided to MoDOT prior to the scheduled Hold Point.

PQ/PA Hold Points shall be an agenda item discussed at the Construction Pre-Activity Meeting held for each DFOW as discussed previously in Section 4.1.1. Production supervisory personnel shall notify PQ personnel of upcoming PQ/PA Hold Points (24 hours in advance of the requested inspection). In addition, notification of upcoming Hold Points will be communicated at the Daily Superintendents' Meeting to PQ and PA personnel.

MoDOT may make changes to the MoDOT Hold Point list at any time. The PQM may make changes to the PQ Hold Points with MoDOT's approval.

4.2 Material Receiving

4.2.1 Identification and Traceability

Contractor and the subcontractors' identification and traceability requirements are monitored for compliance by the PQ staff. Products and materials are identified from receipt and during all stages of production, delivery and installation. PQP #4.1, PQ Receiving Report (Appendix 2), defines the method of product identification and traceability prior to the material being released for use on the Project.

Identification

Identification and location of materials and equipment is traceable to specific elements of the work through appropriate documentation; i.e., tagging and/or traceable records. This documentation is supplied to the Process-Quality Control Manager (PQM), or his/her designated representative, either prior to or during the receiving inspection for equipment and materials.

Items received without proper documentation are marked "Hold" and will not progress further in the system until the appropriate traceable records are in hand. Nonconforming equipment and material will be marked "Rejected" and/or removed from site.

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In circumstances, where material or finished products delivered to site are required to be used urgently, where all certification and/or tests have not been completed or received, the material or products prior to its use shall clearly be positively identified (e.g. physically marked or tagged or coded) prior to being issued to site. In addition, the physical location and sequence of where they are incorporated into the work shall be tracked. If there is any doubt on the acceptability of the material or product, after the incorporation of such material or product into the work, it can be properly quarantined pending further investigation and clarification on the acceptability. No further work in the physical location shall be permitted or the material or finished product shall be considered as being not accepted pending clearance by the PQM.

Receiving

During the receiving process, all permanent material or equipment is determined to be either "Accepted", "Rejected" or put on "Hold". If labeling material or equipment is determined to be applicable and practical, the tags will have one of the following labels:

- **Accepted**
- **Rejected**
- **Hold**

The PQ Receiving Report documents the status of compliance and that necessary corrective action was taken on non-conforming items. Any noted deficiencies are immediately brought to the attention of the supplier by written communication. The PQM is responsible to immediately communicate material and equipment deficiencies to the Project Manager so that a determination can be made regarding the final disposition of the rejected material.

Receiving Major vs. Minor Items

The PQM determines what are "major items" based on specific considerations concerning complexity, job impact, value, ITP requirements, etc. Major items of material or equipment received are accompanied by appropriate documentation to render the item traceable throughout fabrication.

The receipt of minor or routine items may be made without the physical presence of the Process-Quality representative but is surveyed at regular intervals to assure conformance with contract documents. Minor items of material or equipment received are accompanied by appropriate documentation to render the item traceable throughout fabrication.

Subcontractor-Supplied Products

The identification and traceability of subcontractor-supplied items is the responsibility of the subcontractor. All subcontractors are informed that all Process records are cross referenced using the dates of manufacture, receiving or usage in such a way that enables the complete traceability of all component parts, pieces, hardware, materials and procedure used in the manufacture of their products. In addition, any corresponding lab tests, strength tests, mill certificates, etc. will be traceable, by date, to any and all of their manufactured products.

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Testing

Information on the PQ testing reports is to be specific enough that the exact location and an estimated quantity of material tested can be traced to the date it was tested. Lab managers are responsible for the assurance that the sample locations and dates are adequately identified.

Material Certification and Testing Process

The field inspection of materials or equipment are guided by the contract documents, which in most cases provide for a full inspection and test records prior to shipment. This process is described below. A Contractor manager is responsible for the purchase of materials and equipment. The PQM is responsible for the receiving acceptance inspection and testing of the materials and equipment as dictated by the contract.

For common shelf materials and equipment, receipt is based on the Manufacturer's Certificate of Compliance and satisfactory visual inspection. Major elements require off-site or source inspection during the manufacturing process. Vendors, suppliers and subcontractors are responsible for their own PQ source inspection. External sources of materials currently under MoDOT inspection or QC/QA program shall remain under MoDOT inspection or QC/QA program.

The receiving inspection is an opportunity to have a co-inspection with the Contractor who is to use the item during construction. This inspection includes a visual examination of quantity, packaging and handling, coatings or protective finishes, and a general dimensional inspection.

All inspections are recorded on the Project's approved daily inspection report (DIR). After enclosure or installation, equipment is often under the original manufacturer's warranty or maintenance service. The equipment may even have a training component, which is to be delivered at Contractor's discretion. The PQM has the responsibility to follow-up and coordinate these activities until final hand over of the project.

Many products, e.g., concrete, asphalt, fill, and coatings, arrive at the construction site and are used each day with partial but not fully accepted testing having been performed. To minimize the risk of not removing materials that fail subsequent tests, daily records of materials used and construction work are recorded as construction records.

Unspecified materials such as general lumber, common fasteners, etc. are not subject to this procedure.

4.3 Communication

CONTRACTOR Management ensures that appropriate communication processes are established within the organization and that communication takes place regarding the effectiveness of the Process Management Plan.

Weekly Partnering Meetings with MoDOT serve as the organizational interface between the Contractor and Owner. Many topics will be discussed but the focus of the meeting will be the 2-week look-ahead schedule. The Project Manager is responsible for providing a schedule of construction activities for the upcoming 2 weeks. The schedule discussion will focus on major items of work and will include PQ related elements such as upcoming Hold Points and material deliveries.

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Public Relations topics such as upcoming closures, traffic switches, and openings will be discussed, also.

A Daily Superintendents' Meeting will be held at the project office. The purposes of the meeting will be to coordinate construction activities as well as provide PQ and PA personnel with real-time scheduling information. PQ notifications such as pour requests, material deliveries, upcoming hold points, etc. will be communicated at this meeting.

4.4 Control of Monitoring and Measuring Devices

The Process-Quality Manager (PQM), or designee, maintains calibration of project PQ equipment. The required procedures, personnel qualifications and calibration program are set up in compliance with the Contract documents.

PQ procedures ensure that tools, gauges, instruments and other measuring devices are properly maintained, controlled, calibrated and adjusted. The Laboratory Manager is responsible for the continual calibration and maintenance of the measuring and testing equipment. Testing equipment is calibrated by a qualified testing firm and each piece of equipment is labeled with the necessary seals or tags that specify the date it was calibrated and by whom. Documented verification of calibration of test and measuring equipment is retained by the Laboratory and is available to MoDOT upon request.

5.0 PROCESS-QUALITY DOCUMENTATION

5.1 Document Control

A web-based document management and project control software and will serve as Contractor's primary Document Control System. Contract Management will be used by both the construction management and Process management staffs to receive, transmit, log, and track relevant project documents including all Process-Quality documentation as outlined in Section 5.2.

The PQM will maintain one set of as-built or redline drawings. They will be updated, maintained, and available for review in the project field office.

The PQM will maintain a current hard copy of the PQMP and its attachments. These documents will be available for review at the project field office. In addition, the PQM will maintain the current electronic version of the PQMP and its attachments.

One copy of the following documents will be available for reference at the project field office:

- 2011 Missouri Standard Specification Book for Highway Construction
- General Provisions and Supplemental Specifications to 2004 Missouri Standard Specifications – 12/01/09
- 2009 Missouri Standard Plans for Highway Construction
- Supplemental Plans to 2009 Missouri Standard Plans – 12/01/09

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5.2 Process Records

Current records of all inspections and tests are maintained by the PQM in the project field office. Records are maintained in conformance with the Contractor requirements (reference Appendix 2, PSP # 5.2 Process Records) and contain factual evidence that the required inspections and tests have been performed, including:

- Type and number of inspections or tests involved
- Results of inspections or tests
- Nature of defects
- Cause of rejection
- Corrective action taken
- Other data that is pertinent to the assurance/rejection of the work

These records cover both conforming and defective or deficient features and include the compliance reports and necessary back-up data from Contractor's subcontractors and material suppliers. These records will be turned over to the Contractor Document Control System at Final Completion.

Records and reports of inspection and test activity documented on the Daily Inspection Reports or Testing Records serve as Process-Quality documents. These reports and records are completed daily by the PQ personnel. The PQM is responsible for electronically forwarding these PQ documents to MoDOT by 11:00 AM on a daily basis for review and audit. These records will cover both conforming and defective or deficient features. The compliance reports and necessary data from CONTRACTOR subcontractors and material suppliers will be kept on file with the PQ staff. Material releases should be of sufficient quantity to cover the material incorporated into the work. This evidence is retained at the project field office to sufficiently identify all specified requirements.

Process-Quality records will be filed and maintained in Contract Management. The filing of Process-Quality Records shall be based on location and component. Complete details on the filing and collating of Process-Quality records are outlined in PSP # 5.2. A brief description on the principle of how PQ records will be filed as it relates to the work is as follows:

- PQ records shall be filed primarily according to work, location, and date. Records will also indicate the component of work i.e., Drilled Shafts (for Bents 2 to 4); Pile Cap or Foundation; Substructure (all lifts) or Abutment; etc.
- All material test records shall be filed separately based upon the type of material and the specific type of test i.e., Granular Aggregates (Gradation, Durability, etc), Concrete (Compressive Tests, Concrete Pour Records, etc), Reinforcement (Mill Certificates, Physical Tests), Asphalt, Structural Steel, Bearings.
- All NCR's & associated logs will be filed separately.

6.0 CONTROL OF NON-CONFORMING WORK

PSP #6.0, Non-conformance Reporting (Appendix 2), has been developed to identify and ensure that non-conforming construction and products are identified and eliminated from the Project. This control applies to the documentation, identification and disposition of non-conforming

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product/construction. The non-conformance process establishes the standard form for identifying, reporting, evaluating, controlling, and resolving non-conforming work. This process includes non-conformances identified by MoDOT.

Two potential categories of non-conformance work on the Project are:

- Work that is non-conforming due to failed tests, i.e., failed density tests, failed concrete tests, etc.
- Work that is non-conforming due to inspection

During the course of follow-up inspections, it may be determined that the work being performed is not in accordance with the approved documents and specifications, or that the workmanship is not producing a quality product. In this event, the PQ personnel issue a non-conformance report to the Project Manager and advise him of the condition. An uncontrolled copy of the initial report is forwarded to MoDOT for information.

All discovered deficiencies will be initially added to the Deficiency Log. The PQM determines the need to issue a non-conformance report based on the scope and severity of the violation. Non-conformance reports are to be resolved and signed-off before the completion of the work.

Failing inspections and test results are recorded on the PQ Deficiency Log and reported to the Project Manager. Rework and retesting is carried out until the work is within the specified tolerances. In the event that the work cannot be brought into tolerance within an appropriate time frame, a Non-Conformance Report (NCR) is prepared and issued.

The PQMP procedures dictate that a non-conformance should be processed through the individual or group that caused the non-conforming condition so they may recognize the problem, learn from the mistake, and take action to prevent its recurrence.

Each NCR is assigned a NCR number and is logged in the NCR Log which is organized to track NCR's to closure. The NCR Report is issued to the Project Manager for evaluation and development of a proposed resolution.

The Project Manager with concurrence from MoDOT (when applicable) develops a proposed disposition and corrective action to prevent recurrence.

Based on an engineering evaluation, proposed resolution may be as follows:

- Rework to meet the specified requirements
- Use-As-Is the work without repair pending MoDOT's approval
- Repair the work making it acceptable for its intended use without bringing into full compliance of the specifications pending the MoDOT's approval
- Reject and remove/replace the non-conforming work

Once the proposed disposition and corrective action has been agreed upon, the responsible party takes appropriate actions to correct the deficiency and forwards a copy of the NCR along with the proposed resolution corrective action plan to the MoDOT for his/her information. If the proposed disposition is categorized as "Repair" or "Accept As Is", the Project Manager will forward the original NCR along with the proposed resolution corrective action plan to MoDOT for approval. MoDOT will

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be advised when the proposed corrective action is implemented so they may be afforded the opportunity to confirm the implementation.

7.0 CORRECTIVE ACTION

In the event that a non-conforming condition persists or the severity of the condition meets at least one of the criteria below, then either the PQM or MoDOT issues a corrective action request to the Project Manager. If the PQM and/or MoDOT deems necessary, the Project Manager will be requested to stop the work that has caused the problem.

A Corrective Action Report is generally issued for the following condition:

- Recurring or systemic non-conformances

Details for the Corrective Action Report are outlined in PSP #7.0.

A Stop Work Notice is issued for various situations including serious conditions which:

- Are a perceived threat to public safety and well-being
- Could severely damage a major utility
- Would reduce the soundness, strength or integrity of an existing structure
- Would reduce the life span of the work or cause excessive rework or repair
- Would result in work that deviates from contract requirements

Stop Work Notices may require that previous work be repaired, or if serious enough, removed and replaced. This decision rests with the Project Manager with concurrence from MoDOT. Sign-off of the Resume Work portion of the Stop Work Notice by the PQM and MoDOT is required. Stop Work (Resume Work) forms must be completely executed and signed-off before the work can resume. Reference PSP #7.1 for details on the Stop Work Notice.

8.0 OTHER APPLICABLE PQ PLANS

Subcontractors shall develop, implement, and maintain their own Process-Quality Plan (*Submitted and approved prior to start of work*) or adopt Contractor's plan. Subcontractors will designate and submit the names of the PQ Representative and all PQ personnel to be responsible for assuring the work is constructed in conformance with the plans and specifications. The PQ Representative will perform whatever inspections or Process-Quality procedures are required to control the work. The PQ Representative may be a foreman, superintendent, project engineer or other individual with the proper experience and authority. Contractor's Process Manager will still be responsible for all work/Subcontractors PQ Rep reports to Contractor PM. On-site materials testing will be conducted by certified personnel and may be an agent of the general Contractor, subcontractor, or a third party testing firm.

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9.0 REVISIONS TO THE PROCESS PLAN

Process-Quality Procedures and Process System Procedures are dynamic documents. Revisions and additions will be issued as the program requires refinement or adaptation.

Changes to the PSP's and/or PQP's shall be the responsibility of the Process-Quality Manager. Contractor's Project Manager is responsible for providing input from management review for any new PSP or PQP needed. MoDOT will have final approval of all Process Plan revisions prior to implementation.

Reference PSP 9.0, Revision of PSP and PQP, for the procedure.

SAMPLE

Appendix A

Preliminary Hold Points Checklists & Forms

Preliminary QA Hold Points

1. Before any grading or land disturbance takes place after installation of Best Management Practices (BMP's) and environmental controls to confirm that they have been installed per plans and standards.
2. After all clearing and grubbing
3. After completion of grading for roadbed and prior to placement of base to ensure test data is up to date and proof rolling is satisfactory complete.
4. After placement of each layer of base course for ensure proper grade, thickness, density and test data up to date.
5. Prior to first asphalt lift and between additional lifts
6. Prior to concrete paving to ensure proper width, depth, baskets, tie bars, etc.
7. Before any concrete pour
8. Before application of seed & mulch, and sod to review readiness of slopes and grade
9. Before traffic switches or opening to traffic.
10. After completion of drainage installation and before backfill
11. After placement of MSE wall panel, strap, select backfill placement every 7 vertical feet.
12. Before Pile Driving begins to confirm pile driving submittals, equation, equipment.
13. After completion of pile driving operation to review results and records
14. Before placement of any concrete for substructure unit.
15. Before steel girder erection to verify ro-cap testing complete and inspection torque determined for each combination of nut/bolt.
16. Before placement of concrete of bridge deck, approach slab, approach pavement, diaphragms and bridge barrier
17. Before concrete placement for all CIP retaining walls and box culverts
18. Every 1500 feet of roadway barrier
19. Before placement of minor concrete curb, sidewalk, gutter, islands, raised medians, paved approaches, etc.
20. Prior to placement of concrete for signal bases, DMS and ITS foundations, sign foundations
21. After placement of drilled shaft concrete and prior to column construction. CSL results.
22. Between structural steel coating applications
23. Before beginning construction of MSE Walls & Box culverts to confirm subgrade.

Highway Lighting Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Reqs.	Measurements/Remarks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials: Accept for use by inspection and/or documentation <i>Reinforcing Steel for Concrete, Concrete, Poles, Conduit, Pull boxes, Wire, Anchor Bolts, Nuts and Washer, Galvanized Coating of Structural Steel, Wfoundations</i>	901.3, 1000	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hardware: Bolts nuts and Washers <i>Standard for bolts, nuts, washers; AASHTO M164, ASTM A307</i>	901.3.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Equipment and Material: Shall be of new stock <i>Equipment is on Approved Products List</i>	901.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reinforcing steel: Correct installation. Correct #, size, shape. <i>Proper clearance, spacing, tying. Anchor bolts correct length and properly secured.</i>	Std. Dwg.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete: Shall be of the class specified in the contract <i>Material proportioning, mixing, slump and transporting of concrete ball be in accordance with Sec 501, Concrete shall be placed, finished, and cured in accordance with Sec 703.</i>	901.3.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Light Poles: Correct Type. Install at plan locations and plan heights. Install Bracket arm. <i>Metallic grounding. Cable entrance at bracket arm field drilled 1-1/4" and coated with zinc and fitted with rubber grommet</i>	901.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Power Supply Assembly: Installed per type and location in plans <i>Concrete footing per plans dimensions. Disconnect and breaker per Std. Dwg. Steel pedestal per Std. Dwg..</i>	901.8, Std. Dwg.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Controller: Correct Type and Location per plans. <i>Concrete footing per plan dimensions. Concrete pad installed. Orientation of box suitable for view of intersection.</i>	Std. Dwgs.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Trenching & Backfilling: Location, width & depth per plans. Red Burial tape. <i>Each 6" lift compacted to density of adjacent material. Bottom of trench free of material that may damage conduit.</i>	Plans, Std. Dwgs., 901.10	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pullboxes: Correct type, size and location per plans. <i>Correct drainage for pullbox. Top of box set flush with finish ground.</i>	901.11, 902.14.3, Std. Dwg., Plans	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lighting Foundations-Conc.: Class B per 501 & 703. <i>Finished flush with finish grade. Installed per plan dimesnions and depth. Reinforcing steel per std. dwg. . Anchor bolt embedment per std. dwg.</i>	901.12, Plans, Std. Dwg. 901.01	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lighting Foundation Screw Anchor, Circular and Pile: <i>Not to exceed max. torque. Ftg. Flush with finish grade. Type, dimensions and embedment per std. dwg. Shall be in accordance with Sec 712 and 1080</i>	901.12, Std. Dwg. 901.01	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circuits: Label w/aluminum tags <i>Resistance tests no less than 10 megaohms. 15 day test period.</i>	901.14	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cable Conduits: Type and size per plans. Splice in pull boxes. <i>Specified Trench type. No splice between poles, pull boxes, handholes, etc. 6' slack in each pull box. Conduit ends sealed. Extend 18" into light foundation.</i>	901.15	

Highway Signals Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Reqs.	Measurements/Remarks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials: Accept for use by inspection and/or documentation <i>Reinforcing Steel for Concrete, Concrete, Poles, Conduit, Pull boxes, Wire, Anchor Bolts, Nuts and Washer, Galvanized Coating of Structural Steel, Wfoundations</i>	902.4, 1000	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hardware: Bolts nuts and Washers <i>Standard for bolts, nuts, washers; AASHTO M164, ASTM A307</i>	902.4.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Equipment and Material: Shall be of new stock <i>Equipment is on Approved Products List</i>	902.4.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reinforcing steel: Correct installation. Correct #, size, shape. <i>Proper clearance, spacing, tying. Anchor bolts correct length and properly secured.</i>	Std. Dwg.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete: Shall be of the class specified in the contract <i>Material proportioning, mixing, slump and transporting of concrete ball be in accordance with Sec 501, Concrete shall be placed, finished, and cured in accordance with Sec 703.</i>	902.4.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Signal head: Correct Type per plans. <i>Aluminum or polycarbonate. LED or OL. Securely attached.</i>	902.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Signs: Type installed per plan at plan locations. <i>Securely attached. Sec. 903.</i>	902.6, Std. Dwg., 903	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Controller: Correct Type and Location per plans. <i>Concrete footing per plan dimensions. Concrete pad installed. Orientation of box suitable for view of intersection. Wire bundled and secured. All terminals labeled and visible.</i>	Std. Dwgs., 901.11	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Power Supply Assembly: Installed per type and location in plans <i>Concrete footing per plans dimensions. Disconnect and breaker per Std. Dwg. Steel pedestal per Std. Dwg..</i>	901.8, Std. Dwg.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fiber Optic Cable: Installed per plans and manufacturers recommendation <i>Continuous runs. No splicing outside of splice and control cabinets. Cable not kinked or crushed. Cable not to exceed max. pull force and min. bending radius.</i>	902.12.6	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	FO Cable: Lubricant water based . Compatible with pre-lubricated PVC conduit <i>Mid block pull-boxes 10 feet of coiled cable all other 60'. Caution tape installed at pull boxes and controller.</i>	902.12.6	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	FO Cable: Conduit PVC or HDPE per sec. 1060. <i>Conduit orange with No. 14 AWG copper tracer wire or pull tape with tracer wire.</i>	902.12.6	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pullboxes: Correct type, size and location per plans. <i>Correct drainage for pullbox. Top of box set flush with finish ground.</i>	901.11, 902.14.3, Std. Dwg., Plans	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Induction Loop Det.: Installed per plan location. Slot cut to plan depth & width. <i>Installed per std. Dwg., Wires per std. Dwg., twisted at least three turns, resistance tested prior to sealing.</i>	902.13.2, Plans, Std. Dwg. 902.70	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Loop Sealant: Mixed and installed per manufacturer. Clean surface for application <i>Fully encapsulate wires. Backer rods placed to ensure 1" coverage depth.</i>	902.13.5, Plans, Std. Dwg. 902.71	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Video Det. Installed per plans and manufacturers recommendation <i>Camera mounted min 30 feet above pavement. No splice between cabinet & controller</i>	902.13.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Signal bases: Class B Concrete. Test 1st load and at 50 cy interval. <i>Installed at plan location and type. Per std. Plans for depth, dimension, rebar installation and anchor bolt installation.</i>	902.15, Std. Dwg. 902.30	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Conduits: Type and size per plans. Min. 18" below finished grade. <i>Slope toward pull box min. 0.5%. No. 14 AWG tracer wire and red burial tape. 6' wire coiled at each pull box. Backfill in 6" compacted lifts. Bottom of trench free from damaging objects.</i>	902.16	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Signal Face: Visibility of signal from stop line. Lined over lane lines. <i>Aimed at a point beyond stop bar. Distance per table.</i>	902.17	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post erection: Ensure correct post type, height, mast arm length. <i>Grounded with bare No. 6 AWG copper wire. Securely fastened to base.</i>	902.18	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Wiring: Type, size and location per plans. <i>Continuous and unspliced.</i>	902.19	

Highway Signing Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Reqs.	Measurements/Remarks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials: Accept for use by inspection and/or documentation <i>Reinforcing Steel for Concrete, Highway Sign Material, Anchor Bolts, Nuts and Washer, Galvanized Coating of Structural Steel, Wood and Steel Post, Overhead Sign Trusses</i>	1036,1042,1080,1050 ASTM A 53, ASTM B 221	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hardware: Bolts nuts and Washers <i>Shall be galvanized in accordance with Section 1081</i>	1081	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Equipment and Material: Shall be of new stock <i>Unless the contract provides for relocation the material shall be of new stock.</i>	903.2.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Construction: Signs installed at plan location. Foundations per plan dimension and depths <i>Check minimum vertical & horizontal clearance per Std. Dwg.</i>	Plans, Std. Dwgs.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reinforcing steel: Correct installation. Correct #, size, shape. <i>Proper clearance, spacing, tying. Anchor bolts correct length and properly secured.</i>	Std. Dwg.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete: Shall be of the class specified in the contract <i>Material proportioning, mixing, slump and transporting of concrete ball be in accordance with Sec 501, Concrete shall be placed, finished, and cured in accordance with Sec 703.</i>	903.2.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bolt Down Installation: At minimum, Top 12" below ground formed <i>Anchored bolts held securely in place during pour. Installed to depth shown in plans</i>	903.3.1.1, 903.3.1.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Embedded Installations: Class B or B-1 concrete, or concrete of a commercial Or concrete of a commercial mixture meeting the requirements of Sec 501. <i>shall be used for the footings for embedded-type sign post. Post shall be supported in proper position until the concrete or the foam has set.</i>	903.3.1.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post Alignment: Post shall be vertical <i>Any post bent or otherwise damaged to the extent that the post is considered unfit for use shall be removed and replaced with an acceptable post.</i>	903.3.2.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structural Steel Posts, Pipe Post, Perforated Square Tube Posts, U-Channel Posts, wood Post: <i>Shall be installed at locations shown on the plans. Proper breakaway installations per Std. Dwg. Ensure correct length, number of posts required, size and length</i>	903.3.2.2.1, 903.3.2.2.2, 903.3.2.2.3, 903.3.2.2.4, and 903.3.2.2.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Tubular Steel Sign Supports: Sign supports for overhead mounting of signs. <i>Shall include span, cantilever, and butterfly types, complete with poles, beams, mast arms, sign bracket assemblies and other specified appurtenances.</i>	903.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Overhead Sign Trusses: Shall be steel or aluminum <i>Include all structural, structural aluminum, aluminum castings, pipe railing, gratings, supports and appurtenances above the top surface of concrete footings.</i>	903.3.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Steel Fabrication and Erection: <i>Shall be in accordance with Sec 712 and 1080</i>	903.3.4.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Erection of Signs: Sign Post. Check correct sheeting <i>Post shall be set vertically true to line such that the signs will be level, at the proper angle with the roadway, and with the minimum clearances shown on the plans.</i>	903.3.5.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Erection of Signs: Mounted Signs, check correct sheeting <i>Shall present a smooth flat surface varying no more than 3/8 inch from a 4' straightedge placed in any position on the face of the sign after erection.</i>	903.3.5.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Erection of Signs: Signs on Traffic Signals <i>Shall be mounted with strap or camp type sign supports as shown on the plans.</i>	903.3.5.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Delineators: Installed per plan locations, spacing per standards <i>Installed vertically and any delineator considered unfit for use by the engineer shall be removed and replaced. Minimum horizontal & vertical clearance per Std. Dwgs. Min. embedment per Std. Dwg</i>	903.3.6, Std. Dwg. 903.03	

Erosion Control Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked	Primary Specs	Measurements/Remarks
Erosion Control					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plans & Standards: All work constructed per plan and standard plan details. <i>Correct type, location.</i>	Plans, Standards	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contractor Plan: Plan submitted to MoDOT and approved. <i>Work cannot start until plan approved.</i>	806.2	
Ditch Checks					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Material: Per section 806.3 <i>Posts 4' minimum. Fence supported with wire mesh.</i>	806.30	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type 1 Ditch Check: Strawbales and silt fence <i>Type 1 not used on drainage areas . 3 acres or ditch slopes > 10%</i>	806.30.3.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type 2 Ditch Check: <i>Type 2 not used on drainages areas > 50 acres or where ditch slopes > 10%</i>	806.30.3.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rock Ditch Checks: Filter fabric required. <i>Constructed with rock with a predominant size between 4 and 12 inches</i>	806.30.2.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sand bag Ditch Checks: Uniform gradation with max 2". Sand bags filled 3/4 full and weigh approx. 55 lbs.	806.30.2.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drop Inlet Checks: <i>Material in accordance with Type 2 checks</i>	806.30.2.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Maintenance: Check condition of check after each rain event Remove sediment when it reach 1/2 height of check	806.30.2.4	
Temp Seeding					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Seed & Acceptance: 100# per acre. 20 live plants per square foot. <i>Nitrogen fertilizer 40# per acre</i>	806.50	
Silt Fence					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Straw Bale Silt Fence: <i>Installed at bottom of embankment slope. Properly anchored</i>	806.70.3.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fabric Fence: Post spaced max. 5 ft. Fabric fastened to upslope side of fence. <i>Bottom of fabric buried min. 6". Fabric splices overlapped min. 2-foot.</i>	806.70.3.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Maintenance: Contractor to maintain integrity of silt fence. <i>Contractor to inspect immediately after rain event and correct deficiencies</i>	806.70.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sediment: <i>Contractor to remove sediment when it reaches 1/2 height of fence</i>	806.70.3.4	

Seed and Mulch Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked	Primary Specs	Measurements/Remarks
Seed & Mulch, Trees, Sodding					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lime & Fertilizer: . <i>Certification of complaine needed.</i>	801.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lime & Fertilizer Material: . Mixture to match contract requirements <i>Apply at rate specified in contract.</i>	801.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lime & Fertilizer Construction: Till soil a minimum of 2 inches deep <i>Apply per rates in contract and mix with soil a min. 2" depth</i>	801.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mulch: Certificate of compliance needed <i>Apply at a min of 2.5 tons per acre, apply within 24 hours of seeding</i>	802.2.3, 802.3.1,	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mulch Overspray: <i>Apply at a min of 750 pounds per acre</i>	802.3.2.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sodding: Certificate of compliance needed <i>Apply at location called out in plans</i>	803.2.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sod Const. Requirements: Sodbed prepared per section 801 <i>Tight joints. Firm but uncompacted bed. 3:! Slopes and greater need pegs</i>	803.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Topsoil: Source approved by MoDOT <i>Material free of objectionable material</i>	804.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Seeding Mixture: Certificate of compliance needed <i>Mixture per contract requirements</i>	805.20	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Seed Application: Applied per rate specified in contract. <i>Seeded areas prepared per 801</i>	805.3.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Seed Acceptance: Min 20 living plants per sf <i>2 random counts per acre</i>	805.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Planting Material: Certificate of Compliance needed <i>Certified free of insects and disease</i>	808.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plant Material: <i>Type, size, caliber, canopy, etc. per plans</i>	808.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Construction requirements:: <i>Planting in fall and/or spring phase per contract</i>	808.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Care & replacement: Contractor responsible to maintain until acceptance <i>Plants not in healthy condition at time of final plant inspection will be replaced</i>	808.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Final Plant Inspection: Occurs as soon as practical after August 15 <i>Unhealthy plants will be replaced by contractor in fall planting season</i>	808.4.2	

Bridge Deck Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Specs	Measurements/Remarks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Previous Work: Released and accepted for Deck Rebar installation. <i>All elements supporting deck have been inspected and released</i>	Hold Point	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials; Accept for use by inspection and/or documentation <i>Rebar, expansion joints, embeds, curing compound, mix design, joint material</i>	PAL, 1036, 1055, 1073, Design Drawings	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form Work; True to lines/grades, sound materials, mortar-tight, rustification <i>Adequately braced, smooth for exposed surfaces, bevel strip where required. Formwork to correct dimensions. Precast panels (if used) placed per plans</i>	703.3.2, 703.3.2.1, Design Drawings	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Formwork Condition: Per Design and clean, coated, heated if necessary <i>Correct block-out locations, keys, waterstop, joint materials, dowels,.</i>	Design Drawings, 1057, 703.3.2.7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Steel Reinforcement: Epoxy coated. Correct grades & sizes, shapes <i>Correct spacing, clearances, Bar Epoxy repairs per Manufacturer (not spray)</i>	Design Drawings, 1036.3, 1036.5,	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Steel Reinforcement: Tying, Supports, Splicing, and associated materials <i>Approved wire and bar support materials, 100% tie, correct splice lengths</i>	1036.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Embeds: Mechanical, electrical, drainage (1/8"-1/2" -FG) <i>Account for & approve drains, conduits, sleeves, hangers, special items Protect embeds from damage (Tape shut drains, conduits, etc.)</i>	Design Drawings	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Placement Day: Released and accepted for Concrete placement. <i>Concrete placement has been scheduled for dry weather 45 F to 85 F.</i>	HOLD POINT 703.3.9, 703.3.10	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Equipment: Appropriate types, condition, and adjustments, Vibrators 4500 rpm <i>Conducted dry run and check haunches, thickness, Mark/cut fill face headers</i>	703.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Delivery: Truck, mixer drums, meters will be in good condition <i>Dispatched directly to site with Rev Meters reset to Zero & Full water tanks,</i>	Best Practice, Supplier Dept, 501.8.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete: B-2 mix delivered, correct condition, Max temp 85F <i>W/C max per mix design, slump, Air Content ≥ 5%, If <4% reject</i>	Mix Design, 501.5, 501.10.2, B-2 Mod	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Testing : Sampled at point of placement, or adjustment test factor for pump <i>Air%, slump, cylinders set: Min. 1 per 100 yds³, Test first truck and after failure</i>	ITP	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Load Adjustments : Delivered in spec. minimizing handling & adjustments <i>Occasional adjustment while plant adjusts QC to OK: Based on w/c: add water twice max, add Air once max, 30 mixing revs min. Load not to exceed 300 rev</i>	ITP	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plant Adjustments : Based on field test results and observations <i>Did Plant personnel adjust batching accordingly when advised by QC Inspector?</i>	Best Practice, Supplier Dept	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Placement: Will be a continuous operation to prevent cold joints <i>Meet min. rate of pour. During Pour check Thickness and Level (10' straightedge) Wet Burlap drag OK</i>	703.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Finish: True to design grade, camber, cross section. Textured per 502.4 <i>Fogging only, no direct application of finishing water,</i>	502.4.8.2, 502.4.8.3, 703.3.5.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Curing: Use approved Cure compound, min 150 ft ² /gallon just after texturing <i>Cover deck right after cure has dried, Not to exceed 90 minutes after texturing (additional time allowed with Retarder)</i>	703.3.6	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Wet Cure: Presoak burlap prior to applying, Have dependable water source <i>Continue wet cure for 7 days and min 3000 psi concrete strength</i>	703.3.6.3.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale Prevention: Apply Linseed oil after curing compound has dissipated <i>If necessary power wash and dry for 48 hours, Coat deck and bridge walks</i>	703.3.8, 1053	

Drilled Shaft Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Specs	Measurements/Remarks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Submittals: signed and sealed Installation plan to MoDOT prior to construction	701.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shaft: Diameter, length, rock socket length and diameter per plan <i>All elements supporting work have been inspected and released</i>	Plans	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials; Accept for use by inspection and/or documentation <i>Rebar, Roller spacers, Perm Casing, Mech. splices, mix design, CSL tubes</i>	PAL,1036, 1055,1073, Design, 701.4.12.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shaft Alignment; Center of shaft within 3" of design location (horiz) <i>Vertical alignment not to vary more than 1/4" /foot of depth</i>	703.3.2, 703.3.2.1, Design Drawings	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shaft Inspection: TV Camera Inspection of Shaft. Log Excavated material <i>Foundation Inspections. NX Cores for rock socket</i>	701.4.10, 701.4.11	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shaft Condition Pre-rebar : Shaft clean of debris and <3" of standing water <i>>50% of base has <1/2" of sediment (1 1/2" max at any spot) Correct Depth</i>	701.4.10.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Steel Reinforcement: Epoxy where required, Correct types grades & sizes <i>Correct spacing, clearances, spacers, Bar Epoxy repairs per Manufacturer</i>	Design Drawings, 1036.3, 701.4.12.1,	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Steel Reinforcement: Tying, Supports, Splicing, and associated materials <i>Approved wire and bar support materials, correct splice lengths and % tie, No splice zones</i>	701.4.12.1, 1036.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rebar Dowels: Shaft dowels protruding out of shaft per plan <i>Column dowels installed to proper depth within shaft</i>	Design Drawings	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rebar Position: Top of cage within 6" above & 3" below plan position <i>Side clearances per shaft diameter (& perm. casing), 3" min.clear at base</i>	Design Drawings	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Placement Day: Released and accepted for Concrete placement. <i>CSL tubes filled with water prior to pour, protruding +3' above concrete line</i>	701.4.17.2.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Equipment: Appropriate types, condition, and adjustments, Vibrators OK <i>Free fall <80' for dry shaft. Tremie placement & Procedures if wet shaft.</i>	703.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Delivery: Truck, mixer drums, meters will be in good condition <i>Dispatched directly to site with Rev Meters reset to Zero & Full water tanks,</i>	Best Practice, Supplier Dept, 501.8.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete: Correct Concrete mix (B-2), correct condition, Max temp 85F <i>W/C max and 8" slump max per mix design, Air Content ≥ 5%, If <4% reject</i>	Mix Design, 501.5, 501.10.2, B-2 Mod	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Testing : Sampled at point of placement, or adjustment test factor for pump <i>Air%, slump,cyliders set: Min.1 per 100 yds3, Test first truck and after failure</i>	ITP	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Load Adjustments : Delivered in spec. minimizing handling & adjustments <i>max, add Air once max , 30 mixing revs min. Load not to exceed 300 rev</i>	Best Practice, Supplier Dept, 501.8.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plant Adjustments : Based on field test results and observations <i>Did Plant personnel adjust batching accordingly when advised by QC Inspector?</i>	Best Practice, Supplier Dept	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Placement: Will be a continuous operation within "slump loss" time <i>Falling concrete not to strike side walls, Expel conc.18"min above pour line</i>	701.4.13.1.1&2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Finished Shaft: True to design grade and location. <i>Top of shaft 1" above or 3" below design elevation</i>	701.4.16.e	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Integrity Testing: CSL testing per shaft 2-40 days after concrete placement <i>1 NX Core drilled per completed shaft to 1 foot below rock socket.</i>	701.17	

Piling Checklist

Inspector _____
 Date _____
 Route _____

Yes	No	NA	Applicable Elements Per Line Checked	Primary Specs	Measurements/Remarks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Material: Material certifications received <i>Certs, mill test reports, heat numbers</i>	702.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structural Steel Pile: Foundation Key: Size, weight and shaper per plans. <i>Piles straight with camber and sweep within tolerance. Length per plans.</i>	702.2.2, 702.4.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Equipment: Proper driving equipment. Paperwork submitted to MoDOT. <i>Required hammer energy per table 702.3.5</i>	702.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pile Layout: Correct number of pile per footing. Pile clips or tip reinforcement per plans. <i>Check correct pile spacing and orientation</i>	Plans	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Preboring - Per plan requirements. Space around pile filled with sand. <i>Fills over 5 feet in place < 5 years. 1 density test per lift per 500 foot of structure</i>	702.4.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Driving: Final position no more than 6" from plan location. < 1/4" per foot from vertical <i>Batter per plan requirements. No damage to pile.</i>	702.4.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Driving: Achieve proper bearing per formula in table 702.4.10 <i>Bearing information recorded. Driven to min. tip elevation in plans or no less than 10' below bottom of footing</i>	702.4.10	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Splicing: No more than 1 splice per 40' section or 2 for lengths exceeding 40' <i>Splice lengths not less than 8'. Welded by certified welder.</i>	702.4.6	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Protective Coating: Applied to structural steel piles in end bents for a length of 3 foot below bottom of concrete cap	702.4.11	

Concrete Structures Checklist

Inspector _____
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Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Specs	Measurements/Remarks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials; Accept for use by inspection and/or documentation <i>Rebar, expansion joints, embeds, curing compound, joint material</i>	PAL, 1036, 1055, 1073, Design Drawings	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form Work; True to lines/grades, sound materials, mortar-tight, rustification <i>Adequately braced, smooth for exposed surfaces, bevel strip where required</i>	703.3.2, 703.3.2.1, Design Drawings	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Formwork Condition: Per Design, clean, coated, smooth; no dents, bumps <i>Key ways, joints, waterstop, joint materials, dowels,.. Forms are correct dimension, elevation</i>	Design Drawings, 1057, 703.3.2.7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Steel Reinforcement: Epoxy coated where required, Correct grades & sizes <i>repairs per Manufacturer</i>	Design Drawings, 1036.3, 1036.5,	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Steel Reinforcement: Tying, Supports, Splicing, and associated materials <i>Approved wire and bar support materials, correct splice lengths and % tie</i>	1036.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Embeds: Mechanical, electrical, drainage (1/8"-1/2" -FG) <i>Account for & approve drains, conduits, sleeves, hangers, special items</i> <i>Protect embeds from damage (Tape shut drains, conduits, anchors etc.)</i>	Design Drawings	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Placement Day: Released and accepted for Concrete placement. <i>Concrete placement has been scheduled for dry weather 35 F and rising or Cold Weather plan implemented if applicable., Subgrade/forms not frozen</i>	703.3.9, 703.3.10	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Equipment: Appropriate types, condition, and adjustments, Vibrators 4500 rpm <i>Plastic sheeting on hand if rain is a concern</i>	703.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Delivery: Truck, mixer drums, meters will be in good condition <i>Dispatched directly to site with Rev Meters reset to Zero & Full water tanks,</i>	Best Practice, Supplier QC Dept, 501.8.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete: Correct Concrete mix delivered, correct condition, temperature <i>W/C max and slump max per mix design, Air Content \geq 5%, If <4% reject</i>	Mix Design, 501.5, 501.10.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Testing : Sampled at point of placement, or adjustment test factor for pump <i>Air%, slump, cylinders set: Min. 1 per 100 yds³, Test first truck and after failure</i>	ITP	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Load Adjustments : Delivered in spec. minimizing handling & adjustments <i>Occasional adjustment while plant adjusts QC to OK: Based on w/c: add water twice max, add Air once max, 30 mixing revs min. Load not to exceed 300 rev</i>	Best Practice, Supplier QC Dept, 501.8.6	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plant Adjustments : Based on field test results and observations <i>Did Plant personnel adjust batching accordingly when advised by QC Inspector?</i>	Best Practice, Supplier QC Dept	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Placement: Will be a continuous operation to prevent cold joints <i>Concrete consolidated properly; Tremie, Bucket, <5' free drop max</i>	703.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Finish: True to design grade, camber, cross section. Textured if required <i>Fogging only, no direct application of finishing water,</i>	502.4.8.2, 502.4.8.3, 703.3.5.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Curing: Use approved Cure compound, min 150 ft ² /gallon just after finish. <i>concern, Install maturity loggers/production</i>	703.3.6	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Wet Cure: Presoak burlap prior to applying, Have dependable water source	703.3.6.3.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scale Prevention: Apply Linseed oil after curing compound has dissipated <i>If necessary power wash and dry for 48 hours</i>	703.3.8, 1053	

Structural Steel Checklist

Inspector _____
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Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Specs	Measurements/Remarks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Materials; Inspection and documentation. Steel, Bolts, Nuts, Bearings, Anchors Bolts <i>MCTRs, sizes & shapes per Shop Drawings, Properly stored and protected from weather Check for damage to shop coatings during entire process.</i>	PAL, 1037, 1045, 1080, 1081	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Assembly Lot Control; Assembly lots are inventoried and stored in marked containers <i>Assemblies are controlled, released, and tracked for installation by the Inspector only</i>	QCP 7.10	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Tensioning Method: Used Calibrated Wrench Method (bridges) <i>Induce bolt tension 5 %- 10% in excess of specified value.</i>	712.7.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Tensioning Method: Used Turn-of-Nut Method (other than bridge) <i>After snug tight per 712.7.2, tighten additional turn per table 712.7.6</i>	712.7.6	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Device Calibrations: Skidmore Device is properly Calibrated/Certified <i>Skidmore device and Inspector's torque wrench yearly, Power wrenches daily</i>	QCP 7.10 , 712.79	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ro-Cap Testing: Per assembly lot# (bolt, nut, & washer) prior to bolt installation. <i>Compare field Ro-Cap values to Manufacturer's values, retest if necessary</i>	712.7.10	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Inspection Torque: Established per lot/per wrench (5 assemblies tested in a Skidmore) <i>If necessary, inspection torque re-established no more than 30 day intervals</i>	712.12	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bearings: Type, dimensions, configuration per plan <i>Neoprene pads bonded to bearing seat with epoxy adhesive per manufacturer</i>	712.5.2, 716	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Erection sequence; per approved erection plan or installation procedures <i>Fit Up Pins: Bolts ration >50% filled with bolt or pins (1/3 bolts 2/3 pins) Contact surfaces clean, no burrs, and coated with oil, Match-marked connections OK Properly supported to maintain camber, Hole reaming per Engineer only</i>	Approved Erection Plan, 712.5, 712.5.1, Shop Drawings	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ground Splices; Prior to erection per Erection Plan <i>100% complete and tightened per section 712 unless noted in Erection Plan</i>	Erection Plan, 712	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crane Release; Diaphragms or cross-frames <i>Holes filled 100% with spec bolts and fully tightened per 712 unless noted by Erection Plans.</i>	Erection Plan, 712	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bolted Parts; Nuts are lubricated with visible lubricant, Assemblies are clean <i>Snug tighten from most rigid part to the free edge (end threads approx. even with nut)</i>	712.7.1, 712.7.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bolt Tensioning: Tension only after assemblies have been snug tightened. <i>Tension or "rattle-up" with calibrated power wrenches.</i>	712.7.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Torque Verification : Apply job inspecting torque with QC inspection torque wrench <i>Minimum random 10% of bolts/connection, but no less than 2 bolts/connection</i>	712.7.12, ITP	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welding: Sole plates welded to girder or stringer per plan <i>If required use steel shims only full size of the plate and bearing device Welding and welder complies with 712.6 entirely</i>	712.6.1, 712.6.2, 712.6.3, 712.6.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Anchor Bolts: Type, dimensions, configuration installed per plan <i>Set in wells or drilled holes and grouted in per 1066</i>	712.5.3, 712.5.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Field Coating: USE Painting Checklist <i>Coatings per plans and specifications</i>	12 1081	

Structural Steel Painting Checklist

Inspector _____
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 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Specs	Measurements/Remarks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials; Accept for by inspection and/or documentation <i>Verify approved documentation , labeling ,and packaging. Paints are stored and handle appropriately</i>	1045 Tables, 1081, QC	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial Condition: Correct damaged shop primer and field connections <i>Spot check primer mill thickness and recoat as necessary</i> <i>Adequate coating access: Remove obstructions, temp. materials, equipment</i>	1081.3.10,	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Previous Work Acceptance: Structure released for subcontractor painting <i>All structural steel is in the final position and condition prior to application</i>		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Surface Preparation: Surface sufficiently cleaned for coating application <i>All dirt, oil, grease, rust removed for proper adhesion</i> <i>Use appropriate surface cleaning procedure per SSPC</i>	SSPC-SP1, SP2, SP3, Manufacturer's Recommendations	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Equipment: Appropriate types, condition, and adjustments <i>Verified proper tips and pressure if using spray equipment, rollers, brushes</i>	SSPC-PA1, Manufacturer's Recommendations	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Environmental: Weather & moisture conditions are suitable for application <i>Document ambient conditions at start-up and every two hours thereafter</i> <i>Application Conditions per applicable product data sheet</i> <i>Substrate Temperature above the dew point (per MoDOT TM 38)</i> <i>Dry time per the applicable product table and ambient temperature</i>	1081.3.6, Manufacturer's Recommendations	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Spot Prime: Damaged/unprimed steel coated with an epoxy mastic primer <i>Batch numbers, amount used, and method of application documented</i> <i>Results of tests documented range 3.0 - 6.0 mils</i>	1081, SSPC-PA1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dry Film Thickness: Verified dry film thickness conforms to specification <i>Results of Spot Prime tests documented range 3.0 - 6.0 mils</i>	1081, SSPC-PA2, Manufacturer's Recommendations	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Intermediate Coat: Structural Steel coated with intermediate coat <i>Batch numbers, amount used, and method of application documented</i>	Table 1081.2 , SSPC- PA1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dry Film Thickness: Verified dry film thickness conforms to specification <i>Results of tests documented range 3.0 - 5.0 mils</i>	1081, SSPC-PA2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Finish Coat: Structural Steel surface clean and dry, Max humidity 80% <i>Batch numbers, amount used, and method of application documented</i>	1081, SSPC-PA1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dry Film Thickness: Verified dry film thickness conforms to specification <i>Results of tests documented range 2.0 - 4.0 mils</i>	1081, SSPC-PA2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Expansion Devices: Steel located within 1.5 times the girder depth, but not less than 10 feet from the center line of joint finish coated <i>Finish coat masked to provide crisp, straight lines</i>	1081.3.3.1.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Identification: Structure information stenciled on end of exterior girders <i>Bridge number, system used, month and year included</i>	1081.3.11	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Uniform Coating: No Deficient areas requiring spot coating <i>Dry Film Thickness test performed and satisfactory.</i>		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Final Acceptance: Coatings applied with an uniform, aesthetically pleasing appearance in conformance with project requirements		

MSE Wall checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements	Primary Specs	Measurements/Remarks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials accepted for use. Panels, Straps, Fabric, Hardware <i>Product Receiving Inspections or onsite materials sampled.</i>	1052, 1011, 1013	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Excavated per plan, line and grade. <i>Survey Control present. Backcut face accomodates strap length</i>	Design Drawings	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Foundation Condition: Overexcavation, keys, stone columns per plans. <i>Nuisance water controlled. Approved Foundation by QC Insp./Geotech</i>	Per plans	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Foundation Condition: Stabilized or Proof Rolled or Embankment Testing <i>Unfrozen ground. Approved by QC Insp.</i>	206.3.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Leveling Pad. Per plans and specs, elevations per shops <i>With a mininum width of 12" and depth of 6".</i>	720.4.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Leveling Pad Concrete: The concrete will be class B or B-1 and cured 12 hours min <i>Approved Mix design, Air /slump/compression testing once per wall min.</i>	720.4.5, QC Testing best practice	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drainage System : Drainage Rock and fabric wrap per plans and specs. <i>Gradation Tests (1/5000 yd3, 1 min/wall) , acceptable</i>	1010 and Design Drawings	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drainage System : Trench, fabric and perf pipe installed per plans & specs. <i>Trench flow line consistant, Two socked pipes 12" min Drain agg layer</i>	Witness Point Design Drawings	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Panels: Initial adequate batter. Periodically check plumbness and alignment. <i>Gap tolerances: vertical = ± 3/4", Horiz.= ± 1/16" per foot, Check Panel ID#s. Geotextile placed at joints. Matches shop drawings.</i>	720.4.8.1 HOLD POINT per >5 panel tier	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reinforcing Straps: Length and installation per plan/specs <i>Strap/Strip elevation tolerance ± 1 inch</i>	Shop Drawings, 720.4.8.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structure Backfill: Approved Select Granular Backfill <i>Gradation (1/5000 yd3, 1 min/wall), Aggregate Quality/Chemical Tests (1/year)</i>	720, 1010	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structure Backfill: 8" Loose Lift thickness , <i>Use light weight tamper , 3 passes within 3 feet of wall,</i>	203.4.16, 720.4.7.3,	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Backfill Placement : Start at rear/middle and proceed to face over straps <i>No equipment and strap/strip direct contact</i>	720.4.7.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Compaction Requirements: Method Compaction, 4 heavy roller passes min. <i>Material is Rocky Fill if >30% retained on the 3/4" sieve.</i>	720.4.7.1, 203.5.58	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test Requirements: Specified Density, Nuclear density. <i>Min 95% Standard Proctor. (if not Rocky Fill)</i>	720.4.7.1,	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Coping. Per plans and specs, with a maximum distance between construction jointsof 30ft.	Design Drawings, 720.4.2.2	

Storm Pipe & Structure Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements (remarks below)	Primary Specs	Measurements/Remarks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials: Accepted for use by inspection and/or documentation; Pipes, Inlets, Grates, Bedding, and Backfill. Check for undamaged or unmodified.	Per Plan, 1026, 1033, 1055, 1066	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Trench Line excavated per plan, line and grade. Stabilized or free of water <i>Survey Control present. Nuisance water controlled. Unfrozen ground. Remove soft, spongy soil</i>	Per Plan, 726.3.3.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Materials Tested: All material sampling & Lab testing performed <i>i.e. Gradation Tests, Aggregate Quality Tests, Soil Properties, Proctor, Visual Acceptance</i>	ITP, Per Plan, 203.5.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bedding Type & Condition: Correct type and thickness per plan/pipe size <i>3" minimum, 6" over exposed rock. Pipe will be properly supported by bedding.</i>	726.3.3.2, Standard Plan 726.30F	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install Pipe: Line, Size & Grade per plan. Bells upstream and bell holes provided <i>Connections at joints are fully engaged. Check with level;</i>	726.3.1, Per Plan	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Connections: Approved connection methods <i>Connections sealed with mortar, joint compound, or rubber gasket, lift holes plugged</i>	726.3.1, 726.3.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Install Structures: Line & Grade per plan, upstream and downstream holes provided <i>Connections are fully engaged/inserted per 720. Rodent screens installed, ~5 ft³ of porous backfill at weepholes. Correct dimension, correct station/offset. Grates and brg. Plates installed per plan type, dimension, recessed below top of pavement, correct orientation.</i>	731.3.20, 206.4.10, Per plans	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe Zone Backfill Material: Compacted 1' above the pipe zone <i>Material in haunches consolidated, verify rock is appropriate size</i>	726.3.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Inverts and Collars: B or B-1 concrete, finished according to standard plan <i>Verify slope between inflow and outflow pipes, no gapping between pipe and structure. Pipe edges sloped with concrete to prevent build up of material, pick holes plugged</i>	731.2.2, 501, MODOT Standard 731.10	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Flared End Sections: Toe walls poured, rock blanket placed if plan indicates <i>Consult plans on size and shape or blanket, blanket is based on visual acceptance</i>	Per Plan, 732, 611.30	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lift Thickness- Above Pipe Zone Fill: 8" loose max. (12" for beyond traffic lane) <i>Occasional 8-12" stone ok. Up to 24" if properly spaced for compaction</i>	203.4.10, 203.4.16.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lift Thickness-Above Pipe Zone Rocky Fill: Equal to average size of larger rock < 24" <i>Rock will be dozed into place, not just dumped</i>	203.4.17	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Density-Common Fill: Roadway embankment, subcut backfill, roadbed cuts. <i>90% RC Standard Proctor, 1 test per run or 2-3 feet vertical</i>	203.5.1, ITP	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Density-Rocky Fill: Untestable Roadway embankment (Rock/rubble/soil mixes). <i>Roller Method; Cannot test if >20% is retained on the 3/4" sieve (visual).</i>	203.5.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Compaction Testing: completed for area reported, if required <i>Trench Embankment: Placed above pipe zone per adjacent material</i>	726.3.3.2, 726.3.5.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Final Install Inspection: Inspection after install and backfill <i>Check for deflection, subsidence, separation, damage and cleanliness</i>	726.4, Best Practice	

Structure Excavation Checklist

Inspector _____
 Date _____
 Route _____

Yes	No	NA	Applicable Elements Per Line Checked	Primary Specs	Measurements/Remarks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Depth of Excavation: Excavated to plan depth, dimension & shape <i>Remove unsuitable material and free of loose material, also 2.06.3.2, 206.4.2</i>	206.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Foundation Key: Footing keyed 6" into rock and 18" into soft rock or shale <i>All cavities and crevices filled in accordance with 703.3.39</i>	206.4.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Footing Construction: Foundation soils dry at concrete placement. Pump excess. <i>See 206.4.6 Footing Drainage,</i>	206.4.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structure Fill: No large or frozen lumps, deleterious mat'l. Place in 6 inch lifts compacted <i>Backfill once concrete reaches strength, Deck is inplace before fill is placed</i>	206.4.10	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structure Fill: Placed per plan and consolidated in 12 inch lifts <i>1 density test per lift per 500 foot of structure</i>	206.4.11	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Removal for Bridge Structure <i>Entire (Sub)structure removed to 2 feet below finish grade</i>	216.10.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Partial Removal of Culvert/Substructure: Per 216.60.2.1 <i>Existing reinforcing steel prepared per 216.60.2.2.</i>	216.70	

Chainlink and Pedestrian Fence

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Reqs.	Measurements/Remarks
Initial					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials: Accept for use by inspection and/or documentation <i>All materials shall be in accordance with section 1043</i>	1043	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sub grade: Grade shall be a uniform surface <i>uniform ground surface so the bottom of the fabric is no more than 3" above the finished ground line.</i>	607.10.3.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Chain Link Fence: Proper coating <i>The chain link fence shall be installed as directed by the plan. Ensure proper post length, fabric, post diameter, fence height & type, post spacing.</i>	607.10.2.2, Std. Dwg. 607	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post Installation: Posts shall be plumb, true to line and grade <i>Terminal post defined as end, gate, corner, and pull post shall be set in concrete. Concrete for footing shall be Class B in accordance with Sec 501</i>	607.10.3.1 and 501	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post Installation: Ensure proper embedment length. <i>Line posts are driven or set in concrete. Damaged posts replaced.</i>	607.10.3.1 and 501, Std. Dwg. 607	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fabric Installation: Shall not be attached to pots until the concrete footings have cured for five days. <i>Fabric shall be securely attached to end, corner, gate and pull posts in accordance with manufacturer's recommendations. The fabric shall be attached to the tension wire with hog rings, spaced as shown on the plans.</i>	607.10.3.2, Std. Dwg. 607	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fabric Installation: Shall be attached to line post <i>Attached to line posts with wire ties or bands spaced in accordance with manufacturer's recommendations. All fabric shall be taunt before attaching to line posts.</i>	607.10.3.2, Std. Dwg. 607	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Wall Mounted Chain link Fence: Installed at locations shown on plans <i>U-bolt installation, grout beneath base plate.</i>	Design Drawings Bridge Plans	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pedestrian Fence on Structures: Fence on bridge deck <i>Carpenters install anchor bolts prior to pouring the bridge deck.</i>	Design Drawings Bridge Plans	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pedestrian Fence on Structures: Fence on barrier wall and bridge deck <i>Install sections of fence between posts and group around bottom of fence post and bottom surface.</i>	Design Drawings Bridge Plans	

Underdrain Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked	Primary Specs	Measurements/Remarks
QC Inspections					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Materials: Proper material inspection, certifications, documentation <i>Pipes are plastic, perforated except outlet pipes. Material types per plans.</i>	605.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Longitudinal Installation: 4" pipe laid with perforations down. <i>pipe laid at minimum 1% grade towards outlet. Dead ends capped or plugged. Placed in correct location based on shoulder and pavement type.</i>	605.3, Std. Dwg. 605.10G.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Outlet Installations: 4" non-perforated pipe. Placed 6" above ditch bottom <i>2% gradient. Rodent screen installed. Outlets spaced between 250' and 500' per standard drawing and at low points. Clean outs configured per Std. Dwg 605.10G.</i>	605.3, Std. Dwg. 605.10G	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Trench Installation: 12"x12" trench. Trench installed after Agg. Base placed. <i>Trench backfilled with porous material - Agg. Grade 3, 4 or 5.</i>	605.10.2, Std. Dwg. 604.10G	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Trench Installation: Trench completely wrapped with geotextile material <i>Trench backfill compacted with three passes with vibrating pad or drum compactor</i>	605.10.2, Std. Dwg. 604.10G	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Splash pads: Constructed at each outlet per std. Dwg. 605.10G <i>Class B, B-1 per Sec. 501.</i>	Std. Dwg 605.10G	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Video Inspection: Conducted prior to paving. <i>10% of pipe videoed and sent to Engineer</i>	60510.2.5	

Guardrail and End Terminal Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Reqs.	Measurements/Remarks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials: Accept for use by inspection and/or documentation <i>Guardrail, End Terminal, Crash Cushions and Delineator Retro-reflective sheeting</i>	1040 and 1042	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shoulders and Slopes: In accordance with plans and standards <i>Shoulders and slopes shall be placed prior to placing guardrail. 2' shoulder behind guardrail post or longer post required.</i>	606.3.1.2, Design Drawings, Std. Dwg.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Posts for Guardrail: Post may be wood or steel <i>The same material shall be used for all new installations within a single project, except for end treatments. Check for correct size, length and installation spacing per standard plans</i>	606.3.3.1, Std. Dwg.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post Installation: By drilling <i>Posts installed by drilling shall have sufficiently sized holes to permit thorough compaction of backfill material around the posts. The backfill material shall be compacted in layers not exceeding 12"</i>	606.3.3.2.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post Installation: By driving <i>Any mushrooming on the top of the post shall be removed. Damaged zinc coating on galvanized posts shall be field repaired in accordance with Section 1081.</i>	606.3.3.2.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Beams: Beams shall be spliced by lapping in the direction of traffic. <i>The use of 25' sections of beam rails and channels, if required will be permitted for bridge anchor sections and any place true line and grade can be maintained</i>	606.10.2.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Beams: Beam type per plans. 1'-9" from pavement to center of beam. <i>Ensure proper clear zone for obstructions behind rail for each rail type per Std. Dwg.</i>	606.10.2.2, Std. Dwg., Plans	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	End Anchors: Installed on ends of guardrail <i>Guardrail runs where crashworthy end terminals are not required</i>	606.10.2.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Delinators: Placed on all guardrail locate 2' or less from edge of shoulder <i>Placed at 50' intervals</i>	606.10.2.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Delineator Colors: Shall correspond with pavement marking <i>Shall be sheeted on one side, facing oncoming traffic. If dividing traffic then sheeting on both sides. Sheeting on reverse side for ramps.</i>	606.10.2.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crashworthy End Terminals: Fabrication and installation shop drawings <i>Type A or Type C crashworthy end terminal In accordance with the manufacturer's approved shop drawings, recommendations and as shown on the plans.</i>	606.30.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type A End Terminal: Shall be a minimum of 50' long.	606.30.2.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Crashworthy End Terminals: Located 12' or less from edge of pavement Shall be furnished with a modified Type 3 object marker. The marker size, shape, method of attachment and placement shall be approved prior to installation	606.30.3.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Curb: 4" curb required at guardrail location. See Std. Dwg. 606.00	Std. Dwg.	

Minor Concrete Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Reqs.	Measurements/Remarks
Pre-Pour Inspections					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Subgrade: Released and accepted for intended use <i>If required; density testing and sampling done</i>	QC Hold Point, 608, 209	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials; Accept for use by inspection and/or documentation <i>Rebar, Wire Fabric, Expansion or joint material, Curing compound, mix design</i>	PAL, 1036, 1055, 1073, Std. Drawings	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form Work; True to lines/grades, sound materials, mortar-tight, rustification <i>Adequately braced, smooth for exposed surfaces, bevel strip where required</i>	703.3.2, 703.3.2.1, Std. Drawings	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Formwork Condition: Per Design, clean, coated, smooth; no dents or bumps <i>If any; correct block-out locations, keys, waterstop, joint materials, dowels,.</i>	Std. Drawings, 1057, 703.3.2.7	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Steel Reinforcement: Epoxy coated where required, Correct grades & sizes <i>Correct #, spacing, shape, length, clearances, spacers, Bar Epoxy repairs per Manufacturer</i>	Standard Drawings, 1036.3, 1036.5,	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Steel Reinforcement: Tying, Supports, Splicing, and associated materials <i>Approved wire and bar support materials, correct splice lengths and % tie</i>	1036.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ADA Requirements: Vertical level difference 1/4" OK, 1/2" requires bevel <i>ramp, ramp slopes, truncated dome placement, ramp orientation. See ADA Checklist</i> <i>Running slope 1:20 max, Cross slope 1:50 max. Use ADA Checklist</i>	American Disability Act, ADA Checklist	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Median, Sidewalks, Curb Ramps, Paved Approaches: <i>Check depth, width, height and dimension per plans and standards. Medians tied to pavement. Check joint layout</i>	Plans & Std. Dwg.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Curb, Curb & Gutter: Check for correct curb, curb & gutter type <i>Check dimensioning, slope, curb height, shape, joint layout</i>	Plans & Std. Dwg.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Barrier: Ensure correct shape/height. Joints to match pavement. <i>Constructed per standard drawings .617.10 Ensure joints sawed early and deep enough to prevent random cracking</i>	Plans & Std. Dwg.	
Pour/Post Pour Inspections					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Placement Day: Released and accepted for Concrete placement. <i>Concrete placement has been scheduled for dry weather 35 F and rising or <u>Cold Weather plan implemented if applicable.</u></i>	QC Hold Point 502.4.1, 502.4.2, 703	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mix: Curb/walk/median Class B <6", Class B or PCCP for +6" thickness <i>For Barrier: Class B or B-1; 4000 psi at 28 days</i>	608.2.1, 608.2.2, 617.10.3.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Delivery: Correct mix delivered, correct condition, <i>W/C max and slump max per mix design, Air Content ≥ 5%, If <4% reject</i>	Mix Design, 501.5, 501.10.2,	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Testing : Sampled at point of placement, or adjustment test factor for pump <i>Air%, slump, cylinders set: Min. 1 per 100 yds³, Test first truck and after failure</i>	ITP	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Load Adjustments : Delivered in spec. minimizing handling & adjustments <i>Occasional adjustment while plant adjusts QC to OK: Based on w/c: add water twice max, add Air once max, 30 mixing revs min. Load not to exceed 300 rev</i>	Best Practice, Supplier QC Dept	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plant Adjustments : Based on field test results and observations <i>Did Plant personnel adjust batching when advised by QC Inspector?</i>	Best Practice, Supplier QC Dept	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Placement: Will be a continuous operation to prevent cold joints <i>Concrete consolidated properly; compliant vibrators or proper tamping</i>	703.3.3, 609.10.3.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Joint Placement: Per Std. Plan or as directed by Engineer. Joint material <i>Median strips attached to pavement with tie bars per plan.</i>	608.3.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Median Joints: Transverse Per Plan or as directed by Engineer <i>Longitudinal: Preformed material or 55lb roofing paper. Sawed joints sealed</i>	608.3.5.1, Sealed per 502.5.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Curb/Gutter: Integral curb variance within 1/4" per 10' straightedge <i>All edges rounded with 1/4" edging tool, correct radius top/bottom of face</i>	609.10.3.4, 609.20.3.5, 609.20.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Finish: True to design grade, cross section. Textured ASAP if required <i>Fogging only, no direct application of finishing water, fill in cavities</i>	502.4.8.2, 502.4.8.3, 703.3.5.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Curing: Use approved Cure compound, White for barrier and Clear for other <i>150 ft² per gallon ASAP. Application visually verified per pure white coating</i>	608.3.1, 703.3.6, 502	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Barrier Wall: <i>Delineators installed at either 25' OR 50' spacing.</i>	617.30.3.1	

Rock Lining & Rock Blanket Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Reqs.	Measurements/Remarks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials; Accept for use by inspection and/or documentation <i>Material gradation and geotextile fabric</i>	1011	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Construction Requirements: Placed on uniform subgrade. <i>Constructed to approximate shape and thickness per plan</i>	Plans & Std. Dwg.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rock Ditch Liner: Rock Predominantly one size stone. <i>Type matches plans. Type 1, 2, 3, & 4. Gradation matches specs.</i>	609.60.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rock Ditch Liner Bedding: Bedding required for Type 3 & 4 rock liner. Crushed stone or gravel <i>Geotextile for all lining type - installed per standard drawings</i>	Standard Drawings, 609.60.2.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rock Blanket: Type 1 >40% 1 ft3 pieces, Type 2 >60% 1 ft3 pieces <i>Durable stone or broken concrete with less than 10% soil/sand/shale</i>	611.30.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rock Blanket Construction: Toe of slope trench per plans (or 2' deep) <i>Rock placed per plan thickness. Place falt to minimize voids.</i>	611.30.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Conc. Slope Prot.: Placement, finish and cure per 703 except clear cure <i>Class B per 501. Strike off to required thickness 4". Joints min. 4' space with joint filler. Toe wall, limits, shape, slope per standard drawings.</i>	611.60.2, 611.60.3.1, 611.60.3.2, Std. Dwg.611.60Q	

Striping and Pavement Marking Tape Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Reqs.	Measurements/Remarks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials: Accept for use by inspection and/or documentation <i>Preformed Pavement Marking Tape, Drop-On Glass Bead, Acrylic Copolymer Fast Dry Pavement Marking Paint</i>	1048	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Surface Preparation: The surface shall be clean and dry, cure removed <i>Paint shall not be applied in damp conditions or if there is any evidence of surface moisture on the pavement. Temp stripe remove 95%. Prep pavement 1" wider than final marking width.</i>	620.2.1.8, 620.40.3.1, 620.40.3.2, 620.50.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weather Limitations: Type 1 & 2 Taper per manufacturers recommendation <i>Surface and air >50F for waterborne and >35F for acrylic.</i>	620.10.3.1, 620.40.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	General Application: Longitudinal marking is not on longitudinal joints <i>All marking placed per plan, correct widths and types. All Marking shall be uniform in appearance</i>	620.2.1.2, 620.2.1.3, Plans	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Paint Application: Paint shall be machine applied using spray guns <i>Spray guns shall be used to apply paint at the required thickness and width. If there is any evidence of gun clogging, splattering or uneven paint distribution, painting operations shall cease until equipment is restored to proper operation.</i>	620.40.3.4.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Paint Application: Min wet thickness 20 mils for Highbuild & 15 mils for Acrylic. <i>The wet film thickness shall be tested with a paint thickness gauge.</i>	620.40.3.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Paint Application: Paint may be heated. <i>Waterborne max 150F, Acrylic max. 125F</i>	620.40.3.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Paint Application: Finished markings <i>Finished markings shall have well-defined edges, and lateral deviation shall not exceed one inch in 100 feet.</i>	620.40.3.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drop-On Glass Bead Application: Applied mechanically behind paint gun. <i>Shall be applied to the wet paint directly behind the paint spray guns. Glass beads shall be applied at a rate required to meet the provision of Sec 620.2.4.1</i>	620.40.3.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Quality of Work: Shall be inspected continually for overall quality. <i>The glass beads shall appear uniform on the entire marking surface. If marking paint does not provide initial nighttime retro reflectivity or if the marking does not have the required minimum thickness or required color, the contractor shall re-apply the marking paint to the require thickness.</i>	620.40.3.6	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Preformed Pavement Marking Tape: Installed to recommendations <i>A copy of the manufacture's installation specifications shall be provided.</i>	620.10.3.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Preformed Pavement Marking Tape: Type 2 <i>Type 2 preformed pavement marking tape shall be installed in a grove in accordance with manufacturer's recommendations.</i>	620.10.3.1.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Preformed Pavement Marking Tape: Arrows, words and symbol's <i>Shall be white and may be formed form one piece or multiple pieces of Type 2 preformed pavement marking tape material specifacally designed for intersection marking.</i>	620.10.3.1.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Preformed Pavement Marking Tape and High Build Acrylic Paint: Acceptance <i>Retro reflectivity inspection will be performed using a 30-meter geometry retroreflectometer at 0.1 mile intervals. Retroreflectivity acceptance requirements are: Preformed Marking Tape- Per Manufacturer's Specification, High Build Acrylic Paint- White 300 and Yellow 225.</i>	620.2.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Preformed Pavement Marking Tape and High Build Acrylic Paint: Acceptance <i>Lateral deviation <1"/100', Length deviation <3"/10', width deviations per table 620.2.4.2(b)</i>	620.2.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Temp Striping: Min. initial reflectivity of 150 mcd/m2/lux and maintained at 100	620.2.5.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rumble Strip: Installed per Std. Dwg. 626.00 <i>Per plan locations, width, depth. Deviation < 1"/100ft.</i>	Std. Dwg. 626.00	

PCCP Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Specs	Measurements/Remarks
Concrete Paving					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Approved Subgrade: Subgrade released from previous inspections <i>Density Tests if required and grade.</i>	201.1, .2, & .3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials: Accept for use by inspection or documentation <i>Material in accordance with the Pre-Acceptance List</i>	106.12	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Steel Reinforcement: Dowell Baskets and Tie Bars <i>Specific locations as shown on the plans. Mainline paving 15' Joints with tie bars on 30" centers, dowel baskets need to have at least 6 pins holding the basket in place. Dowel baskets placed perpendicular to centerline. Ensure dowels and ties bars are correct size, height, length and secured or epoxied correctly</i>	502.4.7, 502.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rock & Agg & Perm. Base: Rock base released from previous inspections <i>Rock base shall be placed at the thickness as shown on the plans.</i>	303	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plans/Standards: All work constructed per plans and standard specs. <i>Correct width, thickness, tongue and groove present and at right location</i>	Plans/Standards	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Equipment: Appropriate types, condition, and adjustments, Vibrators OK <i>Check vibrators, a minimum frequency of 4500 impulses per minute.</i>	502.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weather: Not placed on frozen subgrade. Protect from freezing until 3500 psi. <i>Protect from rain damage</i>	502.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Delivery: Truck, mixer drums, meters will be in good condition <i>Trucks beds free of any foreign substance. Concrete tickets need to indicate the mix, batch time, name of concrete plant, and quantity in cubic yards.</i>	501.8.4, 501.8.11	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete: Correct Concrete mix delivered, correct condition, Max temp 85F <i>W/C max per mix design, slump ≤ 3.5", Air Content ≥ 5%, If <4% reject</i>	Mix Design, 501.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Testing : Sampled at point of placement and behind paver <i>Air%, slump, cylinders set: Min. 1 per 500 yds³, Test first truck and after failure. Test required behind the paver to determine a air loss</i>	ITP	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Placement: Will be a continuous operation to prevent cold joints <i>Concrete deposited over the entire subgrade, during Pour check Thickness and cross slope Wet Burlap drag OK</i>	502.4.6	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Action Limits: Slump + 1", Air 4.5 to 5.0%, Absorption + 0.3 to 0.6% <i>Adjustment required</i>	502.11.3.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Corrective Action: 1 test outside range for deleterious and gradation <i>Air, slump, absorption - 1 test outside action limit or 2 consecutive tests in action limit</i>	502.11.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unacceptable material: Thickness > 10% deficient. Strength < 3500 psi <i>Air Content <4%</i>	502.13	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Final Strike Off, Consolidation and Finishing: <i>Machine finishing is required for all concrete except for hand finishing. No apparent slumping of the concrete within 6" of the pavement. No finish water applied to surface.</i>	502.4.8	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Surface Texture: In accordance with ASTM E 965 <i>If a wire comb or diamond grinding is used ASTM E 965 is waived.</i>	502.4.8.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Curing: Use approved Cure compound, min 200 ft ² /gallon just after texturing <i>Curing within 30 minutes from the time of concrete placement.</i>	502.6	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Construction Joints: At the end of the day or when work is stopped for more than 30 minutes. <i>Construction Joints need to be perpendicular to the top surface and the centerline of the pavement.</i>	502.5.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Formed L Joint: Pavement > 8" thick. Blade 1/3 slab thickness <i>Coring required per spec. Avg. strength ration 1/3 or less</i>	502.5.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sawing Joints: Occur as soon as possible before cracking. <i>The saw cut should be equal to the pavement thickness divided by three and proper width</i>	502.5.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Opening to Traffic: Until the concrete has attained a minimum compressive <i>For light traffic compressive strength shall be at least 3000 PSI and all types of traffic when concrete has reached 3500 PSI</i>	502.9	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lot Definition: A lot is anything over 600 Sq Yd's per day. <i>A separate spread sheet will be required for all lots. The spreadsheet will indicate testing and core locations. One core per subplot. Thickness and strength.</i>	502.10.1	

Bridge Approach Slab and Approach Pavement Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Specs	Measurements/Remarks
Bridge Approach Slab/Approach Pavement					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Approved Subgrade: Subgrade released from previous inspections <i>Density Tests if required and grade.</i>	201.1, .2, & .3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permanent Materials: Accept for use by inspection or documentation <i>Material in accordance with the Pre-Acceptance List</i>	106.12	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Steel Reinforcement: Rebar, dowels, tiebars, mesh <i>Correct size, length, epoxy, spacing, orientation, clearance, etc. as shown on the plans.</i>	Plans/Standards	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Other Items: Sleeper slab installed, poly sheeting, mud jack holes, joint mat'l <i>Mud jack holes checked for voids and filled</i>	Plans/Standards	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plans/Standards: All work constructed per plans and standard specs. <i>Correct width, thickness, cross slope, line & grade, joint material, etc.</i>	Plans/Standards	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weather: Not placed on frozen subgrade. Protect from freeze thru curing period <i>Protect from rain damage. Max ambient 85F. Not placed when ambient and other surfaces are below 35 F.</i>	703.9, 703.10	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Delivery: Truck, mixer drums, meters will be in good condition <i>Trucks beds free of any foreign substance. Concrete tickets need to indicate the mix, batch time, name of concrete plant, and quantity in cubic yards.</i>	501.8.4, 501.8.11	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete: Correct Concrete mix delivered B-1 or PCCP, Max temp 85F	Mix Design, 501.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Testing : Sampled at point of placement <i>Air%, slump,cylinders set: Min.1 per 100 yds3, Test first truck and after failure. Air > 5% , slump max 4"</i>	501, ITP	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concrete Placement: Per section 703 (see checklist)	703	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Final Strike Off, Consolidation and Finishing: <i>Per section 703 (see checklist)</i>	703	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Surface Texture: Per section 703.5.5 <i>tined to within 12 inches of inside face of curb</i>	703.5.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Curing: Use approved Cure compound sec. 1055, min 200 ft2/gallon <i>Curing within 30 minutes from the time of concrete placement.</i>	502.6	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sealing: All approach slab surface sealed per 703	703	

Asphalt Paving Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked (remarks below)	Primary Specs	Remarks/Measurements
Asphalt Paving					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Subgrade Preparation: Subgrade released from previous inspections <i>Density Tests if required and grade. Not placed on wet or frozen surfaces.</i>	201.1, .2, & .3, 401.7.1, 402.10.1, 403.10.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Application of Tack: Accept for use by inspection <i>Coating applied at 0.02 to 0.1 gal per SY, after reaching proper temperature</i>	407, 1015	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Application of Prime: Accept for use by inspection <i>Coating applied at 0.2 to 0.5 gal per SY, after reaching proper temperature</i>	408, 1015	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plan Requirements: Correct mixture, thickness, width, cross slope, etc. Segregation: TM 75 <i>No segregation observed from the truck, placement or finishing operations</i>	Plans 401.7.5.1, 402.10.5, 403.13.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Paving Equipment: Appropriate types, condition, and adjustments <i>Check Paver, Rollers, Pneumatic tire roller</i>	403.9	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hauling Equipment: Inspect trucks and tarps <i>Trucks beds free of any foreign substance. Asphalt tickets need to indicate the mix, batch time, name of asphalt plant, and quantity in cubic yards.</i>	401.7.4, 402.10.4, 403.8	
Bituminous Base and Pavement					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Spreading: Max compacted thickness 2" for wear course or 4" for level course <i>Clean surface free of dirt, soil or other contaminants.</i>	401.7.1, 401.7.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Density: Minimum 92%. 4 random cores per day <i>Minimum density along (6") long. Joints is no more than 2% below specified density. 4 cores per day by random #</i>	401.7.8 & 401.8.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Compaction: Proper rolling methods and sequence <i>Compacted thoroughly and uniformly -no visible evidence of further consolidation</i>	401.7.8	
Bituminous Surface Leveling					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weather Limits: No placement when air or surface temp is below 50 F <i>Not placed on wet or frozen surfaces.</i>	402.10.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Spreading: Clean surface free of dirt, soil or other contaminants.	402.10.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Compaction: 3 complete coverages with min. 10 ton roller. <i>Steel wheel for final rolling-no visible evidence of further consolidation</i>	402.10.7	
SuperPave					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Spreading & Finishing: No lumps or crust on asphalt - reject <i>Clean surface free of dirt, soil or other contaminants.</i>	403.13	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Spreading & Finishing: Min. Compacted thickness <i>SP 125 - 1.75"; SP190 - 2"; SP250 - 3"</i>	403.13	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Compaction: No vibratory mode when temp is < 225F A Pneumatic tire roller will be used as the initial or intermediate roller on any wedge or leveling course	403.15	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Density: In place final density 94+/- 2 percent. Random locations per subplot. <i>Density taken no later than the following day of placement. Joint density no more than 2% below specified density.</i>	403.5.2, 403.15.4, 403.16.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Joints: Offset longitudinal joints between layers by minimum of 6" <i>Each side of joint shall be flush and along true lines</i>	403.16.1, 403.16.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Opening to Traffic: Keep traffic off until the asphalt lift has cooled 140 F or lower. <i>Surface shall not distort, break or flush binder to the surface under traffic.</i>	403.13	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Surface Test <i>The pavement surface shall be thoroughly tested for smoothness by profilographing or straightedge as indicated. See specs.</i>	403.20	

Aggregate and Rock Base Checklist

Inspector _____
 Date _____
 Route _____

Project _____
 Location _____
 Weather _____

Yes	No	NA	Applicable Elements Per Line Checked	Primary Specs	Measurements/Remarks
Roadway Subgrade 18" Section					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing Embankment: Accepted for use by Earthwork Inspector. <i>Fill more than 18" below subgrade was appropriately inspected and tested.</i>	203, ITP	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Common Fill: Section within 18" below finished subgrade, Uniform density <i>95% RC Std proctor; 1 density test per 500 feet of roadway(Random#)</i>	203.5.3, 209.2, ITP	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rocky/Rubble Fill: Untestable Rdway subgrade (Rock/rubble/soil mixes). <i>Roller Method; Cannot test if >20% is retained on the 3/4" sieve (Visual)</i>	203.5.5	
Aggregate or Rock Base					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Roadway Subgrade: Acceptable or suitable per plans and specs, <i>Unfrozen. Accepted by Earthwork Inspector. Ready for Agg Base Section (if base or subgrade becomes unstable, restore stability, grade, density)</i>	203.5.1, 203.5.2.1/2, 203.5.5, 209.2.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rock Base: Constructed per plans and typical section <i>Correct thickness, width, locations, daylighted to drain or edgedrains installed</i>	Plans/Standards	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type 1, 5 and Permeable Base: Constructed per plans and typical section <i>Correct thickness, width, locations, daylighted to drain or edgedrains installed</i>	Plans/Standards	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Agg/Rock Base Surface: Per plan and tolerances $\pm 1/2"$. <i>Agg/Rock Base section or subject area is ready for Paving. Gradations, densities, testing, thickness approved</i>	QA Hold Point	
P ermeable Base					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Permeable Base Contamination: Drainage capability is unaffected <i>Remove material if contaminated</i>	302.3.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Asphalt Perm.: Discharge temp is 250-300 F, Compact. complete before 100F <i>Min. 3 passes with 5 - 10 ton roller, max 4" compacted layer</i>	302.3.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cement Stabilized: Minimize segregation. Consolidate with pavement vibrators <i>Cure for 48 hrs per Sec 502.6, mist during cure.</i>	302.3.4	
R ock Base					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rock Base Material: Rock or broken concrete/composite less than 10% soil. <i>$\leq 12"$ for 18", some +9", $\leq 6"$ for 12". Ratio not to exceed 2:1.</i>	303.2.1, 303.2.2, 303.2.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lift Thickness: Per Base type and location (traveling lane or shoulder). <i>Rock Base Max 18".</i>	303.3.3,	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rock Base Compaction : Dozed inplace and continuous leveling . <i>Equipment route uniformly over entire area for each layer.</i>	203.4.16, 303.3.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rock Base Compaction: Use Tamping Roller (250 psi) or Vibratory (16-20 tons) <i>Equipment route uniformly over entire area for each layer.</i>	203.5.5, 303.3.4	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rock Base Density : Untestable - Not specified density Agg Base section. <i>4 complete passes by tamper roller or 2 complete passes by vibratory roller</i>	203.5.5, 303.3.4, Visual	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rock Base Texture : Top 2 inches of Rock Base section <i>Consists of 2" max rock/stone or 2" granular/PI<10/450% #4 or Type 5 Agg</i>	303.3.5, 1007, Visual	
ype 1 & 5 Aggregate Base					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Agg Base Material: Testing per frequencies outlined in ITP <i>Gradation per 1007, plasticity, deleterious</i>	203.4.16, 720.4.7.3,	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Agg Base Density: Specified Density, Nuke Method <i>Moisture content per AASHTO T-310, Moisture correction per MoDOT TM35</i>	304.3.4.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lift Thickness: Compacted Lift not to exceed 6" <i>Compacted Lift not to exceed 8" for shoulders.</i>	304.3.3.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Density Testing/Thickness: Agg Base Specified Density Testing/Thickness <i>One/day or 1/1000 tn. Section Thickness will be checked at the same time. (See Spec for corrective action for deficiencies: density, thickness, lab testing)</i>	304.4.1.3, Random #	

Earthwork Checklist

Inspector _____ Project _____
 Date _____ Location _____
 Route _____ Weather _____

Yes	No	NA	Applicable Elements Per Line Checked	Primary Specs	Measurements/Remarks
Q C Field Inspections					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clearing & Grubbing: accepted for use. <i>Roots/stumps removed and holes compacted within +10' construction limits</i>	201.1, .2, & .3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Roadway/Building Removal ; Per DNR Regs, pits filled/compacted to adjacent mass <i>Broken masonry kept -12" FG, Deleterious debris disposed off site</i>	202	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fill Materials: Acceptable or suitable per plans and specs, free from trees, stumps, rubbish <i>Soil/Aggregates have been sampled and tested by Lab.(gradation,proctor, etc)</i>	203.5.1, 203.5.2.1/2, 203.5.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hillside/Existing Embankments: Fill placed against a slopes exceeding 6:1 <i>Benched in no less than 12" rises (steps) as fill is brought up.</i>	203.4.11	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Existing Structures : Protect structure from overturn or excessive pressure. <i>Balance fill loading on either side.</i>	203.4.13	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lift Thickness - Common Fill: 8" loose maximum <i>Occasional 8 -12" stone ok. Up to 24" if properly spaced for compaction</i>	203.4.10, 203.4.16.1	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lift Thickness-Rocky Fill: Equal to average size of larger rock not to exceed 24" <i>Rock will be dozed into place, not just dumped</i>	203.4.17	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Moisture Requirements: ≥ Opt% for ≥ 40 Liquid Limit within 5' of Subgrade . <i>Soil in Rocky Fill should be in a plastic state.</i>	203.5.2.1, 203.5.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Moisture Checks: Periodic Moisture Checks during lift placement as needed <i>Moisture determinations by Speedy Moisture or Oven Dry Methods</i>	203.5.2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Compaction - Subgrade Soil: Upper 18" of earth subgrade <i>95% RC Stnd Proctor , 1 test per 500 feet per roadway location developed</i>	203.5.3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Compaction - Common Fill: Continuous leveling and manipulating. <i>Equipment route uniformly over entire area for each layer.</i>	203.4.16	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Compaction - Rocky Fill: Use Tamping Roller (250 psi) or Vibratory (16-20 tons) <i>4 complete passes by tamper roller or 2 complete passes by vibratory roller</i>	203.5.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Compacting in Cut: Compact to required density for 18" below bottom of cut <i>90% RC Stnd Proctor , 1 test per 500 feet per roadway location developed</i>	203.5.8	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Density : Common Fill : Roadway embankment, subcut backfill. <i>90% RC Stnd Proctor , 1 test per lift for each 100 ln. ft. developed for rdwy</i>	203.5.1, ITP	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Density : Rocky Fill : Untestable Rdway embankment (Rock/rubble/soil mixes). <i>Roller Method; Cannot test if >20% is retained on the 3/4" sieve (Visual)</i>	203.5.5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Density-Structure Approach; Embank/spill fill within 100' of top slab or deck. <i>95% RC Stnd Proctor , 1 test per lift within 100 Ln. ft. of structure</i>	203.5.4, ITP	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Density Testing Mod.; Recorded Density Tests exceeding 107% RC <i>Higher Values will be validated by notes or One Point Proctor Check by Lab.</i>	QC Best Practice	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plans & Cross Sections; Roadway graded to correct slopes, profiles, x-sections, etc.	Plans	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proof Rolling Equipment: Pneumatic tire roller. Min. 7 tires. <i>Tire gorund pressure 90 psi or greater. Gross weight 25 tons.</i>	JSP	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proof Rolling Construction Req.: 2 complete passes per lane, 1 per shoulder <i>Rutting or yielding 1" or more requires correction to gade per JSP and rechecked</i>	JSP	

MISSOURI DEPARTMENT OF TRANSPORTATION

NUCLEAR DENSITY-MOISTURE TEST DATA

Soil

Type _____ Base

Contract ID _____
 Job No. _____ Route _____ County _____ Report No. _____

Date							
Station							
Location R/L – CL							
Dist. Below Profile Gr.							
Standard Test No.							
*A – Test Number							
*B – Probe Depth							
*C – Density Standard Count							
*D – Moisture Standard Count							
*E – Moisture Correction							
*F – Dry Density = DD							
*G – Wet Density = WD							
*H – Standard Density							
*I – % Compaction = PR							
*J – Minimum Density Required							
*K – % Moisture							
*L – Optimum Moisture							
% Moisture Specified	Min.						
	Max.						
Retest of	Test No.						
	Date						

Remarks: _____

_____ Inspector

* See page 2 of form for more information on testing procedures.

Distribution: RE File

MISSOURI DEPARTMENT OF TRANSPORTATION DENSITY-MOISTURE TEST DATA NUCLEAR

- | | |
|---|--|
| A – Consecutive, by material per project | F – Record from display for current test |
| B – Reading on display must match probe position | G - Record from display for current test |
| C – Read direct from display – Daily Standard | H – Provided by Materials for current material |
| D – Read direct from display – Daily Standard | I – Record from display for current test |
| E – Record correction for current material
(Reference page 3–4 Troxler Manual) | J – Provided in contract documents or specifications |
| | K – Record from display for current test |
| | L – Provided form Materials for current material |

DAILY CHECK LIST

1. Two different keys are needed
2. Wear badge
3. Make entry in sign out diary
4. Place travel papers on truck dashboard in plain view within driver's reach (transport gauge in locked box only)
5. Warm up machine 10 minutes – Set on plate with probe opposite butt plate
6. Take standard count – record standard counts in diary. Follow instruction manual.
1% Density Deviation, 2% Moisture Deviation
7. Enter proctor value from materials
8. Enter applicable moisture correction – See pages 3-4 in Troxler Manual
9. Sign back in at end of day and clean equipment

TROUBLE SHOOTING

Do not charge batteries until “low battery” appears (2-3 hours remaining)

If the display reads “GM Tube A Error, Service Required”, remove and replace fuse; retry entry.

See 203.5 of the Engineering Policy Guide for information on testing with Nuclear Moisture-Density Gauges. See <http://scweb4/hq/co/radiation> for routine maintenance issues.

Battery Voltage: 3.6, Normal
3.35-3.4, Battery low but serviceable
3.25-Below, No service

Technical Advice: Roger Wilson – 573-751-5081

MATERIALS: Request for Transfer of Inspected Material

To: _____
(District Engineer)

(Address)

We hereby request approval for use of the following material which we wish to transfer from

Job No. _____ Contract ID _____ County _____

to Job No. _____ Contract ID _____ County _____

Kind of Material _____

Quantity & Sizes _____

Present Location of Material _____

Supplier or Manufacturer _____

Identification (Lot Numbers, Heat Numbers, PAL IDs, or Other Identification on labels or tags):

We ask that you please supply the necessary copies of inspection reports to the District Engineer to permit use of the material, with a minimum of re-inspection and testing, on the project to which the material is being transferred.

(Company)

(Address)

Note: This form is to be addressed to the District Engineer for whose district the material was first inspected. It is important that the complete identifying information be given.

MATERIAL RECEIVING INSPECTION REPORT

Date	Shift	Test/ Inspec.	Primary Spec	Name	Report # Office Use Only
Structure/ Alignment		Location 1:		Schedule ID	
		Location 2:			
Element Name or Location		Shop Drwaings/ Standard Plands		Photo na	
Work Name		Supplier			
Weather					

Activity Summary

Material Inspection Parameters (check if acceptable)					
1	IDENTIFICATION	<input type="checkbox"/>	6	MATERIAL CLASSIFICATION	<input type="checkbox"/>
2	QUANTITY	<input type="checkbox"/>	7	TEST REPORT/ MILL CERTIFICATIONS	<input type="checkbox"/>
3	DAMAGE	<input type="checkbox"/>	8	DIMENSIONS VERIFIED	<input type="checkbox"/>
4	REQUIRED MARKINGS	<input type="checkbox"/>	9	CLEANLINESS/ GOOD CONDITION	<input type="checkbox"/>
5	CONFORMANCE TO SPECS	<input type="checkbox"/>	10	PROPERLY STORED & PROTECTED	<input type="checkbox"/>

Category #	PAL #	Material/Equipment	Quantity	Accept Hold Reject
a	na			

Remarks

New?	Deficient Element, Location, or Test #, D #	Deficiency (new) or Resolution (existing) Description

Note: All Activities Mentioned Above, Except As Noted, Were Performed In Accordance With Project Plans, Specs, Special Provisions, and the PMS

Title

Signature

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION/MATERIALS
EROSION CONTROL PROJECT INSPECTION RECORD**

Inspection Type (Weekly/Runoff event) _____ Date of Inspection _____ Record No. _____

Job No. _____ Route _____ County _____

Date of last runoff event _____ Amount of Rainfall since last report (inches) _____

Disturbed Area on Project _____ Authorized Area on Project _____ Acres/Hectares _____

Are all required BMP's installed? YES/NO _____ If NO, list location(s) and Type of BMP required.

Are all installed BMP's properly maintained? (YES/NO) _____ If NO, list locations - describe deficiencies

Have all deficient BMP's from the last report been corrected within 7 days? (YES/NO or N/A) _____

If NO, explain why with narrative and photos.

Are there areas where land disturbance operations have permanently or temporarily stopped? YES/NO _____

If YES, list where these areas are located and note if temp or perm? (Attach additional sheets if necessary.)

Inspector Name: _____

Date Signed: _____

Inspector Signature: _____

RE Name: _____

RE Signature: _____

Distribution: Contractor District Office Project Office Inspector
Erosion Control Inspection Record (Rev. 04/2008)

MISSOURI DEPARTMENT OF TRANSPORTATION

CONCRETE POUR CARD

Work and inspection shall be completed and initialed by the responsible party, prior to placing concrete in a column cap.

CONCRETE POUR LOCATION AND ID #	
--	--

Item #	Work or Inspection	Reference	Completed By:	Date Completed
1	Reinforcing Subcontractor	Reinforcement Spec 706		
2	Carpenter Foreman	Formwork Specification 703		
3	Subcontractor			
4	Other			
5	Process Control	Reinforcement and formwork, Specs 706, 501, 703		
6	Verification Assurance	Pour card complete, end of shift before the next day's scheduled pour (or 12 hours)		

Ready to Place Concrete

Supervisor

Date

Date/Time: _____

Inspector: _____

Weather/Temperatures/Road Conditions: _____

Locations: _____

Items	OK/NA	Deficiencies
Signs		
Channelizing Devices		
Temporary Traffic Barrier		
Barricades		
Impact Attenuators		
CMS/Flashing Arrows/Signals		
Flashing Arrow Panel		
Temporary Signals		
Roadway Conditions		
Pavement Marking		
Entrance/Exit Ramps		
Truck/Equipment Crossings/Access		
Temporary Lane Closures		

COMMENTS

Date and Time Corrections Made: _____

THINGS TO LOOK FOR

Signs:	Legibility Reflectivity Covering Distance	Need Bracing Leaning Misleading	Conflicting Fluorescent Visibility Mounting Height	Faded/Dirty Missing Signs Twisted	Splicing Support Location Advance Warning
Channelizing Devices:	Alignment Location	Spacing Ballasting	Reflectivity Missing Devices	Condition	Use
Temporary Barrier:	Alignment Connection	Taper Anchoring	Delineation Condition	Offset	Blunt End
Barricades:	Alignment Quantity	Reflectivity Ballasting	Condition Signing/Marking	Size	Location
Impact Attenuators:	Alignment	Delineation	Condition	Quantity	Location
CMS / Flashing Arrows/Signals:		Alignment Visibility Message	Level Timing Display	Location Need Delineation	Height Operation
Roadway Conditions:	Ruts Drop-Offs	Pot Holes Equipment	Dirt/Debris Material	Plates Blunt Ends	Drainage Open Excavations
Pavement Marking:	Quality Color	Installation Dimension	Reflectivity Removal	Placement Scarring	Quantity Conflict
Entrance/Exit ramps:	Alignment Signing	Location Merge/Diverge Area	Length	Width	Delineation
Truck/Equipment Crossings/Access:		Location	Signing	Delineation	
Temporary Lane Closures:		Signs Arrow boards	Channelizers Flaggers	Tapers	Spacing

LANE CLOSURE INSPECTION:

YES NO NA

Proper Signing on both sides of the roadway

Roadwork Ahead (if needed) YES NO NA

Reduced Speed Ahead

Reduced Speed Limit

Right/left lane closed ahead

Right/left lane closed

Double Lane Closures

Roadwork Ahead (if needed) YES NO NA

Reduced Speed Ahead

Reduced Speed Limit

Two Right/left lane closed ahead

Right/left lane closed

Two Right/left lane closed

DIBS Arrows facing the correct direction YES NO NA

Arrows only on one side of DIB

Chevrons on DIBS in correct direction

Arrow Board Arrow pointing in correct direction YES NO NA

All bulbs working

Check to make sure all conflicting signs have been covered YES NO NA

Speed Limit signs

Road Work Ahead signs within the lane closure

TMA Parking in lane closure – arrow should be in caution mode YES NO NA

All bulbs working

Used in rolling closure – arrow pointing in correct direction YES NO NA

Lane closure sign on back truck

All bulbs working

Speed	Sign Spacing		Taper Length	Channelizer Spacing		# of Devices
	Undivided	Divided		Tapers	Work Area	
0-35	200	200	245	35	50	7
40-45	350	500	540	40	100	13
50-55	500	1000	660	50	100	13
60-70	1000	1000	840	60	100	14

yes

no

Lane Closure Location _____

Quality Rep _____

Date and Time of Inspection _____

Appendix B

Inspection and Test Plan

DIVISION 200: Grading and Removals							Minimum Frequency or Check For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
Sec 200		all	Constructed per Plans, Cross sections, standards and other contract documents				Per work element	Per work element		x		x
200 Field Sampling and Testing												
203		Rdwy & Drainage; Exc., Emb., Compaction	Subgrade - Soil	Relative Compaction; T191 or T310 (Top 18")	ASTM D3665	Spec Reference		1 density test per 500 feet per roadway location developed	1 Test for every 10 Required QC Test.	x	x	x
203		Rdwy & Drainage; Exc., Emb., Compaction	Roadway cut; Cut Compaction	12" below the bottom of the pavement or lowest base course shall be exposed full width between rdwy slopes. The exposed surface compacted to required density to a depth of 6". Material above this shall be compacted to required density in layers not exceed 8".	AASHTO A-2-6, A-2-7, and A-4, A-6, A-7 soils not less than Opt. Moisture% minus 2%. For A-4 soils reduce (dry) in-situ moisture% if unstable under compaction and construction traffic	Testing		1 density test per 500 feet per roadway location developed	1 Test for every 10 Required QC Test.	x	x	x
203		Rdwy & Drainage; Exc., Emb., Compaction	Subgrade - Rocky/Rubble Fill material	Roll each lift 4 passes tamping roller. Vibratory roller may be approved		Visual		Continuous	Random	x		x
203		Rdwy & Drainage; Exc., Emb., Compaction	Embankment - Soil	Relative Compaction, 203.5.1 thru 203.5.8.2	T191 or T310	Testing		1 density test per lift per 1000 linear feet developed for roadway	1 Test for every 10 Required QC Test.	x	x	x
203		Rdwy & Drainage; Exc., Emb., Compaction at Bridge Structures	Embankment - Soil	Relative Compaction, 203.5.1 thru 203.5.8.2	T191 or T310	Testing		1 density test per lift within 100 feet of structure	1 Test for every 10 Required QC Test.	x	x	x
203		Rdwy & Drainage; Exc., Emb., Compaction	Subgrade & Embankment - Soil	Max Density & Optimum Moisture %, and Soil Classification	T265, T 99 (May include Gradation, Liquid Limit, Plasticity Index as needed)	Testing		Every new material change	1 Test for every 10 Required QC Test.	x	x	x
203		Rdwy & Drainage; Exc., Emb., Compaction	Subgrade & Embankment - Soil	Moisture Control at time of compaction	T217 Speedy Moisture test or T265 Lab Moisture	Spec Reference		Periodically during placement	Random	x	x	x
203	6.2	Rdwy & Drainage; Exc., Emb., Compaction	Embankment; Compaction of Rock or Rocky Material (Rubble) (no M&D controls)	Roll each lift 4 passes tamping roller. Approved Vibratory roller required		Visual		Continuous	Random	x		x
206	4.11	Structure Backfill - Soil	Structure Fill. Also See 720.4.7 MSE wall and Sec 1010	Compacted to to adjacent roadway specified density	T191 or T310	Testing		1 density test per lift per 500 feet or length of structure, whichever is less	1 Test for every 10 Required QC Test.	x	x	x

DIVISION 200: Grading and Removals							Minimum Frequency or Check For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
201		Clearing and Grubbing										
201	2.2.1	Clearing & Grubbing	Clearing Limits		Construction limits +10'	Visual		per related activity	Random	x		x
201	2.2.2	Clearing & Grubbing	Grubbing Limits	18" deep for cuts, stumps, roots +6" above ground may stay for embankment if a minimum of 4 feet below finished earth grade	Holes and trenches: compaction equal to adjacent mass	Visual		per related activity	Random	x		x
201	2.3	Clearing & Grubbing	Scalping		Areas cut or embankment	Visual		per related activity	Random	x		x
202		Removal Roadways and Buildings										
202	2.1	Removals Rdwy & Bldgs.	Disposal of Material	Solid Waste	MSWML; 10 CSR 80	Disposal accordingly	Disposal records	per related activity	Random	x		x
202	2.3	Removals Rdwy & Bldgs.	Dust & Emissions			Visual		per related activity	Random	x		
202	3.2	Removals Rdwy & Bldgs.	Removal Requirements	Slabs to remain in embankments shall be broken into pieces not exceeding 4 sq. ft.		Visual		per related activity	Random	x		
202	3.3	Removals Rdwy & Bldgs.	Sewers and Drains	Abandonment	8" thick concrete bulkheads	Also see MSD requirements		per related activity	Random	x		
202	3.2	Removals Rdwy & Bldgs.	Backfill	Trenches, holes, pits; 203, 203.5	Compaction equal to existing adjacent mass	Visual/testing		per related activity	Random	x		x
202	3.4.1	Removals Rdwy & Bldgs.	Backfill	Free of deleterious material	Broken masonry kept below 12" F.G.	Visual		per related activity	Random	x		x
202	3.5	Removals Rdwy & Bldgs.	Hazardous Materials	Per MDNR Regs	Disposed according o MDNR	Documentation		per related activity	Random	x		x
202	10	Removals Rdwy & Bldgs.	Plugging & Closure of Wells	Per MDNR Regs	Disposed according o MDNR	Documentation		per related activity	Random	x		x
202	20.2	Removals Rdwy & Bldgs.	Septic Tank Plugging & Disposal	Pumping, collapsing, plugging and breaking bottom to drain. Tank trench is backfilled with approved material to within 2 feet of existing ground	Compact top 2 feet of trench backfill in 6" lifts to density of surrounding soil.	Visual		per related activity	Random	x		

DIVISION 200: Grading and Removals							Minimum Frequency or Check For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
203		Roadway & Drainage Excavation, Embankment & Compaction										
203	4.1.1	Rdwy & Drainage; Exc., Emb., Compaction	Field Stone	All loose field stone > 4" shall be disposed of		Visual		Before Acceptance	Random	x		
203	4.1.2	Rdwy & Drainage; Exc., Emb., Compaction	Shoulders	Compaction; 203.5		Testing		1 density test per lift per 1000 linear feet developed for roadway	1 Test for every 10 Required QC Test.	x	x	
203	4.3	Rdwy & Drainage; Exc., Emb., Compaction	Subgrade	Oversize (also see 203.4.17)	Remove loose +2" stone from top 4" if required for proposed surfacing	Visual		Per area worked	Random	x		
203	4.1	Rdwy & Drainage; Exc., Emb., Compaction	Embankment	Approved Material	Free of trees, stumps, rubbish, and other deleterious material	Visual		Continuous	Random	x		x
203	4.10.2	Rdwy & Drainage; Exc., Emb., Compaction	Embankment	Frozen ground or backfill	No embankment placed on or with frozen material	Visual/Thermometer		Periodically during freezing weather	Random	x	x	
203	4.11	Rdwy & Drainage; Exc., Emb., Compaction	Embankment on Hillsides	Benching against existing embankments and slopes if greater than 6:1	Continuously benched in no less than 12" rises	Visual/Measure		per related activity	Random	x		x
203	4.12	Rdwy & Drainage; Exc., Emb., Compaction	Scalping	Embankments < 4 feet all sod and vegetation removed from surface and plowed and compacted to a depth of 6"	Embankments < 3 feet over a compacted road surface of bituminous or granular material scarify to depth of 6" and compact	Visual		per related activity	Random	x		
203	4.13	Rdwy & Drainage; Exc., Emb., Compaction	Embankment	Against Existing Structures	Loading will be balanced to preclude overturn damage	Visual		per related activity	Random	x		
203	4.14	Rdwy & Drainage; Exc., Emb., Compaction	Embankment	Surcharging	Per Plans	Visual		As required	Random	x		
203	4.15	Rdwy & Drainage; Exc., Emb., Compaction	Excess or Unsuitable Material	Placed on sideslopes and 24" below finished shoulder elevation		Visual		Ongoing	Random	x		
203	4.16	Rdwy & Drainage; Exc., Emb., Compaction	Embankment (non rocky/rubble fills)	Placement; Loose lifts not to exceed 8 in. Roll each lift. Occasional +24" rock ok	Continuous leveling required. Distribute equipment movements.	Visual/simple measurement		Continuously	1 per 5 days	x		x
203	4.16.1	Rdwy & Drainage; Exc., Emb., Compaction	Embankment -Soils	Placement	Occasional 8"-12" stone ok with 12" loose lift outside of traffic lane limits.	Visual/simple measurement		Continuously	Random	x		x
203	4.17	Rdwy & Drainage; Exc., Emb., Compaction	Embankment - Soils	Rock Embankment (rock/rubble/soil mixes)	Loose Lift thickness equal to avg. rock diameter. Not to exceed 24 in. Reduce or remove oversize.	Visual/simple measurement		Continuously	Random	x		x
203	5	Rdwy & Drainage; Exc., Emb., Compaction	Embankment - Soils	Compaction/Moisture-Density Control, Standard Compaction Test (T99 & TM40), Density T191, T205, T39, Moisture Correction TM35	AASHTO T99, TM40, T191, T205, T238, T239, TM35	Testing		See test frequency	1 Test for every 10 Specified QC Test.	x	x	x

DIVISION 200: Grading and Removals							Minimum Frequency or Check For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
203	5.1	Rdwy & Drainage; Exc., Emb., Compaction	Embankment Density Compaction - Soils	All roadway embankment, backfilled subcuts, roadbed cuts.	Except 203.4.14, 203.4.15, 203.4.16.2, 203.5.3, 203.5.5, 203.5.7, 203.5.8	90% RC		See test frequency	1 Test for every 10 Specified QC Test.	x	x	x
203	5.2	Rdwy & Drainage; Exc., Emb., Compaction	Moisture Control at time of compaction	≥Opt. Moisture for Class A soils with a liquid limit of ≥ 40	AASHTO T217 T89	Spec Reference		Periodically during placement as required.	Random	x	x	x
203	5.2.2	Rdwy & Drainage; Exc., Emb., Compaction	Embankment; Moisture Control at time of compaction	≥ 3% over Opt. Moisture for Loessial soil embankments ≥ 30 feet high	T217, T265, T 99	Spec Reference		Periodically during placement	Random	x	x	x
203	5.3	Rdwy & Drainage; Exc., Emb., Compaction - Soil	Embankment; Compaction Subgrade, Top 18" Thickness	Density for subgrade full width between roadbed slopes.	T191 or T310	95% RC		See test frequency	1 Test for every 10 Specified QC Test.	x	x	x
203	5.4	Rdwy & Drainage; Exc., Emb., Compaction - Soil	Structure Approach	Within 100 feet of structure	T191 or T310	95% RC		See test frequency	1 Test for every 10 Specified QC Test.	x	x	x
203	5.5	Rdwy & Drainage; Exc., Emb., Compaction Rock/Rubble	Embankment; Compaction Subgrade, Top 18" Thickness	Per lift: 4 passes by tamping roller or 2 passes by vibratory roller	Tamper projection ≥ 6 in., Minimum 250 psi tamper or Vibratory roller rate at 16 - 20 tons. Moisture condition as required for plasticity	Visual		Periodically during placement	1 per 5 days production	x		x
203	5.5	Rdwy & Drainage; Exc., Emb., Compaction	Embankment; Rocky Fill (+20% retained on 3/4" sieve)	Per lift: 4 passes by tamping roller or 2 passes by vibratory roller	Tamper projection ≥ 6 in., Minimum 250 psi tamper or Vibratory roller rate at 16 - 20 tons. Moisture condition as required for plasticity	Visual		Periodically during placement	2 per 5 days production	x		x
203	5.6	Rdwy & Drainage; Exc., Emb., Compaction	Embankment; Lift Consistency	Lifts are kept leveled and moisture conditioned and compacted uniformly	Shale and heavy clay will be reduced accordingly	Visual		Periodically during placement	Random	x		
203	5.7	Rdwy & Drainage; Exc., Emb., Compaction	Embankment; Deep Fills	Portions of embankments +50 feet below finish subgrade	See exception for 3 feet zone above foundation subgrade or Rocky/Rubble Fill	95% RC		Per applicable activity. Also see Test frequency	Random	x		x
203	5.8	Rdwy & Drainage; Exc., Emb., Compaction	Roadway cut; Cut Compaction	12" below the bottom of the pavement or lowest base course shall be exposed full width between rdwy slopes. The exposed surface compacted to required density to a depth of 6". Material above this shall be compacted to required density in layers not exceed 8".	AASHTO A-2-6, A-2-7, and A-4, A-6, A-7 soils not less than Opt. Moisture% minus 2%. For A-4 soils reduce (dry) in-situ moisture% if unstable under compaction and construction traffic	Testing		1 density test per 500 feet per roadway location developed	1 Test for every 10 Required QC Test.	x	x	x
203	6	Rdwy & Drainage; Exc., Emb., Compaction	Embankment; Compaction without Density Moisture Control (Specified Density)	Loose lifts not to exceed 8 in. Roll each lift 4 passes tamping roller. Continuous leveling required. Distribute equipment movements.	Tamper projection ≥ 6 in., Minimum 250 psi tamper. Continue effort until ≤ 2 in of penetration. Moisture condition as required	Visual		Continuous	Random	x		x
203	6.1	Rdwy & Drainage; Exc., Emb., Compaction	Embankment; Rolling /Dumping	Rolling and dumping/leveling are separate activities.	Unstable isolated areas are removed and replaced	Visual		Continuous	Random	x		
203	6.2	Rdwy & Drainage; Exc., Emb., Compaction	Embankment; Compaction of Rock or Rocky Material (no M&D controls)	Roll each lift 4 passes tamping roller. Vibratory roller may be approved		Visual		Continuous	Random	x		x

DIVISION 200: Grading and Removals							Minimum Frequency or Check For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
203	6.7	Rdwy & Drainage; Exc., Emb., Compaction	Embankment; Compaction without specified compaction results or specified equipment	Distribute equipment movements over entire embankment area		Visual		Continuous	Random	x		x

DIVISION 200: Grading and Removals							Minimum Frequency or Check For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
204		Embankment Monitoring	Update if Used on Project									
205		Modified Subgrade	Update if Used on Project									
206		Structure Excavation										
206	2	Structure Excavation	Depth of Excavation	Elevations, shape, dimensions and condition of excavation.	Remove unsuitable material and free of loose material, also 2.06.3.2, 206.4.2	Per Plan, Approved prior to concrete.	Geotech (critical elements)	Prior to Structure or Fill	Random	x		x
206	4.2	Structure Excavation	Foundation Key	Footing keyed no less than 6" into rock and no less than 18" into soft rock or shale	All cavities and crevices filled in accordance with 703.3.39	Visual/Measurement		Per Foundation	Per Foundation	x		x
206	4.4	Structure Excavation	Culverts on Rock	Inplace rock removed to 6 inches below box slab or curtain wall	Backfill 6 inch zone with similar adjacent material.	Visual		Per structure	Random	x		
206	4.5	Structure Excavation	Footing Construction	Foundation soils reasonably dry at concrete placement. If required pump or watertight forms.	See 206.4.6 Footing Drainage.	Visual		Per area worked	Per Foundation	x		x
206	4.10	Structure Excavation	Structure Fill; Footing Backfill	Material free of large or frozen lumps and deleterious material. Place in 6 inch lifts compacted to adjacent embankment density, (if rocky/rubble fill use 203.5.5)	Backfill only after concrete reaches strength per 703.3.2.13. Deck is inplace before fill is higher behind than in front of end bents	Visual/Testing		Per area worked	Random/Testing	x		x
206	4.11	Structure Excavation	Structure Fill; Porous Backfill . Also See 720.4.7 MSE wall	Placed per plan and consolidated in 12 inch lifts	Materials and gradation per Sec 1009 or 1010	Visual/Testing	Documentation	1 test per lift per 500 foot of structure	1 Test for every 10 Required QC Test.	x	x	x
206	4.12	Structure Excavation	Structure Fill, Flowable fill	Approved Mix design. Placed away from drainage systems	Sec 621	Visual		Per area worked	Random	x		

DIVISION 200: Grading and Removals							Minimum Frequency or Check For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
207 Linear Grading												
207	.21	Linear Grading	Reasonable Tolerance	Roadway grade and cross section within reasonable tolerances.	Finish grade free of sharp breaks and within 6 inches of plan grade.	Visual; Survey or hand level checks		Per area worked	Random	x		
208 Interception Ditch												
208	0.2	Interception Ditch	Construction	Profile free of sharp breaks	Smooth and uniform surface free of loose rock.	Visual		Per area worked	Random	x		
209 Subgrade Preparation (pre-base & base course)												
209	2	Subgrade Preparation	Construction	Substantially uniform in density.	Constructed graded to drain, with no ruts or major irregularities. Also see Sec 211 Subgrade Scarifying	Visual		Per area worked	Random	x		
209	2.1	Subgrade Preparation	Construction	Subgrade moisture content specified for top 6 inches prior to base or prior to pavement if no base course	If necessary subgrade will be reworked, moisture conditioned, and recompacted	Per 203.5.3/testing		See Frequency	1 Test for every 10 Specified QC Test.	x	x	x
209	2.1	Subgrade Preparation	Construction	Grade Tolerance: Maximum deviation of ±1/2 inch from required elevation		Visual/ hand level/ stringline checks		Per area worked and approved	Random	x		x
209	2.2	Subgrade Preparation	Construction	Remove soft spots to 24" max depth, backfill accordingly		Visual		Per area worked	Per area worked	x		x
210 Subgrade Compaction (Previously Placed Roadbed Subgrade)												
210	2.1	Subgrade Compaction	Construction	Scarify full roadbed width 6" and moisture condition per proctor value.	Option removal and replace upper 6". Density in accordance with 203.5	Visual/Testing		1 density test per 500 feet per roadway location developed	1 Test for every 10 Required QC Test.	x	x	x
210	2.2	Subgrade Compaction	Construction	If cannot comply with 210.2.1, remove unsuitable soil 18" max	Replace with suitable fill and compact in 6" lifts to required density. Moisture condition as necessary. 203.5	Visual/Testing		1 density test per 500 feet per roadway location developed	1 Test for every 10 Required QC Test.	x	x	x
211 Subgrade Scarifying												
211	2	Subgrade Scarifying	Construction	Performed in areas determined by Engineer	Loosen upper 6" and remove >4" stones. Replace fill to design grade and cross section	Visual/Testing		Per area worked	Random	x		
212 Subgrading & Shouldering (rdwy to ditch to ditch, rdwy to upper fill slope)												
212	2.1	Subgrading/Shouldering	Construction	Ditches graded to drain and medians conform to typical sections.	Fill slope work confined to top 3 feet. Also see 203.4.1.2	Visual		Per area worked	Random	x		

DIVISION 200: Grading and Removals							Minimum Frequency or Check For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
214 Rock Fill												
214	2	Rock Fill	Material	Durable stone or broken concrete (graded coarse to fine) with less than 10% earth, sand, non-durable rock.	25% of the material stone pieces will have a volume of 1.0 ft ³ or more	Visual		Per area worked	Random	x		x
214	3	Rock Fill	Construction	Max lift thickness is 24 inches, with well spaced larger pieces and voids filled with smaller pieces	Lifts spread per 203.4.16 and compaction per 203.5.	Visual/simple measurement		Per area worked	Random	x		x
215 Shaping Slopes												
215	2	Shaping Slopes	Construction	Existing slope surface is scarified to bond additional fill	Compacted with 3 roller passes	Visual		Per area worked	Random	x		
216 Removals for Bridge Structure												
216	10.2	Removal of Bridges	Removal of Bridges	Entire (Sub)structure removed to 2 feet below finish grade		Visual		Per area worked	Random	x		x
216	70	Removal of Bridges	Partial Removal of Culvert & Substructure Concrete	Concrete removal in accordance with 216.60.2.1	Existing reinforcing steel to be utilized shall be prepared in accordance with 216.60.2.2. Existing steel not utilized shall be cut off 1 inch from surface of concrete and filled with special mortar	Visual		Per area worked	Per area worked	x		x
JSP Rolling Subgrade												
JSP	2.0	Proof Rolling	Equipment	Pneumatic tire roller w/minimum of 7 tires	Tires inflated to 90 psi. Gross weight of roller 25 tons for 7 tire rollers. Additional tires add 3.5 tons per tire	Visual/Certification		Per each equipment	Random	x		x
JSP	3.0	Proof Rolling	Construction Requirements	Two complete passes per lane & one complete pass per shoulder. No overlap between passes	Roller speed 2 - 4 mph	Visual/Measurements		Per area tested	Per area tested	x		x
JSP	3.1	Proof Rolling	Construction Requirements	Yielding or rutting 1 inch or greater reworked and tested	Subgrade covered with base or pavement within 48 hours	Visual		Per area tested	Per area tested	x		x

DIVISION 300: Bases and Aggregate Surfaces							Minimum Frequency For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
300		All	Built according to plans, specifications, standards, JSP's, etc.				Per work element	Per work element		x		x
300	Sampling and Testing											
302	2.1	Stabilized Permeable Base	Gradation Test & Deleterious	Grade 4 drainage aggregate	Sec 1009, T11, T27	Test		1/1000 Ton/Day	1/10000 Ton	x	x	x
302	2.2	Asphalt Stabilized Permeable Base	Mixtures	PG 64-22, 70-22, or 76-22; 2.5% asphalt binder by weight	Section 401	Test	See frequency section 401	See frequency section 401	See frequency section 401	x	x	x
302	2.3	Cement Stabilized Permeable Base	Mixtures	Base Aggregate with cement factor of 2.5 sacks per cubic yard. No fly ash or slag	Section 501	Documentation	Review of Documentation				x	
303		Rock Base	Section Thickness	Simple Measuring Tool		Per Plan Dimensions		5/day per Area	Periodically	x	x	x
303		Rock Base	Quality and Size of Aggregate	In Place Visual		Spec Reference		Daily per work area	Periodically	x		x
303		Rock Base	Final Surface Material	2" granular material; ≥ 50% retained #4 sieve, PI less than 10. 2" recycled material or Type 5 agg gradation per 1007		Test		1/2000 Ton/Day	1/8000 Ton	x	x	x
304		Aggregate Base Course	Relative Compaction	T191 or T310	ASTM D3665	Spec Reference		1/1000 Ton/Day, Minimum 1 per layer	1/4000 tons	x	x	x
304		Aggregate Base Course	Section Thickness	Simple Measuring Tool	ASTM D3665	Spec Reference		1/1000 Ton/Day	1/4000 tons	x	x	x
304		Aggregate Base Course	Gradation Test & Deleterious Material	T11, T27, & TM71	ASTM D3665	Spec Reference		1/2000 Ton/EachDay	1/8000 tons	x	x	x
304		Aggregate Base Course	Plasticity Index	T89 & T90		Spec Reference		1/10000 Ton or Source change	1/40,000 tons	x	x	x
304		Aggregate Base Course	Max Density & Optimum Moisture %	T 99, Method C		Test Result 95% RC		1/10000 Ton or material change	1/20000 tons	x	x	x

DIVISION 300: Bases and Aggregate Surfaces							Minimum Frequency For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
302		Stabilized Permeable Base										
302	3.1	Stabilized Permeable Base	Contamination	Drainage capability is unaffected	Remove if contaminated	Visual		Per area prior to paving	Per area prior to paving	x		x
302	3.2	Stabilized Permeable Base	Displacement	No rutting of permeable or underlying base	Remove if displacement occurs	Visual		Per area and prior to paving	Per area prior to paving	x		
302	3.3	Stabilized Permeable Base	Asphalt Stabilized	Discharged temp is 250-300 F, Compaction completed before 100 F temp	Min. 3 passes of 5-10 ton roller. Max 4" compacted layer	Thermometer/Visual		Per Activity	Random	x	x	x
302	3.4	Stabilized Permeable Base	Cement Stabilized	Minimize segregation. Consolidate with pavement vibrators	Cure for 48 hrs per Sec 502.6, mist during cure.	Visual		Per Activity	Random	x	x	x
303		Rock Base										
303	1	Rock Base	Section Thickness	Per Plan	Top 18" of the subgrade for use as base	Measurement		Daily Per Work Area	Random	x		x
303	2.1	Rock Base	Material	Durable stone or broken concrete	less than 10%, by weight, earth sand, nondurable rock	Visual		Daily Per Work Area	Random	x		x
303	2.2 & 2.3	Rock Base	Material	Max Particle size: 12" for 18" Rock. Ratio of longest dimension to thickness not exceed 2:1	There will be some exceeding 9" for 18" Rock Base	Visual		Daily Per Work Area	Random	x		x
303	3.3, 3.4	Rock Base	Placement	Can be placed in one lift. Distributed by blading or dozing.	Per lift: 4 passes by tamping roller or 2 passes by vibratory roller per 203.5.5	Visual		Daily Per Work Area	Random	x		x
303	3.5	Rock Base	Final Surface	Top 2" uniform grade/texture and consist of to 2" max rock, milled asphalt, or crushed concrete	2" granular material; ≥ 50% retained #4 sieve, PI less than 10. 2" recycled material or Type 5 agg gradation per 1007	Visual/Test (sampled with Agg Base)		See frequency	Random	x	x	x
303	3.5	Rock Base	Final Surface	Grade within ± 1/2" of required, rough compensating deviation		Visual/Measurement		Per Area	Random	x		

DIVISION 300: Bases and Aggregate Surfaces							Minimum Frequency For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
304		Aggregate Base Course										
304	2	Aggregate Base Course	Materials Gradations	Per Plan	Base material meet Sec 1007 Deleterious	Visual/Testing		See Frequency above	See Frequency	x	x	
304	3.2	Aggregate Base Course	Subgrade	Approved subgrade & per Sec 206.2.1	No frozen subgrade	Visual/Thermometer		Per Area	Random	x	x	x
304	3.3.1	Aggregate Base Course	Placing	Compacted Lift not to exceed 6"	Compacted Lift not to exceed 8" for shoulders. (separate placement)	Visual		Daily Per Work Area	Random	x		x
304	3.4	Aggregate Base Course	Shaping and Compacting	Each layer compacted to specified density	Type 1 only: Surface segregation corrected by screenings, no reuse of trimmed material	Visual		Per Area	Random	x		x
304	3.4.2	Aggregate Base Course	Density	Density Type 1 for shoulders and Type 5 for shoulder and pavement base is minimum 95% of Standard maximum, Density for Type 1 under pavement is 100% of standard max density	Standard Compaction Test is AASHTO 99, Method C replace +3/4 inch per Method	Testing		See Frequency above	See Frequency	x	x	x
304	3.4.2	Aggregate Base Course	Density	Field Density per AASHTO 191 or 310 for wet density	Moisture determined by AASHTO 310 with MoDOT TM 35 correction	Testing		See Frequency above	See Frequency	x	x	x
304	3.4.2	Aggregate Base Course	Density	Type 1 shoulder option	Thickness less than 4": 3 passes of 5 ton roller, no test	Visual		Per Area	Random	x		
304	3.5	Aggregate Base Course	Substitutions	Asphalt pavement millings, crushed concrete	Compaction per 304.3.4.2	Visual		Per Area	Random	x		
304	4.1	Aggregate Base Course	QC/QA Frequencies	Sampling and Testing	See Above			See Frequency above	See Frequency	x	x	x
304	4.1.3	Aggregate Base Course	Deficient Density Test/Thickness	For failing test or thickness deficient by 1/2": Additional measurement every 100' until OK	Remove to 1st test if 2 consecutive tests fail. (gradation, PI and or deleterious)	Visual/Testing		Per Area as required by test results	Random	x	x	x
304		Aggregate Base Course	Quality Assurance Tolerances	Compare Companion sample with QC	Maximum Density tests ± 3 lb, Deleterious ± 2%, PI ± 2, Gradation per 304.4.2.c	Documentation		Per QA	1 per source or material change	x	x	

DIVISION 400: Flexible Pavements							Minimum Frequency For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
400	All	All	Constructed according to plans, specifications, standards, JSP's, etc.				All Work Elements	All Work Elements		x		x
400	Sampling and Testing											
401		Bituminous Base and Pavement		Mix Temperature	275 - 350 F	Thermometer	Min. (1) for ea. day's production	Min. (1) for ea. day's production	One per 5 days production		x	x
401		Bituminous Base and Pavement		Base and air temp	Unfrozen Base and air <50F	Thermometer		Min. (1) for ea. day's production	One per 5 days production		x	x
401		Bituminous Base and Pavement		Gradation and Deleterious	T11, T27, TM 71	Testing	1/1000 ton/ day >200 ton		1/day >500T		x	x
401		Bituminous Base and Pavement		Plasticity Index	T89 and T90	Testing	(1) per 10000Ton/yr		1 /yr and Audit of supplier		x	x
401		Bituminous Base and Pavement		Asphalt Content	T64, TM54, T287, or T308	Testing	(1) per 1000 ton/day		1/day >500T		x	x
401		Bituminous Base and Pavement		Mat Density	TM41	Testing		(4) cores per day by random #'s	1 core/day or 4 cores/week for continuous production.		x	x
401		Bituminous Base and Pavement		Joint Density	T166	Testing		(4) cores per day by random #'s	1 core/day or 4 cores/week for continuous production. Surveillance or audit of QC		x	x
401		Bituminous Base and Pavement		Asphalt Content of RAP	T164	Testing	(1) per 1500 ton		1/ 15K ton a		x	x
402		Bituminous Surface Leveling		Mix Temperature	275 - 350 F	Thermometer	Min. (1) for ea. day's production	Min. (1) for ea. day's production	1/5 days production.		x	x
402		Bituminous Surface Leveling		Base and air temp	Unfrozen Base and air <50F	Thermometer		Min. (1) for ea. day's production	1/5 days production.		x	x
402		Bituminous Surface Leveling		Gradation and Deleterious	T11, T27, TM 71	Testing	(1) per 1000 ton/ day >200 ton		1/day >500T		x	x
402		Bituminous Surface Leveling		Plasticity Index	T89 and T90	Testing	(1) per 10000Ton/yr		1/yr and		x	x
402		Bituminous Surface Leveling		Asphalt Content	T64, TM54, T287, or T308	Testing	(1) per 1000 ton/day		1/day >500T		x	x
402		Bituminous Surface Leveling		Asphalt Content of RAP	T164	Testing	(1) per1500 ton		1/ 15K ton		x	x

DIVISION 400: Flexible Pavements							Minimum Frequency For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
403		Superpave		Mix Temperature	275 - 350 F	Thermometer	(1) per Sublot	(1) per Sublot	1/lot		x	x
403		Superpave		Temperature of base and air	Base unfrozen	Thermometer		(1) per Sublot	1/lot		x	x
403		Superpave		Mat Density	T 166	Testing		(1) per Sublot; by random #'s	1/lot		x	x
403		Superpave		Unconfined Joint Density	T 166	Testing		(1) per Sublot; by random #'s	1/lot		x	x
403		Superpave		Cold feed or hot bin gradation and deleterious content	T 27 & T 11	Testing	2/lot		1/lot		x	x
403		Superpave		FAA, CAA, clay content, and thin and elongated particlaes	AASHTO T304, ASTM D5821, AASHTO T176 & ASTM D 4791	Testing	(1) per 10,000 Tons		1 per project		x	x
403		Superpave		Asphalt Content	AASHTO T 164, TM 54, T 287, T 308	Testing	1 per sublot		1 per day		x	x
403		Superpave		VMA	T 312 and PP 28	Testing	1 per sublot		1 per day		x	x
403		Superpave		V(a)	T 312 and PP 29	Testing	1 per sublot		1 per day		x	x
403		Superpave		VFA	T 312 and PP 30	Testing	1 per sublot		1 per day		x	x
403		Superpave		Theo max SG of the mixture	T 209	Testing	1 per sublot		1 per day		x	x
403		Superpave		TSR of the mixture	T 283	Testing	(1) per 10,000 Tons		1 per 50,000 tons		x	x
403		Superpave		Aggregate Consensus Tests	Controls and devices	Testing	(1) per 10,000 Tons		1/project		x	x
401		Bituminous Base and Pavement										
401	2.1	Bituminous Base and Pavement	Material	Binder per Plan.	If P.I. > 3.0, then 401.4.5 must be ran	Check/Test	x		Random		x	
401	2.2	Bituminous Base and Pavement	Recycled Asphalt Material	Recycled Asphalt Material in accordance with 403.2 except all RAP shall be in accordance with 1004 for deleterious and foreign material	AASHTO TP 58	Check/Test	x		Random		x	
401	3	Bituminous Base and Pavement	Composition of Mixtures	Gradation Requirements	Meets gradation requirements of Specification. 401.3	Testing	1/1000 ton/ day >200 ton		Frequency Above		x	

DIVISION 400: Flexible Pavements							Minimum Frequency For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
401	4	Bituminous Base and Pavement	Job Mix Formula	Approved Mix	Per Plan Sections	Visual	Per Plan	Per Placement	Random			x
401	4.3	Bituminous Base and Pavement	Mixture Approval	Approved Mix	By Engineer of Record	Visual	Per Plan	Per Placement	Random			x
401	4.4.1	Bituminous Base and Pavement (BP1 & BP-2)	Mixture Characteristics	Percent air voids 3.5-4.5, Stability 750lb, Voids in Mineral Aggregate 13.0	AASHTO T-245	Testing	Frequency Above		Frequency Above		x	
401	4.4.2	Bituminous Pavement - 3	Mixture Characteristics	Percent air voids 3.5-4.5, Voids in Mineral Aggregate 16.0	AASHTO T-312	Testing	Frequency Above		Frequency Above		x	
401	4.4.3	BP-3NC	Mixture Characteristics	Minimum Non-Carbonate by Volume, Limestone 20% minus No. 4; Dolomite no requirements	MoDOT Test Method TM 76	Testine	Frequency Above		Frequency Above		x	
401	4.5	Bituminous Base and Pavement	Moisture Susceptibility	AASHTO T283	Minimum retained strength of 70%	Testing	Frequency Above		Frequency Above		x	
401	5.4	Bituminous Base and Pavement	Moisture Content	TM 53	< 0.5% moisture weight of the mixture	Testing	Min. (1) for ea. day's production		1 per 5 days production		x	
401	5.5	Bituminous Base and Pavement	Contamination	No unburned fuel, fuel residue or any other material not part of job mix formula	Meets parameter and Procedures of 401.5.5	Testing	Min. (1) for ea. day's production		1 per 5 days production		x	x
401	7.1	Bituminous Base and Pavement	Weather Limitations	No bit mixtures on wet or frozen surfaces.		Visual/Thermometer		Prior and during placement	Random	x		x
401	7.2	Bituminous Base and Pavement	Bituminous Mixing Plants.	Accordance with Sec 404.			Periodic		Random			x
401	7.3	Bituminous Base and Pavement	Subgrade Preparation	Sec 209	Tack and primed in accordance to Secs 407 and 408, as applicable	Visual		Prior and during placement	Random	x		x
401	7.5	Bituminous Base and Pavement	Spreading	Compacted layer not to exceed 2" for wear course or 4" for leveling course	Clean surface free of dirt, soil or other contaminants	Visual		Prior and during placement	Random	x		x
401	7.5.1	Bituminous Base and Pavement	Irregularities	Segregated areas will be removed and replaced	MoDOT Test Method 75	Testing		As needed	As needed	x	x	x
401	7.6	Bituminous Base and Pavement	Longitudinal Joints.	Minimum density along (6") long. Joints is no more than 2% below specified density	Transverse cut back full width	Visual/Test		Frequency Above	Frequency Above	x	x	x
401	7.8	Bituminous Base and Pavement	Compaction	Minimum density of 92 percent of maximum specific gravity.	TM 41 or by a specific gravity method.	Check/Test		(4) cores per day by random #'s	1 core/day or 4 cores/week for continuous production.	x	x	x
401	8.1	Bituminous Base and Pavement	Mixture Testing	Gradation, deleterious content, and the asphalt content.	AASHTO T 308 is used to determine the asphalt content, the binder ignition oven shall be calibrated in accordance with MoDOT Test Method	Check/Test	(1) per 1000 ton		1/day >500T	x	x	x

DIVISION 400: Flexible Pavements							Minimum Frequency For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
401	10	Bituminous Base and Pavement	Surface Tolerance	Finished layers true to the established crown on grade per plan	Transverse construction joints will not vary more than 1/4" per 10ft	Visual		After placement	Random	x		x
402		Bituminous Surface Leveling										
402	2	Bituminous Surface Leveling	Material	In accordance with section 1000		Testing	see frequency above	see frequency above	see frequency above		x	
402	2.1	Bituminous Surface Leveling	Asphalt Binder	Per Plan		Visual		Per Activity	Random		x	
402	2.3	Bituminous Surface Leveling	Recycled Asphalt Material	Recycled Asphalt Material in accordance	AASHTO TP 58	Check/Test	testing		Random		x	
402	3	Bituminous Surface Leveling	Composition of Mixtures	Gradation Requirements	Meets gradation requirements of Specification. 401.3	Testing	Frequency Above		see frequency above		x	
402	3.1 & 3.2	Bituminous Surface Leveling	Gradation of Combine Aggregate	Per Mix Design		Testing	Frequency Above		see frequency above		x	
402	4	Bituminous Surface Leveling	Job Mix Formula	Approved Mix	Per Plan Sections	Visual			Random	x		x
402	5	Bituminous Surface Leveling	Gradation and Deleterious Content Control	Gradation, Deleterious Content and P.I.		Per Section 402.5	Frequency Above		see frequency above		x	
402	7	Bituminous Surface Leveling	Moisture Content	TM 53	< 0.5% moisture weight of the mixture	Testing	Frequency Above		see frequency above		x	
402	8	Bituminous Surface Leveling	Contamination	No unburned fuel, fuel residue or any other material not part of job mix formula	Meets parameter and Procedures of 401.5.5	Visual	x	Per Activity	Audit of supplier			x
402	10	Bituminous Surface Leveling	Construction Requirements									
402	10.1	Bituminous Surface Leveling	Weather Limitations	No bit mixtures on wet or frozen surfaces. No placement when air or surface temp is below 50 F		Visual/Thermometer		Daily during activity	Random	x		x
402	10.2	Bituminous Surface Leveling	Bituminous Mixing Plants.	Accordance with Sec 404.			x		Audit of Supplier			x
402	10.3	Bituminous Surface Leveling	Subgrade Preparation	Tacked - Section 407				Prior and during placement	Random	x		x
402	10.5	Bituminous Surface Leveling	Spreading	No segregation or contamination		Visual		During placement	Random			x
402	10.5.1	Bituminous Surface Leveling	Irregularities	Segregated areas will be removed and replaced	MoDOT Test Method 75	Testing		As needed	As needed	x	x	x
402	10.6	Bituminous Surface Leveling	Joints	Transverse cut back full width		Visual		Prior and during placement	Random			x
402	10.7	Bituminous Surface Leveling	Compaction	3 Complete Passes with a Pneumatic Tire Roller or Steel Drum Roller weighing >10 Tons	Steel Wheel Roller will be used for Final Rolling	Visual		During production	Random	x		x
402	10.8	Bituminous Surface Leveling	Surface Condition	Smooth and uniform. No excess binder, loose or contaminated material		visual		After Compaction/enitire area	Random	x		x
402	10.9	Bituminous Surface Leveling	Hauling over completed portions	Not permitted		visual		Continuous	Random			x
403		Asphaltic Concrete Pavement										

DIVISION 400: Flexible Pavements							Minimum Frequency For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
403	4.6.2	Asphaltic Concrete Pavement	Air Voids	Air Voids 4.0 within +/- 1.0%		Testing	1 per sublot		1 per day		x	
403	5.2	Asphaltic Concrete Pavement	Density	Final density of 94% +/- 2.0%		Testing		(1) per Sublot; by random #'s	1 per day	x	x	x
403	5.3	Asphaltic Concrete Pavement	Asphalt content	Asphalt content within +/- 0.3% of mix design		Testing	1 per sublot		1 per day		x	
403	5.4	Asphaltic Concrete Pavement	Voids in mineral Aggregate	VMA -0.5 and +2.0 of minimum required.		Testing	1 per sublot		1 per day		x	
403	5.1	Asphaltic Concrete Pavement	Contamination	No unburned fuel, fuel residue or any other material not part of job mix formula		Testing	Min. (1) for ea. day's production		Random		x	
403	7	Asphaltic Concrete Pavement	Bituminous Mixing Plants	Sec 404			Periodic		Random			x
403	10.1	Asphaltic Concrete Pavement	Weather Limitations	No bit mixtures on wet or frozen surfaces.	TM 20	Visual/Thermometer		Prior and during production	Random	x		x
403	12	Asphaltic Concrete Pavement	Prime and Tack	Sec 407 and 408				Prior and during production	Random	x		x
403	13	Asphaltic Concrete Pavement	Spreading and Finishing	All paving will be done on clean dry surfaces free of foreign material.	Any loads with lumps or crust on the asphalt mixture will be rejected.	Visual		During Activity	Random	x		x
403	13	Asphaltic Concrete Pavement	Spreading and Finishing	Minimum compacted thickness	1.25" for SP095, 1.75" for SP125, 2" for SP190, 3" for SP250	Visual		During Activity	10% of Specified QC	x	x	x
403	13.2	Asphaltic Concrete Pavement	Segregation	Care will be taken to prevent segregation	Questionable areas will be tested with TM 75	Testing		During Activity	Random	x	x	x
403	13.3	Asphaltic Concrete Pavement	Release to traffic	Release for traffic: Surface is below 140 f a	Cooled to prevent flushing.	Measurement		When required for traffic	Random			x
403	15	Asphaltic Concrete Pavement	Compaction	A Pneumatic tire roller will be used as the initial or intermediate roller on any wedge or leveling course	No vibratory mode when temperature is below 225 F	Visual/Thermometer		Prior and during production	Random			x
403	15.1	Asphaltic Concrete Pavement	Rolling	Displacement due to starting, stopping or changing direction is not permitted.	Excessive liquid, to prevent adhesion to rollers will not be used. No diesel fuel or solvent as wetting agents.	Visual		Prior and during production	Random	x		
403	15.4	Asphaltic Concrete Pavement	Density Measurement	In place density will be taken no later then the following day of placement.		Testing		(1) per Sublot; by random #'s	1/lot	x	x	x
403	16.1	Asphaltic Concrete Pavement	Longitudinal Joints.	Minimum density along (6") long. Joints is no more than 2% below specified density	Transverse cut back full width	Testing		(1) per Sublot; by random #'s	Random	x	x	x
403	16.2	Asphaltic Concrete Pavement	Longitudinal Joints.	Offset longitudinal joints between layers by minimum of 6"		Visual		Per joint	Random			x
403	17.2.2	Asphaltic Concrete Pavement	Plant Calibration	Per 404		Documentation					x	
403	17.2.3	Asphaltic Concrete Pavement	Retained Samples	Contractor to retain for minimum of 7 days							x	
403	17.3.1	Asphaltic Concrete Pavement	Calibration Schedule	Test equipment calibrate and/or verify per table		Documentation	Per chart	Per chart	Random		x	

DIVISION 400: Flexible Pavements							Minimum Frequency For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
403	18.2	Asphaltic Concrete Pavement	Aggregate Comparison	see control chart 403.18.2.1 for gradation	Coarse Agg. Angularity within 5% Void content within 2% Sand Equivalent within 5% Flat elongated particle content within 1%		x		1 Split Sample with QC per week		x	
403	19.2	Asphaltic Concrete Pavement	Random numbers/Lots	1 Lot with 4 sublots = Total max 4000 tons				Per quantity	Random		x	x
403	20	Asphaltic Concrete Pavement	Surface Test		The pavement surface shall be thoroughly tested for smoothness by profilographing or straightedge as indicated.	Visual		Min. (1) for ea. day's production	Random	X		X
403	20.1	Asphaltic Concrete Pavement	Straightedging	10ft straightedge	Segments of paved surface not profilograph, except medians and similar areas, shoulders adjacent to rigid pavement or resurfaced rigid pavement and temp. bypasses	Any variations exceeding 1/8" in 10 ft (remove)		Min. (1) for ea. day's production	Random	X		X
403	20.2	Asphaltic Concrete Pavement	Profilographing	Sec 502	If waived see Sec 403.20.1			Min. (1) for ea. day's production	10% of QC	X	x	X
404		Bituminous Mixing Plants										
		To Be Developed										
407		Tack Coat										
407	0.2	Tack Coat	Material	Emulsified Asphalt	Sec 1015	Documentation	Documentation	Review documentation from supplier per day	Random			
407	.4.1	Tack Coat	Surface Prep	Free of all dust, loose material, grease, or other foreign material		Visual		Prior and during production	Random	x		
407	.4.2	Tack Coat	Application	Pressure distributor/rate per plan or between .02 gal/SY to 0.1 gal./SY	Heated in accordance with sec. 1015			Prior and during production	Random	x		x
408		Prime Coat										
408	0.2	Prime Coat	Material	Emulsified Asphalt Type RC and MC Liquid Asphalts	Sec 1015	Documentation	Documentation	Review documentation from supplier per day	Random			
408	.4.1	Prime Coat	Surface Prep	Per Plan, free from ruts, corrugations, segregation and irregularities	Surface shall be firm and damp	Visual		Prior and during production	Random	x		
408	.4.2	Prime Coat	Application	Pressure distributor/ per plan rate or between 0.2 to 0.5 gal/SY	Heated per sec 1015. No excessive overlapping of Bituminous Material			Prior and during production	Random	x		x
409		Seal Coat										

DIVISION 400: Flexible Pavements							Minimum Frequency For Permanent Work			Required Documentation: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
409	0.2	Seal Coat	Material	Aggregate for Seal Coats/ Per Plan	Sec 1003		Documentation	Review documentation from supplier per day	Random	x		
409	.2.1.	Seal Coat	Material	Asphalt Binder	Penetration at 77 deg.	ASTM D5, Min 60/Max 150	Documentation	Review documentation from supplier per day	Random	x		
409	.2.1	Seal Coat	Material	Asphalt Binder	Elastic Recovery at 50 deg AASHTO 301, Min 65		Documentation	Review documentation from supplier per day	Random	x		
409	.2.2	Seal Coat	Material	Pre-coating Binder	Sec 1015		Documentation	Review documentation from supplier per day	Random	x		
409	0.3	Seal Coat	Job Mix Formula	Per Plan	See Sec 409.3.1			Per Area	Random	x		
409	.3.3	Seal Coat	Application Rate	Per Plan	Asphalt Binder -.05 to +.15 Aggregate +5			Per Area	Random	x		
409	0.4	Seal Coat	Equipment	Per spec.				Review of Equipmet per area	Random			
409	0.5	Seal Coat	Construction Requirements									
409	.5.1	Seal Coat	Test Strip	500 feet long					Evaluated after 24 hours	x		
409	.5.2	Seal Coat	Weather Limitations	Air and Surface Temp. must be above 60 deg	Clean, dry surface			Prior and during production	Random	x		
409	5.3	Seal Coat	Prep. Of Surface	Clean surface prior to application				Prior and during production	Random	x		
409	.5.4	Seal Coat	Application of Bituminous Material	one half the width of the surface at a time with minimal overlap	Active work area will not exceed 3 miles			During production	Random	x		
409	.5.4.1	Seal Coat	Application of Bituminous Material	if placed on bit. Surface then surface must cure for 15 - 30 days				Prior and during production	Random	x		

DIVISION 500: Rigid Pavements							Minimum Frequency For Permanent Work			QC Type Documentation: DIR, Test Record, Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
500	All	All	Constructed according to plans, specifications, standards, JSP's, etc.				All Work Elements	All Work Elements		x		x
501	CONCRETE											
501	2	Concrete	Material	Per section 1000			See Frequency	See Frequency	See Frequency		x	
501	2.1	Concrete	Gradation of Coarse Aggregate	T27 and T11	1005.2	Testing	1 per 500 CY	1 per 500 CY	10% of Specified QC,		x	
501	2.1	Concrete	Gradation of Fine Aggregate	T27 and T11	1005.3	Testing	1 per 500 CY	1 per 500 CY	10% of Specified QC,		x	
501	2.1	Concrete	Deleterious Content	MoDOT TM 71		Testing	1 per 500 CY	1 per 500 CY	10% of Specified QC,		x	
501	2.1	Concrete	Absorption of Coarse Aggregate	T85		Testing	1 per 500 CY	1 per 500 CY	10% of Specified QC,		x	
501	2.1	Concrete	Thin or Elongated Pieces	ASTM D4791	ASTM D4791	Testing	1 per source/year	1 per source/year	1 per source/year		x	
501	3	Concrete	Mix Design			Visual	Approval Documentation	Approval Documentation	Per mix design			x
501	3.2	Concrete	Paving Concrete	100% each fraction pass the 2". Grade F 100% each fraction pass the 3/4"		Testing	See Gradation Frequency	See Gradation Frequency	10% of Specified QC,		x	
501	3.3	Concrete	Optimized Masonry Concrete	Coarse 100% each fraction pass one inch and no more than 2.5% shall pass the No. 200.	Fine no more than 2% pass the No. 200 for natural sand and no more than 4% pass the No. 200 for man. Sand.	Testing	See Gradation Frequency	See Gradation Frequency	10% of Specified QC,		x	
501	3.4	Concrete	Non-optimized Masonry Concrete	Sec. 1005		Testing	See Gradation Frequency	See Gradation Frequency	10% of Specified QC,		x	
501	3.5 - 3.6	Concrete	Fine Agg. Classes	Minimum cement per class.	See Chart	Testing	Documentation	Documentation				
501	3.8	Concrete	Compressive Strength Req.	Per chart for each class		Testing	Min (1) per production day	First load, retest or (1) per 100 CY/pour/day unless otherwise specified	10% of Specified QC,		x	x
501	4	Concrete	Sampling	AASHTO T 141 modified to after 1st yard	Use sample for slump, air, and cylinders, Also for Sec 700	Plant Testing	As needed to control product. Min 1/day	1 per 100 yds unless otherwise specified	10% of Specified QC,		x	x
501	5	Concrete	Slump	AASHTO T119	Excludes minor concrete for Leveling & Work pads.	Field Testing	Min (1) per production day	First load, retest or (1) per 100 CY/pour/day unless otherwise specified	10% of Specified QC,		x	x

DIVISION 500: Rigid Pavements							Minimum Frequency For Permanent Work			QC Type Documentation: DIR, Test Record, Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
501	5	Concrete	Consistency (Slump)	AASHTO T119	Limits are as 501.5 table or per approved mix design,	Field Testing	As needed to control product. Min 1/day	First load, retest or (1) per 100 CY/pour/day unless otherwise specified	10% of Specified QC,		x	x
501	6.1	Concrete	Weighing Tolerances		+/- 0.5% for cement +/- 1.0% for aggregate	Measurement/Check	Periodic		Random		x	
501	6.1	Concrete	Weighing Tolerances		scales shall be within 0.4% of net load applied	Measurement/Check	Periodic		Random		x	
501	6.2	Concrete	Water Meter Tolerances		One quart (liter) or +/- 1%	Measurement/Check	Periodic		Random		x	
501	6.2	Concrete	Air Content	AASHTO T 152	Excludes minor concrete for Leveling & Work pads.	Field Testing	Min (1) per production day	First load, retest or (1) per 100 CY/pour/day unless otherwise specified	10% of Specified QC,		x	x
501	6.3	Concrete	Calibrations		Calibrated and Certified Annually	Measurement/Check	Annual		Random		x	
501	7	Concrete	Mixing	Produce uniform color, appearance & consistency	Cement, aggregate and no less than 60% of water shall be mixed a minimum of 1 minute. The remaining water shall be added within 15 seconds after all other material added.	Visual	Per Activity and load sampled	Per Activity and load sampled	Random			
501	8.2	Concrete	Uniformity Testing	Per section 10.3 of ASTM C 94 with following exceptions and additions:	2 samples within 15 minutes; Air, slump and proportions per specs, use of one-quarter cubic foot measure is permitted, cylinders cured in damp sand for first 48 hours, minimum 60 seconds mix time						x	

DIVISION 500: Rigid Pavements							Minimum Frequency For Permanent Work			QC Type Documentation: DIR, Test Record, Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
501	8.2	Concrete	Central and Truck Mixers Uniformity	ASTM C94		Measurement/Check	Initial test and then whenever inadequate mixing is observed	whenever inadequate mixing is observe	Random		x	
501	8.6	Concrete	Revolutions and Add Water	Initial mix 70 -100 revs. (see volume exception). Agitation speed per manufacturer	Add water: only 2 times max after initial mix. 30 revs at mix speed.Include in total water	Visual	Per Activity	Per Activity and load sampled	Random			x
501	8.7	Concrete	Field Water Adjustments	Measure any water added to within 1%.		Measurement/Check		Per activity per load	Random		x	
501	8.8	Concrete	Handling & Discharge	Shall not exceed 300 revs		Measurement/Check		Per activity per load	Random			
501	8.11	Concrete	Delivery Tickets	Contain correct information per specification		Check		Per activity per load	Random			x
501	9.3	Concrete	Calibrations	Controls and devices	Cement 0 to +4% Aggregates +/- 2% Admixtures +/- 3% Water +/- 1%	Measurement/Check	When Calibrated		Random		x	
501	10, 10.2	Concrete	Air Entrained Concrete	Air Content determined by AASHTO 152 (& MoDOT Agg correction)	Air Entrainment no less than 5%. Sample behind Paver for correction	Testing		Determine correction 1/activity min.	Random		x	x
501	10.4, 10.4.3	Concrete	Redosing Entrainment	Max redose is one time if below specified. Submit redosing plan for approval	Reject concrete if air is below 4%	Testing		Per activity	Random		x	
501	11	Concrete	Admixtures fir Retarding Set	Approval required prior to use	Added in accordance with 501.10.3	Approval Documentation	Per mix design	Per mix design	Random			
501	12	Concrete	Water reducers	Type A for paving; can reduce cement up to 25 lbs per cubic yard. Dosage rate per manufacturers recommendation.	Added in accordance with 501.10.4	Mix design approval	Per mix design	Per mix design	Random			
501	12.1, 2, 3	Concrete	Water reducers	Type A or D for modified B2,	When used slump can increase to a maximum of 6 inches	testing		See Frequency	See Frequency			
501	13	Concrete	Calcium Chloride	Not permitted unless used for pavement repair per section 613		Per mix design approval	Per mix design	Per mix design	Random			

DIVISION 500: Rigid Pavements							Minimum Frequency For Permanent Work			QC Type Documentation: DIR, Test Record, Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
501	14	Concrete	Supplementary Cementitious Material	maximum of 40% replacement	Ternary mixes allowed for all classes	Per mix design approval	Per mix design	Per mix design	Random			
501	14.1	Concrete	Fly Ash	Class C or F	25% max replacement	Per mix design approval	Per mix design	Per mix design	Random			
501	14.2	Concrete	Slag	30% max replacement		Per mix design approval	Per mix design	Per mix design	Random			
501	14.3	Concrete	Silica Fume	MB-2 minimum 6% to a max 8% replacement	A-1, B, B-1, B-2, PCCP, Seal - max replacement of 8%	Per mix design approval	Per mix design	Per mix design	Random			
501	14.3.1 - 14.3.6	Concrete	Silica Fume	In accordance with ASTM C 1240. If dry compacted it shall be 100% silica fume with no admixtures	Material certification including test results. Protect from freezing.	Mix design approval and material cert.	Per mix design	Per mix design	Random			
501	14.4	Concrete	Source Changes	Changes in source for cement replacement must be approved by engineer		Mix design Approval	Per mix design	Per change in source	Random			
501	14.5	Concrete	Mix proportions	Changes in mix design proportions requires engineer approval		Mix design Approval	Per mix design	Per change	Random			
501	14.6	Concrete	Mixing water	Max mixing water based on total cementitious material.	Net quantity of mix water shall include aggregate absorption.	Batch Ticket Documentation	Per mix design	Per batch	Random			
501	14.8	Concrete	Measuring silica fume	Measured by weight or volume within a tolerance of 2%		Batch Ticket Documentation	Per mix design	Per batch	Random			
501	15.1	Concrete	Minimum Cement Content	No less than 517 pounds per cubic yard		Mix Design Approval	Per mix design	Per Batch				
501	15.2	Concrete	Certification			Visual	First Load of Every Day's Production	First Load of Every Day's Production	Random	x		
502	PCCP BASE AND PAVEMENT											
502	3.2.1	PCCP Base & Pavement	Finishing	No apparent slumping with in 6" of pavement edge		Visual/Straightedge		Daily when in use	Random	x	x	x
502	3.2.2	PCCP Base & Pavement	Forms & Keyways	Longitudinal Tongue & Groove Joint of specified type and size and correct locations		Visual		Daily during paving	Random	x		x
502	3.3	PCCP Base & Pavement	Consolidation	4500 impulses per minute		Tachometer Readings		One reading per 2 weeks	Random		x	x
502	4.1	PCCP Base & Pavement	Weather Considerations	Protect from freezing until strength reaches 3500 psi		Compressive Strength results/temperature measurements per approved cold weather plan		As required by weather	Random	x	x	x
502	4.2	PCCP Base & Pavement	Rain Protection	Protect from rain damage		Visual		As required by weather	Random	x		x

DIVISION 500: Rigid Pavements							Minimum Frequency For Permanent Work			QC Type Documentation: DIR, Test Record, Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
502	4.3	PCCP Base & Pavement	Setting Forms	Top of form within 1/8" of true grade and alignment within 1/4" of true alignment		Visual		Daily during paving	Random	x		
502	4.7	PCCP Base & Pavement	Tie Bars	Supported by chairs or placed by mechanical means		Visual		Per Activity	Random	x		
502	4.8.2	PCCP Base & Pavement	Added Finishing Water	No moisture applied to surface except in emergency conditions		Visual		Per Activity	Random	x		x
502	4.8.3, 8.3.2 & 8.3.4	PCCP Base & Pavement ; Surface	Surface Texture	ASTM E965 or waived if diamond grind or wire comb method used	> 0.70 mm	Measurement/Check		1/sublot	1/lot		x	x
502	4.8.3.4.1 & 4.8.3.4.2	PCCP Base & Pavement ; Surface	Wire Combing	Overlapped passes average depth of 0.125 inch and tine spacing at 1/2 inch		Measurement/Check		Daily during paving	Random	x		
502	4.8.5	PCCP Base & Pavement ; Surface	Station Numbers	Every other full station and all station equations	Indented following final finishing	Visual		Per Day of Paving	Random			
502	5	PCCP Base & Pavement ; Surface	Joints	Specified type, dimension and location.	Dowels and tie bars placed parallel to subgrade and perpendicular to the joint	Visual		Each joint	Random	x		x
502	5.1	PCCP Base & Pavement ; Joints	Expansion Joints	Extend full cross section of pavement.		Visual		Per Activity	Random	x		
502	5.2	PCCP Base & Pavement ; Joints	Construction Joints	Installed at close of each day's work, or work interruptions of 30 minutes.		Visual		Per Activity	Random	x		x
502	5.3	PCCP Base & Pavement ; Joints	Sawing Joints	Width and depth per plans and standards	Sawing to occur as soon as practical and prior to cracking	Visual/measurement		Per joint	Random	x		x
502	5.3.1	PCCP Base & Pavement ; Joints	Formed L Joint	May be used for pavements 8" thick or greater	Allowed between two driving lanes or driving and lane shoulder 6' wide or greater	Review of widths and thicknesses		Per joint	Random	x		x
502	5.3.1.2	PCCP Base & Pavement ; Joints	Joint forming Device	Blade Depth equal to 1/3 slab thickness		Visual/Measurement		Per joint	Random	x		x
502	5.3.1.4 & 5.3.1.5	PCCP Base & Pavement ; Joints	Weak Plane Verification	Cores taken within 1/2 inch around joint forming trail.	Average strength ratio between first and second cores shall be 1/3 or less	Testing		Four 2" cores after first days production; then 2 each day	Random	x		x
502	5.4	PCCP Base & Pavement ; Joints	Sealing Joints,	Sawed contraction joints unsealed. Expansion joints sealed	Sealer heated before pouring, overheated material rejected	Visual		Per Activity	Random	x		x
502	6.1	PCCP Base & Pavement ;	Curing	White Pigmented Membrane, 1 gallon per 200 SF. Spray within 30 minutes	No membrane on concrete base	Visual		Per Activity	Random	x		x

DIVISION 500: Rigid Pavements							Minimum Frequency For Permanent Work			QC Type Documentation: DIR, Test Record, Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
502	6.2	PCCP Base & Pavement ;	Curing	Burlap; Membrane applied when burlap removed	Top or edge not left unprotected > 30 minutes.	Visual		Per Activity	Random	x		x
502	7	PCCP Base & Pavement ;	Formwork	Form removal; No < 72 hours, sides cured by membrane.	Honeycombs immediately repaired	Visual		Per Activity	Random	x		
502	8.1	PCCP Base & Pavement ;	Straightedging	1/8" in 10 Ft.-Lanesk 1/4" in 10 ft. - Shldr		Straight Edging		All pavement when Profilographing is not performed	Random	x		
502	8.2	PCCP Base & Pavement ;	Profilographing	All pavement unless on exceptions list.	All pavement unless on exceptions list.	Profilograph		Each continuous day's placement	10% of Pavement	x	x	x
502	8.3	PCCP Base & Pavement ;	Profilographing	California Type	In accordance with TM 59	Documentation		Each Equipment	Random			x
502	8.4	PCCP Base & Pavement ;	Profilographing	Calibrated annually	Vary no more than 2" per mile	Certification		Each Equipment	Random			x
502	8.5.1	PCCP Base & Pavement ;	Profilograph Test & Reports	Profilogram per each days placement over 50'				Per Day of Paving	10% of QC		x	x
502	8.5.2	PCCP Base & Pavement ;	Profilograph Test & Reports	Report sent to engineer by end of next work day				Per Day of Paving	10% of QC		x	x
502	8.5.10	PCCP Base & Pavement ;	Profilograph Test & Reports	Pavement profiles taken at center of each traffic lane				Per Day of Paving	10% of QC			x
502	8.5.11	PCCP Base & Pavement ;	Profilograph Test & Reports	Acceptable if 45 in/mile or less for speeds > 45 MPH or 65 in/mile for speed equal or < 45 MPH		Testing		Per Day of Paving	10% of QC		x	x
502	9	PCCP Base & Pavement ;	Opening to Traffic	Open to light traffic at 3000 psi and all traffic at 3500 psi		Testing		As needed	Random		x	x
502	10	PCCP Base & Pavement ;	Material Acceptance	Concrete meets specification requirements, approved QC Plan followed & Favorable comparison with QA		Testing		See Frequency	See Frequency		x	
502	10.1	PCCP Base & Pavement ;	Lot Definition	Surface placed in each days production	Split into min. 4 and max 6 sublots						x	x
502	10.2	PCCP Base & Pavement ;	Sampling	QC - 1 sample per subplot, QA - 1 sample per lot	4" cores for thickness < 12" and 6" cores for pavements >12"			Per subplot	Per lot		x	x
502	10.3	PCCP Base & Pavement ;	Coring	AASHTO T 24	After concrete reaches 3000 psi. Fill hole with no-shrink grout	Testing		Per lot	Random		x	
502	10.3.1	PCCP Base & Pavement ;	Testing Cores	Thickness per AASHTO T 22, Compressive Strength per AASHTO T 22	L/D Ratio of 2:1	Testing		1/sublot	1/lot		x	x
502	11.1	PCCP Base & Pavement ;	QCP	Approval prior to concrete placement		QCP Approval						

DIVISION 500: Rigid Pavements							Minimum Frequency For Permanent Work			QC Type Documentation: DIR, Test Record, Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
502	11.2.1.1	PCCP	Coarse Aggregate	Gradation of Coarse Aggregate	T 27	Testing	1/week	1/week	1/week		x	
502	11.2.1.2	PCCP	Aggregate	Deleterious Content	TM 71	Testing	1/7500SY/day	1/7500SY/day	1/week		x	
502	11.2.1.3	PCCP	Aggregate	Absorption of Coarse Aggregate	T85	Testing	1/2000 CY	1/2000 CY	1 per 10,000 CY		x	
502	11.2.1.4	PCCP	Aggregate	Thin or Elongated Pieces	D4791	Testing	1/10,000 CY	1/10,000 CY	1 per project		x	
502	11.2.1.5	PCCP	Retained Samples	Retain samples for minimum of 7 days								
502	11.2.2	PCCP Base & Pavement ;	Concrete	Slump; 3.5"	T 119 T 141;	Testing		1 per 500 CY 1 per Day's Production	1 per day		x	x
502	11.2.3	PCCP Base & Pavement ;	Concrete	Air Content; 5.0% plus air loss 6.0% first 200 CY, first day	T 152	Testing		1 per 500 CY	1 per day	x	x	x
502	11.2.3	PCCP Base & Pavement ;	Concrete	Air Content Loss	T 152	Testing		1 per half day production		x	x	x
502	11.3	PCCP Base & Pavement ;	Control Charts	Maintain Charts - keep up to date		Visual		Verify weekly	Random	x	x	
502	11.3.2	PCCP Base & Pavement ;	Action limits	Slump + 1", Air 4.5 to 5.0%, Absorption + 0.3 to 0.6%		Testing		See Frequency	See frequency	x	x	x
502	11.4	PCCP Base & Pavement ;	Corrective Action	Test each truck enroute		Testing		Each Truck	Random	x	x	x
502	11.4.1	PCCP Base & Pavement ;	Corrective Action Gradation	One test outside allowable range	Immediate steps taken	Testing	See Frequency	See Frequency	See frequency	x	x	x
502	11.4.2	PCCP Base & Pavement ;	Corrective Action Deleterious	One test outside allowable range	Immediate steps taken	Testing	See Frequency	See Frequency	See frequency	x	x	x
502	11.4.3	PCCP Base & Pavement ;	Corrective Action Slump, Air, Absorption	One point falls outside action limit or two points in a row outside spec but within action limit	Halt Production	Testing	See Frequency	See Frequency	See frequency	x	x	x
502	11.5	PCCP Base & Pavement ;	Pavement < 8"	3500 PSI - 28 Days	AASHTO T23 or Maturity, ASTM D 3665	Testing		2-3 cores per 7500 Sq. Yd.	1 per 30000 Sq. Yd.		x	
502	11.5	PCCP Base & Pavement ;	Pavement < 8"	Pavement Thickness	ASTM D 3665	Testing		1 per 7500 Sq. Yd.	2 per 30000 Sq. Yd.		x	
502	11.5	PCCP Base & Pavement ;	Pavement < 8"; Air, Slump, Gradation, deleterious, thins & elongated & absorption	Per section 502.11		Testing	See Frequency Sec. 502.10	See Frequency Sec. 502.11	See Frequency 502.12	x	x	
502	11.6	PCCP Base & Pavement ;	Shoulder	8" or > treat as roadway pavement	< 8" treat as section 502.11.5	Testing	See Frequency	See Frequency	See Frequency	x	x	
502	12.1	PCCP Base & Pavement ;	Retained Samples			Testing			10%			
502	12.2	PCCP Base & Pavement ;	QC Equipment	In accordance with sec 403.17.3 with the exceptions listed in spec.	Results recorded	Testing/Visual/Measurements	See Table	See Table	Random		x	

DIVISION 500: Rigid Pavements							Minimum Frequency For Permanent Work			QC Type Documentation: DIR, Test Record, Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
502	13	PCCP Base & Pavement ;	Unacceptable Material	Thickness > 10% deficient; Compressive strength < 3500 psi; Air Content < 4%		Testing	See Frequency	See Frequency	See Frequency	x	x	x
503		BRIDGE APPROACH SLAB										
503	3	Bridge Approach Slab	Aggregate	Gradation of Coarse Aggregate, 1105.2	T27 and T11	Testing	1 per 500 CY	1 per 500 CY	10% of specified QC tests		x	
503	3	Bridge Approach Slab	Aggregate	Gradation of Fine Aggregate, 1005.3	T27 and T11	Testing	1 per 500 CY	1 per 500 CY	10% of specified QC tests		x	
503	3	Bridge Approach Slab	Aggregate	Deleterious Content	MoDOT TM 71	Testing	1 per 500 CY	1 per 500 CY	10% of specified QC tests		x	
503	3	Bridge Approach Slab	Aggregate	Absorption of Coarse Aggregate	T85	Testing	1 per 500 CY	1 per 500 CY	10% of specified QC tests		x	
503	3	Bridge Approach Slab	Aggregate	Thin or Elongated Pieces	ASTM D4791	Testing	1 per project	1 per project	10% of specified QC tests		x	
503	3	Bridge Approach Slab	Concrete	Slump, 4.0" or per Approved Mix Designand & 501.5	T 119 T 141	Testing		1 per 100 CY 1 per Day's Production, 1st load tested also	10% of specified QC tests		X	x
503	3	Bridge Approach Slab	Concrete	Air, > 5.0%	T 152	Testing		1 per 100 CY 1 per Day's Production, 1st load tested also	10% of specified QC tests		x	x
503	3	Bridge Approach Slab	Concrete	Compressive Strength (Cylinders) 4000 psi Before opening to traffic.	T 141 T 22 T 23	Testing		1 per 100 CY 1 per Day's Production, 1st load tested also	10% of specified QC tests	x	x	x
503	3	Bridge Approach Slab	Concrete Curing	Per 502 except liquid membrane Sec 1055	Sealed & textured in accordance with Sec 703	Visual		Per Activity	random			x
503	3.1	Bridge Approach Slab	Voids	Filling Voids	Voids and Cavities filled by approved method	Visual		Per Activity	random			
503	3.2	Bridge Approach Slab	Holes	Filling Holes	Filled to within 1 inch of top and filled with joint sealing material	Visual, Measurement/Check		Per Activity	random			x
504		CONCRETE APPROACH PAVEMENT										
504	2	Conc. Approach Slab	Aggregate	Gradation of Coarse Aggregate, 1005.2	T27 and T11	Testing	1 per 500 CY	1 per 500 CY	10% of specified QC tests		x	
504	2	Conc. Approach Slab	Aggregate	Gradation of Fine Aggregate, 1005.3	T27 and T11	Testing	1 per 500 CY	1 per 500 CY	10% of specified QC tests		x	
504	2	Conc. Approach Slab	Aggregate	Deleterious Content	MoDOT TM 71	Testing	1 per 500 CY	1 per 500 CY	10% of specified QC tests		x	
504	2	Conc. Approach Slab	Aggregate	Absorption of Coarse Aggregate	T85	Testing	1 per 500 CY	1 per 500 CY	10% of specified QC tests		x	
504	2	Conc. Approach Slab	Aggregate	Thin or Elongated Pieces	ASTM D4791	Testing	1 per project	1 per project	10% of specified QC tests		x	

DIVISION 500: Rigid Pavements							Minimum Frequency For Permanent Work			QC Type Documentation: DIR, Test Record, Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
504	2	Conc. Approach Slab	Concrete per 501	Slump, 4.0" or per Approved Mix Designand & 501.5	T 119 T 141	Testing		1 per 100 CY 1 per Day's Production, 1st load tested also	10% of specified QC tests		X	x
504	2	Conc. Approach Slab	Concrete per 50	Air, > 5.0%	T 152	Testing		1 per 100 CY 1 per Day's Production, 1st load tested also	10% of specified QC tests		x	x
504	2	Conc. Approach Slab	Concrete	Compressive Strength (Cylinders) 4000 psi	T 141 T 22 T23	Testing		1 per 100 CY 1st load tested also	10% of specified QC tests		x	x
504	3	Conc. Approach Slab	Concrete	Constructed in accordance with 503		Visual		Per Activity				x
504	3	Conc. Approach Slab	Reinforcement	Supports	Supported and secured with approved metal or plastic bar supports	Visual		Per Activity		x		x
505 BRIDGE DECK CONCRETE WEARING SURFACE												
NOT USED LOW SLUMP CONCRETE												
NOT USED LATEX MODIFIED CONCRETE												
NOT USED SILICA FUME CONCRETE												
506 CONCRETE OVERLAYS FOR PAVEMENT (includes 502 requirements)												
506	20.1.2	Concrete. Overlays	Material Acceptance	Compressive Strength and Thickness (Cores),4000 psi Compressive < 1/2" of Plan Thickness	T24 T148 T22	Testing		1 Per subplot	1 per lot		x	x
506	20.1.2	Concrete. Overlays	Aggregate	Gradation of Coarse Aggregate	T 27 and T 11	Testing	1/week	1/week	1 per week		x	
506	20.1.2	Concrete. Overlays	Aggregate	Deleterious Content	TM 71	Testing	1/7500SY/day	1/7500SY/day	1 per week		x	
506	20.1.2	Concrete. Overlays	Aggregate	Absorption of Coarse Aggregate	T85	Testing	1/2000 CY	1/2000 CY	1 per 1000 CY		x	
506	20.1.2	Concrete. Overlays	Aggregate	Thin or Elongated Pieces	D4791	Testing	1/10,000 CY	1/10,000 CY	1 per project		x	
506	20.1.2	Concrete. Overlays	Concrete	Slump, 3.5"	T 119 T 141	Testing		1 per 500 CY 1 per Day's Production	1 per day		x	x
506	20.1.2	Concrete. Overlays	Concrete	Air Content, 5.0% plus air loss 6.0% first 200 CY, first day	T 152	Testing		1 per 500 CY	1 per day	x	x	x
506	20.1.2	Concrete. Overlays	Concrete	Air Content Loss	T 152	Testing		1 per half day production	random	x	x	x
506	20.1.1	Concrete. Overlays	Interlayer	Over placed on 1 inch minimum new bituminous interlayer or coldmilled surface		Visual		all surfaces	random			

DIVISION 500: Rigid Pavements							Minimum Frequency For Permanent Work			QC Type Documentation: DIR, Test Record, Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
506	20.2.1	Concrete. Overlays	Debonding Material	Shall demonstrate lack of bond between concrete and asphalt, control heat build up so base pavement does not exceed 85 F	No detrimental affect to asphalt or concrete, reasonable durability	Visual		Each Use	random			
506	20.2.2	Concrete. Overlays	Patching material	Spalls in existing surface - Patch with commercial mix		Visual		all surfaces	random			
506	20.2.3	Concrete. Overlays	Dowel Bars	in accordance with 1057.1 and plans		Visual/Measurement		Each use	random			
506	20.3.2	Concrete. Overlays	Surface prep	Seal all existing pavement cracks	Fill all holes > 2" wide and 1 inch deep with bituminous mix	Visual		all surfaces	random			
506	20.3.3	Concrete. Overlays	Joints	All E Joints and L joints located and matched with overlay saw joints	Tie bars required for centerline	Visual		all surfaces	random			
506	20.3.3.1	Concrete. Overlays	Joints	Ties bar, dowel bar and joint saw depth per plans		Visual/Measurement		all joints	random			x
506	20.3.3.2	Concrete. Overlays	Joints	Dowels to extend full width	Securely anchored	Visual		all joints	random			
506	20.3.3.3	Concrete. Overlays	Joints	New transverse joints do not need to march existing except new transverse expansion joints		visual		all joints	random			
506		Concrete. Overlays		Whitewash	100# lime/12.5 gallon water, applied at 200 SF per Gallon	Visual		Each Use				

DIVISION 600: Incidental Construction			Additional Construction Details				Review Applicable Standard Plans for			Minimum Frequency For Permanent Work			QC Type Document: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist			
600		All	All	Constructed according to plans, standards and JSP's			Per work element	Per work element							
600		Sampling and Testing													
603		Water Line Installation	Bedding/Pipe Zone	Type per Plan, Free of deleterious material and stones	Compact under and around 12" of pipe	Visual		Daily per activity	Random	x					
603		Water Line Installation	Backfilling	Per 726, 203 & 206 (Embankment)	Compaction per adjacent specified density	Density		1/1000 CY or every 2-3ft vertical per location, minimum 1 per day/area	10% of Specified QC,	x	x				
603		Water Line Installation	Concrete Encasement	Per Plan	Concrete Testing per 501 (air%, slump, strength)	Visual/Testing		First load, retest or (1) per 100 CY/pour/day unless otherwise specified	1 test /500Cy if significant work item occurs	x	x				
604, 608, 609, 611, 617		Misc.Structures	Concrete	Class B or concrete of a commercial mixture per Sec 501. (collars & structures)	Concrete Testing per 501 (air%, slump, strength)	Visual/Testing		First load, retest or (1) per 100 CY/pour/day unless otherwise specified	1 test /500Cy if significant work item occurs	x	x				
603		Water Line Installation													
603	2	Water Line Installation	Materials	1013	Per Plan	Document	Shipment	Per Item Installed	Per Item Installed	x					
603	2.1	Water Line Installation	Service Connections	AWWA, ANSI, ASTM		Document	Shipment			x					
603	2.2	Water Line Installation	Material Acceptance	Furnish one copy of each manufacturers' certification		Document		Per Activity	Random	x					
603	3	Water Line Installation	Construction Requirements	Service shall not be interrupted without approval		Document		Per Activity	Random						
603	3.2	Water Line Installation	Inspection and Acceptance	Prior to backfilling, shall be the responsibility of the utility owner		Document		Daily Per Activity	Random	x					
603	3.3	Water Line Installation	Appurtenance Installation	Located as shown on the plans or as directed by Owner		Visual		Daily Per Activity	Random	x					
603	3.4	Water Line Installation	Abandoned Water Mains	Shall be plugged and sealed watertight		Visual		Daily Per Activity	Random						
603	3.6	Water Line Installation	Backfilling	Sec 726	12" of material above & around the top of the pipe shall be free of unsuitable materials	Visual		Daily Per Activity	Random						
603	3.7	Water Line Installation	Disinfection	MDNR	Line shall be disinfected	Test		As required	Random		x				

DIVISION 600: Incidental Construction			Additional Construction Details				Review Applicable Standard Plans for			Minimum Frequency For Permanent Work			QC Type Document: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist			
604		Miscellaneous Drainage													
604	10.2	Misc. Drainage	Concrete Headwalls, Drop Inlets and Manholes,	Materials	1033, 1036	Document	Shipment	Per Item Installed	Per Item Installed	x					
604	10.2.1	Misc. Drainage	Concrete Headwalls, Drop Inlets and Manholes, Material	All concrete, except that portion placed monolithic with paved surfaces	Class B, Sec 501, Sec 703.	Visual		Daily Per Activity	Random	x					
604	10.3.1	Misc. Drainage	Concrete Headwalls, Drop Inlets and Manholes	Pipe and bond breaker built into walls of structure are fit flush with inside face of wall	Sec 706, 206	Visual		Daily Per Activity	Random						
604	10.3.2 & 10.3.3	Misc. Drainage	Concrete Headwalls, Drop Inlets and Manholes	Steps for concrete manholes and drop inlets are embedded by casting in place, mortaring or by friction fit.	New manholes for existing sewers constructed per plans.	Visual		Daily Per Activity	Random	x					
604	30.20	Misc. Drainage	Adjusting House Sewer Connections, Materials		1000	Document	Shipment	Daily Per Activity	Daily Per Activity	x					
604	30.3	Misc. Drainage	Adjusting House Sewer Connections	Encase sewer line with concrete minimum 6" thickness	726, 501	Measurement		Daily Per Activity	Random	x					
604	.40.2	Misc. Drainage	Pipe Collars, Material		1020, 1036,501	Document	Shipment	Daily Per Activity	Random	x					
604	40.2.1	Misc. Drainage	Pipe Collars, Material (metal)	Metal pipe collars are the same thickness and corrugations as the metal pipe to be connected.		Measurement		Daily Per Activity	Random	x					
604	604.4	Misc. Drainage	Material (concrete)	Class B or concrete of a commercial mixture in accordance with Sec 501.		Visual/Ticket		Daily Per Activity	Random	x	x				
604	50.00	Misc. Drainage	Connecting Pipe to Existing Structures	New pipe is properly fitted into place, flush with the inner face of the existing masonry.	Opening around the pipe is sealed and watertight			Daily Per Activity	Random	x					
604	60.00	Misc. Drainage	Slotted Drains, Materials		1000		Shipment	Per Plan	Random	x					
604	60.3.2	Misc. Drainage	Slotted Drains	If Type C slotted drain installed such that the slanted spacer bars are facing upstream, sloped against the direction of the surface flow.	1051	Visual		Daily Per Activity	Random	x					
604	60.3.3	Misc. Drainage	604.60.3 Construction Requirements	Placed on Class A Bedding	726, 609.10	Visual Test		Daily Per Activity	Random	x					
604	na	Misc. Drainage	Slotted Drains	Per standard 604.70		Visual		Daily Per Activity	Random	x					
605		Underdrainage													

DIVISION 600: Incidental Construction			Additional Construction Details				Review Applicable Standard Plans for			Minimum Frequency For Permanent Work			QC Type Document: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist			
605	2	Underdrainage	Materials	1009, 1011, 1012, 1013, 1022, 1025	Types per plan	Documents	Shipment	Per installed item	Random	x		x			
605	2.1	Underdrainage	Pipes and Fittings	Pipes are perforated (spaced around circumference) & special fittings are compatible.	Steel fittings are zinc or aluminum coated. All coatings damaged by welding repaired per 1020	Visual		Daily Per Activity	Random						
605	3.1 & 3.2	Underdrainage	Installation - Locations	Per plans and where necessary per Engineer/Geotech	Unstable trench bottoms removed and replaced with drainage aggregate.	Visual		Daily Per Activity	Random	x					
605	3.3	Underdrainage	Installation - Pipe	Firmly bedded and carefully aligned. Drainage gradient of 1"/10' (1%)	Dead ends are capped or plugged. Outlets are 6" above ditch bottom with rodent screens per 1013	Visual/level		Daily Per Activity	Random	x		x			
605	3.4	Underdrainage	Installation - Geotextile	Drainage Aggregate (except Grade 1) completely wrapped	Pipe wrap or sock if Grade 1 or 2, or if perf pipe backfilled with soil	Visual		Daily Per Activity	Random	x		x			
605	10.2 & 10.2.2	Edge Drain - Pipe/Agg Type	Materials	Aggregate per Grades 3, 4A, & 5. Outlet pipe and splash pads per 605.60	Plastic Pipe with minimum 4" I.D.	Visual/Test		Daily Per Activity	Surveillance or audit of QC	x		x			
605	10.2.3	Edge Drain - Pipe/Agg Type	Installation - Backfill	Trench, Install, & backfill after Agg Base is placed & compacted	Compact backfill by 3 passes of drum or vibrate pad compactor	Visual		Daily Per Activity	Surveillance or audit of QC	x		x			
605	10.2.4	Edge Drain - Pipe/Agg Type	Installation - Geotextile	Trench shall be lined and wrapped per plan		Visual		Daily Per Activity	Surveillance or audit of QC	x		x			
605	10.2.5, 10.2.5.1, 10.2.5.2 & 3	Edge Drain - Pipe/Agg Type	Video Inspection	Conducted before paving. Video and dubbed recordings due to Engineer in 3 days	Camera centered in pipe, able to negotiate 4" 90 degree turns	Visual/No crushing, breaks or sags		10% of pipe	Random	x		x			
605	na	Edge Drain - Pipe/Agg Type	Construction requirements	Constructed per Standard Plan 605.10G	12"x 12" trench. Geofabric placed and wrapped as shown depending on shoulder type.s shown.	Visual		Daily Per installation	Random	x		x			
605	20.2.1	Edge Drain - Geocomposite	Materials	Installed per manufacturer's printed instructions	Instructions submitted 2 weeks before installation	Visual	By supplier	Daily Per Activity	Random	x					
605	20.2.3	Edge Drain - Geocomposite	Installation	Drain pipe joined before installation	Splices are sealed and have same strength as edgedrain	Visual		Daily Per Activity	Random	x					
605	20.2.4	Edge Drain - Geocomposite	Backfilling	Edge drain (pavement side) and 1st 6" lift (2" soil) placed and compacted with roller or vibrate plate	Or edgedrain (shoulder side) grade 1 Drain Agg - 2 lifts flooded	Visual		Daily Per Activity	Random	x					
605	30.1	Cross Drain - Pipe/Agg	NOT USED												
605	40.1	Structural Underdrain	Pipe Materials	Install suitable pipe per plan	Concrete splash pad to outlet plastic pipe	Visual		Daily Per installation	Random	x					

DIVISION 600: Incidental Construction			Additional Construction Details				Review Applicable Standard Plans for			Minimum Frequency For Permanent Work			QC Type Document: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist			
605	40.2.1	Structural Underdrain	Construction Requirements	Laid to grade and alignment	Porous backfill tamped firmly around pipe	Visual		Daily Per installation	Random	x					
605	40.2.2	Structural Underdrain	Construction Requirements	Drain agg/no fabric if overlying fill is coarse agg/rocky fill	If sand or earth backfill use geotextile to separate drain agg.	Visual		Daily Per installation	Random	x					
605	40.2.3	Structural Underdrain	Construction Requirements	Backfill placed around & 6" above pipe and tamped	6" lifts with 2 passes of compactor	Visual		Daily Per installation	Random	x					
605	50.1	French Drain	NOT USED					Daily Per installation	Random						
605	60.2.1	Outlet Pipes - Splash Pads	Installation	Pipes installed with a 2% gradient	Splash pads are air entrained Class B, B-1 or commercial mix per 501	Level and documentation		Daily Per installation	Random	x		x			
605	60.2.3	Outlet Pipes - Splash Pads	Splash Pads	Formed unless neat line excavation	Substitute approved precast	Visual		Daily Per installation	Random	x					
605	60.2.4	Outlet Pipes - Splash Pads	Outlet Pipes	4" non perf. Schedule 40 or SDR 23.5 PVC	Outlet wyes and 90 degree connections per plan at edgedrain	Visual		Daily Per installation	Random	x		x			
605	60.2.5 & 60.2.6	Outlet Pipes - Splash Pads	Outlet Pipes - Backfill	Trenches cut with edgedrain. Inspected prior to backfill	Backfill per 203	Visual		Daily Per installation	Random	x		x			
605	na	Outlet Pipes - Splash Pads	Construction Requirements	Constructed per standard drawings 605.10G &	Outlet pipes placed at low point of sag curve and spaced per the table in standard drawing.	Visual		Daily Per installation	Random	x		x			
606	Guardrail, Terminals, and Cables														
606	2, 2.1, 2.2	Guardrail, Terminal, Cables	Materials	Sec 501, 1040, 1065	Concrete place per 703 and Cold Weather Plan	Documentation	Per Shipment	Per installation	Per installation	x		x			
606	3.1.2	Guardrail, Terminal, Cables	Slopes	Shoulders & slopes constructed per standard prior to guardrail install		Visual/Measurement		Daily Per installation	Random			x			
606	3.2	Guardrail, Terminal, Cables	Galvanizing Repair	Handle material to avoid damage. No unapproved field welding, cutting, drilling permitted.	Repair galvanizing per 1080	Visual		Daily Per installation	Random						
606	3.3.1, 3.3.2, 3.3.3.1	Guardrail, Terminal, Cables	Guardrail Posts & 1-strand Restraint Cable	Same post material used thru project, except wood post for end anchors	Post driven in or drilled and adequately backfilled.	Visual		Daily Per installation	Random			x			
606	3.3.3.2	Guardrail, Terminal, Cables	Guardrail Posts & 1-strand Restraint Cable	Remove any mushrooming on the top of the post.	Repair any damaged zinc coating per 1081	Visual		Daily Per installation	Random			x			
606	10.2.1, 10.2.2	Guardrail, Terminal, Cables	Guardrail	Beam splicing lapped in the direction of traffic	End anchors installed where crashworthy end terminals are not required.	Visual		Daily Per installation	Random	x		x			
606	10.2.3, 10.2.3.1	Guardrail, Terminal, Cables	Guardrail	Delineators are placed on guardrail within 2 feet of the edge of shoulder at 50' spacing	Delineators are spaced at 50' intervals. Materials per 1065	Visual		Daily Per installation	Random	x		x			

DIVISION 600: Incidental Construction			Additional Construction Details			Review Applicable Standard Plans for			Minimum Frequency For Permanent Work			QC Type Document: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist		
606	10.2.3.2.1	Guardrail, Terminal, Cables	Guardrail	Delineators are sheeted on the oncoming traffic face with reflector colors corresponding with pavement marking.	Delineators on guardrail dividing opposing traffic will have retro-reflective sheeting on both sides.	Visual		Daily Per installation	Random	x		x		
606	10.2.3.2.1, 10.2.3.2.2, 10.2.3.2.3	Guardrail, Terminal, Cables	Guardrail	Guardrail on ramps will have reflective sheeting on the reverse side of reflector.	Delineators are installed per manufacturers. Replace any damaged or missing delineators.	Visual		Daily Per installation	Random	x		x		
606	30.2.1, 30.2.2, 30.3.4	Guardrail, Terminal, Cables	Crashworthy End Terminals (CET) Materials	Per 1040. Type C, D or E may be used where type B is specified on the plans.	Type A installations at least 50' long	Visual		Daily Per installation	Random	x		x		
606	30.3, 30.3.1	Guardrail, Terminal, Cables	Crashworthy End Terminals	End terminals and crash cushions fabbed and installed per plans and manufacturers shop drawings.	Specified devices cannot be substituted without approval	Visual		Daily Per installation	Random	x		x		
606	30.2.2, 30.3.3	Guardrail, Terminal, Cables	Crashworthy End Terminals	Flared Type A cannot be installed medians or on curbs	Type B end terminals cannot be installed on permanent pavement locations. Temp OK	Visual	Per Designer	Daily Per installation	Random	x				
606	30.3.5	Guardrail, Terminal, Cables	Crashworthy End Terminals	CETs located within 12' of edge of traveled way will have Type 2 object markers.	Marker size, shape, and attachment method are to be approved	Visual		Daily Per installation	Random	x		x		
606	40.2	Guardrail, Terminal, Cables	1-Strand Access Restraint Cable	Cable strung directly from reel, and pulled tight after initial anchor.	Attach to 2nd anchor with turnbuckles fully open. Fully anchored before line posts	Visual		Daily Per installation	Random	x				
606	40.2	Guardrail, Terminal, Cables	1-Strand Access Restraint Cable	One splice only between anchors, placed between line posts	No splices in spans adjacent to anchor and cable end assemblies.	Visual		Daily Per installation	Random	x				
606	50.2.1	Guardrail, Terminal, Cables	3 Strand Guard Cable Lineposts	Posts driven without damage or distortion	Aligned within 1/4" of plumb and grade	Visual		Daily Per installation	Random	x				
606	50.2.1	Guardrail, Terminal, Cables	3 Strand Guard Cable Lineposts - In Rock	Set soil plate providing an appropriate sized hole.	If soil plate is not used, drill hole to depth and <5" diameter, then backfilled/tamped	Visual		Daily Per installation	Random	x				
606	50.2.2	Guardrail, Terminal, Cables	3 Strand Guard Cable Anchor Assemblies	Anchor assemblies type and location per plan	If intermediate anchors are used, cable assemblies overlap per plan	Visual		Daily Per installation	Random	x				
606	50.2.2	Guardrail, Terminal, Cables	3 Strand Guard Cable Anchor Assemblies	Top 12" of CIP anchor formed/neat line at centerline of guard cable	Anchor bolts/slip bases secured during concrete placement, then backfilled/compacted	Visual		Daily Per installation	Random	x				

DIVISION 600: Incidental Construction			Review Applicable Standard Plans for				Minimum Frequency For Permanent Work			QC Type Document: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Additional Construction Details		Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
			Parameter or Procedure	Requirements								
606	50.2.3	Guardrail, Terminal, Cables	3 Strand Guard Cable Cables	Cable attached per plans with turnbuckles fully open	Final cable tightening in accordance with temperature/spring compression tables on plans.	Visual		Daily Per installation	Random	x		
606	50.2.4	Guardrail, Terminal, Cables	3 Strand Guard Cable Aggregate Bedding	Durable crushed stone/concrete 100%<3", 20% 1"-3"		Visual		Daily Per installation	Random	x		
606		Guardrail, Terminal, Cables	3 Strand Guard Cable Delineators	Spacing and reflector colors per 617.30		Visual		Daily Per installation	Random	x		
607		Fencing										
607	10.2	Chain Link Fencing	Materials	Per 1043	Same type of fence/gates through out project	Documentation	By Supplier	Per Delivery	Random	x		x
607	10.3.1	Chain Link Fencing	Installation	Smooth uniform ground. Fabric bottom <3" above F.G.	Posts set plumb & true to line and grade	Level		Daily Per installation	Random			x
607	10.3.1	Chain Link Fencing	Installation - Posts	Terminal posts set centered in concrete	Concrete class B or per 501	Visual		Daily Per installation	Random	x		x
607	10.3.1	Chain Link Fencing	Installation - Posts	Line posts are driven or set in concrete or polyurethane (903.3.1.2)	Damaged posts are removed and replaced	Visual		Daily Per installation	Random	x		x
607	10.3.2	Chain Link Fencing	Installation - Fabric	Allow concrete to cure 5 days	Attache to terminal posts per manufacturer	Visual		Daily Per installation	Random			x
607	10.3.2	Chain Link Fencing	Installation - Fabric	Hog rings spaced per plan	Taut fabric attached to line posts per manufacturer	Visual		Daily Per installation	Random	x		x
607	10.3.3	Chain Link Fencing	Installation - Gates	Drive gates have full circle opening swing	Walk gates have positive stops	Visual		Daily Per installation	Random	x		
607	10.3.5	Chain Link Fencing	Installation - Post Braces	At each terminal post from midpoint of terminal post to midpoint of adjacent line post.	Truss rods connected from midpoint of line post to bottom of terminal post	Visual		Daily Per installation	Random			
607		Woven Wire Fence	Materials	NOT USED								
608		Conc. Median, Median Strip, Sidewalks, Curb Ramps, Steps, Paved Approaches (CM,MS,SW,CR,S,PA)										
608	2	CM,MS,SW,CR,S,PA	Materials	1036, 1039, 1056, 1057	Material Documentation	Visual	By Supplier	Per Delivery	Random	x		x
608	2.1	Sidewalk, Curb Ramps, Steps	Materials - Concrete	Concrete Class B	501	Visual		Daily Per installation	Random	x		x
608	2.2	Medians, Strips, Approaches	Materials - Concrete	Pavement mix for >6", Class B or Pavement mix for <6" thick	Median strips tied to underlying pavement	Visual		Daily Per installation	Random	x		x
608	3.1	CM,MS,SW,CR,S,PA	Construction	Concrete per 502 and 703	Use clear cure for MS,SW,CR,S	Visual		Daily Per installation	Random	x		x
608	3.1	CM,MS,SW,CR,S,PA	Construction	Subgrade is compacted to specified density per 209 and moist at time of placement	If applicable; Roadway (bed) subgrade 95% relative compaction	Density Test		Daily Per installation	Random	x	x	x
608	3.3 & 3.4	CM,MS,SW,CR,S,PA	Construction	Rebar and tie bars positioned by bar supports	Median strips tied to pavement per plan. Keep 6" from transverse.	Visual		Daily Per installation	Random			x

DIVISION 600: Incidental Construction			Additional Construction Details				Review Applicable Standard Plans for			Minimum Frequency For Permanent Work			QC Type Document: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist			
608	3.5 & 3.5.1	CM,MS,SW,CR,S,PA	Construction	Joint depth, intervals and locations per plan. Seal sawed joints per 502.5.4	Use non-extruding preformed joint material for longitudinal joints for median to curb or pavement	Visual		Daily Per installation	Random			x			
608	3.7 & 3.8, ADA	CM,MS,SW,CR,S,PA	Construction	During cold weather use Cold Weather Concrete Procedure	Construct sidewalks and curb ramps per ADA standards & ADA Checklist	Visual		Daily Per installation	Random	x		x			
608		CM,MS,SW,CR,S,PA													
609	Paved Drainage (Curb/Gutter, Paved Ditch, Integral Curb, Asphalt Curb, Drain Basin Curb, Rock Lining)														
609	10.2	Conc. Curb/Gutter/Ditch	Materials	1036, 1055.2, 1057	Class B or Pavement Concrete per 501	Visual	By Supplier	Per Delivery	Random	x		x			
609	10.3.1, 10.3.4	Conc. Curb/Gutter/Ditch	Construction - Subgrade	Subgrade of uniform density. (not specified in 609))	Moistened prior to concrete placement	Visual		Daily Per installation	Random	x		x			
609	10.3.1	Conc. Curb/Gutter/Ditch	Construction - Forms	Forms jointed tightly and braced, true alignment & grade	Curved forms per 502 or slipformed	Visual		Daily Per installation	Random			x			
609	10.3.2	Conc. Curb/Gutter/Ditch	Construction - Rebar	Rebar/tie bars on approved supports	Joint locations per plans	Visual		Daily Per installation	Random			x			
609	10.3.3, 10.3.4	Conc. Curb/Gutter/Ditch	Construction - Concrete	Placed, finished, & cured per 703 (except use clear cure)	Consolidated & Struck off at required thickness	Visual		Daily Per installation	Random	x		x			
609	10.3.4	Conc. Curb/Gutter/Ditch	Construction - Concrete	Concrete consolidated to remove voids	1/4" edging tool for all edges. Curb face rounded per plan	Visual		Daily Per installation	Random			x			
609	10.3.5, 10.3.6	Conc. Curb/Gutter/Ditch	Construction - Final	Backfill after form removal	Cold weather concrete per 502 and Cold Weather Procedure	Visual		Daily Per installation	Random			x			
609	20.2	Integral Curb	Materials	1055, 1057	Concrete conforming to pavement	Visual		Daily Per installation	Random			x			
609	20.3.1, 20.3.5	Integral Curb	Construction - Concrete	Curb monolithic to pavement	Straight edge curb; <1/4"/10 feet	Visual/Measuring tape		Daily Per installation	Random			x			
609	20.3.2	Integral Curb	Construction - Forms	Forms jointed tightly and braced, true alignment & grade	Curved forms per 502 or slipformed	Visual		Daily Per installation	Random	x		x			
609	20.3.3	Integral Curb	Construction - Finish	Placed, finished, & cured per 703 (except use clear cure)	Top edges of curb are rounded	Visual		Daily Per installation	Random	x		x			
609	20.3.3	Integral Curb	Construction - Joints	Preformed joints extending full depth into transverse pavement joints	Preformed material through the curb to within 1/4" of top and face of curb.	Visual		Daily Per installation	Random			x			
609	30	Asphalt Curb	Materials	1002, 1002, 1015	AC mix within limits of BP-1 or SP-125	Visual	By Supplier	Daily Per installation	Random	x					
609	30.4	Asphalt Curb	Construction	Place mix on primed surface, mix at approximately 260 degrees F.	After curb has hardened backfill where required	Visual/Thermometer		Daily Per installation	Random	x					
609	40	Drain Basin Asphalt Curb	Materials	609.60, 614, 1020, 1033	Drain basin elements per plan	Visual		Daily Per installation	Random	x					

DIVISION 600: Incidental Construction			Additional Construction Details				Review Applicable Standard Plans for			Minimum Frequency For Permanent Work			QC Type Document: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist			
609	40.3	Drain Basin Asphalt Curb	Construction	Excavation/backfill per 604 and 725	Concrete slope protection per plan	Visual		Daily Per installation	Random	x					
609	50	BLANK						Daily Per installation	Random	x					
609	60.2	Rock Ditch Liner	Materials	1011 Geotextile	Consists of predominately one size stone. Type per plan	Visual		Daily Per installation	Random	x		x			
609	60.3	Rock Ditch Liner	Construction	Approximate shape and thickness per plan	Dumped on subgrade of reasonably uniform density	Visual		Daily Per installation	Random	x		x			
609	60.2.1	Rock Ditch Liner	Type 1	Predominant size 3" w/max size 6".	No more than 15% < 1"	Visual		Daily Per installation	Random	x		x			
609	60.2.2	Rock Ditch Liner	Type 2	Predominant size 6" w/max size 10".	No more than 15% < 3"	Visual		Daily Per installation	Random	x		x			
609	60.2.3	Rock Ditch Liner	Type 3	Predominant size 12" w/max size 20".	No more than 15% < 4"	Visual		Daily Per installation	Random	x		x			
609	60.2.4	Rock Ditch Liner	Type 4	Predominant size 19" w/max size 28".	No more than 15% < 6"	Visual		Daily Per installation	Random	x		x			
609	60.2.5	Rock Ditch Liner	Bedding	Used under Type 3 & 4 Liner	Crushed stone or gravel. 100% pass 3", 30 -70% pass 1.5", and 0-15% pass No. 4	Test		1/200 tons	1/1000 tons	x	x	x			
609	70.2, 70.3	Rock Lining	Materials	Per Type 2 Rock Blanket Sec. 611.3	Placed in the approximate shape of channel bottom.	Visual		Daily Per installation	Random	x					
611	Embankment Protection														
611	30.1	Rock Blanket	Materials	Durable stone or broken concrete with less than 10% soil/sand/shale	Type 1 >40% 1 ft3 pieces, Type 2 >60% 1 ft3 pieces	Visual		Daily Per Activity	Random	x		x			
611	30.3	Rock Blanket	Construction	Toe of slope trench per plans (or 2' deep)	Rock placed per plan on slope compacted to uniform density	Visual		Daily Per Activity	Random	x		x			
611	30.3.	Rock Blanket	Construction	Rock placed per plan thickness	Place most rock flat, minimize voids	Visual		Daily Per Activity	Random	x		x			
611	40	BLANK							Random	x					
611	50.2.1	Revetment	Materials-Light Revetment	Durable stone, no soft rock.	>7"x7"x7" and at least 25 lbs of which >75% are >50lbs	Visual		Daily Per Activity	Random	x					
611	50.2.2	Revetment	Materials-Heavy Revetment	Per 611.50.21 except for size and mass	>12" thick, >50 lbs of which >60% are >100 lbs.	Visual		Daily Per Activity	Random	x					
611	50.2.3, 50.2.4	Revetment	Materials	May substitute cast or broken concrete	Meet size and mass requirements	Visual		Daily Per Activity	Random	x					
611	50.3	Revetment	Construction	Place on slope of uniform density	Begin at toe of slope and place upwards, blocks perpendicular to slope	Visual		Daily Per Activity	Random						
611	60.2	Concrete Slope Protection	Materials	Class B per 501	Placement, finish and cure per 703 except clear cure	Visual		Daily Per Activity	Random	x		x			
611	60.3	Concrete Slope Protection	Construction	Place on slope compacted to uniform density	Struck off at required thickness	Visual		Daily Per Activity	Random	x		x			

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611	60.3.1, 60.3.2	Concrete Slope Protection	Construction	Joints full depth and per 1057.6	Broom or carpet drag finish	Visual		Daily Per Activity	Random	x		x			
611	70.2	Gabions	Materials	Welded wire per ASTM A 974 or Twisted fabric per ASTM A 975	Crushed limestone per manufacturer	Visual	By Supplier	Daily Per Activity	Random	x					
611	70.3.1	Gabions	Construction	Per Manufacturer	Class A cut compaction for 6 inches (liquid limit >40)	Visual		Daily Per Activity	Random	x					
612		Impact Attenuators													
612	2	Impact Attenuators	Materials	1005, 1042, 1063	Per MUTCD with manufacturer's certification NCHRP 350	Documentation	By Supplier	Per Delivery	Random	x		x			
612	4.1	Impact Attenuators	Truck Mounted or Trailer Mounted(TMA)	Consists of TMA unit, support vehicle, and TM flashing arrow panel	Damaged TMA will be removed from service	Visual		Per Use	Random	x		x			
612	4.2.1	Impact Attenuators	Sand filled	Placed per plan. Mass per manufacturer	Sand has <5% moisture and 5% Rock salt	Documentation	By Supplier	Daily Per installation	Random	x		x			
612	4.2.2	Impact Attenuators	Sand filled	Attenuator marked with Type I marker/MoDOT retroreflective orange sticker or Type 3/MoDOT yellow sheeting	Damaged/deficient modules removed	Visual		Daily Per installation	Random	x		x			
613		Pavement Repairs													
613	2	Pavement Repairs	Materials	1036, 1039, 1055, 1050		Documentation		Per installation	Random	x					
613	3.3, 3.4	Pavement Repairs	Construction requirements	Fill overcuts expansive mortar, epoxy, polyester or joint material if not resurfaced	Weather limitations per 502 and 403	Visual, thermometer		Per repair	Random	x					
613	3.5	Pavement Repairs	Construction requirements	Finish to smooth ride. 1/8" in 10 feet		Visual/measurement		Per repair	Random	x					
613	10.2.1	Full depth Repairs	Construction requirements	Approved saw, diamond blade, for perimeter cuts	Rock saw permitted for relief cuts	Visual		Per repair	Random	x					
613	10.2.1	Full depth Repairs	Construction requirements	Aggregate base disturbed will be recompact or removed.	Unstable base removed and replaced per 304. Subgrade compaction per 210	Visual		Per repair	Random	x					
613	10.2.2	Full depth Repairs	Construction requirements	Repairs > 30 feet require tie bars	Ties bars No. 6 and 18" long and epoxy coated. Dowels 1-1/4" x 18" and epoxy coated	Visual/Measurement		Per repair	Random	x					
613	10.2.2	Full depth Repairs	Construction requirements	Holes drilled to specified depth and diameter and blown clean and dried	Holes filled with epoxy mortar per 1039.30. All void around bar filled.	Visual/Measurement		Per repair	Random	x					
613	10.2.2	Full depth Repairs	Construction requirements	Insert bar in twisting motion.	Bars placed parallel to surface and vary no more than 1/4" in alignment	Visual/Measurement		Per repair	Random	x					
613	10.2.2	Full depth Repairs	Construction requirements	Welded wire fabric placed 3" +/- below surface of patch.		Visual/Measurement		Per repair	Random	x					
613	10.2.3	Full depth Repairs	Construction requirements	Concrete per 501	max slump 3.5"	Measurement		Per repair	Random	x	x				

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613	10.2.3	Full depth Repairs	Construction requirements	Trial mix required to determine cure time		Measurement/test		Per mix	Random	x					
613	10.2.3.1	Full depth Repairs	Construction requirements	repairs opened to traffic after 24 hours - concrete in accordance with chart	8" 3000 psi, 9" 2700 psi, 10" or more 2000 psi	Measurement/test		Per mix	Random	x	x				
613	10.2.3.2	Full depth Repairs	Construction requirements	repairs opened to traffic less than 24 hours - concrete in accordance with chart	Compressive strength in 4 hours: 8" 3000 psi, 9" 2700 psi, 10" or more 2000 psi	Measurement/test		Per mix	Random	x	x				
613	10.2.3.2.1	Full depth Repairs	Construction requirements	When ambient temp. < 60 F the concrete shall be no lower than 80F		Measurement		Daily Per activity	Random	x					
613	10.2.7	Full depth Repairs	Construction requirements	Cured with asphalt emulsion at 0.1 gal/sy if patch to be resurfaced	If patch not resurfaced then cure per 502. If type III cement then cure with insulated mats.	Visual		Per patch	Random	x					
613	10.2.9	Full depth Repairs	Construction requirements	Patches not to be resurfaced both transverse end of concrete repairs are sawed and sealed per 1057		Visual		Per patch	Random	x					
614	Drainage Fittings														
614	10.2	Grates & Bearing Plates	Materials - Bar grates/plates/curb inlets	Structural steel per ASTM A 36. Hot dipped galvanizing per AASHTO M111	Bolt assemblies galvanized per AASHTO M232 or M232 Class C	Documentation	By Supplier	Per Delivery	Random	x		x			
614	10.2.2	Grates & Bearing Plates	Materials- -Curved vane grates/frames	Cast gray iron per AASHTO M 306 per plan	Stainless bolt assemblies per 901.3	Documentation	By Supplier	Per Delivery	Random	x		x			
614	10.3	Grates & Bearing Plates	Construction	All installed per plans	Curved grates oriented in direction of flow at low points	Visual		Daily Per installation	Random	x					
614	30.1	Manhole Frame/Cover & Curb Inlet	Material	Cast iron per AASHTO M 105	Specific classes per plans	Documentation	By Supplier	Per Delivery	Random	x					
614	30.3	Manhole Frame/Cover & Curb Inlet	Construction	Bearing surfaces have a no-rocking fit	Placed concrete is thoroughly consolidated	Visual		Daily Per installation	Random	x		x			
615	BLANK														
616	Temporary Traffic Control														
616	2 & 3.2	Temporary Traffic Control	Materials	1063	All devices per MUTCD	Documentation	By Supplier	Per Device	Random	x		x			
616	3.1	Temporary Traffic Control	Safety Requirements	All workers within ROW exposed to traffic/equipment must wear apparel meeting Class 2 or Class 3 req. of ANSI/ISEA 107-2004		Visual/Documentation	By Supplier	Per worker	Random						
616	3.3	Temporary Traffic Control	Safety Requirements	FWHA Cat.1 - certificates of crashworthiness	FWHA Cat 2 & 3 - Acceptance letter from FHWA	Documentation	By Supplier	Per Device	Random	x		x			

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616	3.4	Temporary Traffic Control	Safety Requirements	Designate trained traffic control person and 24 hour contact #.	Ensure all contractor personnel are trained in traffic control to a level needed for their responsibilities	visual		as needed	Random			
616	3.4	Temporary Traffic Control	Safety Requirements	Advise Engineer 24 hours in advance of lane closures and 14 days prior to any height, width, weight restrictions		Visual		each occurrence	each occurrence			
616	4.1	Temporary Traffic Control	Performance & Operations	Per current MUTCD	Per Missouri QSTTCD	Documentation	By Supplier			x		x
616	4.1.1	Temporary Traffic Control	Construction	Remove ASAP temporary devices no longer needed or when construction is completed	While temp devices are in uses, cover all conflicting permanent devices.	Visual		Daily Per Activity	Random			x
616	4.1.2	Temporary Traffic Control	Construction		Sign covers per MoDOT QSTTCD	Visual		Daily Per Activity	Random	x		x
616	4.2	Temporary Traffic Control	Construction	Minimum traffic control requirements per contract	Additional devices as needed	Documentation		Daily Per Activity	Random	x		
616	4.2.2, 4.2.3	Temporary Traffic Control	Construction	Plan changes due to staging revisions are submitted to MoDOT	MoDOT will notify if additional devices are requested	Documentation		Daily Per Activity	Random	x		
616	4.2.4	Temporary Traffic Control	Construction	Contractor shall monitor traffic flow and device during day and night conditions	Contractor to take corrective action for any deficiencies found	Visual		Daily Per Activity	Random			
616	4.2.5	Temporary Traffic Control	Construction	Engineer will report deficiencies to contractor and agree upon timeline to fix		Visual		Per Occurrence	Random	x		x
616	4.2.5.1	Temporary Traffic Control	Construction	Category 1 Deficiency	Presents immediate danger and must be fixed immediately. Within 1 hour	Visual		Per Occurrence	Random	x		
616	4.2.5.2	Temporary Traffic Control	Construction	Category 2 Deficiency	No immediate danger but impacts functionality of work zone. Fixed within 24 hours	Visual		Per Occurrence	Random	x		
616	4.2.5.3	Temporary Traffic Control	Construction	Category 3 Deficiency	Does no impact functionality of work zone but is a maintenance or aesthetic issue. Fixed within 96 hours	Visual		Per Occurrence	Random	x		
616	4.2.6	Temporary Traffic Control	Construction	Contractor provides documentation of pedestrian/vehicular accidents within work zone	Contractor will keep on file law enforcement reports	Documentation		Per Occurrence	Random	x		x

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616	4.3	Temporary Traffic Control	Construction	Flaggers and pilot vehicle driver are certified	Certification accordance with MUTCD	Documentation		Per Flagger	Random						
616	4.4	Temporary Traffic Control	Construction	Equipment crossing locations per plan	Signed per TCP	Visual		Daily Per Activity	Random						
616	5.1	Temporary Traffic Control	Lighting	All construction vehicles equipped with USDOT warning lights	Except paving haul trucks	Visual		Daily Per Activity	Random						
616	5.2, 5.2.1	Temporary Traffic Control	Lighting	Work area lighting (54 lux) at active areas	Lighting does not cause glare or hot spots	Visual		Daily Per Activity	Random						
616	5.2.2	Temporary Traffic Control	Lighting	Overhead lighting (6.5 lux) provided to flaggers		Visual		Daily Per Activity	Random						
616	6, 6.2	Temporary Traffic Control	Flashing Arrow Panel	Minimum clearance 7' vertical from edge of pavement to bottom of panel	Control programs: a) Caution, b) Left/Right Arrow. c) Double Arrow	Visual		Daily Per Activity	Random	x		x			
616	7, 7.1, 7.2	Temporary Traffic Control	Changeable Messages (CMS)	Located per plan, not in median. Turned away when not in use	Deploy, operate, maintain CMS per manufacturer	Visual		Daily Per Activity	Random	x		x			
616	8.1.1, 8.1.2	Temporary Traffic Control	Work Zone Traffic/Signals	Notify MoDOT 48 hours prior to WZTS installation	WZTS will be in operation until 2 way traffic is restored. WZTS is covered when not in use	Visual		Daily Per Activity	Random	x		x			
616	8.1.3, 8.1.4	Temporary Traffic Control	Work Zone Traffic/Signals	Adequate traffic control including flaggers during WZTS startup, shutdown, and system failure	Signal timing and programs provided by contractor	Visual		Daily Per Activity	Random	x					
616	8.2	Temporary Traffic Control	Temporary Traffic Signals	Per 902.3		Visual		Daily Per Activity	Random	x					
616	8.3	Temporary Traffic Control	Portable Traffic Signals	Per 1063. Installed level and <6' beyond edge of shoulder	Delineated by 5 channelizers.	Visual		Daily Per Activity	Random						
								Daily Per Activity							
617	Concrete Traffic Barrier														
617	10.2	Permanent Concrete Barrier	Materials	1036, 1055, 1057, AASHTO M 203		Documentation		Daily Per Activity	Random	x		x			
617	10.3.1	Permanent Concrete Barrier	Construction - Concrete	Class B or B-1, 4000 psi at 28 days	Concrete batched per 501, placed/finished per 703, cured per 502	Testing		1 Test per 200 yds	1 Test per 1000 yds	x	x	x			
617	10.3.3	Permanent Concrete Barrier	Construction - Concrete	Slip form: indent station numbers	On sloped face for Type A/B, 10" above base for Types C/D	Visual		Daily Per Activity	Random			x			
617	20.2	Temporary Concrete Barrier	Materials	1064, ASTM A307	Provide manufacturers certification. NCHRP 350 & FHWA acceptance	Documentation	Documentation	Per device	Random			x			
617	20.2.2	Temporary Concrete Barrier	Materials	Use 2 or 3 loop style may be used		Visual		Daily Per Activity	Random	x		x			

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			Parameter or Procedure	Requirements	Other Requirements							
617	20.2.2.1, 20.2.2.2	Temporary Concrete Barrier	Materials	2 loop and combination of 2 & 3 loop barrier the bottom washer, retainer bolt and nut are required	2 loop accepted for use if made prior to Jan. 2004, barrier in good condition and paperwork for made date or stamp is visible	Visual		Daily Per installation	Random	x		
617	20.4	Temporary Concrete Barrier	Construction requirements	Damaged units immediately replaced	Stored equipment or materials 4' min away from temporary barrier	Visual		Daily Per installation	Random			x
617	20.4.4	Temporary Concrete Barrier	Construction		Barrier not anchored unless per plan	Visual		Daily Per installation	Random			
617	30.1, 30.3.1	Conc. Barrier Delineators	Materials & Construction	1065	Placed at 50' intervals for all other. . Replace damaged or missing.	Visual/measurement		Daily Per installation	Random			x
617	30.3.2	Conc. Barrier Delineators	Construction	Sheeted side facing oncoming traffic per plan	Retroreflective on both sides if barrier divides 2-way traffic. Color corresponds to striping	Visual		Daily Per installation	Random	x		x
617	30.3.2.1, 30.3.2.2	Conc. Barrier Delineators	Construction - Mounting	Use galvanized fasteners for permanent barrier	Per manufacturer for temporary barrier	Visual		Daily Per installation	Random	x		x
618	Mobilization (NOT USED)											
619	Pavement Edge Treatment (NOT USED)											
619	2	Pavement Edge Treatment	Material	Approved material		Visual		Per installation	Random	x		x
619	3	Pavement Edge Treatment	Construction requirements	Eliminate edge treatment if differential is no more than 2" or traffic barrier installed	Wedge material compacted to satisfaction of engineer	Visual		Daily Per installation	Random	x		x
620	Pavement Marking											
620	2.1.1	Pavement Marking	General	All marking per MUTCD	FHWA Standard Highway Signs	Documentation	By Supplier	Per installation	Random	x		x
620	2.1.2, 2.1.3	Pavement Marking	General	All Marking shall be uniform in appearance	Longitudinal marking is not on longitudinal joints	Visual		Daily Per installation	Random			x
620	2.1.4, 2.1.5	Pavement Marking	General	Protect liquid marking until no tack state	Replace/repair construction damaged marking	Visual		Daily Per installation	Random			
620	2.1.7, 2.1.8	Pavement Marking	General	Check application rates during work	Surface prep 1 inch wider than permanent marking	Visual		Daily Per installation	Random	x		x
620	2.2.1	Pavement Marking	Permanent Marking	Place within 5 days if open to traffic.	Markings placed per plan	Visual		Daily Per installation	Random	x		x
620	2.2.2	Pavement Marking	Permanent Marking	Begin intermittent marking with the gap		Visual		Daily Per installation	Random			
620	2.3.1	Pavement Marking	Inspection	Engineer will measure initial retroreflectivity with a retroreflectometer	Measurements taken no sooner than 7 days after install.	Retroreflectometer			Per EPG			x
620	2.3.2, 2.3.3	Pavement Marking	Inspection	Remove and replace any nonconforming marking within 30 days of notification		Visual		Daily Per Activity	Random	x		x

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620	2.4.1	Pavement Marking	Acceptance	Measurements by mobile or hand held retroreflectometer	Retroreflectivity requirements per Table 620.2.4.1	Retroreflectometer			Mobil every 0.1 mile, handheld per TM 80	x		x			
620	2.4.2	Pavement Marking	Acceptance	Lateral deviation <1"/100', Length deviation <3"/10'	Width deviation per table 620.2.4.2(b)	Visual/measurement		Daily Per installation	Random			x			
620	2.5	Pavement Marking	Temp Pavement Marking for Milling, Grinding and Resurfacing	No more than 1 mile of pavement without markings.	All pavement temp. marked by end of day's operation	Visual		Daily Per installation	Random						
620	2.5.1	Pavement Marking	Temp Pavement Marking for Milling, Grinding and Resurfacing	2 lane, 2-way roads w/no passing, all centerline marking replaced with yellow temp. raised pvmt markers	White lane markings for turn lanes replaced with white/red with white facing traffic	Visual		Daily Per operation	Random						
620	2.5.2	Pavement Marking	Temp Pavement Marking for Milling, Grinding and Resurfacing	Temp Pavement marking placed on higher layer at the centerline of roadway	Temp. pavement markings damaged shall be repaired within 2 hours	Visual		Daily Per operation	Random						
620	2.5.3	Pavement Marking	Temp Pavement Marking for Milling, Grinding and Resurfacing	Temp markings in place for more than 15 days may require temp paint.	Min. initial reflectivity of 150 mcd/m2/lux and maintained at 100	Test			Random			x			
620	2.6	Pavement Marking	Temporary Traffic Changes	Paint, removable tape, & preformed tape installed per plan		Visual		Daily Per installation	Random			x			
620	10.2	Preformed Marking Tape	Materials	Material per 1048.10	Locations per plan	Documentation		Daily Per installation	Random	x		x			
620	10.3.1.1, 10.3.1.2	Preformed Marking Tape	Construction	Installed Types 1 & 2 per manufacturer's printed instructions	Type 2 installed in a groove	Documentation		Daily Per Activity	Random	x		x			
620	10.3.1.3	Preformed Marking Tape	Construction	Arrows, words, symbols are white using Type 2 tape		Visual		Daily Per Activity	Random	x		x			
620	20.2	Preformed Removable Tape	Materials	1048.2		Documentation		Per installation	Random	x					
620	20.3	Preformed Removable Tape	Construction Requirements		Installed per manufacturer	Visual		Daily Per installation	Random	x					
620	30.2	Preformed Short Term	Material	Per 1048.40	Installed per manufacturer	Documentation	Supplier	Daily Per installation	Random	x					
620	40	Paint for Marking	Material	1048.40.5, 1048.8, 1048.9, 1048.100	Traffic paint per plans	Documentation	Supplier	Daily Per installation	Random	x		x			
620	40.3.1, 40.3.2	Paint for Marking	Construction	Equipment capable of proper application	Surface to receive paint is clean and dry. Dry conditions during application. Cure removed from concrete pavements.	Visual		Daily Per installation	Random			x			

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620	40.3.3	Paint for Marking	Construction	Pavement surface temperatures measured per MoDOT TM 20	Surface and Ambient Waterborne: .50 F. (& 8 hours of dry and >50F), Acrylic: >35F	Thermometer		Daily Per Activity	Random	x		x			
620	40.3.4.2	Paint for Marking	Paint Application	Adjusted paint guns and no clogging or splattering	Arrows, words, and symbols per plan and correct thicknesses	Visual		Daily Per installation	Random	x		x			
620	40.3.4.3, 40.3.4.4, 40.3.4.5, 40.3.4.6	Paint for Marking	Paint Application	Minimum wet thickness of High build 20 mils, Acrylic Waterborne 15 mils tested with paint thickness gauge. Max paint temperatures; waterborne 150F, Acrylic 125F	Finished markings have well defined edges and lateral deviation <1" per 100'	Visual & Thickness Gauge		1/1000 feet	Random	x	x	x			
620	40.3.5, 40.3.6	Paint for Marking	Paint Application	Glass bead application rate per 620.2.4.1. Applied & embedded evenly and completely over paint.	Inspect applied marking paint continually. Correct deficiencies.	Visual		Daily Per Activity	Random	x		x			
620	50.2	Marking Removal	Construction	Removed with less than 5% remaining	Minimize and repair damage to pavement	Visual		Daily Per Activity	Random			x			
620	60.2	Raised Temp. Markers	Material	1048.5		Documentation		Per installation	Random						
620	60.3.1	Raised Temp. Markers	Construction	Installed per plans w/reflective faces oriented towards traffic	Installed per manufacturers recommendations at 40 ft intervals	visual		Daily Per installation	Random						
620	60.3.1.1, 60.3.1.2	Raised Temp. Markers	Construction	Type 1 w/covers for surface treatment projects	Type 2 temp as shown on plans	visual		Daily Per installation	Random						
620	60.3.2	Raised Temp. Markers	Construction	Remove between layers of asphalt		visual		Daily Per installation	Random						
620	70.2.1, 70.2.2	Epoxy Marking Material	Material	Per 1048.60 and 1048.40.50	Type A epoxy is slow cure. Type B be is fast cure	Visual		Daily Per Activity	Random						
620	70.3.1	Epoxy Marking Material	Equipment	Application equipmet has proper metering, storage, blending, heating and bead application capabilities		Visual	Subcontractor		Random						
620	70.3.3	Epoxy Marking Material	Surface Preparation	Surface is free of debris, latiance and excessive or misleading scarring	After cleaningin surface is powere broomed and air blasted	Visual		Daily Per Activity	Random						
620	70.3.3.6, 70.3.3.7, 70.3.3.8	Epoxy Marking Material	Surface Preparation	Prep area is 1" larger on eaither side of marking, or larger than letters and symbols	Clean PCCP afterreaching design strength. Clean Bit paving after mat is at ambient.	Visual		Daily Per Activity	Random						

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620	70.3.4	Epoxy Marking Material	Application	Applied at 25 mils. During dry weather and dry surface at ambient >45F	Prior to mixing and application epoxy components are at temperatures per manufacturer	Thermometer/measurement		Thickness 1/1000 feet	Random	x	x				
620	80.2	Polyurea	Material	1048.7, 1048.40.5		Documentation		Daily per Activity	Random						
620	80.3.1	Polyurea	Equipment	per 620.70.31		Visual		Daily per Activity	Random						
620	80.3.3	Polyurea	Surface Preparation	per 620.70.3.3	95-100% of existing removed. No more than moderate color or texture change to surrounding pavement permitted.	Visual		Daily per Activity	Random						
620	80.3.4	Polyurea	Application	Applied at thickness of 20 mils	Applied during dry weather on dry surfaces. Pavement and ambient	Measurement		1/1000 feet	Random	x	x				
621	Flowable Fill														
621	2.1, 2.2	Flowable Fill	Materials	Per 1018, 1019, 1054, 1070	Fine aggregate per 1005.3 and Table 621.2.2	Visual	Per mix design submitted	Daily Per Activity	Random	x					
621	3.1	Flowable Fill	Consistency	28 day strength of 50 psi	8" diameter slump thru a 3"x6" cylinder	Testing		Daily Per Activity	Random	x	x				
621	4.1	Flowable Fill	Construction	Open ends of backfill area plugged, no vibrator	Roughen surfaces between layers	Visual		Daily Per Activity	Random	x					
621	4.4	Flowable Fill	Construction	Fill reaches 30 psi before supporting load		Testing		Daily Per Activity	Random	x					
622	Pavement/Bridge Surface Removal/Texturing														
622	2	Pvmt & Bridge Surface Removal & Text.	Construction requirements	Equipment needs auto grade leveling and slope control	To the depth, width, grade and cross slopes shown in plans	Visual/measurement		Daily Per Activity	Random	x					
622	10.2	Pvmt & Bridge Surface Removal & Text.	Coldmilling Existing Pvmt for Removal of Surface	Equipment capable of removing the specified thickness of asphalt or concrete surface	Capable of establishing profile grade within 1/8"	Visual/measurement		Daily Per Activity	Random	x					
622	10.3.3	Pvmt & Bridge Surface Removal & Text.	Coldmilling Existing Pvmt for Removal of Surface	Pavement surface removed around manholes, valves or drainage fixtures without damage.	Temp wedge around manholes, valves, etc. for smooth ride. Remove temp material prior to resurfacing	Visual		Daily Per Activity	Random	x					
622	10.3.4	Pvmt & Bridge Surface Removal & Text.	Coldmilling Existing Pvmt for Removal of Surface	Milled surface free of waves or irregularities. Final surface shall not vary more than 1/4" in 10 feet	Texture of final milled surface shall be a grid surface with discontinuous longitudinal striations	Measurement		Daily Per Activity	Random	x					
622	10.3.7	Pvmt & Bridge Surface Removal & Text.	Coldmilling Existing Pvmt for Removal of Surface	Loose material picked up immediately following milling operation		Visual		Daily Per Activity	Random	x					

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622	20.2	Pvmt & Bridge Surface Removal & Text.	Coldmilling Pavement for a Driving Surface	Equipment per 622.1	Min. drum cutting width 12 feet. Teeth uniform in diameter and length. Teeth holder blocks uniform	Measurement		Daily Per Activity	Random	x					
622	20.3.1	Pvmt & Bridge Surface Removal & Text.	Coldmilling Pavement for a Driving Surface	Removal of material in rut shall be to the approx. depth of the bottom of the wheel rut	Bottom of rut textured	Visual		Daily Per Activity	Random	x					
622	20.3.2	Pvmt & Bridge Surface Removal & Text.	Coldmilling Pavement for a Driving Surface	Texturing done for full lane width		Visual		Daily Per Activity	Random	x					
622	20.3.4	Pvmt & Bridge Surface Removal & Text.	Coldmilling Pavement for a Driving Surface	Milled surface free of waves or irregularities. Final surface shall not vary more than 1/4" in 10 feet		Measurement		Daily Per Activity	Random	x					
622	20.3.5	Pvmt & Bridge Surface Removal & Text.	Coldmilling Pavement for a Driving Surface	Lateral distance of 0.2 inches between striation marks.	Difference between high and low surface texture approximately 1/16"	Measurement		Daily Per Activity	Random	x					
622	20.3.6	Pvmt & Bridge Surface Removal & Text.	Coldmilling Pavement for a Driving Surface	Pavement surface removed around manholes, valves or drainage fixtures without damage.	Final surface transitioned around manholes, valves, etc. to provide smooth ride	Visual		Daily Per Activity	Random	x					
622	20.3.7, 20.3.8	Pvmt & Bridge Surface Removal & Text.	Coldmilling Pavement for a Driving Surface	Material adjacent to milled lane shall be milled so no water is ponded	Loose material picked up immediately following milling operation	Visual		Daily Per Activity	Random	x					
622	30.2	Pvmt & Bridge Surface Removal & Text.	Diamond Grinding Existing Concrete Surface	Equipment capable of grinding min. 3 foot wide without causing spalls at cracks or joints.	Diamond Blades	Visual		Daily Per Activity	Random	x					
622	30.3.3	Pvmt & Bridge Surface Removal & Text.	Diamond Grinding Existing Concrete Surface	Max tolerance of 1/16" for adjacent sides of cracks and joints	Lateral drainage maintained	Measurement		Daily Per Activity	Random	x					
622	30.3.4, 30.3.5	Pvmt & Bridge Surface Removal & Text.	Diamond Grinding Existing Concrete Surface	Cross slope per plans with no deviation > 1/4" in 12 feet	Longitudinal variations no >1/8" in 10 feet	Measurement		Daily Per Activity	Random	x					
622	30.3.7	Pvmt & Bridge Surface Removal & Text.	Diamond Grinding Existing Concrete Surface	Ridge peaks 1/32" higher than bottom of grooves	Grooves evenly spaced. 50 -55 grooves per foot measured perpendicular to centerline	Measurement		Daily Per Activity	Random	x					
622	30.3.8	Pvmt & Bridge Surface Removal & Text.	Diamond Grinding Existing Concrete Surface	All residue disposed of to satisfy environmental regs.	No residue in gutters or closed drainage systems. Discharge shall not flow into adjacent rivers, streams, lakes, pond.	Visual		Daily Per Activity	Random	x					
622	30.3.8	Pvmt & Bridge Surface Removal & Text.	Diamond Grinding Existing Concrete Surface	Residue not spread within 100 feet of streams or lakes or within 15 feet of water filled ditch		Visual		Daily Per Activity	Random	x					

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622	30.4.2	Pvmt & Bridge Surface Removal & Text.	Diamond Grinding Existing Concrete Surface	Control profilograph tracerequired prior to grinding oer 502.	Finished segments final PI of 35% of control trace or 30" per mile, whichever is greater. No bumps > 0.5 inch in 25 feet	Measurement		All pavement	Random	x					
622	40.2	Pvmt & Bridge Surface Removal & Text.	Diamond Grinding New Concrete Surface	equipment per 622.30.2		Visual		Daily Per Activity	Random	x					
622	40.3.1	Pvmt & Bridge Surface Removal & Text.	Diamond Grinding New Concrete Surface	Joints protected to prevent grinding residue from entering. J	oints cleaned and sealed per 502 after grinding complete	Visual		Daily Per Activity	Random	x					
622	40.3.2.1, 40.3.2.2	Pvmt & Bridge Surface Removal & Text.	Diamond Grinding New Concrete Surface	Grinding not until strength is reached and no sooner than 21 days after placement.	Final surface per 622.30.3.7. Grooves parallel.	Measurement/testing		Daily Per Activity	Random	x					
622	40.3.2.2	Pvmt & Bridge Surface Removal & Text.	Diamond Grinding New Concrete Surface	Adjacent passes overlapped < 1.5" and within 1/8" in height measured with 3 foot starightedge	No < 98% of surface textured. No ridges between lane lines.	Measurement		Daily Per Activity	Random	x					
623	Conc. Bonding, Epoxy Mortar, Polymer Overlay (NOT USED)														
624	Geotextile Construction														
624	2	Geotextile Construction	Materials/Construction	Per 1011	Placed per AASHTO M288	Documentation		Daily Per Activity	Random						
625	Undersealing Pavement														
626	Rumble Strips														
626	2	Rumble Strips	Construction	Neat & uniform finish	Damaged pavement repaired or replaced	Visual		Daily Per Activity	Random	x					
626	2	Rumble Strips	Construction	Installed no later than 5 days if roadway open to traffic.		Visual		Daily Per Activity		x					
627	Contractor Surveying														
627		Contractor Surveying	Construction												
627		Contractor Surveying	Construction												
628		Contractor Surveying	Construction												
629		Contractor Surveying	Construction												
630		Contractor Surveying	Construction												
631		Contractor Surveying	Construction												
632		Contractor Surveying	Construction												
633		Contractor Surveying	Construction												
634		Contractor Surveying	Construction												
635		Contractor Surveying	Construction												

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All		All	All	Construct per plans, specs., JSP's and standards			Per work element	Per work element				
701	Drilled Shafts											
701	2	Drilled Shafts	Preconstruction Submittals	Submit to MoDOT 30 days prior to construction	Calc. Signed and sealed by MO PE	Documentation		Prior to Work	Per submittal			x
701	3.00	Drilled Shafts	Reinforcing Steel for Concrete	Materials per Sec 1036		Documentation and PAL	x	Per Activity	Random	x		x
701	3.00	Drilled Shafts	Concrete Admixtures	Materials per Sec 1054		Documentation and PAL	Per Activity	Per Activity	Random	x		x
701	3.00	Drilled Shafts	Concrete Curing Material	Materials per Sec 1055		Documentation and PAL	x	Per Activity	Random	x		x
701	3.00	Drilled Shafts	Mortars and Grout	Materials per Sec 1066		Documentation and PAL	Per Supplier	Per Activity	Random	x		x
701	3.00	Drilled Shafts	Water	Materials per Sec 1070		Documentation and PAL	Per Plant	Per Activity	Random	x		
701	3.1	Drilled Shafts	Concrete	Use Class B-2 concrete; HRWR may be used; Max 8" slump, retarder OK	Testing per 501; 4000 PSI @ 28-days; 0.45 W/C ratio max	Approved Mix design		First load, retest or (1) per 100 CY/pour/day unless otherwise specified	1 per 500 CY	x	x	x
701	3.2	Drilled Shafts	Casing	ASTM A 252, Grade 2	Full pen, and watertight, and of x-ray quality, E708 electrodes.	Documentation and Certification	Per Supplier	Per Activity	Random			
701	3.2.2	Drilled Shafts	Condition of Casing	Smooth and watertight	True circle cross section within 1" radially	Visual		Per Activity	Random			
701	3.2.3, 3.2.5	Drilled Shafts	Casing Length	Permanent casing continuous and extended into rock.	Splicing permanent casing per Engineer only.	Visual		Per Activity	Random	x		
701	3.2.6	Drilled Shafts	Welding	Full pen. and watertight, E7018 electrodes. All Per 1080 except no x-ray	Field-welded splices shall be made by shielded-metal arc.	MoDOT certified welder		Per Activity	Random	x		
701	3.3.2	Drilled Shafts	Slurry Properties	Material not detrimental to concrete.	Slurry type per responsible engineer.	Visual	Documentation		Random	x		
701	3.3.3	Drilled Shafts	Slurry Preparation	Slurry prepared per manufacturer instructions.	Desanding equipment as necessary	Visual	Documentation	Per Activity	Random	x		
701	3.3.4	Drilled Shafts	Slurry Control Tests	Determine density, viscosity, sand content, and pH.	Sample at 1' above bottom, mid level, Minimum 4 test for 1st 8 hours	Testing		Per Activity	Random	x	x	
701	3.3.5	Drilled Shafts	Sampling	When slurry samples are found to be unacceptable	Test Within 1 ft. of bottom and at mid-height for ea. shaft	Testing		Per Activity	Random	x	x	
701	4.30	Drilled Shafts	Construction Sequence	Excavation to ftg. elevation completed before shaft construction begins.	This may be waived according to staging or access	Visual		Per Activity	Random	x		
701	4.4.2.1	Drilled Shafts	Dry Construction Method	Only if construction will take place in relatively dry shafts	Only used if 12" per hour or less of seepage.	Visual/Measurement		Per Activity	Random	x		
701	4.4.2.2	Drilled Shafts	Wet Construction Method	Where dry excavation cannot take place	Shaft will kept full of water or stability maintained by natural slurry or mineral/polymer slurry	Visual		Per Activity	Random	x		
701	4.4.2.3	Drilled Shafts	Temporary Casing Construction Method	Before and during casing withdrawal a 5 ft. min. head of fresh concrete above the bottom of the casing.	Temp casing shall be removed while the concrete is still workable.	Visual/Testing		Per Activity	Random	x		

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701	4.4.2.1	Drilled Shafts	Permanent Casing Construction Method	Vibratory hammers shall not be used for casing installation or removal within 50 ft of other shafts that have been completed less than 24 hours earlier.	This requirement applies to temp. casing also	Visual/Measurement		Per Activity	Random			
701	4.5.1, 4.6	Drilled Shafts	Slurry Time Limitations	Slurry is in contact with the bottom 5 ft of the shaft prior to concrete placement. Shaft/Casing sidewall are cleaned per Engineers method.	Time does not exceed 4 hours without agitation.	Visual/Measurement		Per Activity	Random	x		
701	4.7.1	Drilled Shafts	Time Restrictions	Adjacent shafts will not be excavated at the same time,	Shafts not constructed within 24 hours of the completion of an adjacent (within 3 diameters) shaft.	Visual/Measurement		Per Activity	Random	x		
701	4.10.2	Drilled Shafts	Removal of Excess Sediment and Water Wet	Final shaft depth measured after final cleaning	A min. of 50% of the shaft base has <1/2" of sediment prior to placement and Max. depth any place < 1.5".	Visual/Measurement		Per Activity	Random	x		x
701	4.10.2	Drilled Shafts	Removal of Excess Sediment and Water Dry	Final shaft depth measured after final cleaning	A max depth of water shall not exceed 3". (dry excavations)	Visual/Measurement		Per Activity	Random			x
701	4.10.3	Drilled Shafts	Television Camera Inspection	Shaft excavation, steel casing and rock socket inspections are video taped.	Television system to have lighting and function in submerged or dry conditions.	Visual (Geotech Log/Report)		Per shaft	Per shaft	x		x
701	4.11	Drilled Shafts	Foundation Inspection	NX size (2 1/8" ID) cores for rock sockets	Engineer may require deeper depth than anticipated	Visual		Per shaft	Per shaft	x		x
701	4.11.1	Drilled Shafts	Inspection for End Bearing Design	After Rock Socket Exc.; Drill (1) NX size core for each rock socket to a depth of 10 ft below the bottom.	Perform SPT if drilled in shale, sandstone, or siltstone (prior to drilling shaft)	Visual/Measurement		Per shaft	Per shaft	x		x
701	4.11.2	Drilled Shafts	Inspection of Side Friction Design	After Rock Socket Exc.; Drill (1) NX size core for each rock socket to a depth of 10 ft below the bottom.	Inspection holes for side friction rock sockets are drilled prior to rock socket exc.	Visual/Measurement		Per shaft	Per shaft			x
701	4.11.3	Drilled Shafts	Log of Excavated Material (For shale, sand/siltstone)	The amount of NX cored per run and cores loss are noted and explained.. All Clay layers are logged by depth.	Note Shaft#, Elevation, time,	Documentation		Per shaft	Random			x
701	4.11.3	Drilled Shafts	Log of Excavated Material (Limestone)	The bedding thickness and degree of weathering are noted.	(1) unconfined compression test per 5 ft. of NX core	Documentation		Per shaft	Random			x
701	4.11.4	Drilled Shafts	Storage and Labeling of Rock Cores	Protected and stored.	Label: location, depth, elevation, date, contractor	Documentation		Per shaft	Random			
701	4.12	Drilled Shafts	Reinforcing Steel Cage Fabrication and Placement	Shall be assembled as a unit prior to installation	Temporary stiffeners are removed prior to concrete placement	Visual		Per shaft	Random			
701	4.12.1	Drilled Shafts	Reinforcing Ties, Splices and Clearances	Mechanical bar splices are staggered <50% of the splices are within a 2-lap splice distance	Welding only per plan	Visual/Measurement		Per shaft	Random			x
701	4.12.1	Drilled Shafts	Reinforcing Ties, Splices and Clearances	Rebar double-wire tied & supported	Concrete cover/clearances per Table 701.12.1	Visual		Per shaft	Random			x
702	4.12.2	Drilled Shafts	Spacers	Rolling Spacers will be used to ease cage insertion and casing removal.	Concrete spacers are non-corrosive placed 1 per each 30" of diameter (min. 3/level)	Visual		Per shaft	Random			x
701	4.12.2	Drilled Shafts	Spacers	Place spacer 2' of both ends and at intervals <5 ft. For vertical steel > 1" in dia., max. spacing may be increased to 10 ft.	Shaft diameter changes set spacers at both 2 ft above and below each change	Visual/Measurement		Per shaft	Random			x
701	4.12.4	Drilled Shafts	Durability of Spacers	Concrete spacers & supports of equal concrete quality as CIP shaft.	Fabricated spacer of reinforcement steel will be epoxy coated	Visual		Per shaft	Random			
701	4.12.3, 4.12.5	Drilled Shafts	Protection of Reinforcing Cage	Maximum 12" bottom clearance. Add/lap #11 rebar if necessary	Properly spaced away from soil contact	Visual		Per shaft	Random	x		x
701	4.12.6	Drilled Shafts	Check of Tolerances for Placement of Reinforcing Cage	Top elevation will be checked before and after concrete placement.	Concrete cover/clearances per Table 701.12.1	Visual/Measurement		Per shaft	Random			x

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701	4.13.1	Drilled Shafts	Concrete Placement : General Conditions	After excess water and sediment is remove, concrete placement will begin immediately.	Within the 15 ft. radius, no vibratory methods until the concrete has set at least 5 days.	Visual/Measurement		Per shaft	Random	x		
701	4.13.1.1	Drilled Shafts	Placement of Concrete in the Shaft	Concrete shall be placed by free fall (dry hole) or through a tremie or concrete pump.	Max. height of free fall placement shall be 80 ft.	Visual/Measurement		Per shaft	Random			x
701	4.13.1.2	Drilled Shafts	Extent of Concrete Placement	Continue concrete placement until a minimum of 18" of concrete expelled from shaft.	After concrete placement all contaminated and delterious material above top of shaft is removed to within 1 foot of plan top of shaft	Visual/Measurement		Per shaft	Random			x
701	4.13.1.3	Drilled Shafts	Time Limitations	Concrete placement shall not exceed (2) hours. Concrete must remain in a workable plastic state thru placement	May request longer if a concrete mix is provided that will maintain a slump of 4"	Visual, Measurement, & Testing	Slump Loss Test	Per shaft	Random			x
701	4.13.2	Drilled Shafts	Concrete Placement by Tremie	Watertight tubing with inside diameter no < 10" with hopper at top. No aluminum.	Wall thickness adequate to prevent crimping or sharp bends.. Sufficient weight to rest on bottom of shaft.	Visual/Measurement		Per shaft	Random			x
701	4.13.2.1	Drilled Shafts	Adjustment of Concrete Free Fall or Rate of Concrete Flow	Rate cannot cause caving or sloughing		Visual/Measurement		Per shaft	Random			
701	4.13.2.2	Drilled Shafts	Tremie Operation Method (Underwater Placement) Wet	Placement of concrete shall not begin until the tremie is at the shaft base elevation.	The tremie discharge end I remains immersed as deep as practical in the concrete, but no <5 ft. at all times.	Visual		Per shaft	Random			x
701	4.13.2.3	Drilled Shafts	Removal of Tremie Orifice From Concrete	If during placement tremie is removed from concrete pour, entire placement is defective.	If defective; remove cage and concrete and restart operation.	Visual/Documentation		Per shaft	Random			
701	4.13.3	Drilled Shafts	Concrete Placement by Pump	Pump lines min. dia. of 5". Discharge end will initially be plugged not to allow water to enter	Discharge orifice remains 5' below fluid concrete surface.	Visual/Measurement		Per shaft	Random			x
701	4.13.4	Drilled Shafts	Drop Chutes Method Dry	Drop chutes direct placement of free fall concrete down the center of the shaft excavations where the max. depth of water does not exceed 3".	The drop chute is supported such that the free fall from the bottom of the chute is < 80 ft.	Visual/Measurement		Per shaft	Random			x
701	4.14	Drilled Shafts	Construction Joints	Locations Per Plan. Continuous rebar through joints.	No Key for horizontal joints, Shear key if required has 1/3 of contact area.	Visual		Per shaft	Random	x		
701	4.15	Drilled Shafts	Concrete Protection and Curing	1st 48 hours no construction operations that will cause soil movement adjacent to the shaft.	Exposed surfaces cured per applicable 502	Visual		Per shaft	Random	x		
701	4.16	Drilled Shafts	Construction Tolerances	Make frequent checks for plumbness, alignment and dimensions of shaft	Temp casing diameter shall provide the final plan shaft diameter	Measurement		Per shaft	Random	x		
701	4.16	Drilled Shafts	Construction Tolerances (Excavation)	Shafts are constructed with the center of the top of the shaft within 3" of plan position.		Measurement		Per shaft	Random			x
701	4.16	Drilled Shafts	Construction Tolerances (Excavation)	The vertical excavation alignment does not vary more than .25" per ft of depth.	The bottom of the shaft excavation shall be normal to the axis of the shaft within a tolerance of 3/8" per ft of shaft dia.	Measurement		Per shaft	Random			x

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701	4.16	Drilled Shafts	Construction Tolerances (Completed Shaft)	After all the shaft concrete is placed, the top of the reinforcing steel cage <6" above and < 3" below plan position.	The top elevation of the concrete no more than 1" above or 3" below the plan top of shaft elevation.	Measurement		Per shaft	Random			x
701	4.17	Drilled Shafts	Integrity Testing	Shaft is subjected to crosshole sonic logging (CSL) testing	Shafts with poor CSL results will be cored per 701.4.17.1	Visual		per shaft	Random			x
701	4.17.1	Drilled Shafts	Concrete Coring	locate and drill NX core continuously from top of shaft to 1' below rock socket	Core holes filled with grout per 1066	Visual		per shaft	Random			x
701	4.17.2.1	Drilled Shafts	Sonic Logging Testing: Installation of Pipes	Shall install and secure 2" nominal inside dia. steel pipes to the interior of the reinforcement cage with a min. concrete cover of 3".	The pipes shall extended at least 3 ft. above the top of the concrete in the shaft.	Visual/Measurement		per shaft	Random			x
701	4.17.2.3	Drilled Shafts	Sonic Logging Test Procedure	The drilled shaft shall be tested between 2 and 40 days after concrete placement	Pipes shall be checked to ensure the pipes are free from blockages and filled with water.	Visual		per shaft	Random			x
701	4.17.2.3	Drilled Shafts	Sonic Logging Test Procedure	Levels shall be taken on top of each pipe, each pipe shall be plumbed and the length shall be record. Tests are carried out with the probes on different horizontal planes.	Testing performed between each pair of adjacent pipes around the shaft perimeter and also in pairing combinations between each pipe with all other pipes in the shaft.	Test		per shaft	Random	x		x
701	4.17.2.3	Drilled Shafts	Sonic Logging Test Procedure	The speed of ascent shall be less than 12" per second. Measurements shall be taken at 3" intervals or less. Accurate measurements of probe depths noted on the logs.	If anomalies are detected, additional tests with (2) or more sources per receiver vertical offsets of greater than or equal to 20" shall be conducted between the same tubes unless the anomaly is within 20" of the bottom of the shaft.	Measurement		per shaft	Random			x
701	4.17.4	Drilled Shafts	Record of Testing	The CSL report is due in 7 days including data logs, plots and Concrete Condition Rating	Condition Rating Criteria per Table 701.4.17.2.4			per shaft	Random			x
701	4.17.2.5	Drilled Shafts	Correction of Unacceptable Results	If a defect is confirmed, shaft will be cored per the Engineer and 701.4.17.1	Within 14 days of the completion of testing, the contractor shall provide a report signed and sealed by a Professional Engineer including recommendations to accept or repair the shaft.	Documentation		per shaft	Random			x
701	4.17.5.5	Drilled Shafts	Drilled Shaft Load tests	If required by contract.	After testing non production shafts will be cut down 3' below finish grade	Visual/Measurement		Per Location required	Surveillance or audit of QC			x
702	Load-Bearing Piles											
702	2.00	Load-Bearing Piles	Material	Per Table 702.2		Documents	Shipment	Per Activity	random	x		x
702	2.1	Load-Bearing Piles	Cast-In-Place Concrete Piles (Not Used)	Sec 501, Class B-1	Cast in pre-driven metal shells	Visual						
702	2.2	Load-Bearing Piles	Structural Steel Piles	Size, weight, and structural shape is per Plan	Straight <1/8" x length/5 camber or sweep	Documentation/Measurement		per pile	random	x		x

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702	2.3	Load-Bearing Piles	Pile Point Reinforcement	Per 1080	Shop and Field Welding per manufacturer. (MoDOT certified welder)	Documentation		per pile	random			
702	2.4	Load-Bearing Piles	Pile Length	Approximate lengths per Plan		Measurement		per pile	random	x		
702	2.5	Load-Bearing Piles	Test Piles (Not Used)	Length as to permit driving the tips to an elevation 10 ft below that indicated by plan lengths.								
702	2.6	Load-Bearing Piles	Certification	Delivery Documentation		Documentation		Per pile	random			x
702	3.1	Load-Bearing Piles	Driving Equipment	Power-driven hammers or combined with water jets		Documentation		Per Activity	random			x
702	3.2	Load-Bearing Piles	Leads	Ensure support of pile during driving		Visual		Per Activity	random			
702	3.3	Load-Bearing Piles	Followers	Per Engineer of Record		Visual		Per Activity	random			
702	3.4	Load-Bearing Piles	Water Jets (Not Used)	The use of water jets shall be discontinued before the final penetration is reached, and piles shall be driven to secure a final penetration of no less than 2 ft if the nature of the soil permits.								
702	3.5	Load-Bearing Piles	Hammer Energy	Per Table 702.3.5		Documentation		Per Activity	random	x		x
702	4.1	Load-Bearing Piles	Test Piles (Not Used)	Driven to a least the minimum tip elevation. If no min. tip elevation is shown on the plans, piles shall have a tip elevation at least 10 ft below the bottom of the supported ftg or 10 ft below the natural ground line.	Before driving test piles, the excavation shall be completed to an elevation no more than 2 ft above the proposed grade at the point where a test pile is to be driven.	Measurement						
702	4.2	Load-Bearing Piles	Load-Bearing Piles	Pile driven only after structure excavation is complete	Damaged pile or driven in the wrong location will be removed and replaced	Visual/Measurement		Per Activity	Random	x		x
702	4.3	Load-Bearing Piles	Preboring	Locations per Plan. Or required when 5' of embankment in place for less than 5 years	Hole diameter no less than the pile diameter. Any space around pile is filled with sand.	Measurement		Per Activity	Random	x		x
702	4.4	Load-Bearing Piles	Pile Placement Tolerance	Final position of piles shall be no more than 1/4" per ft from the vertical or from the batter line shown on the plans.	The max. variation of the head of the pile from the position shown on the plans shall be no more than 6" for piles in footings entirely below the finished ground.	Measurement		Per Activity	Random			x
702	4.5	Load-Bearing Piles	Pile Point Reinforcement	Manufactured in one piece	Per table 702.4.5	Documentation		Per Activity	Random			x
702	4.5.3, 4.5.4	Load-Bearing Piles	Pile Point Reinforcement	Points are attached to piles in accordance with manufacturer. Full penetration weld.	Piont extension onto web can be omitted if alternating 1 1/2" x 1/4" fillet welds on each side of weld.	Visual		Per Activity	Random			
702	4.5.5	Load-Bearing Piles	Pile Point Reinforcement	Properly dried low hydrogen electrodes of the E70XX series and welded by MoDOT certified welder.	Sec 1080	Visual/Documentation		Per Activity	Random			
702	4.6	Load-Bearing Piles	Splices	No more than (1) splice per pile for lengths up to and including 40 ft. No length less than 8'.	Properly dried low hydrogen electrodes of the E70XX series and welded by MoDOT certified welder.	Visual/Measurement		Per Activity	Random	x		x
702	4.7	Load-Bearing Piles	Cut-Offs	Piles are cut-off square at cut-off elevation		Visual		Per Activity	Random			

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702	4.9	Load-Bearing Piles	Protective Coatings	Applied heavily to structural steel piles in end bents for a length of 3 ft below the bottom of the concrete cap.		Visual		Per Activity	Random			x
702	4.9	Load-Bearing Piles	Time Restrictions		No piling driven within a radius of 20 ft of the concrete that has not attained a min. compressive strength of 1500 psi.	Visual/Measurement		Per Activity	Random			x
702	4.10.0	Load-Bearing Piles	Dynamic Bearing Formulas	Formulas per Table 702.4.10 if not specified in contract	Applies only if: hammer has unrestricted fall, no damage to pile head, minimal hammer bounce, and uniform penetration rate.	Documentation		Per Pile	Random	x		x
702	4.11	Load-Bearing Piles	Dynamic Bearing Formulas (Min/Max Limits of Driving)	Piles driven to a the minimum tip elevation indicated on the plans. If no min. tip elevation is shown on the plans, piles are to be driven to a tip elevation at least 10 ft below the bottom of the footing or 10 ft below the natural ground line, whichever is lower.	Pile driven to obtain a bearing value no less than shown in the plans determined in accordance with 702.4.10.	Documentation		Per Pile	Random	x		x
703	Concrete Masonry Construction											
703	2.1	Concrete Masonry	Materials	1038, 1057, 1053	Concrete per 501	Documentation		Per Activity	random	x		x
703	3.1	Concrete Masonry	Falsework	Adequate to support forms true to lines, camber and grades per plan	Constructed in general accordance with submitted plans (if required)	Visual		Per Activity	random	x		x
703	3.2	Concrete Masonry	Forms	True to lines, camber, grades per plans and mortar tight adequate to prevent distortion during placement	Unless specified all concrete will be formed	Measurement Checks		Per Activity	random			x
703	3.2	Concrete Masonry	Forms	If forms sag or deform during placement. Remove concrete	Form will be sturdy enough to resist fluid concrete pressures	Visual		Per Activity	random	x		
703	3.2.1	Concrete Masonry	Forms	Face lumber for exposed surfaces will smooth free of loose knots and other defects	Triangular molding will be provide bevels at side edges	Visual		Per Activity	random	x		
703	3.2.2, 3.2.4	Concrete Masonry	Forms	Form lining is required for exposed curved surfaces.	Reused form will be in good condition	Visual		Per Activity	random			x
703	3.2.7	Concrete Masonry	Forms	Inside of forms oiled with approved oil.	Oil applied before rebar installation	Visual		Per Activity	random	x		
703	3.2.8	Concrete Masonry	Forms	Ties and spreader used inside room kept an inch below finish surface.	Coil ties and embedded metals are epoxy coated or galvanized	Visual		Per Activity	random	x		
703	3.2.9	Concrete Masonry	Forms	Metal tie rod cavities will be patched with 1 part cement & 2 parts sand, or a non shrink mortar	Cavities adjacent to backfill patched with mortar or plastic compound	Visual		Per Activity	random	x		
703	3.2.10, 703.3.2.11, 703.3.2.12	Concrete Masonry	Forms	Fiber and Steel tubes placed per design and without distortion	Ends of tubes suitably capped and 1 3/4" weepole at each end	Visual		Per Activity	random	x		
703	703.3.2.13, 703.3.2.14	Concrete Masonry	Forms	False work or form removal (structural) only after reaching minimum strengths per Table 703.3.2.13. Self-supporting vertical surfaces excluded	Strength determined by AASHTO T22 or Maturity Testing	Testing meets requirements		Per Activity	random	x	x	

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703	703.3.3	Concrete Masonry	Placing Concrete	Placed in layers with minimal handling and completed in a continuous operation with no interruption in excess of 45 minutes. Full width for bridge decks	Consolidated with a >4500 impulse vibrator without causing segregation.	Visual/Measurement		Per Activity	random	x		x
703	703.3.3.1, 703.3.3.2	Concrete Masonry	Placing Concrete	Engineer will approved placements with >5' free drops	Worked under and around rebar a without displacing steel, embeds, and tubes.	Visual		Per Activity	random			x
703	703.3.3.5	Concrete Masonry	Placing Concrete	Substructure placements will be in the predominantly dry unless approved by Engineer	Supporting material will be adequately stable to support placement	Visual		Per Activity	random			x
703	703.3.3.6	Concrete Masonry	Placing Concrete	Deposited underwater only per Engineer	Placement by tremie without vibration.	Visual		Per Activity	random	x		
703	703.3.3.7	Concrete Masonry	Placing Concrete	Conveying or pumping equipment with appropriate capacity and in good condition	Pumped concrete will not come in contact with aluminum parts.	Visual		Per Activity	random	x		
703	3.3.9	Concrete Masonry	Placing Concrete	Cavities or crevices will be filled with B concrete prior to placing footings		Visual		Per Activity	random	x		
703	3.3.10.3.3.10.1	Concrete Masonry	Placing Concrete	Closure pour concrete will be expansive Class B-2 concrete. With unpolished aluminum or cement substitution.	Closure pour will be placed after the falsework has been released	Visual		Per Activity	random	x		
703	3.3.10.2	Concrete Masonry	Placing Concrete	Prior to the closure pour the adjacent slab area will be sand blasted and cleaned.	The closure pour will take place right after bonding compound (623) has been applied	Visual		Per Activity	random	x		
703	3.4.3.4.1	Concrete Masonry	Joints	Construction and expansion joints located per plans.	If shear keys are not specified, construction joint surfaces will be roughened	Visual		Per Activity	random	x		x
703	3.5	Concrete Masonry	Finishing	Riding surfaces are machined finished true to alignment, grade, cross section, and camber	Skewed structures are finished parallel to the skew >45 degrees	Visual		Per Activity	random			x
703	3.5.1	Concrete Masonry	Finishing	The approved self propelled finishing machine will be properly configured and set on rails parallel to the centerline.	Supporting concrete must be >3200 psi before machine loads.	Visual & Testing		Per Activity	random	x		x
703	3.5.4	Concrete Masonry	Surface Tolerances	Riding surfaces will be check with a 10' straightedge	Irregularities or bumps will be refinished	Measurement		Per Activity	random			x
703	3.5.5	Concrete Masonry	Surface Tolerances	The riding surface will be textured per 502.4 except within 12" of curb line	An approved finned float may be used.	Visual		Per Activity	random	x		x
703	3.5.6	Concrete Masonry	Surface Tolerances	After curing straightedge riding surfaces and mark +1/8" variations	Correct or grind +1/8" variations	Measurement		Per Activity	random	x		x
703	3.5.7	Concrete Masonry	Surface Tolerances	Construction and expansion joints are edged and sealed, except armored joints	Joint seal before surface seal	Visual		Per Activity	random	x		
703	3.5.8	Concrete Masonry	Surface Tolerances	Surface finish per 703.3.2.9	Remove fins, point and patch tie cavities and honeycombing	Visual		Per Activity	random	x		
703	3.5.9	Concrete Masonry	Surface Tolerances	Bridge seats finished to a smooth surface less than 1/16" deviation from level	Anchor bolt wells filled per 1066 expansive type mortar	Visual		Per Activity	random	x		
703	3.6	Concrete Masonry	Curing	Exposed surfaces cured started as soon as marring will not occur. Once begun, no exposure >30 minutes during curing stages	Concrete next to construction joints are wet cured for 72 hours or sprayed with Type 1-D membrane compound	Visual		Per Activity	random			x
703	3.6.2.1	Concrete Masonry	Curing Compound	Bridge decks (to be sealed) cured with Type-D membrane compound. Type 1-D or Type 2 if texture is by diamond grinding	Curing compound applied at rate no <150 ft ² /gallon. Inspect to a pure white finish	Visual		Per Activity	random			x
703	3.6.3.2	Concrete Masonry	Cure -Texture	For conventional texturing: spray no more than 10 linear feet at a time right after texturing	For diamond grind: spray cure right after surface has been floated	Visual		Per Activity	random	x		x

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703	3.6.3.4	Concrete Masonry	Wet Cure	Cover with wet cure mats within no more than 90 minutes after texture or float	Continuous curing for 7 days and 3000 psi	Visual & Testing		Per Activity	random	x	x	x
703	3.6.3.5	Concrete Masonry	Not used	Steam or submersion curing not used				Per Activity	random			
703	3.6.3.6	Concrete Masonry	Loading	Materials/equipment less than 1000 lbs. after 24 hours, if no damage to surface	Masses less than 4000 lbs after latest concrete is 3200 psi	Visual & Testing		Per Activity	random	x		
703	3.7	Concrete Masonry	Deck Texturing	Per 703.3.5.5 prior to curing compound	Diamond grind after design strength is reached	Visual		Per Activity	random	x		x
703	3.7.1.2 3.7.1.3	Concrete Masonry	Diamond Grind	Diamond grind per 622.30. Prior to final grind remove bumps per 703.3.5.6	1/8"to <1/4" deep ground. Approaches and decks ground at the same time,	Visual & Testing		Per Activity	random	x		
703	3.8	Concrete Masonry	Surface Seal	Use sealer per 1053. Apply on clean surface dried for 48 hours, +35 degrees F.	Apply at .05 gals/yard2. Remove cure compound before sealer	Thermometer		Per Activity	random			x
703	3.9	Concrete Masonry	Hot Weather	Ambient temperature below 85 degrees F. for bridge decks	Mix at 85 degrees F. max for placed concrete	Thermometer		Per Activity	random			x
703	3.10	Concrete Masonry	Cold Weather	Concrete protected from freezing thru curing period. Bridge deck pours ambient 45F and greater. Other concrete ambient 35F or higher.	No placement on frozen ground, steel/concrete surfaces below 35F.	Loggers and Thermocouples		Per Activity	random			x
703	3.10.1	Concrete Masonry	Cold Weather	Plant uses heated water during 40 degree or lower weather. Aggregate not heated above 150 degrees F. Combined temp of water and agg. No greater than 100F when cement is added	Minimum concrete placement temperatures for formed concrete 45 degrees, 60 degrees for all other	Thermometer		Per Activity	random			x
703	3.10.2	Concrete Masonry	Cold Weather - Exposed Structure Concrete	Prevent freezing for above ground structure concrete until strength meets 703.3.2.13 (surfaces >15 ft2)	Exposed surfaces kept moist during curing process	Visual		Per Activity	random	x		x
703	3.10.3	Concrete Masonry	Cold Weather - Drainage Concrete	No air temperature limitation for drainage concrete <15 ft2.	Protect placement from freezing thru curing process.	Visual		Per Activity	random	x		
703	3.11	Concrete Masonry	Extending/Widening Structures	Work will be per plan. Existing contact surfaces will be clean prior joining new concrete	Before joining new to existing concrete, roughen existing surfaces	Visual		Per Activity	random	x		
703	3.11	Concrete Masonry	Stenciling ID Numbers	Bridge Id numbers are stencil in black letter per Engineer	Letter are 2-3 inch high capitalized lettering	Visual		Per Activity	random	x		
704	Concrete Masonry Repair											
704	2.00	Concrete Masonry Repair	Materials	Per 501, 623, 1005, 1019, 1039, 1070		Documentation and Testing	Shipment	Per Activity	random	x		
704	3.00	Concrete Masonry Repair	Types of Repair	1) Deck Repair; Half-Soling (Partial Remove/Replace). 2)Deck/Void Tube Repair (Partial Remove/Replace) 3)Full Depth Repair (complete Removal/Replace) 4) Mod. Deck Repair (Remove/Replace for exposed rebar. 5) Superstructure Repair/Patch (Repair with	6) Slab Edge (Repair within 4" of edge). 7) Substructure (Formed repair with B-1). 8) Substructure Patch (Repair with unformed mortar). 9) Epoxy Seal (Apply epoxy as required)	Documentation and Testing		Per Activity	random	x	x	
704	4.1	Concrete Masonry Repair	Removal Requirements	Appropriate repair type. Removal loose and unsound concrete and clean contact surfaces	Deck Repair not required if rebar is not exposed.	Visual		Per Activity	random	x		
704	4.1.3	Concrete Masonry Repair	Conventional Equipment	Jack hammers <65 lb for decks, Chipping hammers (15 lbs) for removal around rebar	Minimize damage to rebar and sound concrete when chipping and jack hammering	Visual		x	random	x		
704	4.1.4	Concrete Masonry Repair	Hydro Demolition	Appropriate equipment. Protect surrounding work.	Control or impound run-off water	Visual		Per Activity	random	x		
704	4.1.5	Concrete Masonry Repair	Concrete Removal	Vertical removal 1 inch into sound perimeter concrete. Rectangular shape perpendicular to surface. No excessive damage to rebar	Saw cut Full Depth repairs. Remove no more than 1/4 of column perimeter or 1/8 column (live loaded) at one time	Visual		Per Activity	random	x		

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704	4.1.6	Concrete Masonry Repair	Exposed Rebar	Exposed rebar thoroughly cleaned by sand or hydro blasting	Concrete removed 1 inch beyond the inside edge of any exposed rebar for superstructure unformed, substructure formed and substructure unformed	Visual		Per Activity	random	x		
704	4.1.6.2	Concrete Masonry Repair	Deck repairs	Min. depth for half sole is exposing the upper layer of top mat of resteel	If bond destroyed go 1 inch below bar	Visual		Per Activity	random	x		
704	4.1.7	Concrete Masonry Repair	Rebar Repair	Splice by 24 diameters any rebar with >10% cross section loss. Use same size bar.	Blast clean rebar. Repair damaged epoxy per 710	Visual		Per Activity	random	x		
704	4.2.1	Concrete Masonry Repair	Patch Preparations	Blast clean removal surfaces. Saturate surface with water and paint with bonding compound or epoxy.	Use concrete bonding material for all structures. Use epoxy for structures with cathodic protection	Visual		Per Activity	random	x		
704	4.2.2, 4.2.3	Concrete Masonry Repair	Epoxy Sealing Prep and Application	Blast clean surfaces. Use oil/water free 90 psi forced air source.	Use Type 3 epoxy following manufacturer's instruction. Maximum 100 ft ² /gallon.	Visual		Per Activity	random	x		
704	4.4.1	Concrete Masonry Repair	Concrete Placement	Place concrete before bonding material sets. Match removal limits and joints patterns	Finish with light broom texture	Visual		Per Activity	random	x		
704	4.4.2	Concrete Masonry Repair	Concrete Requirements	B-2 for deck repairs. Repair area put into service after reaching 3200psi	Coarse aggregate is Gradation E. No chloride additives permitted.	Visual/Testing		Per Activity	random	x	x	
704	4.4.3	Concrete Masonry Repair	Cathodic Protection	Repair with B-2 and put into service until reaching 3200 psi. Coarse aggregate is Gradation E. No chloride additives permitted.	Half-Sole use B-1 with 5lb/yard max chloride ion content. Full Depth Repair chloride free from bottom of deck to 1" below upper mat	Visual		Per Activity	random	x		
704	4.4.4	Concrete Masonry Repair	Curing	Cure per 703		Visual		Per Activity	random	x		
705	Prestressed Concrete Members for Bridges											
705	2.1	Prestressed Concrete Members	Material	Sec 1029 & 1036		Documents	Shipment	Per Activity	random	x		x
705	4.1	Prestressed Concrete Members	Post-Tensioned Members	Sec 1029		Documents	Shipment	Per Activity	random			x
705	4.2	Prestressed Concrete Members	Erection	Camber of beams, measured as the differential between adjacent beams in the final location, will be no more than 1/8" per 10 ft of span, and in no case greater than 1".	The butt joints between precast panels shall be caulked to prevent excessive grout leakage between panels.	Visual/Measurement		Per Activity	random	x		x
706	Reinforcing Steel for Concrete Structures											
706	2.1		Material	Sec 1036		Documentation and PAL	Shipment	Per Activity	random	x		x
706	3.1	Reinforcing Steel	Construction Requirements	Reinforcing steel is protected from damage at all times. All reinforcing steel is positively secured against displacement.	Reinforcing steel free from dirt, oil, paint, grease, loose mill scale, thick rust, any dried mortar and other foreign substances	Visual		Per Activity	random			x
706	3.1	Reinforcing Steel	Construction Requirements	The steel is tied in the correct position with proper clearance maintained between the forms and the reinforcement. Bridge deck tied at each bar lap for top mat	Measurements to reinforcing steel will be made to the centerline of bar, except where the clear distance from face of concrete is shown on the plans.	Visual		Per Activity	random			x
706	3.2, 3.3	Reinforcing Steel	Construction Requirements - Splices	Bars shall not be spliced, except as shown on the plans or as directed by the engineer.		Visual		Per Activity	random			x
706	3.3	Reinforcing Steel	Construction Requirements	Mechanical bar splice systems, as shown on the plans, shall be capable of developing 125% of the specified yield strength of the bar being spliced.	Installed in accordance with the manufacturer's recommendations and as modified herein.	Documentation		Per Activity	random			x

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706	3.3.1	Reinforcing Steel	Construction Requirements	The contractor shall furnish to the engineer a manufacturer's certification stating that the mechanical bar splice systems are in accordance with this specifications.		Documentation and PAL#s		Per Activity	random			
706	3.3.2	Reinforcing Steel	Construction Requirements	The splicing system may attach directly to the bars being coupled or may be of a type that provides reinforcing bars of the same size that lap with the bars being joined.	A threaded type splice system will be required where clearance considerations require the splicing device to be placed flush to the face of the construction joint for the initial concrete placement.	Visual		Per Activity	random			x
706	3.3.4	Reinforcing Steel	Construction Requirements	For mechanical bar splice systems that require laps with the reinforcement, the min. lap length on each side of the joint shall be as shown in the tables below. Mechanical bar splice systems that require laps with the reinforcement shall not be used for	Systems that require laps shall be Grade 60 deformed bars. Epoxy-coated bars shall have epoxy-coated mechanical bar splices.	Visual/Measurement		Per Activity	random			x
707	Conduit System On Structure											
707	2	Conduit System on Structure	Material	Sec 1060 & 1062		Document	Shipment	Per Activity	random	x		
707	3.1	Conduit System on Structure	Construction Requirements	Conduit systems shall be free from corrosion, restrictions, sharp edges and debris. The ends of conduit runs shall be protected by bushings and shall be temporarily capped if conductor cable is not installed immediately. Conduit shall be rigidly held in	A 0.5" diameter drain hole in all low points of conduits and junction boxes where exposed and a 0.5" rigid steel conduit drop from the low point if the conduit and junction boxes are encased in concrete, shall be provided for drainage of water.	Visual/Measurement		Per Activity	random	x		
707	3.2	Conduit System on Structure	Construction Requirements	After placing concrete, the conduit around which the concrete is placed shall be tested by the contractor, in the presence of the engineer, for continuity and freedom from obstruction by pulling a steel ball through the entire length.	The steel ball shall have a dia. 0.5" smaller than the inside dia. of the conduit being tested. Galvanized pull wires shall be installed in conduit for pulling wiring by others.	Visual/Measurement		Per Activity	random	x		
707	3.3	Conduit System on Structure	Construction Requirements	Junction box covers shall have a waterproof seal securely fastened in place.		Visual		Per Activity	random	x		
708	Blank											
709	Blank											
710	Epoxy Coated Reinforcing Steel											
710	2.1	Epoxy Coated Reinforcing	Material	Sec 1036		Documentation and PAL	Shipment	Per Activity	random	x		x
710	2.2	Epoxy Coated Reinforcing	Material	Epoxy coated reinforcing steel shall not be flame-cut		Visual	Shipment	Per Activity	random			
710	3.1	Epoxy Coated Reinforcing Steel	Handling	Systems for handling epoxy-coated bars shall have padded contact areas.	If the coating is damaged and cannot be satisfactorily patched, the material shall be returned to the coating applicator for repair or be replaced.	Visual	Shipment	Per Activity	random	x		x

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710	3.2.1	Epoxy Coated Reinforcing Steel	Placement	Epoxy-coated bars shall be held securely in the correct position with approved metal bar supports coated with plastic or epoxy or on plastic bar supports, and shall be held in place by use of plastic-coated tie wires or molded plastic clips.	When placing epoxy-coated bars, the bars shall be prevented from coming into contact with other steel items such as drains and shear connectors.	Visual		Per Activity	random			x
710	3.2.2	Epoxy Coated Reinforcing Steel	Placement	The contractor shall prevent damage to the epoxy coating when placing and vibrating concrete.	The vibrator head shall be covered with a sheet of rubber, and equipped with a rubber tip with a maximum diameter of 2 1/2 inches (65 mm). Another resilient material may be substituted for rubber as approved by the engineer.	Visual/Measurement		Per Activity	random			
710	3.2.3	Epoxy Coated Reinforcing Steel	Placement	After the reinforcing bars are secured to approved bar supports, a final visual inspection will be made.	All uncoated or damaged areas shall be coated or repaired in accordance with Sec 710.3.3	Visual		Per Activity	random	X		X
710	3.3	Epoxy Coated Reinforcing Steel	Placement	All damaged areas of epoxy coating shall be patched with the material specified in Sec 1036, and in accordance with the manufacturer's recommendations.	All sheared or cut ends of bars, end areas left bare during the coating process, and any areas where the entire coating is removed shall be patched. All repairs shall be completed a before visible oxidation of the surface occurs.	Visual		Per Activity	random			x
710	3.4	Epoxy Coated Reinforcing Steel	Placement	Requirements for mechanical bar splice systems shown on the plans shall be in accordance with Sec 706.	Epoxy coated mechanical bar splices shall be used with epoxy-coated reinforcing steel, and if the epoxy coating is damaged, shall be repaired in accordance with Sec 710.3.3	Visual		Per Activity	random			x
711	Protective Coatings for Exposed Concrete Surfaces											
711	2.0	Protective Coatings	Material	Per 1059			Shipment	Shipment	random	x		
711	3.1	Protective Coatings	Bents and Piers Urethane	Apply after 28 day old concrete. Apply to dry surfaces	Even 40 mil thickness per manufacture	Visual/Measurement		Random DFT measurements per structure	random	x	x	
711	3.2	Protective Coatings	Bents and Piers Epoxy	Clear or gray in color. Apply after 28 day old concrete. Apply to dry surfaces	Even 6 mil thickness per manufacture	Visual/Measurement		Random DFT measurements per structure	random	x	x	
711	3.3	Protective Coatings	Concrete Masonry Protection	Per 1059	Clear penetrating sealer prepped and applied per manufacturerer	Visual		Per Activity	random	x		
711	3.4	Protective Coatings	Graffiti Protection	Clear coating removable by hot water wash	Field approved per 1059	Visual		Per Activity	random	x		
711	3.5	Protective Coatings	Temp Coating Weathering Steel	Concrete cured a minimum of 14days. Applied before structural stel and removed after deck complete.	Prep and application per manufacturer	Visual		Per Activity	random	x		
712	Structural Steel Construction											
712	3.0	Structural Steel	Handling, Transporting, Storing and Erecting	1037, 1045, 1080, 1081	For damage, control materials are braced/supported, and stored in a correct manner.	Documentation	per shipment	per shipment	random	x		x

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712	5.0	Structural Steel	Erection Surfaces	Parts per. Diagrams or Working Drawings	Surfaces to be in permanent contact are be free from burrs and loose scale. Machined surfaces shall be cleaned of protective coating and apply heavy coat of graphite and oil.	Visual		per related activity	random			x
712	5.1	Structural Steel	Fit- Up and Drifting (ratio of pins to bolt)	per sec. 712.5.1 Properly supported to maintain camber. Check specified ratio of pins to bolts on field splices.	High -strength bolted field splices and primary connections have no less than 1/2 of holes fitted with bolts and cylindrical drift pins using 1/3 fitting up bolts and 2/3 pins. See live load exception	Visual		per related activity	random	x		x
712	5.1	Structural Steel	Fit- Up and Drifting	All fitting up bolts and pins properly install prior to final high strength bolt installations	AASHTO M253 (ASTM A490) and Galvanized M164 (ASTM QA325) fasteners may not. Only AASHTO non- galvanized M164 be reused.	Visual		per related activity	random	X		
712	5.2	Structural Steel	Bearings	1038	Plates are 1/8" thick and 1/2" greater in length and width than the bottom bearing plates under which the plates are to be placed.	Dimension Check		per related activity	random	x		
712	5.3	Structural Steel	Anchor Bolts Setting	Anchor bolts are set per plan. Anchor bolts set in holes or wells; wells and hole are clean and dry prior to grouting		per plan		per related activity	random			x
712	5.4	Structural Steel	Grouting Anchor bolts	Only steel shim the full size of the plate of the bearing device may be used.	Grout per sec 1066	Visual		per related activity	random			
712	6 (Sec.1 080)	Structural Steel	Field Welding	AWS D1.5, D1.1, D1.2, and Code Modifications per sec. 1080.3.3.5	Field welding per Sec 1080	Visual, Radiographic or Ultrasonic Testing		per related activity	random	x		
712	6.1	Structural Steel	Certification	AWS Standard QC 4-89		Verify certification of welders.		per welder	random	x		
712	6.2	Structural Steel	Testing	AWS Standard QC 489. Welders qualified with an established accredited AWS Certified Welder Program as defined in AWS Standard QC 4-89 or by an independent testing lab.	If specimens are to be tested at a independent lab, the tests ara witnessed and properly documented by engineer.	Witness Qualification and Testing	Production Documentation	per welder	random			
712	6.3	Structural Steel	Issuance of Cards	per sec. 712.6.3	Qualification cards will be issued by MoDOT.	Verify certification cards		per welder	random			
712	6.4	Structural Steel	Welding Procedures	AWS D1.5, D1.1, D1.2, and Code Modifications per sec. 1080.3.3.5	Welding Procedures are submitted for review prior to welding, at the engineer's request.	Verify Welding Procedure		per welder	random			
712	7.1	Structural Steel (Bolt Installation)	Bolted Parts	Per sec. 712.7.1 and 1081.3.9	All nuts for coated high-strength bolts lubricated with a visible water-soluble lubricant .	Visual		per related activity	per related activity	random		x
712	7.2	Structural Steel (Bolt Installation)	Snug Tightness of Connection	Joints and all fasteners snug tighten first.	Snug tightening progresses systematically from the most rigid part to the free edge.	Visual		per related activity	per related activity	random		x
712	7.3	Structural Steel (Bolt Installation)	Bolt Tension	Per sec. 712.7.5, 712.7.6, and 712.7.7, Fasteners tightened to provide, when all fasteners in the joint are tight, at least the minimum bolt tension required.	Bolt tension calibration devices are calibrated and certified by a private lab.	Visual/Measure		per related activity	per related activity	random	x	x
712	7.4	Structural Steel (Bolt Installation)	Washers	A hardened washer under all nut or bolt head, whichever is turned .	All oversized/slotted holes have a hardened washer under the non-turned element.	Visual		per related activity	per related activity	random		

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712	7.5	Structural Steel (Bolt Installation)	Calibrated Wrench Method	Wrench setting such as to induce a bolt tension 5 to 10 percent in excess of the specified value.		Verify	calibrate wrench once daily	calibrate wrench once daily	random		x	x
712	7.6	Structural Steel (Bolt Installation)	Turn-of-the-Nut (Bolt) Method	Joints and all fasteners snug tighten first per 712.7.2.	All bolts then tightened by Nut or Bolt rotation per Table 712.7.6. No rotation of the part not being turned by wrench allowed.	Visual	per related activity	per related activity	random	x		x
712	7.8	Structural Steel (Bolt Installation)	Bolt Length	When snug tight, the bolt end threads are even with or project slightly beyond the nut.		Visual		per bolt	random			
712	7.9	Structural Steel (Bolt Installation)	Bolt Tension Calibration Device	A Skidmore-Wilhelm Calibrator or an acceptable equivalent tension measuring device will be required at each job site during erection.	Bolt tension calibration devices shall be calibrated and certified as to be accuracy by a private testing lab.	Verify Calibration		3 bolts tested in a calibrated device capable of indicating bolt tension	random		x	x
712	7.10	Structural Steel (Bolt Installation)	Rotational-Capacity Testing	Test shall be performed on each rotational-capacity lot prior to the start of bolt installation.		Testing		each lot combination	random		x	x
712	7.11	Structural Steel (Bolt Installation)	Weathered Bolts	Shall be cleaned and relubricated prior to installation.	Retest in accordance with sec 712.7.10	Visual		each lot	random	x		
712	7.12	Structural Steel (Bolt Inspection)	Inspection	per sec 712.7	Observe the installation and tightening of bolt assemblies.	Visual		During Activity	random			x
712	7.12	Structural Steel (Bolt Inspection)	Inspection (a)	Inspecting torque wrench and bolt tension calibration device will be used.		Test		Per related activity	random	x		x
712	7.12	Structural Steel (Bolt Inspection)	Inspection (b) Verifying Inspection Torque	per sec. 712.7.3	Bolts will be placed individually in a calibrated device capable of indicating bolt tension	Inspection torque will be re-established at intervals of no more than 30 calendar days.		5 bolt assemblies per lot combination	random	x	x	x
712	7.12	Structural Steel (Bolt Inspection)	Inspection (c) Calibrated Wrench Testing	Inspect by applying, in the tightening direction, the inspecting wrench and the wrench's job inspecting torque.		Testing		10 percent of the bolts, but no less than two bolts, selected at random in each connection	random	x	x	x
712	7.12	Structural Steel (Bolt Inspection)	Inspection (d) Verify Calibrated Wrench Tightening	Wrench adjustment shall not produce a bolt or nut rotation from snug tight greater than permitted in sec. 712.7.6	Calibrated wrench tightening will be verified during actual installation.	Verification		Per related activity	random	x		x
712	8.0	Structural Steel	Field Coating	Field coating of structural steel shall be in accordance with Sec 1081		Visual and Testing		Per related activity	random	x		x
712	9.0	Structural Steel	Steel Bar Drums	Steel bar drums shall be installed in a manner that will not interfere with the movement of the expansion devices.		Visual		Per related activity	random	x		
713	Thrie Beam for Bridge Guardrail											
713	2.0	Thrie Beam; Bridge Guardrail	Material	Sec 1040		Per Plan	Shipment	per shipment	random	x		x
713	3.0	Thrie Beam; Bridge Guardrail	Construction Requirements	Anchor bolts are securely fixed to prevent displacement. Bearing surface smooth and level.	Shim so post deviates no more than 0.5" from true alignment	Visual		Per related activity	random			x
714	Blank											
715	Vertical Drain At End Bents											
715	2	Vertical Drain @ End Bents	Material	Sec 1011, 1012, 1013, & 1022		Per Plan	Shipment	Shipment	random	x		
715	3.1	Vertical Drain @ End Bents	Construction Requirements	Install the vertical drain system in accordance with the manufacturer's recommendations.		Visual		Per related activity	random			

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715	3.2	Vertical Drain @ End Bents	Construction Requirements	Modify core to provide adequate drainage into the drain pipe.		Visual		Per related activity	random	x		
715	3.3	Vertical Drain @ End Bents	Joints	Vertical and horizontal joints shall be constructed to form an uninterrupted drain face after compaction is completed.	All joints shall have an overlap of geotextile. Horizontal joints shall be designed to drain downward. No cracks or openings allowed.	Visual		Per related activity	random			
715	3.4	Vertical Drain @ End Bents	Backfill	The backfill material shall be placed and compacted in accordance with Sec 206.	The backfill shall be placed in such a manner as to prevent damage to the vertical drain system.	Visual/Test		See 206	random	x	x	
716	Neoprene Bearings											
716	10.2	Neoprene Bearings	Material	Sec 1038		documentation	Shipment	Shipment	random			x
716	10.3	Neoprene Bearings	Neoprene Bearings	The neoprene pads shall be bonded to the bearing seat with an epoxy adhesive		Visual		Per related activity	random			x
716	20.2	Neoprene Bearings	Laminated Pad Assembly Material	Sec 1038		documentation		Per related activity	random			x
716	20.3	Neoprene Bearings	Laminated Pad Assembly Material	All sole plates shall be furnished with the bearings as a complete unit and directly welded to the girder or stringer as shown on the plans.	Neoprene pads shall be bonded to the bearing seat with an epoxy adhesive in accordance with the bearing manufacturer's recommendations	Visual		Per related activity	random			x
716	30.2	Neoprene Bearings	Type N PTFE, Sole Plate, Material	Sec 1038		Per Plan		Per related activity	random	x		x
716	30.3	Neoprene Bearings	Type N PTFE, Sole Plate, Construction Requirements	Il sole plates furnished with the bearings as a complete unit and directly welded to the girder or stringer as shown on the plans.	Stainless steel sliding face of the upper element and the PTFE sliding face of the lower elements clean and dry. Pad bonded to bearing seat with epoxy adhesive	Visual		Per related activity	random			x
717	Neoprene And Silicone Systems											
717	10.2	Neoprene and Silicone	Preformed Compression Seal - Material	Sec 1073		documentation	Shipment	Shipment	random	x		x
717	10.3.1	Neoprene and Silicone	Preformed Compression Seal - Material	Shop drawings for structural steel for expansion devices shall be prepared in accordance with Sec 1080.		Per Plan		Per related activity	random	x		
717	10.3.2	Neoprene and Silicone	Preformed Compression Seal - Material	Preformed compression seal in joints will have no field splices. Factory splicing will be permitted for joints in excess of 53 ft.	Steel armor surfaces to receive PCF lubricant adhesive are sandblasted to SSPC-SP10. The lubricant adhesive shall be applied in a continuous film to the sides of the seal and to the joint surfaces	Visual		Per related activity	random	x		
717	10.3.2	Neoprene and Silicone	Preformed Compression Seal - Material	Install seal without twisting, curling, nicking or excessive stretching. Remove any excess adhesive.	If necessary use a precut seal measured for fit without stretching 5%.	Visual/Measurement		Per related activity	random	x		
717	.20.2	Neoprene and Silicone	Strip Seal - Material	Sec 1073		documentation	Shipment	Per related activity	random	x		
717	20.3.1	Neoprene and Silicone	Strip Seal - Material Shop Drawings	Shop drawings shall be prepared for the armored joint in accordance with Sec 1080.	Steel armor s tolerance that prevents the gland of the strip seal from slipping loose. The upper lip of the extrusion shall extend over the bottom lip to avoid pinching the gland when the expansion device is in a closed position.	Visual		Per related activity	random	x		

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717	20.3.2	Neoprene and Silicone	Strip Seal - Material Installation	The area of steel armor to come in contact with strip seal lubricant adhesive shall be sand blasted to SSPC-SP10 prior to installing the seal.	The strip seal shall be made watertight with a lubricant adhesive for bonding the neoprene gland to the steel extrusion as recommended by the manufacturer.	Visual		Per related activity	random	x		
717	20.3.2	Neoprene and Silicone	Strip Seal - Material Installation	Qualified technical representative, approved by the manufacturer of the expansion system onsite	The installation shall not occur without the technical representative being present.	Visual		Per related activity	random	x		
717	30.2	Neoprene and Silicone	Silicone Expansion Joint Sealant - Material	Sec 1057		Per Plan		Per related activity	random	x		
717	30.3	Neoprene and Silicone	Silicone Expansion Joint Sealant Construction Requirements	furnish to the engineer the manufacturer's written product information, installation procedures and instructional information at least two weeks prior to installation.	Qualified technical representative onsite during install. Preactivity meeting	Visual		Per related activity	random	x		
717	30.3.1	Neoprene and Silicone	Silicone Expansion Joint Sealant, Shop Drawings	Shop drawings for structural steel for expansion devices shall be prepared in accordance with Sec 1080.		Per Plan		Per related activity	random	x		
717	30.3.2	Neoprene and Silicone	Silicone Expansion Joint Sealant, Surface Preparation	Cured concrete or steel surface shall be prepared for priming and sealant placement. Joint clean and sandblasted to expose aggregate, no dust	Steel surfaces sandblasted to SSPC-SP10. After ward air blasted	Visual		Per related activity	random	x		
717	30.3.3	Neoprene and Silicone	Silicone Expansion Joint Sealant, Priming	Priming immediately after sand blasting/cleaning and only if the air and substrate temperatures are at least 40 F. Priming app per manufacturer's recommendations Sand blasting, priming and sealing shall be performed on the same day.	The entire sand blasted surface shall be primed per the manufacturer's recommendations. All leftover primer shall be properly disposed.	Visual		Per related activity	random	x		
717	30.3.4	Neoprene and Silicone	Silicone Expansion Joint Sealant, Joint Installation	The backer rod shall be installed as specified on the plans and in accordance with the manufacturer's recommendations.	All voids in the installed backer rod shall be filled to prevent sealant leakage.	Visual		Per related activity	random	x		
717	30.3.5	Neoprene and Silicone	Silicone Expansion Joint Sealant,, Sealant Placement	Sealant thickness and recess depth per plan and measure every 2'. Adjust correct sealant thickness to within ± 1/8" tolerance before set. Joint surfaces kept clean and dry during application.	Sealant placement will only be permitted when the air and substrate temperatures are between 40 -90 F and 5 F above dew point. Sealing shall be performed using a pneumatic gun in accordance with the manufacturer's recommendations.	Visual/Measurement		Per related activity	random	x		
717	40.20	Neoprene and Silicone	Silicone Joint Sealant; Saw Cut or Formed Joints	Per 1057		documentation		Per related activity	random	x		
717	40.3.1	Neoprene and Silicone	Silicone Joint Sealant; Saw Cut Joints	Joints sawed at plan locations per the plan dimensions. Clean by sandblasting or wire brushing.	Joint interfaces cured and dry at application. Loose particles removed with oil and water free air 90 psi	visual		Per related activity	random	x		
717	40.3.2	Neoprene and Silicone	Silicone Joint Sealant; Formed Joints	Joints 1/4" or > are cleaned and packed with backer rod and silicone sealant. Joints< 1/4" cleaned and caulked with silicone.	Joints cleaned per manufacturers recommendation. New concrete cured for 7 days. Loose particles removed with oil/water free with 90 psi air	Visual/measurement		Per related activity	random	x		
717	40.3.3	Neoprene and Silicone	Silicone Joint Sealant; Saw Cut or Formed Joints - Backer rod	Closed-cell, expanded polyethylene foam. Backer rod slightly oversized for joint width.	resilient, compressible, nonabsorbent, non-shrinking.	visual		Per related activity	random	x		
717	40.3.4	Neoprene and Silicone	Silicone Joint Sealant; Saw Cut or Formed Joints - Sealant Placement	Protect from dust until cured to a tack-free condition.	Tool sealant to force against joint face and to recess the bead 1/8"	visual		Per related activity	random	x		

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718		Not Used										
719		Blank										
720		MSE Wall Systems										
720	2, 2.5	MSE Wall Systems	Material	Materials per Table 720.2, Concrete Per 501	Class B/B-1: air entrained for coping, non airentrained for leveling pad	Approved mix design		Per Div 500	Per Div 501	x		x
720	2.0	MSE Wall Systems Backfill Materials	Materials: Select Granular Backfill for Structural Systems	Per 1010: Gradation:		Testing meets requirements		1/5000 yd3	1/30000 yds		x	x
720	2.0	MSE Wall Systems Backfill Materials	Materials: Select Granular Backfill for Structural Systems	Per 1010: Unit weight: >105 lbf/ft ³ , PI ≤ 6, InT Friction ≥34° if <80% of particles are <3/4"	Per 1010: MagS soundness loss <30%, Organic Content ≤ 1%, Resistivity .3000ohm/cm, pH 5-10, Chlorides ≤ 100ppm, Sulfates ≤ 200ppm	Testing meets requirements		1/source/year	1/source/project		x	x
720	2.0	MSE Wall Systems Materials	Materials: Geotextile, Drainage Materials, Rebar, Anchors, Components	Per 1010, 1011, 1013, 1036, 1039, Panels per 1052		Documentation	Per Supplier	Per Delivery	Random	x		x
720	2.1, 2.2	MSE Wall Systems Materials	Reinforcement Steel	Epoxy coated if panel within 10' of roadway, Per Plan	Grade 60 for panels and coping (rebar only)	Documentation		Per Delivery	Random	x		x
720	2.4	MSE Wall Systems Materials	Material - Unit Fill Small Block Walls	Gradation D or E per Sec 1005		Testing		1/5000 yd3	1/30000 yds			
720	4.1.1	MSE Wall Systems Materials	Small Block Wall Systems	Unit fill extends a minimum of 12' beyond the extreme back face of wall system	Each course of unit fill complete before next placed	Measurement		Per lift	Random			x
720	4.1.2	MSE Wall Systems Materials	Small Block Wall Systems	Top cap units permanently attached by resin anchor or equivalent		visual		Per unit	Random			x
720	4.2.1	MSE Wall Systems Construction	Class 1 Geotextile	Placed at all joints, between panel and backfill		Visual		Per area worked	Random			x
720	4.2.2	MSE Wall Systems Construction	Precast Panels and Coping	Precast or cast-in-place units shall be installed as depicted in design and shop drawings	Panels types installed shall match shop drawing designations. Substitution or modification requires the Designers approval	Visual and measurement		Per panel installed	Random	X		X
720	4.2.2	MSE Wall Systems Construction	Coping: Precast or Cast-in-place	Construction joints 30' (max) apart		Visual/Field measurement		Per wall	Random			
720	4.3	MSE Wall Systems Construction	Drainage	Install per plan.	Perforated pipes wrapped in Class 2 geotextile	Visual/Documentation		Per wall	Random			x
720	4.4	MSE Wall Systems Construction	Foundation Prep	Graded level for a width equal to the length of reinforcing strips per plan.	Unsuitable material removed and replaced.	Visual/Field testing		Per wall	Random	x		x
720	4.5	MSE Wall Systems Construction	Leveling Pad	Per Plan	Minimum 12" wide, 6" Thick, Cure for minimum 12 hours	Visual/Field Testing		Per wall	Random			x
720	4.6	MSE Wall Systems Construction	Batter	Per Manufactures recommendations	Results in proper alignment, see 720.4.8	Visual/Plumbness/Dimensions on Checks		Per wall	Random	x		x
720	4.7.2	MSE Wall Systems Construction	Structure Backfill (option #1)	Per 203, Density ≥ 95%RC AASHTO T99 Method C and rock correction, Placed between -3% to optimum moisture %, No Sheeps Foot rollers.	3 passes of small tamper within 3 feet of panel,	Visual/Field testing		1 density test per lift per 500' or length of structure	1 test per 10 specified QC Tests	x		x
720	4.7.2	MSE Wall Systems Construction	Structure Backfill (option #2)	4 roller passes if >30% retained on 3/4" seive, No Sheeps Foot rollers.	3 passes of small tamper within 3 feet of panel,	Visual/Field testing		Per area worked/Day	Random	x		x
720	4.7.2	MSE Wall Systems Construction	Select Backfill Placement	Backfill placed in a manner so runoff is direct away from the wall facing.	Class 1 geotextile placed between select backfill and the retained fill.	Visual		Per area worked/Day	Random	x		x
720	4.7.3	MSE Wall Systems Construction	Structure Backfill	Placement starts at rear/middle and proceeds to face over straps	No equipment contact with strips	Visual		Periodic Per area worked	Random	x		x
720	4.8.1	MSE Wall Systems Construction	Tolerances	Adjacent Panel Gaps ± 3/4 in.(1/4"for small block), Vert. & Horiz. Alignment ± 1/16 in./ft	Soil Straps Elevation ± 1 in.	Visual/Field measurement		Periodic Per area worked	Random			x
721		Blank										
722		Blank										

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723		Blank										
724		Blank										
725		Metal Pipe and Pipe Arch Culverts										
725	2	Metal Pipe and Pipe Arch Culverts	Kind of pipe / Material	Per Plans	1020, 1021, 1024, 1027	Per plans	Shipment	Shipment	random	x		x
725	3.1	Metal Pipe and Pipe Arch Culverts	Handling/Condition	All pipe will be handled to avoid damage	Pipe condition: bends < 5% or dents < 1/2"	Visual		Per Activity	random	x		
725	3.2.1	Metal Pipe and Pipe Arch Culverts	Install Pipe	Pipe installed per plans (line and grade)	Check pipe size and pipe class	Visual		Per Activity	random	x		x
725	3.3	Metal Pipe and Pipe Arch Culverts	Bedding and Backfill Material						random			
725	3.3.1	Metal Pipe and Pipe Arch Culverts	Backfill (Metal Culverts)	Per Plan. Crushed stone, gravel, sand or sandy silt.	AASHTO M 145, A1, A2 OR A3	Visual		Per Activity	random			x
725	3.3.2	Metal Pipe and Pipe Arch Culverts	Bedding	Max. size of 1 1/2" and free of organic mat or frozen clumps. No stones larger than 3"		Visual		Per Activity	random			x
725	3.4.1	Metal Pipe and Pipe Arch Culverts	Non-Embankment Conditions	width, depth and grade per plans.	Level and compact bedding material so that entire pipe supported by uniform base. Material in haunch and lower side zones placed and compacted to springline	Visual		Per Activity	random			x
725	3.4.2	Metal Pipe and Pipe Arch Culverts	Installation Prior to embankment	Fill haunch and lower side zones at least 1 pipe diameter out, 2/3 diameter max for arch pipe	Installed & backfilled per Sec.725.3.4.1	Visual		Per Activity	random			x
		Metal Pipe and Pipe Arch Culverts						Per Activity	random			
725	3.4.3	Metal Pipe and Pipe Arch Culverts	Installation pipe after embankment	Roadway embankment a minum of 1ft above the pipe. Then trench per plans and specs.	Installed & backfilled per Sec.725.3.4.1	Visual		Per Activity	random			x
725	3.4.4	Metal Pipe and Pipe Arch Culverts	Bedding in Unsuitable	If rock encountered the bedding is increased per plans.	If soft, spongy material encountered - remove and replace and compact	Visual		Per Activity	random			x
725	3.4.5	Metal Pipe and Pipe Arch Culverts	Backfill	Suitable backfill and embankment material, free of large lumps, clods or rocks shall be compacted in accordance with sec 203	backfill from haunch to 1' above pipe and brought up evenly on each side.	testing		1 density test per 3 vertical feet for pipes under roadway	10% of required QC tests	x		x
725	4	Metal Pipe and Pipe Arch Culverts	Inspection (Tolerance)	alignment <15% of plans, pipe diameter deflection <10%. Settlement <1" at 5% or more joints.	Pipe shall not be crushed. Joints shall not separate. Internal diameter not reduced > 10%	Visual		As needed	All			x
726		Rigid Pipe Culverts (RCP Reinforced Concrete Pipe)										
726	1.1, 2	Rigid Pipe Culverts	Kind of pipe / Material	Per plans	Division 1000, Material details 1026, 1030, 1034, 1035, 1057, 1066	documentation	Shipment	Shipment	random			x
726	3.1	Rigid Pipe Culverts	Pipe Laying	Per plans, Check line and grade	Bell or hub ends laid upstream with connecion the full length into the adjacent pipe. Joints sealed with approved compound, lift holes plugged.	Visual, Level, Measurement		Per installation	random	x		x
726	3.1.3	Rigid Pipe Culverts	Pipe seal material - Joint Compound	Apply to mating surfaces of both tongue and groove or bell and spigot.	Pipes forced together so that excess compound is extruded.	Visual/Documentation		Per Activity	random			x
726	3.2	Rigid Pipe Culverts	Bedding	Per plans. Category 1, 2 or 3	AASHTO M 145 - Group A-1,2,3,4,5,6 or 7	Visual		Per Activity	random			x
726	3.3.1	Rigid Pipe Culverts	Installation of pipe prior to placing embankment	Place haunch and lower side zone material at least 1 pipe diameter out. Compact per plans.	Place remaining fill from springline of pipe and up per requirements of adjacent fill	Visual		1 density test per 3 vertical feet for pipes under roadway	10% of required QC tests			x

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726	3.3.2	Rigid Pipe Culverts	Pipe after embankment	Roadway embankment min 1ft below pavement base material. The trench per plans and specs, place bedding per plan. Do not compact bedding under middle 1/3 of pipe.	Bedding outside middle 1/3 of pipe compacted to springline. Backfill above spring line compacted equal to the adjacent fill	Visual		1density test per 3 vertical feet for pipes under roadway	10% of required QC tests			x
726	3.3.4	Rigid Pipe Culverts	Bedding in Unsuitable	If rock encountered increase bedding 1/12 the outside diameter but no less than 6". The width of the cushion 1.33 times the outside pipe diameter. But no less than 24".	If soft, spongy material encountered - remove and replace and compact	Measurement		Per Activity	random			x
726	3.5	Rigid Pipe Culverts	Backfilling	Suitable backfill and embankment material, free of large lumps, clods or rocks shall be compacted in accordance with sec 203 & 206	Sec. 206, Compacted in accordance with sec 203	Visual		1density test per 3 vertical feet for pipes under roadway	10% of required QC tests		x	x
726	4.0	Rigid Pipe Culverts	Inspection	Check all pipe locations before final inspection. Horizontal & vertical alignment < 15% from plan, no evidence of separation, settlement of 1" or more for < 5% of joints	Excessive separation at joints shall be resealed with an approved material, see Sec.726.3.1	Visual		Per Activity	random	x		x
727		Structural Plate Pipe and Structural; Plate Pipe-Arch Culverts										
727	1.2	Structural Plate Pipe and Structural; Plate Pipe-Arch Culverts	Kind of pipe / Material	Per Plans	Division 1000, Materials Details, Sec. 1023 and 1024	documentation	Shipment	Shipment	random	x		x
727	3.1	Structural Plate Pipe and Structural; Plate Pipe-Arch Culverts	Handling	All pipe will be handled to avoid damage	Pipe condition: bends < 5% or dents < 1/2"	Visual/Measurement		Per Activity	random	x		
727	3.2	Structural Plate Pipe and Structural; Plate Pipe-Arch Culverts	Laying pipe	Pipe shall be installed per plans (line and grade)	Required camber shall be per plans.	Visual/Measurement		Per Activity	random			x
727	3.3	Structural Plate Pipe and Structural; Plate Pipe-Arch Culverts	Bedding and Backfill material	Per Plans Sec 725.3.3	Rock is subcut by 8 inches below pipe	Visual/Measurement		Per Activity	random	x		x
727	3.4.1	Structural Plate Pipe and Structural; Plate Pipe-Arch Culverts	Backfilling	Per Plans Sec 725.3.4.5	Backfill placement balanced on opposite sides of the structure at all times.	Visual		Per Activity	random			x
727	3.4.2	Structural Plate Pipe and Structural; Plate Pipe-Arch Culverts	Backfilling in stone or rock	A protective inner layer of backfill material will be placed around the structure as it is backfilled	AASHTO M 145, Class A-1, A-2-4, A-2-5 OR A-3	Visual		Per Activity	random		x	x

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727	4.0	Structural Plate Pipe and Structural; Plate Pipe-Arch Culverts	Inspection and Replacement	Inspection and Replacement per Sec 725.4	Except deflection testing and maximum deflection allowed will NOT apply	Visual		Per Activity	random	x		
728 Corrugated Polyvinyl Chloride Culvert Pipe												
728	1.1, 2	Corrugated Polyvinyl Chloride Culvert Pipe	Per Plans	Per Plans, Division 1000, Materials Details	Sec 1020, 1028 and 1032	documentation	Shipment	Shipment	random	x		x
728	3.1	Corrugated Polyvinyl Chloride Culvert Pipe	Handling	All pipe will be handled to avoid damage		Visual		Per Activity	random			x
728	3.2.1	Corrugated Polyvinyl Chloride Culvert Pipe	Laying Pipe	Pipe shall be installed per plans (line and grade), with bell ends upstream and spigot end entered fully into pipe	Camber shall be built into the structure to compensate for settlement, per plans.	Visual		Per Activity	random	x		x
728	3.2.2	Corrugated Polyvinyl Chloride Culvert Pipe	Laying Pipe	Joints shall be soil-tight unless specified otherwise.	Suitable field joints may be obtained with bell and spigot pipe ends with rubber gaskets meeting ASTM F 477, or double bell couplings.	Visual		Per Activity	random	x		x
728	3.3.1	Corrugated Polyvinyl Chloride Culvert Pipe	Backfill material	Backfill mat. Will consist of gravel, sand or sandy silt per plans., AASHTO M 145 Class A1, A2,A3,A4,A5	No frozen clumps or organic material. Pipe 15" or less shall have a max. partical size of 3/4" and pipe greater then 15" will have max size of 1 1/2"	Visual/Test		Per Activity	random			x
728	3.3.2	Corrugated Polyvinyl Chloride Culvert Pipe	Bedding material	Pipe 15" or less shall have a max. partical size of 3/4" and pipe greater then 15" will have max size of 1 1/4"		Visual/Test		Per Activity	random			x
728	3.4.1	Corrugated Polyvinyl Chloride Culvert Pipe	Installation and Trench Requirements	The pipe shall be installed in a trench whether it is below grade or in an embankment. The construction sequence will be per plans.	When installed in embankment, required density to a minimum elevation of 1ft above the top of the pipe before trench	Visual		Per Activity	random			x
728	3.4.1	Corrugated Polyvinyl Chloride Culvert Pipe	Installation and Trench Requirements	Bedding installed per plans. No compaction under middle 1/3 of pipe. Bedding outside middle 1/3 compacted to required density.	Material under haunches compacted properly.	Visual		Per Activity	random			x
728	3.4.2	Corrugated Polyvinyl Chloride Culvert Pipe	Bedding in Unsuitable	If rock, increase bedding 6" below bottom of pipe.	If soft, spongy material encountered - remove to a minimum of 10", replace and compact	Visual		Per Activity	random			x
728	3.4.3	Corrugated Polyvinyl Chloride Culvert Pipe	Backfilling	Free of lumps, clods and rocks. Backfill mat. Will consist of gravel, sand or sandy silt per plans and Sec 203,	Backfill shall be compacted to minimum of 90% standard max. density or otherwise specified embankment density.	Test		1density test per 3 vertical feet for pipes under roadway	10% of required QC tests	x	x	x
728	3.5	Corrugated Polyvinyl Chloride Culvert Pipe	Inspection	alignment out more then 15% of plans, pipe diameter deflection greater then 7.5%. Settlement greater then 1" at 5% or more joints.	Pipe shall not be crushed and no joint separation. Internal diameter reduced by no more than 7.5%.	Visual		Per Activity	random			x
729 Blank												
730 Corrugated Polyethylene Pipe Culverts												
730	2	Corrugated Polyethylene Pipe Culverts	Kind of pipe / Material	Per Plans, Division 1000, Materials Details	1020, 1032, 1047	documentation	Shipment	Shipment	random			x
730	3.1	Corrugated Polyethylene Pipe Culverts	Handling	All pipe will be handled to avoid damage		Visual		Per Activity	random			x
730	3.2.1	Corrugated Polyethylene Pipe Culverts	Laying Pipe	Pipe shall be installed per plans (line and grade) with bell ends upstream and spigot end entered fully into pipe	Camber shall be built into the structure to compensate for settlement, per plans.	Visual		Per Activity	random	x		x
730	3.2.2	Corrugated Polyethylene Pipe Culverts	Laying Pipe	Joints shall be soil-tight unless specified otherwise.	Suitable field joints may be corrugated bands, double bell couplings bell and spigot pipe ends with rubber gaskets meeting ASTM F 477.	Visual		Per Activity	random	x		x

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730	3.3.1	Corrugated Polyethylene Pipe Culverts	Backfill material	Backfill mat. Will consist of gravel, sand or sandy silt per plans., AASHTO M 145 Class A1, A2,A3,A4,A5	No frozen clumps or organic material. Pipe 15" or less shall have a max. practical dia. Of 3/4" and pipe greater then 15" will have max size of 1 1/2"	Visual and per plan		Per Activity	random			x	
730	3.3.2	Corrugated Polyethylene Pipe Culverts	Bedding material	15 ' pipe or less max 3/4" particle, >15 " pipe max 1.25" particle	If soft, spongy material encountered - remove to a minimum of 10", replace and compact	Visual/Test		Per Activity	random			x	
730	3.4.1	Corrugated Polyethylene Pipe Culverts	Installation and Trench Requirements	The pipe shall be installed in a trench whether it is below grade or in an embankment. The construction sequence will be per plans.	When installed in embankment, required density to a minimum elevation of 1ft above the top of the pipe before trench	Visual		Per Activity	random			x	
730	3.4.2	Corrugated Polyethylene Pipe Culverts	Bedding in Unsuitable	If rock, increase bedding 6" below bottom of pipe.				Per Activity	random			x	
730	3.4.3	Corrugated Polyethylene Pipe Culverts	Backfilling	Free of lumps, clods and rocks. Backfill mat. Will consist of gravel, sand or sandy silt per plans and Sec 203,	Backfill shall be compacted to minimum of 90% standard max. density or otherwise specified embankment density.	Test		1density test per 3 vertical feet for pipes under roadway	10% of required QC tests	x	x	x	
730	3.5	Corrugated Polyethylene Pipe Culverts	Inspection	alignment out more then 15% of plans, pipe diameter deflection greater then 5%. Settlement greater then 1" at 5% or more joints.	Pipe shall not be crushed and no joint separation. Internal diameter reduced by no more than 5%.	Test		Per Activity	random			x	
731		Precast Reinforced Concrete Manholes and Drop Inlets											
731	2.1	Precast Manholes and Drop Inlets	Material	Per plans	1033, 1055, 1057,1066	documentation	Shipment	Per Activity	random	x		x	
731	2.2	Precast Manholes and Drop Inlets	Concrete for footings	Class B, Class B-1 or commercial concrete per Sec 501.	Air entrainment not required	Visual		Per Activity	random		x	x	
731	3.1	Precast Manholes and Drop Inlets	Excavation and Backfill	Excavation and Backfill for precast reinforced concrete manholes and drop inlets per 206.		Visual		1density test per 3 vertical feet for structures in roadway	10% of required QC tests			x	
731	3.2	Precast Manholes and Drop Inlets	Placement	Installed per plans	Joints sealed per Sec 726	Per plans		Per Activity	random	x		x	
731	3.3	Precast Manholes and Drop Inlets	Footings	Constructed per plans and Sec 502	Float finished and and cured in accordance with Sec 502	Visual		Per Activity	random	x		x	
732		Flared End Sections											
732	2.0	Flared End Sections	MATERIAL - precast concrete or metal flared end sections	Division 1000 Material details	1020, 1032, 1057, 1066	documentation	Shipment	Shipment	random	x		x	
732	2.2	Flared End Sections	Material	Cast-in-place toe walls constructed of Class B, B-1 per section 501	Air entrainment not required.	visual		per activity	random	x		x	
732	3.1	Flared End Sections	Construction Requirements	Joined to pipes per plan and placed true to grade and line.		visual		per activity	random	x		x	
732	3.1.1	Flared End Sections	Construction Requirements	Joint material same as pipe connections.	Toe wall per size and shape in plans. Forms not required.	visual		per activity	random			x	
733		Precast Concrete Box Culverts											
733	2.0	Precast Concrete Box Culverts	Material	Division 1000 Material details	1049, 1057, 1066	documentation	Shipment	Shipment	random	x		x	
733	3.1	Precast Concrete Box Culverts	Subgrade Prep and Bedding	Excavation and backfilling of precast box sections will be per Sec 206, except a 6" layer of granular mat. Will be placed below the elevation of the bottom of the box and end sections.	type 1 agg. Will be placed at least 18" on each side of the structure. The bedding shall be compacted to provide uniform support.	Test		1density test per 3 vertical feet for structures in roadway	10% of required QC tests	x	x	x	
733	3.2	Precast Concrete Box Culverts	Placement	The groove end shall be upstream and the spigot end extended full length into the adjacent downstream section of box.		visual		Per Activity	random	x		x	

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733	3.2.1	Precast Concrete Box Culverts	Joints	Material to be used will be per plans/specs for sealed joints. Excess material shall extrude on inside and outside when assembled	All joint material will be used per the manufactures recommendations.	visual		Per Activity	random	x		x
733	3.2.2	Precast Concrete Box Culverts	Lift Holes	Plugged and sealed		visual		Per Activity	random	x		x
733	3.2.3	Precast Concrete Box Culverts	Multi-Cell	1-1/2" minimum space between adjacent sections.	Space filled with mortar. Strength per 206	Test		1 test per pour	random	x	x	
734		Installation of pipe by horizontal boring methods										
734	2	Material	per plans	Division 1000 Materials details	1026, 1075	documentation	shipment	shipment	random	x		
734	3.2	Horizontal Bore	Construction requirements	Variations in alignment and grade not to exceed 0.5 feet for each 100 foot of pipe.		measurement		per 100 foot	random	x		
734	3.3	Horizontal Bore	Construction requirements	Excavated hole no more than 0.1 foot greater than pipe diameter	Sluicing and Jetting not allowed.	visual		per operation	random	x		
734	3.4	Horizontal Bore	Directional Drilling	restricted to max 24" sized reamer		visual		per operation	random	x		
734	3.6	Horizontal Bore	Construction requirements	Caving or excavation outside specified limit backfilled with cellular concrete grout	Excavated area outside the pipe sealed with grout for a min. distance of 3 feet from outside face of slope	visual		per operation	random	x		
734	3.7	Horizontal Bore	Steel casing	Welds by certified welder		visual/documentation		per operation	random	x		
734	3.8	Horizontal Bore	Construction requirements	Pits adequately sloped or shored		visual		Per Activity	random	x		
734	3.9	Horizontal Bore	Construction requirements	Joint cushioning material required for pipe jacking and microtunneling	Material 0.5" thick for diameters 30" and less and 0.75" for diameters > 30"	Measurement		Per Activity	random	x		
734	3.10	Horizontal Bore	Construction requirements	For auger boring or pipe ramming an adequate steel leading band needed to protect pipe		visual		Per Activity	random			
735		Culvert Pipe Liner										
735	2	Culvert Pipe Liner	Material	Division 1000 Materials details. 1046, 1066	Joints soil tight - no gaskets	documentation	Shipment	Shipment	random	x		
735	3	Culvert Pipe Liner	Construction requirements	before any pipe liner const. Is started the culvert shall be cleaned of all sediment and debris	Control chart 735.3	Measurement		Per Activity	random	x		
735	3.1	Culvert Pipe Liner	Construction requirements	Joined in a continuous length by an interlocking method		visual		Per Activity	random	x		
735	3.3.1	Culvert Pipe Liner	Construction requirements	Expansive grout shall contain only enough water to make it stiff but workable.	Extend grout into space between existing culvert and pipe liner for a min. distance of 6" face of pipe to a flexible grout stop	visual		Per Activity	random	x		
735	3.3.2	Culvert Pipe Liner	Construction requirements	Drill weep holes for drainage in annular space in lower half of pipe liner approx. 2 inches from the downstream grout stop	Weep hole no < 3/8" and spaced circumferentially at 3" centers	visual		Per Activity	random	x		
735	3.4	Culvert Pipe Liner	Construction requirements	Anchor pipe liner to existing culvert by a min. of two 1/2 inch bolts with washers.	Pipe liner centered in existing pipe by anchor bolts installed at upstream end, spaced equal distance, above the spring line.	visual		Per Activity	random	x		

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Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
800		all	Built according to plans, specifications, standards, JSP's, etc.				Per work element	Per work element		x		x
801	Lime and Fertilizer											
801	2.1	Lime and Fertilizer	Lime Material	90% passing No 8 sieve	Min 65% calcium carbonate	Certificate of Compliance		Per shipment	Per shipment	x		x
801	2.3	Lime and Fertilizer	Fertilizer Material	Contains nitrogen, phosphoric acid and potash		Certificate of compliance, apply at contract rate		Per shipment	Per shipment	x		x
801	4.1	Lime and Fertilizer	Construction Requirements	Till soil to a min depth of 2 inches	Apply per rates in contract and mix with soil a min. 2" depth	Measurement		Per Activity	Random	x		x
802	Mulching											
802	2.1	Mulching	Vegetative Mulch	Big and Little Bluestem, Indiangrass	Sideoats, Gramma, native wildflowers	Certificate of Compliance		Per shipment	random	x		x
802	2.2	Mulching	Mulch Overspray	Virgin wood cellulose fibers or recycled paper mulch	Table of physical properties	Certificate of Compliance		Per shipment	random	x		x
802	3.1	Mulching	Mulch Application	Apply at a min of 2.5 tons per acre	Apply within 24 hours of seeding	Measurement		Per Activity	random	x		x
802	3.2.1	Mulching	Overspray Application	Apply at a min of 750 pounds per acre		Measurement		Per Activity	random	x		x
803	Sodding											
803	2.1	Sodding	Sod Material	As stated on plans		Certificate of Compliance		Per shipment	Random	x		x
803	3	Sodding	Construction Requirements	Sod bed prepared per section 801	Tight joints. Firm but uncompacted bed.	visual/fully rooted & thriving		Per activity	Random			x
803	3	Sodding	Sod Application	Wood pegs on slopes 3:1 or steeper		visual/fully rooted & thriving		Per Activity	Random	x		x
804	Topsoil											
804	2	Topsoil	Topsoil Material	Source approved by the engineer	Free of objectionable	Visual		Per Activity	Random	x		x
805	Seeding											
805	2.1	Seeding	Seed Material	Table of purity and germination requirements	Mixture per contract requirements	Certificate of Compliance		Per shipment	Per shipment	x		x
805	3.3	Seeding	Seed Application	Seeded areas prepared per 801	Applied at rate specified in contract	Visual		Per Activity	Random	x		x
805	4	Seeding	Acceptance	Two random counts per acre	Min 20 living plants per sf	Measurement		Per Acre	Per acre	x		x

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806		Pollution, Erosion and Sediment Control										
806	2	Poll, Erosion, Sediment Control	Implementation of Control Work	Submit plan prior to preconst conference		Engineer's approval		Per Plan	Per Plan	x		x
806	4.2	Poll, Erosion, Sediment Control	Construction requirements	Contractor shall use BMP's throughout the life of project to control pollution	Pollutants shall not be discharged on or from project	Visual		Per activity	Random			
806	10	Poll, Erosion, Sediment Control	Temporary Berms	Type A, B, C berms as shown on plan		Visual		Per installation	Random	x		
806	20	Poll, Erosion, Sediment Control	Slope Drains	500 foot intervals on fillslopes	Properly anchored, outlet end will have energy disipation to control erosion	Visual		Per installation	Random			
806	30.2.1&2	Temporary Ditch and Inlet Checks	Material	Per 806.3	Posts 4' minimum. Fence supported with wire mesh.	Visual/measurement		Per installation	Random	x		x
806	30.3.1	Temporary Ditch and Inlet Checks	Type 1 Ditch Checks	Constructed of straw bales, silt fence or alternate approved. Installed per plans and standards.	Type 1 not used on drainage areas . 3 acres or ditch slopes > 10%	Visual		Per installation	Random			x
806	30.3.2	Temporary Ditch and Inlet Checks	Type 2 Ditch Checks	Constructed per plans and standard drawings	Type 2 not used on drainages areas > 50 acres or where ditch slopes > 10%	Visual		Per installation	Random			x
806	30.3.2.1	Temporary Ditch and Inlet Checks	Rock Ditch Checks	Constructed per plans and standard drawings. Filter fabric required.	Constructed with rock with a predominant size between 4 and 12 inches	Visual		Per installation	Random			x
806	30.3.2.2	Temporary Ditch and Inlet Checks	Sand Bag Ditch Checks	Uniform gradation with max size 2".	Sand bags filled 3/4 full and weigh approx. 55 lbs.	Visual		Per installation	Random			x
806	30.3.2.3	Temporary Ditch and Inlet Checks	Drop Inlet Checks	Constructed per plans and standards.	Material in accordance with Type 2 ditch checks	Visual		Per installation	Random			x
806	30.3.2.4	Temporary Ditch and Inlet Checks	Maintenance	Check condition of check after each storm	Remove sediment when it reach 1/2 height of check	Visual		Per rain event	Random			x
806	40.2	Poll, Erosion, Sediment Control	Sediment Basins	Inlet and outlet areas lined with rip-rap. Remove sediment when it reaches 1/2 height of basin	Constructed per plans and standards	Visual		Per installation	Random	x		
806	50.2.2	Poll, Erosion, Sediment Control	Temporary Seeding and Mulching	Seed 100# per acre	20 plants per square foot.	Measurement		Per installation	Random	x		x
806	50.2.4	Poll, Erosion, Sediment Control	Temporary Seeding and Mulching	Nitrogen fertilizer 40# per acre		Measurement		Per installation	Random	x		x
806	60	Poll, Erosion, Sediment Control	Sediment Trap	Constructed per plans and standards.	Constructed of rock or unearthen material. In place prior to clear and grub	Visual		Per installation	Random			

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806	70.3.1	Poll, Erosion, Sediment Control	Straw Bale Silt fence	Per standards	Installed at bottom of embankment slope. Properly anchored	Visual		Per installation	Random			x
806	70.3.2	Poll, Erosion, Sediment Control	Fabric fence	Per standards	Bottom of fabric buried min. 6". Fabric splices overlapped min. 2-foot.	Visual		Per installation	Random			x
806	70.3.2	Poll, Erosion, Sediment Control	Fabric fence	Post spacing not to exceed 5 feet.	Fabric fastened to the upslope side of post.	Visual		Per installation	Random			x
806	70.3.3	Poll, Erosion, Sediment Control	Maintenance	Contractor shall maintain integrity of silt fence as long as necessary to control sediment runoff	Contractor shall inspect immediately after rain event and correct any deficiencies	Visual		Per rain event	Random	x		x
806	70.3.4	Poll, Erosion, Sediment Control	Sediment	Sediment to be removed when it reached 1/2 the height of the fence or sooner.		Visual		Per rain event	Random			
808	Planting Trees, Shrubs and Other Plants											
808	2.1.3	Planting	Plant Material	Certified free of insects and disease	Mo Dept of Agriculture	Certificate of Compliance		Per Shipment	Per Shipment	x		x
808	2	Planting	Plant Material	Type, size, caliber, canopy, etc. per plans		Measurement		Per plant	Random	x		x
808	3	Planting	Construction requirements	Planting in fall and/or spring phase per contract		Visual		Per plant	Random	x		x
808	4.1	Planting	Care and Replacement	Contractor responsible until final acceptance	Plants not in healthy condition at time of final plant inspection will be replaced	Visual		Per plant	Per plant	x		x
808	4.2	Planting	Final Plant Inspection	Beginning Aug 15	Plants not in healthy condition at time of final plant inspection will be replaced	Visual		Per Activity	Per plant	x		x

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900	all	all	Constructed per plans, specs, JSP's and standard plans				Per work element	Per work element				
901	Highway Lighting											
901	2.2	Highway Lighting	Temporary lighting	150 watt luminaires mounted 30ft above pvmnt	Photoelectric controls. Operating condition per 901.14	Visual		Per Installation	Random	x		
901	3	Highway Lighting	Lighting material	Table of all components and their Sec 1000 spec		Certificate of compliance	Per Shipment	Per Shipment	Random	x		X
901	3.1	Highway Lighting	Lighting material	Standard for bolts, nuts, washers; AASHTO M164, ASTM A307	Max 6 mil galv AASHTO M 232	Test Reports and Material Certification	Per Shipment	Per Shipment	Random	x		x
901	3.2	Highway Lighting	Concrete	Per Plan and Sec 501		Visual/Test		1 per 50yds or 1st load of the day	(1) per 500 CY	x	X	x
901	4	Highway Lighting	Equipment List	3 copies of the equipment list installed	Equipment is located on the Approved Products List	Approved Products List/Engineer Approval	Per Shipment	Per Shipment	Random	x		X
901	5	Highway Lighting	Light poles	Metallic grounding. Cable entrance at bracket arm field drilled 1-1/4" and coated with zinc and fitted with rubber grommet	Installed per plan	Visual		Per Pole	Random	x		X
901	8	Highway Lighting	Power supply assembly	Aluminum or stainless panel boxes. Hinges and catches shall be non-ferrou mrtal or stainless	Installed per plan, Sec. 706	Visual/Material Certification		Per Power Supply	Random	x		X
901	8.2, 8.3	Highway Lighting	Power supply assembly	Pedastals consist of two W6 x 9 or two W6 x 15 galvanized steel posts and a concrete footing	Main disconnect switch housed separate and contain a Type A or B circuit breaker	Visual/Material Certification		Per Power Supply	Random	x		x
901	9	Highway Lighting	Rigid Conduit System	Conduit placed per plans	In accordance with 902	Visual/Measurement		Per installation/day	Random	x		
901	10.1	Highway Lighting	Trenching and backfilling	Location, width and depth per plans	Bottom of trench free of material that can potentially damage conduit	Visual		Per trench	Random	x		X
901	10.5	Highway Lighting	Trenching and backfilling	Each 6" lift compacted to density of adjacent material, Inspector approves suitable method	Use of red burial tape	Visual, measurement		Per Trench Line	Random	x		X

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901	11	Highway Lighting	Pull Boxes	Section 1062	Section 902	Certificate of compliance	Per Pull Box	Per Pull Box	Random	x	X	X
901	12.1	Highway Lighting	Light pole foundations - Concrete	Class B concrete, ftdn flush with finish grade	placed, finished, cured per Sec 703	Testing		1 per 50yds or 1st load of the day	(1) per 500 CY	x	X	x
901	12.2	Highway Lighting	Light pole foundations - Circular and H-pile	Steel Circular and H-pile installed per plan	The connector plate installed flush with finished grade	Visual		Per foundation	Random	x		x
901	12.3	Highway Lighting	Light pole foundations - Screw Anchor	Do not exceed max. torque, ftdn flush with finish grade		Visual		Per foundation	Random	x		X
901	12.4	Highway Lighting	Light pole foundations	Shims not exceed 1/2" total on bolts		Visual		Per foundation	Random	x		
901	14	Highway Lighting	Circuits	Label devices with aluminum tags	resistance test per circuit no < 10 megohms	testing		Per Circuit	Random	x	x	x
901	14.1	Highway Lighting	Circuits	15 consecutive day test period		Testing		Per Circuit	Random	x	X	x
901	15.1	Highway Lighting	Cable Conduits	Specified Trench type. No splice between poles, pull boxes, handholes, etc.	Conduit ends sealed. Extend cable conduit 18" into light foundation. Ground attached to lug.	Visual		Per Circuit	Random	x		x
901	15.2	Highway Lighting	Cable Conduits	Splices made in pull boxes, poles	Underpass lighting is to remain unsplice to the 1st junction box	Visual		Per Circuit	Random	x		X
901	15.2.2	Highway Lighting	Cable Conduits	Splices need a resin kit	Made in pull boxes	Approved Products List		Per Circuit	Random	x		
901	15.2.3	Highway Lighting	Cable Conduits	6" slack provided in each pull box.	3" of slack in each junction box	visual		Per Circuit	Random	x		x
902	Traffic Signals											
902	3	Traffic Signals	Temporary traffic signals	Per plan or contractor's approved plan.	Min. 2 signal heads for each approach spaced a min. 8 feet apart and min. 16-ft above pavement	Visual		Per Installation	Random	x		
902	4	Traffic Signals	Signal material	Table of all components and their spec reference	Spec 1092	Certificate of compliance	Per Shipment	Per Shipment	Random	x		X
902	4.1	Traffic Signals	Signal material	Standard for bolts, nuts, washers; AASHTO M164,	Max 6 mil galv AASHTO M 232	Test reports	Per Shipment	Per Shipment	Random	x		
902	4.2	Traffic Signals	Signal material	Concrete type specified in contract in accordance with 501.	Placed finished and cured per 703.	Tests		1 per 50yds or 1st load of the day	(1) per 500 CY	x	x	x

DIVISION 900: Traffic Signals							Minimum Frequency For Permanent Work			QC Type Document: DIR/Test Record/Inspection Checklist		
Spec. ref.	.XX	Item Description	Parameter or Procedure	Requirements	Other Requirements	MoDOT Acceptance Criteria	Contractor PQ	Contractor PQ	MoDOT Acceptance	MoDOT DIR	PQ Test Record	PQ Inspection Checklist
902	4.5	Traffic Signals	Signal material	3 copies of the equipment list installed	Equipment is located on the Approved Products List	Approved Products List/Engineer Approval		Per item	Random	x		x
902	5	Traffic Signals	2	Aluminum or Polycarbonate	LED or OL	Visual	Per Shipment	Per Shipment	Random	x		X
902	6	Traffic Signals	Signs	Installed at plan locations	Sec 903	Visual		Per installation	Random	x		x
902	7	Traffic Signals	Posts & Mast Arms	Submit drawing and manufacturer number to engineer for approval	Submit 4 copies of drawings to engineer	documentation		Per installation	Random	x		
902	8	Traffic Signals	Span Wire	3/8" steel messenger wire, 1/4 tether wire, Per 901	No splice of tether or messenger	visual		Per installation	Random	x		
902	9	Traffic Signals	Power supply assembly			Visual		Per installation	Random	x		x
902	11.1	Traffic Signals	Controller	Wiring bundled and secured with plastic ties. All terminals labeled and visible.	Field leads tagged.	Visual		Per installation	Random	x		x
902	11.2	Traffic Signals	Controller	Wiring on backside neatly bundles with plastic ties	Printed circuit boards not allowed	Visual		Per installation	Random	x		
902	12	Traffic Signals	Signal interconnects	Interconnect types per plan		Visual		Per installation	Random	x		
902	12.1	Traffic Signals	Signal interconnects	Contractor to install software and program per engineer		Visual		Per installation	Random	x		
902	12.2	Traffic Signals	Telephone Cable & Conduits	Interface block located on power supply. Two separate 1" rigid conduits installed and encased in concrete	Cable - four-twisted pair	Visual		Per installation	Random	x		
902	12.3	Traffic Signals	Closed loop Interconnect	Installed per plans		Visual		Per installation	Random	x		
902	12.4	Traffic Signals	Twisted Pair Interconnect	Installed per plans	Splices not permitted between controllers	Visual		Per installation	Random	x		
902	12.5	Traffic Signals	Wireless Telemetry Interconnect	Installed per plans	Installed per manufacturer recommendation	Visual		Per installation	Random	x		
902	12.6	Traffic Signals	Antenna System	Securely fastened to poles. External cable on poles not to exceed 3 feet.	No splice between antenna and antenna surge protector	Visual		Per installation	Random	x		
902	12.5.2	Traffic Signals	Grounding	Separate ground required each pole with antenna	No. 2 AWG	Visual		Per installation	Random	x		
902	12.6	Traffic Signals	Fiber optic Interconnect	Installed per plans and manufacturers recommendation		Visual		Per installation	Random	x		

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902	12.6.1	Traffic Signals	Fiber optic Interconnect	Splice cabinet when shown on plans.	Type 336 with EAA 19" rack cage on concrete base	Visual		Per installation	Random	x		
902	12.6.2.1	Traffic Signals	System Master Controller	Fiber ready NEMA or Type 170 controller	Installed per plans. Separate cabinet not required.	Visual		Per installation	Random	x		
902	12.6.3.1	Traffic Signals	FO Cable	Installed by trained personnel with min. 1 year experience	Certification required	documentation		Per installation	Random	x		
902	12.6.3.2	Traffic Signals	FO Cable	Installed per plans and manufacturers recommendation		Visual		Per installation	Random	x		x
902	12.6.3.3	Traffic Signals	FO Cable	Continuous runs. No splicing outside of splice and control cabinets		Visual		Per installation	Random	x		x
902	12.6.3.4	Traffic Signals	FO Cable	Contractor to document location and termination of fibers.	Written documentation left in cabinet	Visual		Per installation	Random	x		
902	12.6.3.5	Traffic Signals	FO Cable	Each end of cable sealed with end cap or pulling grip		Visual		Per installation	Random	x		
902	12.6.3.6	Traffic Signals	FO Cable	Don't exceed min. bending radius and max. pulling force.	cable not kinked, crushed or forced around corner	Visual		Per installation	Random	x		x
902	12.6.3.7	Traffic Signals	FO Cable	Lubricant water based . Compatible with pre-lubricated PVC conduit		Visual		Per installation	Random	x		x
902	12.6.3.8	Traffic Signals	FO Cable	Pull boxes adjacent to splice cabinet or controller 60' of coiled cable.	Mid block pull-boxes 10 feet of coiled cable.	Visual		Per installation	Random	x		x
902	12.6.3.9	Traffic Signals	FO Cable	Conduit PVC or HDPE per sec. 1060.	Conduit orange with No. 14 AWG copper tracer wire or pull tape with tracer wire	Visual		Per installation	Random	x		x
902	12.6.3.10	Traffic Signals	FO Cable	At pull boxes and control cabinet caution tape installed		Visual		Per installation	Random	x		x
902	12.6.4	Traffic Signals	FO Cable	Each fiber tested for attenuation and continuity.	Submit results to engineer	documentation		each fiber	Random	x	x	
902	12.7.1	Traffic Signals	System master acceptance test	After the initial 8 hour training session		Report		Per Completion of Intersection	Random	x	X	
902	12.7.2	Traffic Signals	Office computer acceptance test	After the system master acceptance test		Report		Per Completion of Intersection	Random	x	X	
902	12.7.3	Traffic Signals	Notebook computer acceptance test	After the office computer acceptance test		Report		Per Completion of Intersection	Random	x	X	

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902	12.7.4	Traffic Signals	System operational test	After the notebook computer test		Report		Per Completion of Intersection	Random	x	x	
902	12.8	Traffic Signals	30 day System Operational test	replaced 15 day test		Visual		Per Completion of Intersection	Random	x		
902	13	Traffic Signals	Pavement detectors	Type of detector as shown on plans		Visual		Per install	Random	x		x
902	13.1	Traffic Signals	Induction Detector Probes	Complete encapsulation of probe. Oriented so detection zone is above bridge deck	Min. size of junction boxes 6"x6"x4". Probes no more than 18" below deck.	Visual		Per install	Random	x		
902	13.2	Traffic Signals	Induction loop Detectors	Installed per plans. Separate lead-in slot to conduit.	resistance checked before sealed. Detector cable twisted at least 3 turns	Visual		Per install	Random	x		
902	13.3	Traffic Signals	Microwave & Ultrasonic Detectors	Installed per plans and manufacturers recommendation	No splice between detector unit and controller	Visual		Per install	Random	x		x
902	13.4	Traffic Signals	Video	Installed per plans and manufacturers recommendation	No splice between cabinet and controller	Visual		Per install	Random	x		x
902	13.4.1, .2, .3	Traffic Signals	Video	Camera mounted min 30 feet above pavement	Separate grounded service outlet	Visual/Measurement		Per install	Random	x		x
902	13.5	Traffic Signals	Loop Sealant	Mixed and installed per manufacturer. Clean surface for application	Fully encapsulate wires. Backer rods placed to ensure 1" coverage depth.	Visual		Per install	Random	x		x
902	14	Traffic Signals	Pull Boxes	Section 1062	Installed at plan location and type	Certificate of compliance	Per Pull Box	Per Pull Box	Random	x		X
902	14.1	Traffic Signals	Pull Boxes	Conduit to enter side of box and extend 2" min. and max 4 ". Holes around conduit no > than 1/2 larger than conduit	Backfill and compact in 6" layers	visual		Per Pull Box	Random	x		
902	14.2	Traffic Signals	Pull Boxes	Pull box drains constructed per plans.		visual		Per Pull Box	Random	x		x
902	14.3	Traffic Signals	Pull Boxes	Top surface of all pull boxes shall be flush with surface areas and one inch above on sodded or earth areas		visual		Per Pull Box	Random	x		x
902	14.4	Traffic Signals	Pull Boxes	Standard concrete pull box can be substituted for Class 1 or 2 preformed	Type A concrete double pull box substituted for Class 3	visual		Per Pull Box	Random	x		

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902	15	Traffic Signals	Concrete bases	Concrete shall be Class B per 501. Tops of bases finished level with 1/2 radius edges. Placed finished and cured per 703	Section 1036 Rebar	Lab report		1 per 50yds or 1st load of the day	(1) per 500 CY	x	X	X
902	16	Traffic Signals	Conduit systems	Type of system as shown on plans. Placed min. 18" below finished grade. Slope 0.5 % towards pull box.	Section 1060	Visual/measurement		Per Trench Line	Random	x		X
902	16.2	Traffic Signals	PVC	No. 14 tracer wire	6' of wire coiled in each pull box.	Visual/measurement		Per pull box	Random	x		x
902	16.3	Traffic Signals	Conduit in Trench	Location, width and depth per plans	Bottom of trench free of material that can potentially damage conduit	Visual/measurement		Per install	Random	x		x
902	16.3	Traffic Signals	Conduit in Trench	Each 6" lift compacted to density of adjacent material, Inspector approves suitable method	Use of red burial tape	Visual/measurement		Per install	Random	x		x
902	16.6	Traffic Signals	External Conduit on Structure	Not attached to prestressed girder or panels	Secured with clamps spaced at max. 5 foot intervals with min. embedment of 1-3/4"	Visual/measurement		Per install	Random	x		
902	17	Traffic Signals	Signal face	Visibility of signal from stop line	Distance and speed table	Measurement		Per Completion of Intersection	Random	x		X
902	18	Traffic Signals	Post erection	Grounded with bare No. 6 AWG copper wire.	Securely fastened to base.	Visual		Per post	Random	x		x
902	19.1	Traffic Signals	Wiring	Continuous and unspliced		Visual		Per install	Random	x		x
902	21	Traffic Signals	Test period	15 consecutive day test in actual traffic operation		Report		Per Completion of Intersection	Random	x	X	
JSP	Intelligent Traffic System											
		I.T.S.	Dynamic Message Sign Footing	Class B, Sec 501, 703	Sec. 706, 712	Lab Report		1 per 50yds	(1) per 500 CY		X	X
		I.T.S.	CCTV Foundation	Class B, Sec 501, 703	Sec. 706, 712	Lab Report		1 per 50yds	(1) per 500 CY		X	X
		I.T.S.	Drilled Shafts for CCTV & DMS Structures	Sec 701 <u>except</u> 701.4.10.3 thru 701.4.11.4, 701.6.4, 701.6.5, 701.7.5 & 701.7.6		Visual		Per Foundation	Random			X
		I.T.S.	DMS Sign Structure	AWS D1.2	ASTM's for sign posts	Certificate of compliance/Mill Test Reports		Per Shipment	Random		X	X

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		I.T.S.	Conduit Systems	Type of system as shown on plans	Submit shop drawing detail for support system	Visual		Per Trench Line	Random			X
		I.T.S.	Conduit Systems	Orange for Communication, Black for Power, Meet Spec. 1060	Install tracer wire, pull rope, marking tape	Visual		Per Trench Line	Random			X
		I.T.S.	Conduit Systems	10% of slurry mix shall be of a high grade Bentinite		Visual		Per Trench Line	Random			X
		I.T.S.	Conduit Systems	Fill void between drilled hole and conduit	Backfill exposed area to grade	Visual		Per Trench Line	Random			X
		I.T.S.	Fiber Optic Cable	As shown on plans	Spec 1092	Certificate of compliance		Per Completed Fiber run between Cabinets	Random			X
		I.T.S.	Fiber Optic Cable	Access cable of 20' in intermediate pb, 30' at cabinet	Label cable, fill used conduits to prevent water entry	Visual		Per Completed Fiber run between Cabinets	Random			X
		I.T.S.	Fiber Optic Cable	Secure splices, separate tray for each buffer tube	Fusion splice w/ LID or HDCM system	Visual		Per Completed Fiber run between Cabinets	Random			X
		I.T.S.	Fiber Optic Cable Acceptance Testing	Test Result Documentation		Report		Per Completed Fiber run between Cabinets	Random	X		X
		I.T.S.	Equipment Cabinets	As shown on plans		Certificate of compliance		Per Completed Fiber run between Cabinets	Random			X
		I.T.S.	CAT 5E Cable	As shown on plans		Certificate of compliance		Per Completed Fiber run between Cabinets	Random			X
		I.T.S.	Communication Equipment	As shown on plans		Certificate of compliance/Visual		Per Completed Fiber run between Cabinets	Random			X
		I.T.S.	DMS Assembly	As shown on plans		Certificate of compliance/Visual		Per DMS Structure	Random			X
		I.T.S.	CCTV Camera Assembly	As shown on plans		Certificate of compliance/Visual		Per CCTV Structure	Random			X
903	Highway Signing											
903	2	Highway Signing	Material	In accordance with section 1000	Table for ASTM, AASHTO requirements	Documentation		Per shipment	Random	x		x
903	2.3	Highway Signing	Hardware	Bolts, nuts and washers galvanized per 1081	Anchor bolts galvanizing not to exceed 6 mils	Documentation		Per shipment	Random	x		x
903	2.4	Highway Signing	Concrete	Type specified in contract	Concrete per section 501. Placed, finished and cured per 703	Testing		1 per 50yds or 1st load of the day	(1) per 500 CY		x	x

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903	2.5	Highway Signing	Equipment & Material	New stock unless specified in contract.		Visual		Per item installed	Random			x
903	3.1.1	Highway Signing	Bolt Down Installations	Class B concrete	At minimum, Top 12" below ground formed	Testing		1 per 50yds or 1st load of the day	(1) per 500 CY		x	x
903	3.1.1	Highway Signing	Bolt Down Installations	Installed to depth shown in plans	Anchor bolts secured in place during pour	Visual/Measurement		Per footing	Random			x
903	3.1.2	Highway Signing	Embedded Installations	Class B or B-1	Support posts until concrete has set. Top of footing set flush with finish grade	Testing/Visual		1 per 50yds or 1st load of the day	(1) per 500 CY		x	x
903	3.1.3	Highway Signing	Optional Footing	Substructures for butterfly and cantilever overhead trusses can be drilled shafts or spread footing		Visual		Per footing	Random			x
903	3.2.1	Highway Signing	Posts for Ground Mounted	Posts Lengths to be field measured to ensure post is sign is set at correct height	Filed Cutting not permitted	Measurement		Per sign Install	Random			x
903	3.2.2	Highway Signing	Post Alignment	Posts vertical	Bent or damaged posts removed and replaced	Measurement		Per sign Install	Random			x
903	3.2.2.1	Highway Signing	Structural Steel Posts	Fabricated & erected per plans.	Defected posts are rejected	Visual		Per sign Install	Random			x
903	3.2.2.1	Highway Signing	Structural Steel Posts	Posts & appurtenances will be hot dipped galvanized	All exposed steel areas and damaged galvanizing to be recoated per 1081	Visual		Per sign Install	Random			x
903	3.2.2.2	Highway Signing	Pipe Posts	Fabricated per plans and hot dipped galvanized.	All exposed steel areas and damaged galvanizing to be recoated per 1082	Visual		Per sign Install	Random			x
903	3.2.2.3	Highway Signing	Perforated Square Steel Tube Posts	Installed at plan locations	All exposed steel areas and damaged galvanizing to be recoated per 1083	Visual		Per sign Install	Random			x
903	3.2.2.4	Highway Signing	U-Channel Posts	Installed at plan locations	All exposed steel areas and damaged galvanizing to be recoated per 1084	Visual		Per sign Install	Random			x
903	3.2.2.5	Highway Signing	Wood Posts	Installed at plan locations		Visual		Per sign Install	Random			x

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903	3.2.3	Highway Signing	Certification	Three copies of fabricators certification supplied to engineer		documentation		Per shipment	Random			x
903	3.3	Highway Signing	Tubular Steel Sign Supports	Hot Dipped Galvanized	Welds cleaned prior to galvanizing	visual		per sign installation	Random			x
903	3.3.1	Highway Signing	Tapered Steel Poles & Beams	Continuous taper tube from one length of open hearth sheet. Clamps of	Minimum yield strength of 48000 psi	Visual/Documentation		per sign installation	Random			x
903	3.3.2	Highway Signing	Certification	Contractor to furnish 3 copies to engineer		documentation		per sign installation	Random			x
903	3.3.3	Highway Signing	Surfaces	Material to be handled to prevent damage to galvanizing		visual		per sign installation	Random			x
903	3.4	Highway Signing	Overhead Sign trusses	Steel or Aluminum	Shop drawings required	documentation		per sign installation	Random			x
903	3.4.1	Highway Signing	Testing & Certification	Certified mill test reports to engineer		documentation		per sign installation	Random			x
903	3.4.2	Highway Signing	Steel Fabrication & erection	Per section 712 & 1080		Visual/testing		See testing 712, 1080	Random			x
903	3.4.9	Highway Signing	Handling & Storage	Per 712	Galvanized high strength bolts per 903.2.2. Bolts shall be snug tightened.	visual		Per sign installation	Random			x
903	3.4.10	Highway Signing	Surfaces	Material to be handled to prevent damage to galvanizing		Visual		Per sign installation	random			x
903	3.5.1, 3.5.	Highway Signing	Sign Storage, Certification & Erection	Store to prevent damage	Fabricators certification submitted prior to erection	documentation		Per sign installation	random			x
903	3.5.3	Highway Signing	Sign Storage, Certification & Erection	Posts set vertical so signs will be level, at the proper angle, and with minimum clearance per plans	Sign surface shall not vary > 3/8" with a 4 foot level	measurement		Per sign installation	random			x
903	3.6	Highway Signing	Delineators	Installed vertically		measurement		Per installation	random			x

DIVISION 1000: Materials							Minimum Frequency For Permanent Work			QC Type Document: DIR/Test Record/Inspection Checklist		
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1081		COATING OF STRUCTURAL STEEL										
1081	2	Coating of Structural Steel	Systems of Coatings	System and color per plans	Approved material specifications and dry film thickness requirements per table.	Documentation/testing		per activity	random	x	x	x
1081	3.2.1	Coating of Structural Steel	Surface prep	Lubricant on High Strength bolts removed before coating applied per SSPC-SP1		Visual/testing		Per activity	random			x
1081	3.3.1.1	Coating of Structural Steel	Limits of Intermediate Coating Application	Applied to surfaces of all structural steel except areas in contact with concrete.	Applied to bearings except where encased by concrete	Visual		per activity	random	x		
1081	3.3.1.1	Coating of Structural Steel	Limits of Finish Coating Application	Beam and girder spans include the fascia girders/beams	Applied to all surfaces except interior faces and top of the top flange	Visual		per activity	random	x		
1081	3.3.1.1	Coating of Structural Steel	Limits of Finish Coating Application	Applied to exterior bearings except where encased by concrete	Not applied to steel to be in contact with concrete	Visual		per activity	random	x		
1081	3.3.1.2	Coating of Structural Steel	Limits of Field Coatings Application	All Structural Steel surface under expansion joints within 10' or 1.5 girder depth from center of joint	Not applied to steel to be in contact with concrete. Mask to provide straight crisp lines.	Visual, Measurement		per activity	random			x
1081	3.4	Coating of Structural Steel	Coating Thickness	Dry Film Thicknesses (DFT) per Table in Sec 1081.2	DFT measurements per SSPC-PA2	Testing		per activity	random	x	x	x
1081	3.4	Coating of Structural Steel	Coating Thickness Measurements	Measured with a magnetic-type gauge	Measurement frequency per SSPC-PC2 Section 4	Testing		6 spot measures/100ft2 (<300ft2), 3 measure/100ft2 (<1000ft2), 1 measure/100ft2 after 1st 1000 ft2.	2 area measurements per 10,000ft2		x	
1081	3.5	Coating of Structural Steel	Coating Material Storage	All coating material stored per coating manufacturer's recommendation.	Reject material exposed to temps outside of range	Inspection/temp. Log		per activity	random	x	x	x
1081	3.6.1	Coating of Structural Steel	Temperature Limitations	Prime coat per Manufacturer's recommendations, but minimum air and steel temperature no less than 34 F.	Finish & intermediate coats per manufacturer (air/steel temps & humidity)	Thermometer		Every 2 hours during painting	random	x	x	x
1081	3.6.2	Coating of Structural Steel	Moisture Limitations	Do not apply coatings in rain, snow, fog, or mist	Do not apply to steel with temp 5 degrees F. below dew point (MoDOT TM38)	Testing		Every 2 hours during painting	random	x	x	x
1081	3.6.3	Coating of Structural Steel	Application in Protected Areas	Maintain protected area until coatings are cured	Take extra measures if coating in a dusty environment	Inspection		per activity	random	x		

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1081	3.6.3	Coating of Structural Steel	Damaged Coatings	Uncured coatings exposed to excess humidity, High/Low temps outside curing range, or any condensation/moisture is considered damaged.	Damaged coatings shall be permitted to dry, then removed and the surface blast cleaned.	Visual, Thermometer		per activity	random	x		
1081	3.7	Coating of Structural Steel	Thinning	Permitted per Manufacturer's recommendations.	Not to exceed VOC limits	Visual		per activity	random	x		x
1081	3.8, 3.8.1	Coating of Structural Steel	Application	SSPC-PA1 or by the manufacturer's written specifications.	Contractor will submit a repair procedure for rejected work/materials used.	Documentation		per activity	random	x		x
1081	3.8.2	Coating of Structural Steel	Curing of Coatings	Within the time limits of manufacturer's recommendations.	Recoat and Finish coat over Intermediate coat with time for proper adhesion per manufacturer's recommendation.	Time		per activity	random	x		x
1081	3.9.1	Coating of Structural Steel	Contact Surfaces	Bolted field slices and diaphragm connection prime coated to 1.5 -2.5 mils DFT	Limits of coating per shop drawings	Testing		DFT Per area	random			x
1081	3.9.2, 3.9.4	Coating of Structural Steel	Inaccessible Surfaces- Inspection	Non contact surface inaccessible after assembly prime coated to 3.0 - 6.0 mils DFT	No coatings applied before shop inspection is completed	Testing			random			x
1081	3.10	Coating of Structural Steel	Field Coating	Field touch-up surface prep per 1081.2	Touch up material same as shop-applies coating	Visual		per activity	random	x		
1081	3.10	Coating of Structural Steel	Field Coating	Bolted connection surfaces protected from intermediate and finish coatings.	Damage exposing bare metal is to be repaired	Visual		per activity	random	x		x
1081	3.10.1	Coating of Structural Steel	Field Coating Touchup of Galvanized Bolts	Lubricants and rust shall be removed prior to touchup per SSPC-SP1 & SSPC-SP2/3 respectively, with an approved gray epoxy mastic.	Damage touched-up with an approved gray epoxy mastic.	Visual		per activity	random	x		x
1081	3.10.1.3	Coating of Structural Steel	Masking	Previously coated or adjacent areas shall be masked or protected.		Visual		per activity	random	x		
1081	3.10.2	Coating of Structural Steel	Sequence of Work	Field coatings not be applied until the concrete deck has been placed, the forms removed and all contaminants removed from the existing coating.	Touch-ups and coating of inaccessible surfaces can be performed before form removal	Visual		per activity	random	x		x

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1081	3.10.2	Coating of Structural Steel	Sequence of Work	Each coat provided ample time to cure before next coat	Field coats free of oil, grease, dust, dirt, and chlorides prior to next coat.	Visual, Time		per activity	random	x		
1081	3.11	Coating of Structural Steel	Identification	At completion of coating application, stencil in black paint on the structure the number of the bridge, the word "COATED", the system used and the month and year the coating was completed.		Visual		per activity	random			x
1081	3.12	Property/Traffic Protection	Identification	Contractor shall protect adjacent pedestrian, and vehicular traffic, persons and property from overspray blast media, and equipment.		Visual		per activity	random	x		x