# Texas Department of Transportation
# Technical Provisions

# SH 183 Managed Lanes Project

# Attachment 2-1
# Project Management Plan Contents

# Attachment 2-1 – Project Management Plan Contents

**The Project Management Plan Contents and Schedule for provision of the component parts.**

**Legend:**
**A = Submitted by Developer within 30 days of NTP 1 and approved by TxDOT prior to Commencement of Design and issuance of NTP 2**
**A1=Submitted by Developer within 30 days of NTP1 and concurrence by TxDOT prior to issuance of NTP2**
**B = Submitted by Developer within 90 days of NTP 1 and approved by TxDOT prior to Commencement of Construction**
**C = Submitted by Developer 60 days prior to NTP 2 and approved by TxDOT prior issuance of NTP 2**

| Part | Ref | Section | Contents | Required by |
|---|---|---|---|---|
| 1. Project Administration | | | | |
| | 1.1 | Organization | Organization diagram | A |
| | 1.2 | Personnel | Names and contract details, titles, and job roles | A |
| | 1.3 | Contractors | Procedures to establish how the Developer will manage Contractors | A |
| | 1.4 | Schedule | Project Baseline Schedule in accordance with the Technical Provision Section 2 | A |
| | 1.5 | Quality Control | Procedures to establish and encourage continuous improvement | A |
| | 1.6 | Audit | Procedures to facilitate review and audit by TxDOT and/or the Independent Reviewers | A |
| | | | Auditing and management review of Developer's own activities under the PMP | A |
| | | | Auditing and management review of Contractor's activities and management procedures | A |
| | 1.7 | PMP Update | Procedures for preparation of amendments and submission of amendments to any part of the PMP | A |
| | 1.8 | Document Management | The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems Developer will use | A |
| | | | Document management procedures in compliance with the Technical Provisions Section 2 | A |
| | | | Procedures for documenting all required Plans not specifically stated in this attachment, including but not limited to: Aesthetics and Landscaping Plan, ITS Implementation Plan, Haul Route Plan, Maintenance Management Plan (MMP), Emergency Response Plan, etc. | |
| 2. Quality Management Plan | | | | |
| 2A. Design Quality Management | | | | |
| | 2A.1 | Organization | Developer's main contractual arrangements | A |
| | | | Organizational structure covering the activities to be performed in accordance with the Contract Documents | A |
| | 2A.2 | Personnel | Resource Plan for the Developer and its subcontractors | A |

| 2. Quality Management Plan | | | | |
|---|---|---|---|---|
| 2A. Design Quality Management (Continued) | | | | |
| | 2A.2 | Personnel | Arrangements for coordinating and managing staff interaction with TxDOT and its consultants including collocation of Key Personnel and description of approach to coordinating work of off-site personnel | A |
| | | | Names and contact details, titles, job roles and specific experience required for the Key Personnel and for other principal personnel during the period of Design Work | A |
| | | | Names and contact details, titles, job roles and specific experience required for the principal personnel for Contractors and any third party with which Developer will coordinate activities. | A |
| | 2A.3 | Offices and equipment | Description of the necessary offices and office equipment to be provided by Developer during the period of Design Work | A |
| | 2A.4 | Contractors | Overall control procedures for Contractors, including consultants and Subconsultants | A |
| | | | Responsibility of Contractors and Affiliates | A |
| | | | Steps taken to ensure Contractors and Suppliers meet the obligations imposed by their respective Contracts | A |
| | 2A.5 | Interfaces | Interfacing between the Developer, Contractors and the Independent certifiers during the period of Design Work | A |
| | | | Coordination with Utility Owners | A |
| | 2A.6 | Environmental | Integration of the interface between environmental requirements (including landscaping) and the design of the Project | A |
| | 2A.7 | Procedures | Procedures describing how the principal activities will be performed during the design stage: to include geotechnical site investigation, surveys and mapping, environmental management, safety audit, structural audit, and checking | A |
| | 2A.8 | Quality Control | Quality Management Plan (QMP), including control procedures including a resource table for monitoring and auditing all design services, design review and certification, and verification of plans | A |
| | | | Procedures for environmental compliance | A |
| | | | Procedures to establish Developer's hold points in the design process at which checking and review will take place | A |
| | | | Procedures to ensure accuracy, completion, and quality in submittals to TxDOT, Governmental Entities and other third parties. | A |
| | | | Procedures to establish and encourage continuous improvement | A |
| | 2A.9 | Audit | Name of Developer's representative(s) with defined authority for establishing, maintaining, auditing and reporting on the PMP | A |
| | | | Name, title, roles and responsibilities of supporting quality management staff reporting to the person with defined authority | A |
| | 2A.10 | Document Management | The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems Developer will use | A |
| | | | Document management procedures in compliance with the Technical Provisions Section 2 | A |
| | | | Identify environmental documentation and reporting requirements, including Environmental Permits, Issues and Commitments (EPIC) sheets | A |

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|---|---|---|---|---|
| 2. Quality Management Plan | | | | |
| 2B. Construction Quality Management | | | | |
| | 2B.1 | Organization | Developer's main contractual arrangements | A |
| | | | Organizational structure covering the activities to be performed in accordance with the Contract Documents | A |
| | 2B.2 | Personnel | Resource Plan for the Developer and its Contractors | B |
| | | | Arrangements for coordinating and managing staff interaction with TxDOT and its consultants including collocation of Key Personnel and description of approach to coordinating work of off-site personnel | B |
| | | | Names and contact details, titles, job roles and specific experience required for the Key Personnel as related to construction | A |
| | | | Names and contact details, titles, job roles of principal personnel for Contractors and any third party with which Developer will coordinate his activities | B |
| | | | Procedures for implementation of the Environmental Protection Training Plan (EPTP) for all employees in accordance with the Technical Provisions Section 4 | B |
| | 2B.3 | Offices and equipment | Description of the necessary offices and office equipment to be provided by Developer during construction | A |
| | 2B.4 | Contractors | Overall control procedures for Contractors, including consultants and subconsultants | B |
| | | | Responsibility of Contractors and affiliates | B |
| | | | Steps taken to ensure Contractors and Suppliers meet the obligations imposed by their respective Contracts | B |
| | | | Procedures for implementation of Environmental Protection Training Plan (EPTP) for employees of subcontractors in accordance with the Technical Provisions Section 4 | B |
| | 2B.5 | Interfaces | Interfacing between the Developer, Contractors, including any testing contractor, and the Independent verifiers during construction | A |
| | 2B.6 | Procedures | List of Project specific construction procedures | B |
| | | | Construction detailed procedure for each major activity whether directly undertaken or subcontracted to include pavement, structures, drainage, communications | B |
| | | | Traffic Management Plan | B |
| | 2B.7 | Quality Control/ Quality Assurance | Construction Quality Management Plan (CQMP) | B |
| | | | Integration of component parts of the Comprehensive Environmental Protection Program (CEPP) into construction quality management | B |
| | | | Control, identification and traceability of materials, including any material or samples temporarily or otherwise removed from site for testing or other reasons. | B |
| | | | Examinations and audit of Construction Work, review of examination and audit, issue of certificates | B |
| | | | Observation and reporting of all tests in compliance with the Technical Provisions Section 2 | B |
| | | | Procedures for tests and inspections for the purpose of the Contractor certifying that prior to burying, each part of the Works is complete and conforms to the Contract Documents | B |
| | | | Quality control procedures including a resource table for monitoring and auditing during construction any work and testing undertaken by Contractors and Suppliers both on and off Site | B |

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|---|---|---|---|---|
| 2. Quality Management Plan | | | | |
| 2B. Construction Quality Management (continued) | | | | |
| | 2B.7 | Quality Control | Procedures to establish Developer's hold points in construction | B |
| | | | Procedures to ensure accuracy, completion, and quality in submittals to TxDOT, Governmental Entities and other third parties | B |
| | | | Procedures to establish and encourage continuous improvement | A |
| | 2B.8 | Audit | Inspection and test plans that identify the proforma and/or databases to be used for recording the inspection and test results and a methodology for transmitting acceptance testing and inspection reports to TxDOT | B |
| | | | Name of Developer's representative with defined authority for establishing, maintaining, auditing and reporting on the PMP | A |
| | | | Name, title, roles and responsibilities of supporting quality management staff reporting to the person with defined authority. | B |
| | 2B.9 | Document Management | The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems Developer will use | B |
| | | | Document management procedures in compliance with the Technical Provisions Section 2 | A |
| 3. Safety Plan | | | | |
| | 3.1 | | Policies, plans, training programs, Work Site controls, and Incident response plans to ensure the health and safety of personnel involved in the Project and the general public affected by the Project | A1 |
| | 3.2 | | Procedures for notifying TxDOT of Incidents arising out of or in connection with the performance of the Work | A1 |
| 4. TxDOT - Developer Communications Plan | | | | |
| | 4.1 | | The manner in which the Developer's organization will respond to unexpected requests for information, communicate changes or revisions to necessary Developer personnel and notify the affected stakeholders before and after the changes are made. | A |
| | 4.2 | | Processes and procedures for communication of Project information between the Developer's organization and TxDOT | A |
| 5. Public Information and Communications Plan | | | | |
| | 5.1 | Organization | Developer's main contractual arrangements | A |
| | | | Organizational structure covering the activities to be performed in accordance with the Contract Documents. | A |
| | 5.2 | Personnel | Resource Plan for the Developer and its Contractors | A |
| | | | Arrangements for coordinating and managing staff interaction with TxDOT and its consultants, including colocation of Key Personnel and description of approach to coordinating work of off-site personnel | A |
| | | | Names and contact details, titles, job roles and specific experience required for Key Personnel and for other principal personnel | A |
| | | | Names and contact details, titles, job roles of principal personnel for Contractors and any third party with which Developer will coordinate his activities | A |
| | 5.3 | Offices and equipment | Description of the necessary offices and office equipment to be provided by Developer during design | A |

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|---|---|---|---|---|
| 5. Public Information and Communications Plan (Continued) | | | | |
| | 5.4 | Contractors | Overall control procedures for Contractors, including consultants and subconsultants | A |
| | | | Responsibility of Contractors and Affiliates | A |
| | | | Steps taken to ensure Contractors and Suppliers meet the obligations imposed by their respective Contracts | A |
| | | | Procedures for implementation of EPTP for employees of Contractors | A |
| | 5.5 | Interfaces | Procedures for liaison with the public, the media and other Customer Groups in accordance with the Technical Provisions Section 3 and the press media policy of TxDOT | A |
| | | | Procedures to coordinate with Project Stakeholders such as Governmental Entities and other Customer Groups | A |
| | 5.6 | Procedures | Procedures describing how the principal activities will be performed | A |
| | 5.7 | Quality Control | Quality control procedures including a resource table for monitoring and auditing all public information and communication services | A |
| | | | Procedures to ensure accuracy, completion, and quality in submittals to TxDOT, Governmental Entities and Customer Groups | A |
| | 5.7 | Quality Control | Procedures to establish and encourage continuous improvement | A |
| | 5.8 | Audit | Name of Developer's representative with defined authority for establishing, maintaining, auditing and reporting on PMP | A |
| | | | Name, title, roles and responsibilities of supporting quality management staff reporting to the person with defined authority | A |
| | 5.9 | Document Management | The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems Developer will use | A |
| | | | Document management procedures in compliance with the Technical Provisions Section 2 | A |
| 6. Comprehensive Environmental Protection Program (CEPP) | | | | |
| | 6.1 | Organization | Developer's main contractual arrangements | A |
| | | | Organizational structure covering the activities to be performed in accordance with the Contract Documents | A |
| | | | Environmental Contact Tree | A |
| | 6.2 | Personnel | Resource Plan for the Developer and its Contractors | B |
| | | | Arrangements for coordinating and managing staff interaction with TxDOT and its consultants, including collocation of Key Personnel and description of approach to coordinating work of off-site personnel | A |
| | | | Names and contact details, titles, job roles and specific experience required for Key Personnel and for other environmental personnel | A |
| | | | Implement Environmental Protection Training Plan (EPTP) for all employees in accordance with the Technical Provisions Section 4 | A |

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|---|---|---|---|---|
| 6. Comprehensive Environmental Protection Plan (continued) | | | | |
| | 6.3 | Contractors | Overall control procedures for Contractors, including consultants and subconsultants | A |
| | | | Responsibility of Contractors and Affiliates | A |
| | | | Implement Environmental Protection Training Plan (EPTP) for employees of Contractors in accordance with the Technical Provisions Section 4 | |
| | 6.4 | Environmental | Establishment of the component parts of the Environmental Compliance Mitigation Program (ECMP) | B |
| | 6.5 | Quality Control | Procedures to ensure accuracy, completion, and quality in submittals to TxDOT, Governmental Entities and other third parties | A |
| | | | Procedures to establish and encourage continuous improvement | A |
| | | | Procedures for environmental compliance | A |
| | 6.6 | Audit | Name, title, roles and responsibilities of supporting quality management staff reporting to the person with defined authority | B |
| | 6.7 | Document Management | The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems Developer will use | A |
| | | | Identify environmental documentation and reporting requirements | A |
| 7. Affected Third Parties Plan | | | | |
| | 7.1 | | Description and procedures on how Developer will mitigate the impact of the Work upon potentially impacted third parties and coordinate Work with other projects along the project corridor. | |
| 8. Right-of-Way Acquisition Plan | | | | |
| | 8.1 | Organization | Developer's main contractual arrangements | A |
| | | | Organizational structure covering the activities to be performed in accordance with the Contract Documents | A |
| | 8.2 | Personnel | Resource Plan for the Developer and its Contractors | A |
| | | | Arrangements for coordinating and managing staff interaction with TxDOT and its consultants, including collocation of Key Personnel and description of approach to coordinating work of off-site personnel | A |
| | | | Names and contact details, titles, job roles and specific experience required for the Key Personnel as related to ROW acquisition and Utility Adjustment activities. | A |
| | | | Names and contact details, titles, job roles of principal personnel for Contractors and any third party with which Developer will coordinate activities | A |
| | 8.3 | Contractors | Overall control procedures for Contractors, including consultants and subconsultants | A |
| | | | Responsibility of Contractors and Affiliates | A |
| | | | Steps taken to ensure Contractors and Suppliers meet the obligations imposed by their respective Contracts | A |
| | | | Procedures for implementation of the EPTP for employees of Contractors in accordance with the Technical Provisions Section 4 | A |

| 8. ROW Acquisition Plan (continued) | | | | |
|---|---|---|---|---|
| | 8.4 | Interfaces | Interfacing between the Developer, Contractors and the Independent Reviewers during Project ROW acquisition, including the interfaces between Project ROW acquisition, Project design, and quality review processes | A |
| | 8.4 | Interfaces | Coordination with Utility Owners | A |
| | | | Procedures for establishing Utility Adjustment Concept Plans and Utility Adjustment Plans | B |
| | 8.5 | Relocation | Relocation Plan (ROW) | B |
| | 8.6 | Environmental | Integration of the interface between environmental requirements (including Hazardous Materials and demolition) and Project ROW acquisition activities | A |
| | | | Applicable procedures for the Hazardous Materials Management Plan (HMMP) in accordance with the Technical Provisions Section 4 | A |
| | | | Applicable procedures to implement the Storm Water Pollution Prevention Plan (SW3P), recycling program and waste management in accordance with the Technical Provisions Section 4 | A |
| | | | Address CEPP requirements | A |
| | 8.7 | Schedule | Logic linked ROW acquisition activities on a parcel-by-parcel basis as part of the Facility Baseline Schedule, including adequate time periods for TxDOT review and condemnation activities in accordance with the Technical Provisions Section 7 | A |
| | 8.8 | Procedures | Procedures describing how the principal activities will be performed during the Project ROW acquisition, whether directly undertaken or subcontracted | A |
| | 8.9 | Quality Control | Procedures to ensure accuracy, completion, and quality in submittals to TxDOT and Governmental Entities | A |
| | | | Procedures to establish and encourage continuous improvement | A |
| | | | Quality control procedures and quality review standards for Project ROW acquisition in accordance with the Technical Provisions Section 7 | A |
| | | | Integration of component parts of the CEPP into ROW acquisition management | A |
| | 8.10 | Audit | Name, title, roles and responsibilities of supporting quality management staff reporting to the person with defined authority | A |
| | 8.11 | Document Management | The manner in which records will be maintained in compliance with the Technical Provisions, including any specific systems Developer will use | A |
| | | | Document management procedures in compliance with the Technical Provisions Section 2 | A |
| | | | Identify environmental documentation and reporting requirements | A |

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| 9. Maintenance Management Plan | | | | |
| | 9.1 | Procedures | Procedures describing how the principal activities will be performed during the maintenance period including the general maintenance and operations obligations | C |
| | | | Procedures for managing records of inspection and maintenance activities | C |
| | | | Procedures setting out Developer's response to maintenance issues such as mitigation of hazards, and defects that require prompt attention or are a safety concern | C |
| | 9.2 | Performance Standards | Procedures to be followed by Developer pursuant to the Technical Provisions to comply with all applicable maintenance requirements for the term of the Agreement | C |
| | 9.3 | Emergency Response | Procedures setting out how Developer will respond to accidents and incidents on the Project | C |
| 10. Operations Management Plan | | | | |
| | 10.1 | | Procedures for identifying, assessing, analyzing, controlling and managing operations to meet its obligations under the Agreement. | C |
| 11. Emergency Management Plan | | | | |
| | 11.1 | | Procedures for Force Majeure events and vehicle accidents that may disrupt construction or damage facilities. | A |
| 12. Cost Management Plan | | | | |
| | 12.1 | | Procedures for identifying, assessing, analyzing, controlling and managing project costs to meet its obligations under the Agreement. | A |
| 13. Risk Management Plan | | | | |
| | 13.1 | | Procedures for identifying, assessing, analyzing, controlling and managing project risks to meet its obligations under the Agreement. | A |

# Texas Department of Transportation
# Technical Provisions

# SH 183 Managed Lanes Project

# Attachment 2-2
# Work Breakdown Structure Requirements

Table 1 represents the minimum levels of the WBS that all cost and schedule information shall rollup to once the Project Baseline Schedule is fully developed. The WBS incorporates various geographic segments, regions, areas or phases of Work to better facilitate management of construction sequencing.

**Table 1: WBS Minimum Requirements**

**1 [Name of Project]**

**1.1. Project Administration**

1.1.1. Project Summary & Milestones
1.1.2. Mobilization
1.1.2.1. Developer
1.1.2.2. DB Contractor
1.1.3. Submittals and Permitting
1.1.3.1. (By Governmental Agency)
1.1.3.1.1. (By Specific Permit/Submittal Requirement)

**1.2. Segment [A]**

1.2.1. Segment [A] Summary & Milestones
1.2.2. Segment [A] Right-of-Way Acquisition
1.2.2.1. Acquisition By TxDOT
1.2.2.1.1. (By Parcel No.)
1.2.2.2. Acquisition by Developer
1.2.2.2.1. (By Parcel No.)
1.2.3. Segment [A] Utility Adjustments
1.2.3.1. Utility Coordination
1.2.3.1.1. Administration and Planning
1.2.3.1.1.1. Site Utility Engineering
1.2.3.1.1.2. Conceptual Design
1.2.3.1.2. (By Owner)
1.2.3.1.2.1. Master Agreements
1.2.3.1.2.2. Utility Assemblies
1.2.3.2. Utility Relocations
1.2.3.2.1. (By Owner)
1.2.3.2.1.1. (By Line)
1.2.4. Segment A Design
1.2.4.1. General Activities and Field Work
1.2.4.1.1. Design Mobilization
1.2.4.1.2. Schematics
1.2.4.1.3. Survey Work
1.2.4.1.4. Geotechnical Investigations
1.2.4.1.5. Additional Field Investigations
1.2.4.2. Develop Specifications
1.2.4.2.1. (By Discipline)
1.2.4.3. Geotechnical Design
1.2.4.3.1. General
1.2.4.3.2. Earthwork Geotech
1.2.4.3.3. Bridge Geotech
1.2.4.3.4. Culvert Geotech
1.2.4.3.5. Wall Geotech
1.2.4.4. Pavement Design
1.2.4.4.1. Data Analysis and Draft Report

1.2.4.4.2. Final Design and Report
1.2.4.5. Drainage Design
1.2.4.5.1. Hydrologic and Hydraulic Design
1.2.4.5.2. Preliminary System Design
1.2.4.5.3. Detailed Drainage Design
1.2.4.6. Roadway Design
1.2.4.6.1. Alignments
1.2.4.6.2. Sections
1.2.4.6.3. Detailed Design
1.2.4.7. Bridge Design
1.2.4.7.1. Establish Criteria and Procedures
1.2.4.7.2. Bridge layouts
1.2.4.7.3. Substructure Design
1.2.4.7.4. Superstructure Design
1.2.4.8. Retaining Wall Design
1.2.4.8.1. Establish Criteria and Procedures
1.2.4.8.2. Fill Wall Design
1.2.4.8.3. Cut Wall Design
1.2.4.9. Traffic Management
1.2.4.9.1. (By Phase)
1.2.4.10. Environmental Design
1.2.4.10.1. Erosion Control / SWPPP
1.2.4.10.2. Noise Wall Design
1.2.4.10.3. Wetland and habitat Mitigation
1.2.4.10.4. TCEQ Best Management Practices
1.2.4.11. Landscape and Aesthetic Design
1.2.4.11.1. Landscape Design
1.2.4.11.2. Aesthetic Design
1.2.4.12. Electrical Design
1.2.4.12.1. Illumination
1.2.4.12.2. Traffic Signals
1.2.4.13. ITS & TCS Design
1.2.4.13.1. Duct Bank System & Power Supply
1.2.4.13.2. ITS/TCS Equipment & Structures
1.2.4.14. Signage and Marking Design
1.2.4.14.1. Overhead
1.2.4.14.2. Small signs and pavement markings
1.2.4.15. Design Packages
1.2.4.15.1. Package Preparation
1.2.4.15.2. QA/QC Review
1.2.4.15.3. Submittal
1.2.4.15.4. TxDOT/IE Reviews
1.2.4.15.5. Comment Resolution
1.2.5. Segment A Construction
1.2.5.1. Phase (or Work Area)
1.2.5.1.1. Work Area [EBFR, WBFR, EBGPL, WBGPL, ML, etc.]
1.2.5.1.1.1. Traffic Control and Temporary Work
1.2.5.1.1.1.1. Barricades, Signs & Traffic Handling
1.2.5.1.1.1.2. Erosion Control
1.2.5.1.1.1.3. Detour Construction/Removal
1.2.5.1.1.1.4. Portable Traffic Barrier

1.2.5.1.1.1.5. Workzone Pavement Marking
1.2.5.1.1.1.6. Temporary Bridges
1.2.5.1.1.1.7. Temporary Walls/Shoring
1.2.5.1.1.1.8. Temporary Drainage
1.2.5.1.1.1.9. Temporary Illumination
1.2.5.1.1.2. Environmental Mitigation
1.2.5.1.1.2.1. Noise Walls
1.2.5.1.1.2.2. Wetland and Habitat Mitigation
1.2.5.1.1.3. Hazardous Materials
1.2.5.1.1.3.1. Site Assessments
1.2.5.1.1.3.2. Remediation
1.2.5.1.1.4. Removals
1.2.5.1.1.4.1. Building Removals
1.2.5.1.1.4.2. ROW Preparation
1.2.5.1.1.4.3. Roadway Removals
1.2.5.1.1.4.4. Bridge Removals
1.2.5.1.1.5. Earthwork
1.2.5.1.1.5.1. Topsoil Stripping and Placing
1.2.5.1.1.5.2. Excavation
1.2.5.1.1.5.3. Embankment
1.2.5.1.1.5.4. Special Geotechnical Measures
1.2.5.1.1.6. Subgrade Treatment and Base
1.2.5.1.1.6.1. Lime Treatment
1.2.5.1.1.6.2. Flexible Base
1.2.5.1.1.7. Drainage
1.2.5.1.1.7.1. Culverts
1.2.5.1.1.7.2. Storm Sewer
1.2.5.1.1.7.3. Riprap
1.2.5.1.1.8. Pavement
1.2.5.1.1.8.1. Asphalt Pavement
1.2.5.1.1.8.2. Concrete Pavement
1.2.5.1.1.8.3. Curb & Gutter
1.2.5.1.1.8.4. Driveways
1.2.5.1.1.8.5. Sidewalks and Median Paving
1.2.5.1.1.9. Retaining Walls
1.2.5.1.1.9.1. (By Wall No.)
1.2.5.1.1.10. Bridges
1.2.5.1.1.10.1. (By Bridge No.)
1.2.5.1.1.11. Permanent Barriers
1.2.5.1.1.11.1. Permanent Concrete Barriers
1.2.5.1.1.11.2. Metal Beam Guard Fence
1.2.5.1.1.11.3. Crash Attenuators
1.2.5.1.1.12. Signals and Illumination
1.2.5.1.1.12.1. Roadway Illumination
1.2.5.1.1.12.2. High Mast Illumination
1.2.5.1.1.12.3. Electrical Services
1.2.5.1.1.12.4. Traffic Signals
1.2.5.1.1.13. ITS/TCS
1.2.5.1.1.13.1. Duct Bank System
1.2.5.1.1.13.2. Equipment Foundations
1.2.5.1.1.13.3. Support Structures and Equipment

1.2.5.1.1.14. Landscaping
    1.2.5.1.1.14.1. Seeding and Sodding
    1.2.5.1.1.14.2. Fertilizer and Watering
    1.2.5.1.1.14.3. Special Aesthetic Landscaping (if applicable)
1.2.5.1.1.15. Permanent Signing and Marking
    1.2.5.1.1.15.1. Overhead Sign Structures
    1.2.5.1.1.15.2. Small Signs
    1.2.5.1.1.15.3. Pavement Markings

# Texas Department of Transportation
# Technical Provisions

# SH 183 Managed Lanes Project

# Attachment 2-3
# Organizational Structure for Cost Reporting

# Organizational Structure for Cost Reporting

**1. PROJECT DESCRIPTION**

**1.1. Project Administration**

1.1.1. Mobilization

1.1.2. Submittals and Permitting

**1.2. Right-of Way Acquisition**

1.2.1. Acquisition By TxDOT

1.2.2. Acquisition by Developer

**1.3. Utility Adjustments**

1.3.1. Utility Coordination

1.3.2. Utility Relocations

**1.4. Design**

1.4.1. General Activities and Field Work

1.4.2. Develop Specifications

1.4.3. Geotechnical Design

1.4.4. Pavement Design

1.4.5. Drainage Design

1.4.6. Roadway Design

1.4.7. Bridge Design

1.4.8. Retaining Wall Design

1.4.9. Traffic Management

1.4.10. Environmental Design

1.4.11. Landscape and Aesthetic Design

1.4.12. Electrical Design

1.4.13. ITS & TCS Design

1.4.14. Signage and Marking Design

1.4.15. Design Packages

**1.5. Construction**

1.5.1. Traffic Control and Temporary Work

1.5.2. Environmental Mitigation

1.5.3. Hazardous Materials

1.5.4. Removals

1.5.5. Earthwork

1.5.6. Subgrade Treatment and Base

1.5.7. Drainage

1.5.8. Pavement

1.5.9. Retaining Walls

1.5.10. Bridges

1.5.11. Permanent Barriers

1.5.12. Signals and Illumination

1.5.13. ITS/TCS

1.5.14. Landscaping

1.5.15. Permanent Signing and Marking

**1.6. Changes Modifications**

1.6.1. Change Order #xx

# Texas Department of Transportation
# Technical Provisions

# SH 183 Managed Lanes Project

# Attachment 2-4
# I2MS Test Field Forms

# I2MS Test Field Report

**File:** I2MSFieldReport.xls
**File Type:** Microsoft Excel (spreadsheet)
**File Description:** Describes what fields are required to be submitted per test, including pertinent header and footer information. All fields are required to be submitted if possible.

# I2MS Test Form Fields

## Purpose

The purpose of this document is to provide information on the tables and fields within I2MS.

## Material Test Forms

Material Test Forms are forms used to run tests for a sample. A test form contains header and footer information which all forms have in common. Each test form also has a form body containing fields specific to the test method(s) being performed.

## Header Fields

The header information is the metadata of the form. It is vital for searching for and analyzing records. All of the test forms have similar header information.

**Table Name: HEADER_VALUE_OVT** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Course Lift | course_lift | nvarchar | 250 | | TRUE |
| Direction | direction | nvarchar | 250 | CVL | TRUE |
| Distance From CL | dist_from_cl | nvarchar | 250 | | TRUE |
| Feature | feature | nvarchar | 250 | CVL | TRUE |
| Grade | grade | nvarchar | 100 | CVL | TRUE |
| Material | material | nvarchar | 100 | CVL | TRUE |
| Misc | misc | nvarchar | 250 | | TRUE |
| Report Type | report_type | nvarchar | 250 | CVL | TRUE |
| Roadway | roadway | nvarchar | 250 | CVL | TRUE |
| Sample ID | sample_id | nvarchar | 13 | | TRUE |
| Sample Location | sample_location | nvarchar | 250 | | TRUE |
| Sample Type | sample_type | nvarchar | 100 | CVL | TRUE |
| Sampled By | sampled_by | nvarchar | 250 | CVL | TRUE |
| Sampled Date | sampled_date | datetime | | MM/dd/yyyy | TRUE |
| Section | section | nvarchar | 100 | CVL | TRUE |
| Spec Item | spec_item | nvarchar | 100 | CVL | TRUE |
| Spec Year | spec_year | nvarchar | 250 | | TRUE |
| Special Provision | special_provision | nvarchar | 250 | CVL | TRUE |
| Split Sample ID | split_sample_id | nvarchar | 250 | | TRUE |
| Station | station | nvarchar | 250 | Pattern: [0-9]+\+[0-9][0-9](\.[0-9][0-9])? | TRUE |
| Structure Number | structure_number | nvarchar | 250 | CVL | TRUE |
| Supplier | supplier | nvarchar | 100 | CVL | TRUE |

## Footer Fields

The footer contains approval data and comments for each of the test forms.

**Table Name: FOOTER_VALUE_OVT** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Authorized By | authorized_by | nvarchar | 100 | CVL | TRUE |
| Authorized Date | authorized_date | smalldatetime | | MM/dd/yyyy | TRUE |
| Completed Date | completed_date | smalldatetime | | MM/dd/yyyy | TRUE |
| Digital Signature ID 1 | dig_sig_id1 | int | | | FALSE |
| Digital Signature ID 2 | dig_sig_id2 | int | | | FALSE |
| Remarks | remarks | text | | | TRUE |
| Reviewed By | reviewed_by | nvarchar | 100 | CVL | TRUE |

## Body Fields

### Moisture Content of Aggregates (DB-103-E)

**Table Name: VALUE_DB103E** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Dish No. | dish_no | nvarchar | 100 | | FALSE |
| Mass of Dry Sample | dry_sample_tare | decimal | (19, 8) | | FALSE |
| Moisture Content | moisture_content | decimal | (19, 8) | | TRUE |
| Payable Weight of Class 2 Flex Base | payable_weight | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tare Mass | tare_mass | decimal | (19, 8) | | FALSE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |
| Mass of Wet Sample Tare | wet_sample_tare | decimal | (19, 8) | | FALSE |

## Liquid Limit, Plastic Limit, Plastic Index (DB-104-6)

**Table Name: VALUE_DB104E** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Liquid Limit | liquid_limit_total | decimal | (19, 8) | | TRUE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |

**Table Name: VALUE_DB104E_SAMPLE** **Maximum Rows: 6**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Dish No. | dish_no | nvarchar | 100 | | FALSE |
| Liquid Limit (%) | liquid_limit | decimal | (19, 8) | | FALSE |
| Mass of Dry Sample + Tare (g) | mass_dry_sample | decimal | (19, 8) | | FALSE |
| Mass of Wet Sample + Tare (g) | mass_wet_sample | decimal | (19, 8) | | FALSE |
| Moisture Content, % | moisture_content | decimal | (19, 8) | | FALSE |
| Number of Blows | number_blows | int | | | FALSE |
| Tare Mass (g) | tare_mass | decimal | (19, 8) | | FALSE |

**Table Name: VALUE_DB105E** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Plastic Limit | plastic_limit_total | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |

**Table Name: VALUE_DB105E_SAMPLE** **Maximum Rows: 3**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Dish No. | dish_no | nvarchar | 100 | | FALSE |
| Mass of Dry Sample + Tare (g) | mass_dry_sample | decimal | (19, 8) | | FALSE |
| Mass of Wet Sample + Tare (g) | mass_wet_sample | decimal | (19, 8) | | FALSE |
| Plastic Limit (%) | plastic_limit | decimal | (19, 8) | | FALSE |
| Tare Mass (g) | tare_mass | decimal | (19, 8) | | FALSE |
| Mass of Water (g) | water_mass | decimal | (19, 8) | | FALSE |

**Table Name: VALUE_DB106E** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Plastic Index | plasticity_index | int | | | TRUE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |
| Use Bar Linear Shrinkage to Calculate Plasticity Index? | use_bar_linear | nvarchar | 100 | {Yes, No} | FALSE |

## Bar Linear Shrinkage (DB-107-E)

**Table Name: VALUE_DB107E** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Calculate Plasticity Index | calculate_plasticity_index | bit | | {Yes, No} | FALSE |
| Final Length | final_length | decimal | (19, 8) | | FALSE |
| Initial Length | initial_length | decimal | (19, 8) | | FALSE |
| Linear Shrinkage | linear_shrinkage | decimal | (19, 8) | | TRUE |
| Maximum By Specification | maximum_by_specification | decimal | (19, 8) | | FALSE |
| Minimum By Specification | minimum_by_specification | decimal | (19, 8) | | FALSE |
| Plasticity Index | plasticity_index | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |
| Unit | unit | nvarchar | 100 | | FALSE |

### Particle Size Analysis (DB-110-E)

**Table Name: VALUE_DB110E_SIEVE** **Maximum Rows: 6**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Cumulative Percent Retained | cumulative_pct_retained | decimal | (19, 8) | | TRUE |
| Cumulative Weight Retained | cumulative_weight_retained | decimal | (19, 8) | | FALSE |
| Lower Spec Limit | lower_spec_limit | decimal | (19, 8) | | FALSE |
| Master Grading | master_grading | nvarchar | 100 | | TRUE |
| Sieve Size | sieve_size | nvarchar | 100 | CVL | TRUE |
| Upper Spec Limit | upper_spec_limit | decimal | (19, 8) | | FALSE |
| Weight Retained | weight_retained | decimal | (19, 8) | | FALSE |

**Table Name: VALUE_DB110E_TEST** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Cumulative Method | individual_cumulative | nvarchar | 100 | {Cumulative, Individual} | FALSE |
| Negative No.40 | negative_no_40 | nvarchar | 100 | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |
| Total | total | nvarchar | 100 | | FALSE |

### Moisture-Density Work Sheet (DB-113-E)

**Table Name: VALUE_DB113E** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Dry Density Scale Max | dry_density_scale_max | decimal | (19, 8) | | FALSE |
| Dry Density Scale Min | dry_density_scale_min | decimal | (19, 8) | | FALSE |
| Dry Density Scale unit | dry_density_scale_unit | decimal | (19, 8) | | FALSE |
| Hygroscopic Moisture | hygroscopic_moisture | decimal | (19, 8) | | FALSE |
| Max Density(kg) | max_density_kg | decimal | (19, 8) | | FALSE |
| Max Density (pcf) | max_density_pcf | decimal | (19, 8) | | TRUE |
| Moisture scale max | moisture_scale_max | decimal | (19, 8) | | FALSE |
| Moisture scale min | moisture_scale_min | decimal | (19, 8) | | FALSE |
| Moisture scale unit | moisture_scale_unit | decimal | (19, 8) | | FALSE |
| Optimum Moisture | optimum_moisture | decimal | (19, 8) | | TRUE |
| Oven Dry Weight | oven_dry_weight | decimal | (19, 8) | | FALSE |
| Soil Description | soil_desc | nvarchar | 100 | | TRUE |
| Specific Gravity (Apparent) | specific_gravity | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |
| Weight of Aggr., Pycn. & Water | weight_of_aggr | decimal | (19, 8) | | FALSE |
| Weight of Pycnometer & Water | weight_of_pycnometer | decimal | (19, 8) | | FALSE |

**Table Name: VALUE_DB113E_SPECIMEN** **Maximum Rows: 4**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Dry Density | dry_density | decimal | (19, 8) | | FALSE |
| Dry Mass Material | dry_mass_material | decimal | (19, 8) | | FALSE |
| Dry Mass Pan & Specimen | dry_mass_pan_specimen | decimal | (19, 8) | | FALSE |
| Estimated Dry Density | est_dry_density | decimal | (19, 8) | | FALSE |
| Height of Specimen | height_specimen | decimal | (19, 8) | | FALSE |
| Mass Material | mass_material | decimal | (19, 8) | | FALSE |
| Mass Water | mass_water | decimal | (19, 8) | | FALSE |
| Mass Water Added | mass_water_added | decimal | (19, 8) | | FALSE |
| Percent Water Content | pct_water_content | decimal | (19, 8) | | FALSE |
| Percent Water On Total | pct_water_total | decimal | (19, 8) | | FALSE |
| Tare Mass Mold | tare_mass_mold | decimal | (19, 8) | | FALSE |
| Tare Mass Pan | tare_mass_pan | decimal | (19, 8) | | FALSE |
| Volume Per Linear | volume_per_linear | decimal | (19, 8) | | FALSE |
| Volume of Specimen | volume_specimen | decimal | (19, 8) | | FALSE |
| Wet Density of Specimen | wet_density_specimen | decimal | (19, 8) | | FALSE |
| Wet Mass Of Pan & Specimen | wet_mass_pan_specimen | decimal | (19, 8) | | FALSE |
| Wet Mass Specimen | wet_mass_specimen | decimal | (19, 8) | | FALSE |
| Wet Mass Specimen & Mold | wet_mass_specimen_mold | decimal | (19, 8) | | FALSE |

## Moisture-Density Relationship of Subgrade and Embankment Soils (DB-114-E)

**Table Name: VALUE_DB114E** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Dry Density Scale Max | dry_density_scale_max | decimal | (19, 8) | | FALSE |
| Dry Density Scale Min | dry_density_scale_min | decimal | (19, 8) | | FALSE |
| Dry Density Scale unit | dry_density_scale_unit | decimal | (19, 8) | | FALSE |
| Hygroscopic Moisture | hygroscopic_moisture | decimal | (19, 8) | | FALSE |
| Max Density (kg) | max_density_kg | decimal | (19, 8) | | FALSE |
| Max Density (pcf) | max_density_pcf | decimal | (19, 8) | | TRUE |
| Moisture scale max | moisture_scale_max | decimal | (19, 8) | | FALSE |
| Moisture scale min | moisture_scale_min | decimal | (19, 8) | | FALSE |
| Moisture scale unit | moisture_scale_unit | decimal | (19, 8) | | FALSE |
| Optimum Moisture | optimum_moisture | decimal | (19, 8) | | TRUE |
| Oven Dry Weight | oven_dry_weight | decimal | (19, 8) | | FALSE |
| Soil Descript | soil_description | nvarchar | 100 | | TRUE |
| Specific Gravity | specific_gravity | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |
| Weight of Aggr., Pycn. & Water | weight_of_aggr | decimal | (19, 8) | | FALSE |
| Weight of Pycnometer & Water | weight_of_pycnometer | decimal | (19, 8) | | FALSE |

**Table Name: VALUE_DB114E_SPECIMEN** **Maximum Rows: 4**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Dry Density | dry_density | decimal | (19, 8) | | FALSE |
| Dry Mass Material | dry_mass_material | decimal | (19, 8) | | FALSE |
| Dry Mass Pan & Specimen | dry_mass_pan_specimen | decimal | (19, 8) | | FALSE |
| Estimated Dry Density | est_dry_density | decimal | (19, 8) | | FALSE |
| Height of Specimen | height_specimen | decimal | (19, 8) | | FALSE |
| Mass Material | mass_material | decimal | (19, 8) | | FALSE |
| Mass Water | mass_water | decimal | (19, 8) | | FALSE |
| Mass Water Added | mass_water_added | decimal | (19, 8) | | FALSE |
| Percent Water Content | pct_water_content | decimal | (19, 8) | | FALSE |
| Percent Water Total | pct_water_total | decimal | (19, 8) | | FALSE |
| Tare Mass Mold | tare_mass_mold | decimal | (19, 8) | | FALSE |
| Tare Mass Pan | tare_mass_pan | decimal | (19, 8) | | FALSE |
| Volume Per Linear mm | volume_per_linear | decimal | (19, 8) | | FALSE |
| Volume of Specimen | volume_specimen | decimal | (19, 8) | | FALSE |
| Wet Density of Specimen | wet_density_specimen | decimal | (19, 8) | | FALSE |
| Wet Mass of Pan & Specimen | wet_mass_pan_specimen | decimal | (19, 8) | | FALSE |
| Wet Mass Specimen | wet_mass_specimen | decimal | (19, 8) | | FALSE |
| Wet Mass Specimen & Mold | wet_mass_specimen_mold | decimal | (19, 8) | | FALSE |

### Nuclear Density and Moisture Determination (DB-115-1)

**Table Name: VALUE_DB115_1** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Density Count | density_count | int | | | FALSE |
| Density, % | density_pct | decimal | (19, 8) | | TRUE |
| Pass/Fail | density_pct_pass_fail | nvarchar | 100 | | FALSE |
| Max Density Specification Requirement | density_specification_req_max | decimal | (19, 8) | | FALSE |
| Low Density Specification Req | density_specification_req_min | decimal | (19, 8) | | FALSE |
| density_standard | density_standard | int | | | FALSE |
| Determined By Test Method | determined_by_test_method | nvarchar | 100 | {DB-113-E, DB-114-E} | FALSE |
| Dry Density, pcf | dry_density_pcf | decimal | (19, 8) | | TRUE |
| Gauge No. | gauge_no | nvarchar | 100 | | TRUE |
| Maximum Dry Density | max_dry_density_pcf | decimal | (19, 8) | | TRUE |
| Moisture Content, % | moisture_content_pct | decimal | (19, 8) | | TRUE |
| Moisture Content Pct Pass or Fail | moisture_content_pct_pass_fail | nvarchar | 100 | {Pass, Fail} | FALSE |
| Moisture Count | moisture_count | int | | | FALSE |
| Max Moisture Specification Requirement | moisture_specification_req_max | decimal | (19, 8) | | FALSE |
| Low Moisture Specification Req | moisture_specification_req_min | decimal | (19, 8) | | FALSE |
| Moisture Standard | moisture_standard | int | | | FALSE |
| Optimum Moisture Content | optimum_moisture_content_pct | decimal | (19, 8) | | TRUE |
| Probe Depth | probe_depth | decimal | (19, 8) | | TRUE |
| Soil Description | soil_desc | nvarchar | 100 | | TRUE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |
| Wet Density , pcf | wet_density_pcf | decimal | (19, 8) | | FALSE |

### Soil /Aggregate Field Unit Weight Tests (DB-115-2)

**Table Name: VALUE_DB115_2** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Compaction, % | compaction_pct | decimal | (19, 8) | | FALSE |
| Compaction Required | compaction_req_pct | decimal | (19, 8) | | FALSE |
| Dry unit weight | dry_unit_weight | decimal | (19, 8) | | FALSE |
| Dry Weight Total Moisture Sample | dry_weight_total_moisture | decimal | (19, 8) | | FALSE |
| Final Weight Apparatus & Sand | final_weight_apparatus | decimal | (19, 8) | | FALSE |
| Final Weight of Sand | final_weight_sand | decimal | (19, 8) | | FALSE |
| Initial Weight Apparatus & Sand | initial_weight_apparatus | decimal | (19, 8) | | FALSE |
| Initial Weight of Sand | initial_weight_sand | decimal | (19, 8) | | FALSE |
| Maximum dry unit weight | max_dry_unit_weight | decimal | (19, 8) | | FALSE |
| Moisture Required | moisture_req_pct | decimal | (19, 8) | | FALSE |
| Optium Moisture (% if of dry unit weight) | optimum_moisture | decimal | (19, 8) | | FALSE |
| Pass/Fail % Density | pass_fail_pct_density | nvarchar | 100 | | FALSE |
| Pass/Fail % Moisture | pass_fail_pct_moisture | nvarchar | 100 | | FALSE |
| % Moisture | pct_moisture | decimal | (19, 8) | | FALSE |
| Sand bulk unit weight | sand_bulk_unit_weight | decimal | (19, 8) | | FALSE |
| Soil Descript | soil_desc | nvarchar | 100 | | FALSE |
| Stamp Code | stamp_code | int | | CVL | FALSE |
| Tested By | tested_by | nvarchar | 100 | CVL | FALSE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | FALSE |
| Total Volume-Sand Userd | total_volume | decimal | (19, 8) | | FALSE |
| Volume of Hole | volume_hole | decimal | (19, 8) | | FALSE |
| Volume of Surface | volume_surface | decimal | (19, 8) | | FALSE |
| Weight of Material From Hole | weight_material_hole | decimal | (19, 8) | | FALSE |
| Wet Unit Weight | wet_unit_weight | decimal | (19, 8) | | FALSE |
| Wet Weight Total Moisture Sample | wet_weight_total_moisture | decimal | (19, 8) | | FALSE |

## Test Resistance to Degradation By Wet Ball Mill Method (DB-116-E)

**Table Name: VALUE_DB116E** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Cumulative Method | cumulative_method | nvarchar | 50 | {Cumulative, Individual} | FALSE |
| Total of 3000g weight retained | individual_weight_retained_3000g_total | decimal | (19, 8) | | FALSE |
| Total of 3500g weight retained | individual_weight_retained_3500g_total | decimal | (19, 8) | | FALSE |
| Percent Soil Binder | pct_soil_binder | decimal | (19, 8) | | FALSE |
| Percent Soil Binder Increase | pct_soil_binder_increase | decimal | (19, 8) | | TRUE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |
| Wet Ball Mill -No.40 Individual Percent Retained | wbm_individual_pct_retained_minusno40 | decimal | (19, 8) | | FALSE |
| Wet Ball Mill No.40 Individual Percent Retained | wbm_individual_pct_retained_no40 | decimal | (19, 8) | | FALSE |
| Wet Ball Mill Initial Weight | wbm_initial_weight | decimal | (19, 8) | | FALSE |
| Wet Ball Mill Value | wbm_value | decimal | (19, 8) | | TRUE |
| Wet Ball Mill -No.40 Weight Retained | wbm_weight_retained_minusno40 | decimal | (19, 8) | | FALSE |
| Wet Ball Mill No.40 Weight Retained | wbm_weight_retained_no40 | decimal | (19, 8) | | FALSE |
| Total of weight retained | weight_retained_total | decimal | (19, 8) | | FALSE |
| Washed Sieve Analysis No.40 Individual Percent Retained | wsa_individual_pct_retained_no40 | decimal | (19, 8) | | FALSE |
| Washed Sieve Analysis -No.40 Individual Percent Retained | wsa_inidividual_pct_retained_minusno40 | decimal | (19, 8) | | FALSE |
| Washed Sieve Analysis Initial Weight | wsa_initial_weight | decimal | (19, 8) | | FALSE |
| Washed Sieve Analysis -No.40 Weight Retained | wsa_weight_retained_minusno40 | decimal | (19, 8) | | FALSE |
| Washed Sieve Analysis No.40 Weight Retained | wsa_weight_retained_no40 | decimal | (19, 8) | | FALSE |

**Table Name: VALUE_DB116E_SIEVE** **Maximum Rows: 7**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Cumulative Percent Retained | cumulative_pct_retained | decimal | (19, 8) | | FALSE |
| 3000g Cumulative Weight Retained | cumulative_weight_retained_3000g | decimal | (19, 8) | | FALSE |
| 3500g Cumulative Weight Retained | cumulative_weight_retained_3500g | decimal | (19, 8) | | FALSE |
| Individual Percent Retained | individual_pct_retained | decimal | (19, 8) | | FALSE |
| 3000g Individual Weight Retained | individual_weight_retained_3000g | decimal | (19, 8) | | FALSE |
| 3500g Individual Weight Retained | individual_weight_retained_3500g | decimal | (19, 8) | | FALSE |
| Sieve Size | sieve_size | nvarchar | 100 | | FALSE |
| Weight Retained | weight_retained | decimal | (19, 8) | | FALSE |

### Triaxial Compression Tests (DB-117-E)

**Table Name: VALUE_DB117E** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Average Corrected Strength, 00 psi | average_corrected_strength_0psi | decimal | (19, 8) | | TRUE |
| Average Corrected Strength, 15 psi | average_corrected_strength_15psi | decimal | (19, 8) | | TRUE |
| Classification | classification | nvarchar | 100 | | FALSE |
| Cohesion, psi | cohesion_psi | decimal | (19, 8) | | FALSE |
| Correlation Factor | correlation_factor | decimal | (19, 8) | | FALSE |
| Grade, 00 psi | grade_0psi | nvarchar | 100 | | FALSE |
| Grade, 15 psi | grade_15psi | nvarchar | 100 | | FALSE |
| Internal Angle of Friction | internal_angle_friction | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |

**Table Name: VALUE_DB117E_SPECIMEN** **Maximum Rows: 8**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Area, in.^2 | area | decimal | (19, 8) | | FALSE |
| Avg. Cross Sectional Area, in^2 | avg_cross_sectional_area | decimal | (19, 8) | | FALSE |
| Average Diameter, in. | avg_diameter | decimal | (19, 8) | | FALSE |
| Corrected Stress, psi. | corrected_stress_psi | decimal | (19, 8) | | FALSE |
| Dry Density of Specimen, pcf | dry_density_specimen_pcf | decimal | (19, 8) | | FALSE |
| Final Weight of Stones | final_weight_stones | decimal | (19, 8) | | FALSE |
| Height of Stone 1, in. | height_stone1 | decimal | (19, 8) | | FALSE |
| Height of Stone 2, in. | height_stone2 | decimal | (19, 8) | | FALSE |
| I-Strain, in./in. | i_strain | decimal | (19, 8) | | FALSE |
| Initial Height of Specimen, in. | initial_height | decimal | (19, 8) | | FALSE |
| Lateral Pressure, psi. | lateral_pressure_psi | decimal | (19, 8) | | FALSE |
| New Height of Specimen, in. | new_height | decimal | (19, 8) | | FALSE |
| Moisture of Specimen, % | pct_moisture_specimen | decimal | (19, 8) | | FALSE |
| % Strain , in./in. | pct_strain | decimal | (19, 8) | | FALSE |
| Uncorrected Stress, psi. | uncorrected_stress_psi | decimal | (19, 8) | | FALSE |
| Weight of Specimen | weight_specimen | decimal | (19, 8) | | FALSE |
| Weight of Stones and Specimen | weight_stones_specimen | decimal | (19, 8) | | FALSE |

### Determining Soil pH (DB-128-E)

**Table Name: VALUE_DB128E** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Soil pH | soil_ph | decimal | (19, 8) | | TRUE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |

### Measuring Resistivity of Soil Materials (DB-129-E)

**Table Name: VALUE_DB129E** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Resistance using resistivity meter | resistance_using_meter | decimal | (19, 8) | | FALSE |
| Resistivity | resistivity_result | decimal | (19, 8) | | TRUE |
| A= Area of one electrode | sbf_area | decimal | (19, 8) | | FALSE |
| Distance between electrodes | sbf_distance | decimal | (19, 8) | | FALSE |
| Soil Box Factor | sbf_factor | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |

### Measuring Thickness of Pavement Layer (DB-140-E)

**Table Name: VALUE_DB140E** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Average Depth: | avg_depth | decimal | (19, 8) | | TRUE |
| Depth 1: | depth_1 | decimal | (19, 8) | | FALSE |
| Depth 2: | depth_2 | decimal | (19, 8) | | FALSE |
| Depth 3: | depth_3 | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |

## OVF HMAC Test Data: DB-200-F, DB-207-FPR, DB-227-F, DB-236-F, DB-207-F (DB-200/07/36)

**Table Name: VALUE_DB207F** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Specific Gravity of Asphalt Binder | specific_gravity | decimal | (19, 3) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | FALSE |
| Tested By | tested_by | nvarchar | 100 | CVL | FALSE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | FALSE |
| Voids in Mineral Aggregate (VMA) | vma | decimal | (19, 1) | | TRUE |

**Table Name: VALUE_DB207FPR** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Average Actual Specific Gravity (Ga): | GA | nvarchar | 100 | | TRUE |
| Lab Molded Density, %: | LMD | decimal | (19, 8) | | TRUE |
| Stamp Code | stamp_code | nvarchar | 100 | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |

**Table Name: VALUE_DB227F** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Rice Specific Gravity (Gr): | rice_specific_gravity | decimal | (19, 8) | | TRUE |
| Stamp Code | stamp_code | nvarchar | 100 | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |

**Table Name: VALUE_DB229F** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Stamp Code | stamp_code | nvarchar | 100 | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |

**Table Name: VALUE_DB229F_SIEVE** **Maximum Rows: 10**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Current JMF | Current_JMF | nvarchar | 100 | | FALSE |
| Design JMF | Design_JMF | nvarchar | 100 | | FALSE |
| Adjusted Individual % Retained | pct | decimal | (19, 8) | | TRUE |
| Sieve Size | sieve_size | nvarchar | 100 | CVL | TRUE |

**Table Name: VALUE_DB236F** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Asphalt Content, %: | AC | decimal | (19, 8) | | TRUE |
| Stamp Code | stamp_code | nvarchar | 100 | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |

## Sieve Analysis of Non-Surface Treatment Aggregates (DB-200-F)

**Table Name: VALUE_DB200F** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Cumulative Weight Retained Minusno14 | cumulative_weight_retained_minusno14 | decimal | (19, 8) | | FALSE |
| Dry Weight After Washing | dry_weight_after_washing | decimal | (19, 8) | | FALSE |
| Limit As Percent | limit_as_percent | nvarchar | 100 | {Passing, Retained} | FALSE |
| Original Dry Weight | original_dry_weight | decimal | (19, 8) | | FALSE |
| Sieve Analysis Result 1 | sieve_analysis_result1 | nvarchar | 100 | | FALSE |
| Sieve Analysis Result 2 | sieve_analysis_result2 | decimal | (19, 8) | | FALSE |
| Sieve Analysis Result 3 | sieve_analysis_result3 | decimal | (19, 8) | | FALSE |
| Sieve Analysis Result 4 | sieve_analysis_result4 | decimal | (19, 8) | | FALSE |
| Sieving Loss | sieving_loss | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |
| Total Weight | total_weight | decimal | (19, 8) | | FALSE |
| Washing Loss | washing_loss | decimal | (19, 8) | | FALSE |

**Table Name: VALUE_DB200F_SIEVE** **Maximum Rows: 12**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Cumulative Percent Passing | cumulative_pct_passing | decimal | (19, 8) | | TRUE |
| Cumulative Percent Retained | cumulative_pct_retained | decimal | (19, 8) | | FALSE |
| Cumulative Weight Retained | cumulative_weight_retained | decimal | (19, 8) | | FALSE |
| Individual Weight Retained | individual_weight_retained | decimal | (19, 8) | | FALSE |
| Lower Limit Grading | lower_limit_grading | decimal | (19, 8) | | FALSE |
| Sieve Size | sieve_size | nvarchar | 100 | {2", 1-3/4", 1-1/2", 1-1/4", 1", 7/8", 3/4", 5/8", 1/2", 7/16", 3/8", 5/16", 1/4", No. 4, No. 6, No. 8, No. 10, No. 14, No. 16, No. 20, No. 30, No. 40, No. 50, No. 80, No. 100, No. 200 } | TRUE |
| Upper Limit Grading | upper_limit_grading | decimal | (19, 8) | | FALSE |
| Within Grading Limits | within_grading_limits | bit | | | TRUE |

## Sand Equivalent (DB-203-F)

**Table Name: VALUE_DB203F** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Average Sand Equivalent | average_sand_equivalent | decimal | (19, 8) | | TRUE |
| Clay No.1 Reading | clay1_reading | decimal | (19, 8) | | FALSE |
| Clay No.2 Reading | clay2_reading | decimal | (19, 8) | | FALSE |
| Sand No.1 Calculated | sand1_calculated | decimal | (19, 8) | | FALSE |
| Sand No.1 Reading | sand1_reading | decimal | (19, 8) | | FALSE |
| Sand No.1 Reported | sand1_reported | decimal | (19, 8) | | FALSE |
| Sand No.2 Calculated | sand2_calculated | decimal | (19, 8) | | FALSE |
| Sand No.2 Reading | sand2_reading | decimal | (19, 8) | | FALSE |
| Sand No.2 Reported | sand2_reported | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |

## QC/QA Test Data (DB-207-FPL)

**Table Name: VALUE_DB207FPL** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| In Place Air Void, % | air_void | decimal | (19, 8) | | TRUE |
| Stamp Code | stamp_code | nvarchar | 100 | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |

### Deleterious Material & Decantation For Coarse Aggr (DB-217-F)

**Table Name: VALUE_DB217F** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Original Weight Retained | part1_orig_weight_retained | decimal | (19, 8) | | FALSE |
| Percent Deterious Material | part1_pct_deleterious_material | decimal | (19, 8) | | TRUE |
| Sieve Size | part1_sieve_size | nvarchar | 100 | | FALSE |
| Weight Deleterious Material | part1_weight_deleterious_material | decimal | (19, 8) | | FALSE |
| Dry Weight after Washing | part2_dry_weight_after_washing | decimal | (19, 8) | | FALSE |
| Percent Loss By Decantation | part2_loss_by_decantation | decimal | (19, 8) | | TRUE |
| Original Weight Retained | part2_orig_weight_retained | decimal | (19, 8) | | FALSE |
| Sieve Size | part2_sieve_size | nvarchar | 53 | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |

### Sieve Analysis for Fine & Coarse Aggregate (DB-401-A)

**Table Name: VALUE_DB401A** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Equivalent Exceed 85 | equivalent_exceed_85 | bit | | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |
| Total | total | decimal | (19, 8) | | FALSE |

**Table Name: VALUE_DB401A _SIEVE** **Maximum Rows: 8**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Cumulative Percent Passing | cumulative_pct_passing | decimal | (19, 8) | | FALSE |
| Cumulative Percent Retained | cumulative_pct_retained | decimal | (19, 8) | | TRUE |
| Cumulative Weight Retained | cumulative_weight_retained | decimal | (19, 8) | | FALSE |
| Individual Weight Retained | individual_weight_retained | decimal | (19, 8) | | FALSE |
| Lower Spec Limit | lower_retained_spec_limit | decimal | (19, 8) | | FALSE |
| Sieve Size | sieve_size | nvarchar | 100 | | TRUE |
| Upper Spec Limit | upper_retained_spec_limit | decimal | (19, 8) | | FALSE |
| Within Master Grading | within_master_grading | varchar | 20 | | TRUE |

**Table Name: VALUE_DB402A** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Fineness Modulus | fineness_modulus | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | FALSE |
| Tested By | tested_by | nvarchar | 100 | CVL | FALSE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | FALSE |

### Decantation Test For Concrete Aggregates (DB-406-A)

**Table Name: VALUE_DB406A** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Dry Mass After Washing | dry_mass_after_washing | decimal | (19, 8) | | FALSE |
| Mass of Pycnometer Containing Sample and Water To Fill After Washing | mass_of_pycnometer_after_washing | decimal | (19, 8) | | FALSE |
| Mass of Pycnometer Containing Sample and Water To Fill Before Washing | mass_of_pycnometer_before_washing | decimal | (19, 8) | | FALSE |
| Mass of Pycnometer Filled With Water at Approx. Same Temperature as above | mass_of_pycnometer_with_water | decimal | (19, 8) | | FALSE |
| Original Dry Mass of Sample | original_dry_mass | decimal | (19, 8) | | FALSE |
| % Loss | percent_loss_part1 | decimal | (19, 8) | | TRUE |
| Percent Loss | percent_loss_part2 | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Test By: | test_by | nvarchar | 100 | {Part I - Lab Method, Part II - Field Method} | FALSE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested By - Part II | tested_by_part2 | nvarchar | 100 | CVL | FALSE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |
| Tested Date - Part II | tested_date_part2 | datetime | | MM/dd/yyyy | FALSE |

### Organic Impurities in Fine Aggregate for Concrete (DB-408-A)

**Table Name: VALUE_DB408A** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Color of the Supernatant Liquid | color_of_supernatant_liquid | nvarchar | 100 | {LIGHTER THAN STANDARD, EQUAL TO STANDARD, DARKER THAN STANDARD} | TRUE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |

### Deleterious Material (DB-413-A)

**Table Name: VALUE_DB413A** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Clay | clay_value1 | decimal | (19, 8) | | FALSE |
| Clay Percentage | clay_value2 | decimal | (19, 8) | | TRUE |
| Friable | friable_value1 | decimal | (19, 8) | | FALSE |
| Friable Percentage | friable_value2 | decimal | (19, 8) | | TRUE |
| Laminated | laminated_value1 | decimal | (19, 8) | | FALSE |
| Laminated Percentage | laminated_value2 | decimal | (19, 8) | | TRUE |
| Other | other_value1 | decimal | (19, 8) | | FALSE |
| Othesr Percentage | other_value2 | decimal | (19, 8) | | FALSE |
| Deleterious Material Retained | percent_deleterious_material_retained | decimal | (19, 8) | | TRUE |
| Shale | shale_value1 | decimal | (19, 8) | | FALSE |
| Shale Percentage | shale_value2 | decimal | (19, 8) | | TRUE |
| Sieve Size | sieve_size | nvarchar | 100 | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |
| Total | total | decimal | (19, 8) | | FALSE |
| Total Weight Sample | total_weight_sample | decimal | (19, 8) | | FALSE |

### Field Form Concrete Sample - Cylinders (DB-418-A)

**Table Name: VALUE_DB418A** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Actual Water | actual_water | nvarchar | 100 | | TRUE |
| Agg. Correction Factor | agg_correction_factor | nvarchar | 100 | CVL | TRUE |
| Agg. Size | agg_size | nvarchar | 100 | CVL | TRUE |
| Air Temperature | air_temperature | nvarchar | 100 | | TRUE |
| Batch Size | batch_size | nvarchar | 100 | | TRUE |
| Batch Time | batch_time | nvarchar | 100 | | TRUE |
| Class of Concrete | class_of_concrete | nvarchar | 100 | CVL | TRUE |
| Concrete Temperature | concrete_temperature | nvarchar | 100 | | TRUE |
| Corrected Air Content | corrected_air_content | decimal | (19, 8) | | TRUE |
| Design Water | design_water | nvarchar | 100 | | TRUE |
| Mix ID | mix_id | nvarchar | 100 | | TRUE |
| Placement Air | placement_air | decimal | (19, 8) | | TRUE |
| Placement Slump | placement_slump | decimal | (19, 8) | CVL | TRUE |
| Pump Air Loss | pump_air_loss | decimal | (19, 8) | | TRUE |
| Pump Slump Loss | pump_slump_loss | decimal | (19, 8) | | TRUE |
| Req. Strength | req_strength | nvarchar | 100 | | TRUE |
| Sample Time | sample_time | nvarchar | 100 | | TRUE |
| Average 7 Day Compressive Strength | seven_day_average | decimal | (19, 8) | | FALSE |
| Slump | slump | decimal | (19, 8) | | TRUE |
| Specimen Size | specimen_size | nvarchar | 100 | {4x8, 6x12} | TRUE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |
| Ticket # | ticket_number | nvarchar | 100 | | TRUE |
| Total Water | total_water | nvarchar | 100 | | TRUE |
| Truck # | truck_number | nvarchar | 100 | | TRUE |
| Average 28 Day Compressive Strength | twenty_eight_day_average | decimal | (19, 8) | | FALSE |
| Unit Wt. | unit_weight | nvarchar | 100 | | TRUE |
| Water Added | water_added | nvarchar | 100 | | TRUE |

**Table Name: VALUE_DB418A _AVERAGE** **Maximum Rows: 3**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Average Age | average_age | nvarchar | 100 | | TRUE |
| Average Strength | average_strength | decimal | (19, 8) | | TRUE |

**Table Name: VALUE_DB418A _SPECIMEN** **Maximum Rows: 7**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Age(days) | age | nvarchar | 100 | CVL | TRUE |
| Area | area | decimal | (19, 8) | | TRUE |
| Load(lbs) | load_lbs | decimal | (19, 8) | | TRUE |
| Pass/Fail | pass_fail | nvarchar | 5 | | FALSE |
| Specimen | specimen | nvarchar | 100 | | FALSE |
| Strength | strength | decimal | (19, 8) | | TRUE |
| Test Date | test_date | smalldatetime | | MM/dd/yyyy | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Type Fracture | type_fracture | varchar | 50 | {A, B, C, D, E} | TRUE |

### Determining Pavement Thickness By Direct Measurement (DB-423-A)

**Table Name: VALUE_DB423A** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Measure Unit | measure_unit | nvarchar | 100 | {Inches, Millimeters} | FALSE |
| Pavement Depth | pavement_depth | decimal | (19, 8) | | TRUE |
| Stamp Code | stamp_code | int | | CVL | FALSE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |

**Table Name: VALUE_DB423A _LOCATION** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Average | average | decimal | (19, 8) | | TRUE |
| Measurement 1 | measurement_1 | decimal | (19, 8) | | FALSE |
| Measurement 2 | measurement_2 | decimal | (19, 8) | | FALSE |
| Measurement 3 | measurement_3 | decimal | (19, 8) | | FALSE |
| Measurement Identification / Location | measurement_id_location | nvarchar | 100 | | FALSE |

## Soil-Cement, Soil-Lime Testing (DB-120-E) ** INACTIVE **

**Table Name: VALUE_DB120E** **Maximum Rows: 1**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Avg. Corrected Stress, psi: | avg_corrected_stress_psi | decimal | (19, 8) | | FALSE |
| Percent Cement, (%) | percent_cement | decimal | (19, 8) | | TRUE |
| Performed By DB-120-E: | performed_by | nvarchar | 200 | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Target Percent Cement, %: | target_percent_cement | decimal | (19, 8) | | FALSE |
| Target Stress, psi: | target_stress_psi | decimal | (19, 8) | | FALSE |
| Tested By | tested_by | nvarchar | 200 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |

**Table Name: VALUE_DB120E_SPECIMEN** **Maximum Rows: 3**

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Area, in.^2: | area | decimal | (19, 8) | | FALSE |
| Avg. Corrected Stress, psi: | avg_corrected_stress | decimal | (19, 8) | | FALSE |
| Avg. Cross Sectional Area, in^2: | avg_cross_section_area | decimal | (19, 8) | | FALSE |
| Average Diameter, in.: | avg_diameter | decimal | (19, 8) | | FALSE |
| Circumference, in.: | circumference | decimal | (19, 8) | | FALSE |
| Corrected Stress, psi.: | corrected_stress | decimal | (19, 8) | | FALSE |
| Dead Load, lbs.: | dead_load | decimal | (19, 8) | | FALSE |
| Deformation at Max Load, in. | deformation_at_max_load | decimal | (19, 8) | | FALSE |
| Height of Stone 1, in. | height_stone1 | decimal | (19, 8) | | FALSE |
| Height of Stone 2, in. | height_stone2 | decimal | (19, 8) | | FALSE |
| I-Strain, in./in.: | i_strain | decimal | (19, 8) | | FALSE |
| Initial Height of Specimen, in.: | initial_height_specimen | decimal | (19, 8) | | FALSE |
| Lateral Pressure, psi.: | lateral_pressure | decimal | (19, 8) | | FALSE |
| Max. Load Reading, div. | max_load_reading | decimal | (19, 8) | | FALSE |
| New Height of Specimen, in.: | new_height_specimen | decimal | (19, 8) | | FALSE |
| % Strain , in./in.: | pct_strain | decimal | (19, 8) | | FALSE |
| Percent Cement, (%) | percent_cement | decimal | (19, 8) | | FALSE |
| Ring Factor, lbs./div | ring_factor | decimal | (19, 8) | | FALSE |
| Specimen Number: | specimen_no | int | | | FALSE |
| Uncorr'd Stress, psi.: | uncorrected_stress | decimal | (19, 8) | | FALSE |

## Soil-Lime Testing: DB-121-E (DB-121-E) ** INACTIVE **

Table Name: VALUE_DB121E — Maximum Rows: 1

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Average Corrected Strength, 00 psi | average_corrected_strength_0psi | decimal | (19, 8) | | TRUE |
| Average Corrected Strength, 15 psi | average_corrected_strength_15psi | decimal | (19, 8) | | FALSE |
| Classification | classification | nvarchar | 100 | | FALSE |
| Cohesion, psi | cohesion_psi | decimal | (19, 8) | | FALSE |
| Correlation Factor | correlation_factor | decimal | (19, 8) | | FALSE |
| Grade, 00 psi | grade_0psi | nvarchar | 100 | | FALSE |
| Grade, 15 psi | grade_15psi | nvarchar | 100 | | FALSE |
| Internal Angle of Friction | internal_angle_friction | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |

Table Name: VALUE_DB121E_SPECIMEN — Maximum Rows: 8

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Area, in.^2 | area | decimal | (19, 8) | | FALSE |
| Avg. Cross Sectional Area, in^2 | avg_cross_sectional_area | decimal | (19, 8) | | FALSE |
| Average Diameter, in. | avg_diameter | decimal | (19, 8) | | FALSE |
| Corrected Stress, psi. | corrected_stress_psi | decimal | (19, 8) | | FALSE |
| Dry Density of Specimen, pcf | dry_density_specimen_pcf | decimal | (19, 8) | | FALSE |
| Final Weight of Stones | final_weight_stones | decimal | (19, 8) | | FALSE |
| Height of Stone 1, in. | height_stone1 | decimal | (19, 8) | | FALSE |
| Height of Stone 2, in. | height_stone2 | decimal | (19, 8) | | FALSE |
| I-Strain, in./in. | i_strain | decimal | (19, 8) | | FALSE |
| Initial Height of Specimen, in. | initial_height | decimal | (19, 8) | | FALSE |
| Lateral Pressure, psi. | lateral_pressure_psi | decimal | (19, 8) | | FALSE |
| New Height of Specimen, in. | new_height | decimal | (19, 8) | | FALSE |
| Moisture of Specimen, % | pct_moisture_specimen | decimal | (19, 8) | | FALSE |
| % Strain , in./in. | pct_strain | decimal | (19, 8) | | FALSE |
| Uncorrected Stress, psi. | uncorrected_stress_psi | decimal | (19, 8) | | FALSE |
| Weight of Specimen | weight_specimen | decimal | (19, 8) | | FALSE |
| Weight of Stones and Specimen | weight_stones_specimen | decimal | (19, 8) | | FALSE |

## Density of Asphalt Stabilized Base (DB-126-E) ** INACTIVE **

Table Name: VALUE_DB126E

Maximum Rows: 1

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Percent Asphalt in Mix(max) | asphalt_pct_max | decimal | (19, 8) | | FALSE |
| Percent Asphalt in Mix(min) | asphalt_pct_min | decimal | (19, 8) | | FALSE |
| Broken Method | broken_method | nvarchar | 20 | {Fast Break, Slow Break} | FALSE |
| Date Broken(max)(max) | date_broken_max | smalldatetime | | MM/dd/yyyy | FALSE |
| Date Broken(min) | date_broken_min | smalldatetime | | MM/dd/yyyy | FALSE |
| Density of Specimen(max) | density_of_specimen_max | decimal | (19, 8) | | FALSE |
| Density of Specimen(min) | density_of_specimen_min | decimal | (19, 8) | | FALSE |
| Gauge Reading(max) | gague_reading_psi_max | decimal | (19, 8) | | FALSE |
| Gauge Reading (min) | gague_reading_psi_min | decimal | (19, 8) | | FALSE |
| Height of Specimen(max) | height_max | decimal | (19, 8) | | FALSE |
| Height of Specimen(min) | height_min | decimal | (19, 8) | | FALSE |
| Measured Weight(max) | measured_weight_max | decimal | (19, 8) | | FALSE |
| Measured Weight(min) | measured_weight_min | decimal | (19, 8) | | FALSE |
| Minimum Allowable Density | min_allowable_density | decimal | (19, 8) | | FALSE |
| Minimum Percent Density | min_pct_density | decimal | (19, 8) | | FALSE |
| Minimum Specimen Unconfined Compressive Strength | min_specimen_UCS | decimal | (19, 8) | | FALSE |
| Mold Number(max) | mold_number_max | nvarchar | 100 | | FALSE |
| Mold Number(min) | mold_number_min | nvarchar | 100 | | FALSE |
| Date Molded(max) | molded_date_max | smalldatetime | | MM/dd/yyyy | FALSE |
| Date Molded(min) | molded_date_min | smalldatetime | | MM/dd/yyyy | FALSE |
| Stamp Code | stamp_code | int | | CVL | FALSE |
| Tested By | tested_by | nvarchar | 100 | CVL | FALSE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | FALSE |
| Unconfined Compressive Strength (max) | UCS_max | nvarchar | 100 | | FALSE |
| Unconfined Compressive Strength (min) | UCS_min | nvarchar | 100 | | FALSE |
| Volume of Mold(max) | volume_of_mold_max | decimal | (19, 8) | | FALSE |
| Volume of Mold(min) | volume_of_mold_min | decimal | (19, 8) | | FALSE |
| Volume of Specimen(max) | volume_of_specimen_max | decimal | (19, 8) | | FALSE |
| Volume of Specimen(min) | volume_of_specimen_min | decimal | (19, 8) | | FALSE |
| Weight of Filters(max) | weight_of_filters_max | decimal | (19, 8) | | FALSE |
| Weight of Filters(min) | weight_of_filters_min | decimal | (19, 8) | | FALSE |
| Weight of Material(max) | weight_of_mat_max | decimal | (19, 8) | | FALSE |
| Weight of Material(min) | weight_of_mat_min | decimal | (19, 8) | | FALSE |
| Weight of Plates(max) | weight_of_plates_max | decimal | (19, 8) | | FALSE |
| Weight of Plates(min) | weight_of_plates_min | decimal | (19, 8) | | FALSE |
| Weight of Specimen(max) | weight_of_specimen_max | decimal | (19, 8) | | FALSE |
| Weight of Specimen(min) | weight_of_specimen_min | decimal | (19, 8) | | FALSE |

### Sieve Analysis of Surface Treatment Aggregate (DB-200-ST ) ** INACTIVE **

Table Name: VALUE_DB200ST — Maximum Rows: 1

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Sphalt | asphalt_pct | decimal | (19, 8) | | FALSE |
| Dry Weight After Washing | dry_weight_after_washing | decimal | (19, 8) | | FALSE |
| Moisture | moisture_pct | decimal | (19, 8) | | FALSE |
| Original Dry Weight | orig_dry_weight | decimal | (19, 8) | | FALSE |
| Total | pan_weight | decimal | (19, 8) | | FALSE |
| Percent Difference | percent_difference | decimal | (19, 8) | | FALSE |
| Sieving Loss | sieving_loss | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | FALSE |
| Tested By | tested_by | nvarchar | 100 | CVL | FALSE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | FALSE |
| Total Weight | total_weight | decimal | (19, 8) | | FALSE |
| Type | type | nvarchar | 100 | {A, B, C, D, E, L, PA, PB, PC, PD, PE, PL} | FALSE |
| Washing Loss | washing_loss | decimal | (19, 8) | | FALSE |
| Weight Difference | weight_difference | decimal | (19, 8) | | FALSE |
| PrePan | weight_retained | decimal | (19, 8) | | FALSE |

Table Name: VALUE_DB200ST_SIEVE — Maximum Rows: 8

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Cumulative Percent Passing | cumulative_percent_passing | decimal | (19, 8) | | FALSE |
| Lower Retained Limit | lower_retained_limit | decimal | (19, 8) | | FALSE |
| Cumulative Percent Retained | percent_retained_cumulative | decimal | (19, 8) | | FALSE |
| Individual Percent Retained | percent_retained_individual | decimal | (19, 8) | | FALSE |
| Sieve Size | sieve_size | nvarchar | 100 | | FALSE |
| Upper Retained Limit | upper_retained_limit | decimal | (19, 8) | | FALSE |
| Cumulative Weight Retained | weight_retained_cumulative | decimal | (19, 8) | | FALSE |
| Individual weight Retained | weight_retained_individual | decimal | (19, 8) | | FALSE |
| Within Master Grading | within_master_grading | nvarchar | 100 | | FALSE |

### Determining Flakiness Index (DB-224-F) ** INACTIVE **

Table Name: VALUE_DB224F — Maximum Rows: 1

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Flakiness Index | flakiness_index | decimal | (19, 8) | | TRUE |
| Number of Particles | num_particles_1 | decimal | (19, 8) | | FALSE |
| Number of Particles | num_particles_2 | decimal | (19, 8) | | FALSE |
| Number of Particles | num_particles_3 | decimal | (19, 8) | | FALSE |
| Number of Particles Passing for 1/4" slot | slot_1_4 | decimal | (19, 8) | | FALSE |
| Number of Particles Passing for 3/8" slot | slot_3_8 | decimal | (19, 8) | | FALSE |
| Number of Particles Passing for 5/32" slot | slot_5_32 | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |
| Total Particles | total_particles | decimal | (19, 8) | | FALSE |
| Total Passing Particles | total_passing_particles | decimal | (19, 8) | | FALSE |

### Determining Draindown Characteristics in Bituminous Materials (DB-235-F) ** INACTIVE **

Table Name: VALUE_DB235F — Maximum Rows: 1

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Average Percent of Draindown for Two Samples | avg_pct_draindown | decimal | (19, 8) | | FALSE |
| Final Weight Plate | final_weight_plate_1 | decimal | (19, 8) | | FALSE |
| Final Weight Plate | final_weight_plate_2 | decimal | (19, 8) | | FALSE |
| Initial Sample Weight | init_sample_weight_1 | decimal | (19, 8) | | FALSE |
| Initial Sample Weight | init_sample_weight_2 | decimal | (19, 8) | | FALSE |
| Initial Weight Plate | init_weight_plate_1 | decimal | (19, 8) | | FALSE |
| Initial Weight Plate | init_weight_plate_2 | decimal | (19, 8) | | FALSE |
| Percent Of Draindown | pct_draindown_1 | decimal | (19, 8) | | FALSE |
| Percent Of Draindown | pct_draindown_2 | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | TRUE |

### Resistance To Degradation By Abrasion & Impact in Los Angeles Machine (DB-410-A) ** INACTIVE **

Table Name: VALUE_DB410A — Maximum Rows: 1

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Final Weight | final_weight | decimal | (19, 8) | | FALSE |
| Initial Weight | initial_weight | decimal | (19, 8) | | FALSE |
| La Abrasion Type | la_abrasion_type | nvarchar | 100 | CVL | FALSE |
| La Abrasion Value | la_abrasion_value | decimal | (19, 8) | | FALSE |
| Loss of Weight | loss_of_weight | decimal | (19, 8) | | FALSE |
| Number of Spheres | number_of_spheres | int | | | FALSE |
| Percent Loss | percent_loss | decimal | (19, 8) | | FALSE |
| Sieve | sieve | nvarchar | 100 | | FALSE |
| Stamp Code | stamp_code | int | | CVL | FALSE |
| Tested By | tested_by | nvarchar | 100 | CVL | FALSE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | FALSE |
| Weight of Charge | weight_of_charge | nvarchar | 100 | | FALSE |

Table Name: VALUE_DB410A_SAMPLE — Maximum Rows: 4

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Actual Weight | actual_weight | decimal | (19, 8) | | FALSE |
| Passing Sieve | passing_sieve | nvarchar | 100 | | FALSE |
| Projected Weight | projected_weight | nvarchar | 100 | | FALSE |
| Retained Sieve | retained_sieve | nvarchar | 100 | | FALSE |
| Within Range | within_range | bit | | | FALSE |

### Magnesium Sulfate Soundness (DB-411-M) ** INACTIVE **

Table Name: VALUE_DB411M — Maximum Rows: 1

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Normalized Individual Percent Retained Total | ni_pct_retained_total | decimal | (19, 8) | | FALSE |
| % Loss Total | pct_loss_total | decimal | (19, 8) | | FALSE |
| Soundness Loss | soundness_loss | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |
| Weighted Average % Loss Total | weighted_avg_pct_loss_total | decimal | (19, 8) | | FALSE |

Table Name: VALUE_DB411M_CYCLE — Maximum Rows: 5

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Cycle | cycle | nvarchar | 5 | | FALSE |
| In Oven Date | in_oven_date | smalldatetime | | MM/dd/yyyy | FALSE |
| In Oven Time In | in_oven_time_in | smalldatetime | | MM/dd/yyyy | FALSE |
| In Oven Time Out | in_oven_time_out | smalldatetime | | MM/dd/yyyy | FALSE |
| In Solution Date | in_solution_date | smalldatetime | | MM/dd/yyyy | FALSE |
| In Solution Time In | in_solution_time_in | smalldatetime | | MM/dd/yyyy | FALSE |
| In Solution Time Out | in_solution_time_out | smalldatetime | | MM/dd/yyyy | FALSE |
| Out Oven Date | out_oven_date | smalldatetime | | MM/dd/yyyy | FALSE |
| Out Oven Time In | out_oven_time_in | smalldatetime | | MM/dd/yyyy | FALSE |
| Out Oven Time Out | out_oven_time_out | smalldatetime | | MM/dd/yyyy | FALSE |
| Out Solution Date | out_solution_date | smalldatetime | | MM/dd/yyyy | FALSE |
| Out Solution Time In | out_solution_time_in | smalldatetime | | MM/dd/yyyy | FALSE |
| Out Solution Time Out | out_solution_time_out | smalldatetime | | MM/dd/yyyy | FALSE |
| Remarks | remarks | nvarchar | 250 | | FALSE |

Table Name: VALUE_DB411M_PARTICLE — Maximum Rows: 8

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Final Weight (g) | final_weight | decimal | (19, 8) | | FALSE |
| Initial Weight (g) | initial_weight | decimal | (19, 8) | | FALSE |
| Loss of Weight (g) | loss_of_weight | decimal | (19, 8) | | FALSE |
| Normalized Individual Percent Retained | ni_pct_retained | decimal | (19, 8) | | FALSE |
| % Loss | pct_loss | decimal | (19, 8) | | FALSE |
| Particle Size Range Passing | size_range_passing | nvarchar | 100 | | FALSE |
| Particle Size Range Retained | size_range_retained | nvarchar | 100 | | FALSE |
| Weighted Average % Loss | weighted_avg_pct_loss | decimal | (19, 8) | | FALSE |

### Testing Of Drilled Cores Of Portland Cement Concrete (DB-424-A, Part III) ** INACTIVE **

Table Name: VALUE_DB424A — Maximum Rows: 1

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Stamp Code | stamp_code | int | | CVL | FALSE |
| Tested By | tested_by | nvarchar | 100 | CVL | FALSE |
| Tested By - Part II | tested_by_part2 | nvarchar | 100 | CVL | FALSE |
| Tested By - Part III | tested_by_part3 | nvarchar | 100 | CVL | FALSE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | FALSE |
| Tested Date - Part II | tested_date_part2 | datetime | | MM/dd/yyyy | FALSE |
| Tested Date - Part III | tested_date_part3 | datetime | | MM/dd/yyyy | FALSE |

Table Name: VALUE_DB424A_CORE — Maximum Rows: 4

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Age (Days) | age | int | | | FALSE |
| Compressive Strength | compressive_strength1 | decimal | (19, 8) | | FALSE |
| Compressive Strength | compressive_strength2 | decimal | (19, 8) | | FALSE |
| Diameter of Core (inches) | core_diameter1 | decimal | (19, 8) | | FALSE |
| Diameter of Core (inches) | core_diameter2 | decimal | (19, 8) | | FALSE |
| Length of Core (inches) | core_length1 | decimal | (19, 8) | | FALSE |
| Length of Core (inches) | core_length2 | decimal | (19, 8) | | FALSE |
| Core Number | core_number1 | nvarchar | 100 | | FALSE |
| Core Number | core_number2 | nvarchar | 100 | | FALSE |
| Failure Type | failure_type1 | nvarchar | 100 | | FALSE |
| Failure Type | failure_type2 | nvarchar | 100 | | FALSE |
| Max Load (Lbs) | max_load1 | decimal | (19, 8) | | FALSE |
| Max Load (Lbs) | max_load2 | decimal | (19, 8) | | FALSE |

### Texture Depth By Sand Patch Method (DB-436-A) ** INACTIVE **

Table Name: VALUE_DB436A — Maximum Rows: 1

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Average Diameter | avg_diameter | decimal | (19, 8) | | FALSE |
| Diameter 1 | measurement_1 | decimal | (19, 8) | | FALSE |
| Diameter 2 | measurement_2 | decimal | (19, 8) | | FALSE |
| Diameter 3 | measurement_3 | decimal | (19, 8) | | FALSE |
| Diameter 4 | measurement_4 | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | FALSE |
| Tested By | tested_by | varchar | 200 | CVL | FALSE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | FALSE |
| Thickness | thickness | decimal | (19, 8) | | FALSE |
| Volume of Cylinder | vol_cylinder | decimal | (19, 8) | | FALSE |

### Concrete Sample - Beams (DB-448-A) ** INACTIVE **

Table Name: VALUE_DB448A — Maximum Rows: 1

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Actual Water | act_water | decimal | (19, 8) | | FALSE |
| Added Gal | added_gal | decimal | (19, 8) | | FALSE |
| Agg. Correction Factor | agg_corr_factor | decimal | (19, 8) | CVL | FALSE |
| Agg Size | agg_size | nvarchar | 100 | CVL | FALSE |
| Air Temperature | air_temp | decimal | (19, 8) | | FALSE |
| Batch Size | batch_size | decimal | (19, 8) | | FALSE |
| Batch Time | batch_time | smalldatetime | | MM/dd/yyyy | FALSE |
| Class of Concrete | class_concrete | nvarchar | 100 | CVL | FALSE |
| Concrete Temperature | concrete_temp | decimal | (19, 8) | | FALSE |
| Corrected Air Content | corrected_air_content | decimal | (19, 8) | CVL | FALSE |
| Design Water | des_water | decimal | (19, 8) | | FALSE |
| Mix ID | mix_id | nvarchar | 100 | CVL | FALSE |
| Qty Load | qty_load | decimal | (19, 8) | | FALSE |
| Req. Strength, psi | req_strength | decimal | (19, 8) | | FALSE |
| Sample Time | sample_time | smalldatetime | | MM/dd/yyyy | FALSE |
| Slump | slump | decimal | (19, 8) | CVL | FALSE |
| Specimen Dimensions | spec_dimensions | nvarchar | 100 | CVL | FALSE |
| Stamp Code | stamp_code | int | | CVL | FALSE |
| Tested By | tested_by | nvarchar | 100 | CVL | FALSE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | FALSE |
| Ticket Number | ticket_num | decimal | (19, 8) | | FALSE |
| Total Water | total_water | decimal | (19, 8) | | FALSE |
| Truck Number | truck_num | decimal | (19, 8) | | FALSE |
| Unit Weight | unit_weight | decimal | (19, 8) | | FALSE |

Table Name: VALUE_DB448A _SPECIMEN — Maximum Rows: 6

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Age | age | nvarchar | 100 | CVL | FALSE |
| Avg Depth | avg_depth | decimal | (19, 8) | | FALSE |
| Avg. Width | avg_width | decimal | (19, 8) | | FALSE |
| Correction Factor | corr_factor | decimal | (19, 8) | | FALSE |
| Max Load, lbs | max_load_psi | decimal | (19, 8) | | FALSE |
| Mod Rupture | mod_rupture | decimal | (19, 8) | | FALSE |
| Pass Fail | pass_fail | nvarchar | 100 | | FALSE |
| Specimen | specimen | nvarchar | 100 | | FALSE |
| Test Date | test_date | smalldatetime | | MM/dd/yyyy | FALSE |
| Tested By | tested_by | nvarchar | 100 | CVL | FALSE |

### Coarse Aggregate Angularity By Fractured Faces Count (DB-460-A) ** INACTIVE **

Table Name: VALUE_DB460A — Maximum Rows: 1

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Number of Particles w/ one or no FF | number_of_particles_with_one | int | | | FALSE |
| Number of Particles w/ 2 or more FF | number_of_particles_with_two | int | | | FALSE |
| Number of Questionable Particles | number_of_questionable_particles | int | | | FALSE |
| Percent Crushed Particles | percent_crushed_particles | decimal | (19, 8) | | FALSE |
| Percent Crushed Particles | percent_crushed_particles_result | decimal | (19, 8) | | TRUE |
| Sieve Size | sieve_size | nvarchar | 100 | | FALSE |
| Stamp Code | stamp_code | int | | CVL | TRUE |
| Tested By | tested_by | nvarchar | 100 | CVL | TRUE |
| Tested Date | tested_date | smalldatetime | | MM/dd/yyyy | TRUE |
| Total Number of Particles | total_number_of_particles | int | | | FALSE |

### Effect of Water On Bituminous Paving Mixtures (DB-530-C) ** INACTIVE **

Table Name: VALUE_DB530C — Maximum Rows: 1

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Estimated Percent of Stripping | est_pct_stripping | nvarchar | 100 | | FALSE |
| Stamp Code | stamp_code | int | | CVL | FALSE |
| Tested By | tested_by | nvarchar | 100 | CVL | FALSE |
| Tested Date | tested_date | datetime | | MM/dd/yyyy | FALSE |

### Determining Chloride and Sulfate Content in Soils (DB-620-J) ** INACTIVE **

Table Name: VALUE_DB620J — Maximum Rows: 1

| Field Description | Field Name | Datatype | Length | Values | Required |
|---|---|---|---|---|---|
| Chloride (CL) (PPM) | chloride_ppm | decimal | (19, 8) | | FALSE |
| Crucible + Residue Weight | crucible_residue_weight | decimal | (19, 8) | | FALSE |
| Crucible Weight | crucible_weight | decimal | (19, 8) | | FALSE |
| Ending | ending | decimal | (19, 8) | | FALSE |
| Normality of AgNO3 | normality_of_agno3 | decimal | (19, 8) | | FALSE |
| Residue Weight | residue_weight | decimal | (19, 8) | | FALSE |
| Sample Weight | sample_weight_chloride | decimal | (19, 8) | | FALSE |
| Sample Weight | sample_weight_sulfate | decimal | (19, 8) | | FALSE |
| Stamp Code | stamp_code | int | | CVL | FALSE |
| Starting | starting | decimal | (19, 8) | | FALSE |
| Sulfate (SO4) (PPM) | sulfate_ppm | decimal | (19, 8) | | FALSE |
| Tested By | tested_by | nvarchar | 100 | CVL | FALSE |
| Tested Date | tested_date | nvarchar | 100 | | FALSE |
| Total | total | decimal | (19, 8) | | FALSE |

# CQAF Sample

**File:** CQAFSample.xml
**File Type:** XML (Extensible Markup Language). The de facto standard for transferring data.
**File Description:** An example of an electronic submission that can be read into I2MS. The example provided was used for a previous project and passed the verification process for that particular project's inputs. This file can be submitted to I2MS via a web service run on I2MS using SOAP (Simple Object Access Protocol), which is a standard programming protocol by which software developers send data between systems.

# CQAF Sample

```
<?xml version='1.0' encoding='UTF-8'?>
<form name="DB-115-1" version_no="1.0" key="0020905270501151" date="2009-05-27T00:00:00" display_key="00209052705">
	<owner_name value="CQAF" />
	<security username="CQAFDataXfer" password="as9-3958$h@" />
	<header>
		<column name="sample_id" value="00209052705" />
		<column name="sampled_date" value="5/27/2009 12:00:00 AM" />
		<column name="sample_type" value="Random-Independent" />
		<column name="split_sample_id" />
		<column name="report_type" value="Original" />
		<column name="section" value="5.1" />
		<column name="sampled_by" value="Al Jones" />
		<column name="spec_year" value="2004" />
		<column name="material" value="14" />
		<column name="spec_item" value="247" />
		<column name="supplier" value="Pit" />
		<column name="special_provision" />
		<column name="structure_number" />
		<column name="grade" value="1" />
		<column name="sample_location" />
		<column name="feature" value="Mainlane" />
		<column name="course_lift" value="2" />
		<column name="station" value="342+49" />
		<column name="dist_from_cl" value="5' LT" />
		<column name="misc" />
		<column name="roadway" value="Loop 375" />
		<column name="direction" value="NB" />
	</header>
	<test name="DB-115-1">  <!-- This can be the same value as the form name. -->
		<table name="VALUE_DB115_1">
			<row>
				<column  name="determined_by_test_method"  value="DB-113-E" />
				<column name="max_dry_density_pcf" value="132.5" />
				<column name="optimum_moisture_content_pct" value="7.7" />
				<column name="density_standard" value="4200" />
				<column name="moisture_standard" value="420" />
				<column name="density_count" value="1045" />
				<column name="moisture_count" value="231" />
				<column name="probe_depth" value="10" />
				<column name="wet_density_pcf" value="140.5" />
				<column name="dry_density_pcf" value="133.5" />
				<column name="moisture_content_pct" value="5.2" />
				<column name="gauge_no" value="3242" />
				<column name="moisture_content_pct_pass_fail" />
				<column name="density_pct" value="100.7" />
				<column name="density_pct_pass_fail" />
```

# CQAF Sample

```
                        <column name="density_specification_req_max" />
                        <column name="moisture_specification_req_max" />
                        <column name="soil_desc" />
                        <column name="density_specification_req_min" value="100" />
                        <column name="moisture_specification_req_min" value="5.2" />
                        <column name="tested_by" value="Al Jones" />
                        <column name="tested_date" value="5/27/2009 12:00:00 AM" />
                        <column name="stamp_code" value="1" />
                    </row>
                </table>
            </test>
            <footer>
                <column name="remarks" />
                <column name="reviewed_by" />
                <column name="completed_date" />
                <column name="authorized_by" />
                <column name="authorized_date" />
            </footer>
</form>
```

# Web Form Validation

**File:** WebFormValidation.xsd
**File Type:** XSD (XML Schema Document). Describes a schema used for an XML document.
**File Description:** Describes elements, annotations, and documentation used in the aforementioned XML. XSD files are the standard used to describe XML file formats and are often used to assist in developing XML files with added features such as intellisense (which is an added type ahead feature used by developers).

# Web Form Validation

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema id="FormValidation" xmlns:xs="http://www.w3.org/2001/XMLSchema">
   <xs:element name="form">
      <xs:complexType>
         <xs:sequence>
            <xs:choice minOccurs="1" maxOccurs="1" id="owner">
                  <xs:annotation>
                        <xs:documentation>
                              The owner of the record must be supplied to upload successfully. The user login provided in the security element
                              must have permission to add a record for the owner as part of the validation process.

                              The record owner can be identified by a variety of properties.  In general, when submitting XML from an external source,
                              the owner_name attribute is the preferred method.
                        </xs:documentation>
                  </xs:annotation>
               <xs:element name="owner_name" minOccurs="1" maxOccurs="1">
                  <xs:annotation>
                        <xs:documentation>
                              The name of the owner of this record.  For example, "OVF" or "CQAF".
                        </xs:documentation>
                  </xs:annotation>
                  <xs:complexType>
                     <xs:attribute name="value" type="xs:string" use="required" />
                  </xs:complexType>
               </xs:element>
               <xs:element name="owner_guid" minOccurs="1" maxOccurs="1">
                  <xs:complexType>
                     <xs:attribute name="value" type="xs:string" use="required" />
                  </xs:complexType>
               </xs:element>
               <xs:element name="owner_id" minOccurs="1" maxOccurs="1">
                  <xs:complexType>
                     <xs:attribute name="value" type="xs:int" use="required" />
                  </xs:complexType>
               </xs:element>
            </xs:choice>
            <xs:element name="security" minOccurs="1" maxOccurs="1">
                  <xs:annotation>
                        <xs:documentation>
                              User login credentials must be provided to upload a record. Supply a username and password.
                        </xs:documentation>
                  </xs:annotation>
               <xs:complexType>
```

```
            <xs:attribute name="user_guid" type="xs:string" />
            <xs:attribute name="username" type="xs:string" />
            <xs:attribute name="password" type="xs:string" />
          </xs:complexType>
        </xs:element>
        <xs:element name="header" minOccurs="0" maxOccurs="1">
          <xs:annotation>
            <xs:documentation>
              The collection of header column values common to multiple forms.
            </xs:documentation>
          </xs:annotation>
          <xs:complexType>
            <xs:sequence>
              <xs:element name="column" type="ColumnType" maxOccurs="unbounded" />
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="test" minOccurs="0" maxOccurs="unbounded">
          <xs:annotation>
            <xs:documentation>
              Container element for Body Table elements, which contain the
data specific to the form type being uploaded.
              This element can be used to logically group the body tables by the
test method they represent, but it is not required to do so.
              All body table elements can be placed under one test element,
and the test name attribute is inconsequential.
            </xs:documentation>
          </xs:annotation>
          <xs:complexType>
            <xs:sequence>
              <xs:element name="table" minOccurs="1" maxOccurs="unbounded">
                <xs:annotation>
                  <xs:documentation>
                    A collection of rows of form data for a specific table.

                    The number of rows permitted for each table depends on
the form and table name. For testing forms, the number of rows allowed for each table can be
found in the I2MS Test Form Fields report.
                  </xs:documentation>
                </xs:annotation>
                <xs:complexType>
                  <xs:sequence>
                    <xs:element name="row" minOccurs="0" maxOccurs="unbounded">
                      <xs:annotation>
                        <xs:documentation>
                          A collection of body column values.
                        </xs:documentation>
                      </xs:annotation>
```

```
                                    <xs:complexType>
                                    <xs:sequence>
                                       <xs:element          name="column"          type="ColumnType"
minOccurs="0" maxOccurs="unbounded" />
                                    </xs:sequence>
                                 </xs:complexType>
                              </xs:element>
                           </xs:sequence>
                           <xs:attribute name="name" type="xs:string" use="required">
                                 <xs:annotation>
                                       <xs:documentation>
                                             The name of the body table.

                                             For testing forms, the list of supported table names
can be found in the I2MS Test Form Fields report.
                                       </xs:documentation>
                                 </xs:annotation>
                           </xs:attribute>
                        </xs:complexType>
                     </xs:element>
                  </xs:sequence>
                  <xs:attribute name="name" type="xs:string" use="required" />
               </xs:complexType>
            </xs:element>
            <xs:element name="footer" minOccurs="0" maxOccurs="1">
                  <xs:annotation>
                        <xs:documentation>
                              The collection of footer column values common to multiple forms.
                        </xs:documentation>
                  </xs:annotation>
               <xs:complexType>
                  <xs:sequence>
                     <xs:element       name="column"       type="ColumnType"       minOccurs="0"
maxOccurs="unbounded" />
                  </xs:sequence>
               </xs:complexType>
            </xs:element>
         </xs:sequence>
         <xs:attribute name="name" form="unqualified" type="xs:string" use="required" >
                  <xs:annotation>
                        <xs:documentation>
                              The short name of the I2MS form for which data is being
submitted.  This value determines the data columns that are supported and required
                              for the header, body, and footer elements.

                              For testing forms, the list of supported form names can be found
in the I2MS Test Form Fields report.
```

# Web Form Validation

The form name is the value in parentheses for each subheading under the Body Fields section.

```
                    </xs:documentation>
                </xs:annotation>
            </xs:attribute>
            <xs:attribute name="key" form="unqualified" use="required">
                <xs:annotation>
                    <xs:documentation>
                        A value representing the test record in I2MS.  This value is required to be unique for each owner (OVF/CQAF).
                        The same key is used for all revisions of the record.  To add a new revision, supply the same key with the new form data and a
                        new value for the version_no attribute.
                    </xs:documentation>
                </xs:annotation>
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:maxLength value="100"></xs:maxLength>
                    </xs:restriction>
                </xs:simpleType>
            </xs:attribute>
            <xs:attribute name="version_no" use="required">
                <xs:annotation>
                    <xs:documentation>
                        The version number of this revision within the series of revisions identified by the key attribute.
                        The revision in the series with the greatest version number will be considered the latest revision regardless of the order in which revisions were submitted to I2MS.
                        Submitting a record with the same key and version number as another record in the system is an error.
                    </xs:documentation>
                </xs:annotation>
                <xs:simpleType>
                    <xs:restriction base="xs:decimal">
                        <xs:totalDigits value="19" />
                        <xs:fractionDigits value="9" />
                    </xs:restriction>
                </xs:simpleType>
            </xs:attribute>
            <xs:attribute name="display_key">
                <xs:annotation>
                    <xs:documentation>
                        The value displayed to users as the ID value of the record (for example, Sample ID for testing forms).
                        This value is not required to be unique.
                    </xs:documentation>
                </xs:annotation>
                <xs:simpleType>
                    <xs:restriction base="xs:string">
```

```
                        <xs:maxLength value="100"></xs:maxLength>
                    </xs:restriction>
                </xs:simpleType>
            </xs:attribute>
            <xs:attribute name="version_key">
                <xs:annotation>
                    <xs:documentation>
                        An optional identifier for this revision.  For example, when submitting XML to I2MS from an external source,
                        this could be the Version ID of the record in the external system.
                    </xs:documentation>
                </xs:annotation>
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:maxLength value="100"></xs:maxLength>
                    </xs:restriction>
                </xs:simpleType>
            </xs:attribute>
            <xs:attribute name="action_name" type="xs:string">
                <xs:annotation>
                    <xs:documentation>
                        The name of a custom workflow action to execute when submitting the form.  The user login submitting the form
                        must have permissions in I2MS for the action and validation rules must pass before allowing the action.

                        When submitting XML to I2MS from an external source, this attribute should generally be omitted unless other
                        instructions have been provided.
                    </xs:documentation>
                </xs:annotation>
            </xs:attribute>
            <xs:attribute name="date" type="xs:dateTime">
                <xs:annotation>
                    <xs:documentation>
                        The value displayed to users as the date of the record (for example, Sampled Date for testing forms).
                    </xs:documentation>
                </xs:annotation>
            </xs:attribute>
        </xs:complexType>
    </xs:element>

            <xs:complexType name="ColumnType">
            <xs:attribute name="name" type="xs:string" use="required">
                <xs:annotation>
                    <xs:documentation>
                        The name of the column for which a value is being provided.
```

# Web Form Validation

For testing forms, the list of supported data columns can be found in the I2MS Test Form Fields report.

```
                    </xs:documentation>
                </xs:annotation>
            </xs:attribute>
        <xs:attribute name="value" type="xs:string" use="optional">
            <xs:annotation>
                <xs:documentation>
                    The value of the column.
                </xs:documentation>
            </xs:annotation>
        </xs:attribute>
            </xs:complexType>

</xs:schema>
```

# Form Submission Service

**File:** FormSubmissionService.wsdl
**File Type:** WSDL (Web Services Description Language). Describes a web service and its respective protocols in XML format.
**File Description:** Describes the web service used by I2MS for submitting data electronically for the purposes of Validation (i.e. Verification) and Submission. The I2MS system takes in data electronically via a web service (often via the SOAP protocol), for the purposes of verifying or submitting a test (submitted in XML format).

# Form Submission Service

```
<?xml version="1.0" encoding="utf-8"?>
<wsdl:definitions xmlns:s="http://www.w3.org/2001/XMLSchema"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/" xmlns:tns="http://tempuri.org/"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:tm="http://microsoft.com/wsdl/mime/textMatching/"
xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
targetNamespace="http://tempuri.org/" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <wsdl:types>
    <s:schema elementFormDefault="qualified" targetNamespace="http://tempuri.org/">
      <s:element name="SubmitForm">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="0" maxOccurs="1" name="xmlForm" type="s:string" />
          </s:sequence>
        </s:complexType>
      </s:element>
      <s:element name="SubmitFormResponse">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="1" maxOccurs="1" name="SubmitFormResult" type="s:int" />
          </s:sequence>
        </s:complexType>
      </s:element>
      <s:element name="ValidateForm">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="0" maxOccurs="1" name="xmlForm" type="s:string" />
          </s:sequence>
        </s:complexType>
      </s:element>
      <s:element name="ValidateFormResponse">
        <s:complexType>
          <s:sequence>
            <s:element minOccurs="0" maxOccurs="1" name="ValidateFormResult" type="s:string"
/>
          </s:sequence>
        </s:complexType>
      </s:element>
    </s:schema>
  </wsdl:types>
  <wsdl:message name="SubmitFormSoapIn">
    <wsdl:part name="parameters" element="tns:SubmitForm" />
  </wsdl:message>
  <wsdl:message name="SubmitFormSoapOut">
    <wsdl:part name="parameters" element="tns:SubmitFormResponse" />
  </wsdl:message>
```

# Form Submission Service

```
 <wsdl:message name="ValidateFormSoapIn">
   <wsdl:part name="parameters" element="tns:ValidateForm" />
  </wsdl:message>
  <wsdl:message name="ValidateFormSoapOut">
   <wsdl:part name="parameters" element="tns:ValidateFormResponse" />
  </wsdl:message>
  <wsdl:portType name="FormSubmissionServiceSoap">
   <wsdl:operation name="SubmitForm">
    <wsdl:input message="tns:SubmitFormSoapIn" />
    <wsdl:output message="tns:SubmitFormSoapOut" />
   </wsdl:operation>
   <wsdl:operation name="ValidateForm">
    <wsdl:input message="tns:ValidateFormSoapIn" />
    <wsdl:output message="tns:ValidateFormSoapOut" />
   </wsdl:operation>
  </wsdl:portType>
  <wsdl:binding                                          name="FormSubmissionServiceSoap"
type="tns:FormSubmissionServiceSoap">
   <soap:binding transport="http://schemas.xmlsoap.org/soap/http" />
   <wsdl:operation name="SubmitForm">
    <soap:operation soapAction="http://tempuri.org/SubmitForm" style="document" />
    <wsdl:input>
     <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
     <soap:body use="literal" />
    </wsdl:output>
   </wsdl:operation>
   <wsdl:operation name="ValidateForm">
    <soap:operation soapAction="http://tempuri.org/ValidateForm" style="document" />
    <wsdl:input>
     <soap:body use="literal" />
    </wsdl:input>
    <wsdl:output>
     <soap:body use="literal" />
    </wsdl:output>
   </wsdl:operation>
  </wsdl:binding>
  <wsdl:binding                                        name="FormSubmissionServiceSoap12"
type="tns:FormSubmissionServiceSoap">
   <soap12:binding transport="http://schemas.xmlsoap.org/soap/http" />
   <wsdl:operation name="SubmitForm">
    <soap12:operation soapAction="http://tempuri.org/SubmitForm" style="document" />
    <wsdl:input>
     <soap12:body use="literal" />
    </wsdl:input>
    <wsdl:output>
     <soap12:body use="literal" />
```

# Form Submission Service

```
  </wsdl:output>
   </wsdl:operation>
   <wsdl:operation name="ValidateForm">
     <soap12:operation soapAction="http://tempuri.org/ValidateForm" style="document" />
     <wsdl:input>
       <soap12:body use="literal" />
     </wsdl:input>
     <wsdl:output>
       <soap12:body use="literal" />
     </wsdl:output>
   </wsdl:operation>
  </wsdl:binding>
  <wsdl:service name="FormSubmissionService">
   <wsdl:port                                          name="FormSubmissionServiceSoap"
binding="tns:FormSubmissionServiceSoap">
     <soap:address                                                location="https://i2ms-
sh130.txdot.gov/i2ms/i2ms/formsubmissionservice.asmx" />
   </wsdl:port>
   <wsdl:port                                       name="FormSubmissionServiceSoap12"
binding="tns:FormSubmissionServiceSoap12">
     <soap12:address                                              location="https://i2ms-
sh130.txdot.gov/i2ms/i2ms/formsubmissionservice.asmx" />
   </wsdl:port>
  </wsdl:service>
</wsdl:definitions>
```