

MATERIALS SOURCE GUIDE

August 2026



CONSTRUCTION FIELD SERVICES  
DIVISION

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## Foreword

This manual has been prepared to give information and guidance to personnel associated with sampling, testing and inspection of materials used in Michigan Department of Transportation projects. Its purpose is to supplement the Materials Quality Assurance Procedures (MQAP) Manual, Hot Mix Asphalt (HMA) Production Manual, Procedures for Aggregate Inspection, Density Testing and Inspection Manual, and the Michigan Construction Manual to standardize procedures and assure adequate, uniform quality control.

Buy America certification is required for all iron/steel, manufactured products, and construction materials as defined in the contract. Please review the Special Provision for Domestic Materials, 20SP105(C) or Special Provision for Domestic Materials, Multiple Contracts Under National Environmental Policy Act Decision, 20SP105(D) available under the heading Supplemental Specifications and Special Provisions, Special Provisions – Frequently Used 2020 [here](#).

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This manual is in accordance with the 2020 Standard Specifications for Construction.

## Definitions

(References to the Materials Quality Assurance Procedures Manual-MQAP)

**Basis of Acceptance:** Refers to the method by which materials incorporated into MDOT projects are accepted. Below is a list of all the current Basis of Acceptance methods used by MDOT for acceptance of materials.

- **Visual Inspection (VI):** (See MQAP Section 1.06) Materials which may be visually inspected by MDOT personnel for acceptance or rejection. When a maximum VI limit is given for materials with another specified basis of acceptance, materials may be accepted by VI up to maximum VI quantities as indicated for that material, per item, per contract. (NOTE: All materials should be visually inspected prior to incorporation into the job without quantity limit, and may be rejected on that basis even though material may be acceptable on another basis.)
  - **Qualified Product List (QPL):** (See MQAP Section 5.01) Products that have been tested and/or evaluated by MDOT and found to meet performance and/or other specification requirements. A Qualified Products List (QPL) of these products is maintained within this document. All QPL materials must be documented per Section 5.01 of the MQAP.
- **General Certification (Gen Cert):** (See MQAP Section 2.01) When this certification is specified as the basis of acceptance in the contract documents, it must be provided in accordance with Section 2.01 of the MQAP. A general certification must include a general description of the material(s), a list of the applicable specifications (ASTM, AASHTO, MDOT or other designations as appropriate), and a statement that the material(s) conforms to these specifications.
- **Test Data Certification (Test Data Cert):** (See MQAP Section 2.01) When this certification is specified as the basis of acceptance in the Materials Acceptance Requirements Table, in addition to the requirements of a General Certification, the certification must also include laboratory test report(s) for samples obtained from the same lot(s), batch, heat, etc. of material represented by the certification and tested according to applicable specifications (ASTM, AASHTO, MDOT).
- **Approved Manufacturer (Appr Mfr):** (See MQAP Section 2.02) A manufacturer who has submitted quality control documentation and/or material samples, and has been given approval status to certify specific material(s). General Certification per the requirements of Section 2.01 of the MQAP must accompany all Approved Manufacturer shipments to either an Approved Supplier location or the MDOT project site. Strict adherence to the requirements for Certification Documentation and Distribution is required of all Approved Manufacturers.
  - **Approved Supplier:** (See MQAP Section 2.02) When Approved Manufacturer is specified as the basis of acceptance in the contract documents, the material must be supplied by the manufacturer or, without modification to the material, by an Approved Supplier. An Approved Supplier must recertify Approved Manufacturer material(s). Strict adherence to the requirements for Certification Documentation and Distribution is required of all Approved Suppliers for the recertification of material(s). All original Approved Manufacturer General Certification(s) must accompany the material(s) shipment to the MDOT project site. When Approved Manufacturer is specified, a supplier may not distribute or recertify material(s) unless they have been granted Approved Supplier status.

- Special Provision: Revisions and additions to the Standard and Supplemental Specifications applicable to an individual project. Special Provisions have been reviewed and approved for use by MDOT. Materials acceptance may be defined by these documents included in the project proposals.
- Fabrication Inspection (Fabrication Inspection): Materials subjected to Fabrication Inspection are those that are typically manufactured offsite and shipped to the project. Refer to the proper subsection of the Structural Fabrication Quality Manual (SFQM) to find the requirements of the various Fabrication Inspections currently performed by MDOT.
- Acceptance Testing (Test): Sampling and testing of a material to determine compliance with specification requirements prior to incorporation into the project. Acceptance testing is the required basis of acceptance for some materials, as indicated in the contract documents, but may be applied to all materials regardless of the basis of acceptance.

## Other Definitions

Manufacturer: A producer or fabricator of materials with control over the quality, workmanship and handling of material.

Supplier: A supplier has no control, other than through careful handling, over the quality and workmanship of material.

## Certification Documentation (See MQAP Section 2.01)

Where more than one piece of paper is included in the certification document, all pages must be numbered ( \_\_\_ of \_\_\_ ) and include Contract I.D. in order to reunite them should they become separated.

Stencil, stamp, or otherwise mark all certified material prior to delivery to a supplier or project. This mark must identify the AASHTO, ASTM, or MDOT specification that the material meets, to allow the material to be recognized and checked against the certification document.

General Certification – This documentation must consist of all of the following:

- Company name, address and contact information.
- Date the certification was produced.
- Contract number (Control Section/Job Number).
- Name of contractor.
- If material is certified by a supplier or Contractor, the manufacturer's name must be included on the certification.
- A list of all applicable specifications (ASTM, AASHTO, MDOT or other designations as appropriate) which the material is certified to meet.
- Any applicable specification modifier such as class, grade, type, etc.
- Name of material (MDOT designation and Spec Number).
- Identification markings on shipment as required by the General Materials Certification Procedures, in the Quality Assurance Procedures Manual, Section 2.01.03.B.

- A statement, signed by a responsible representative of the manufacturer, supplier, or Contractor that the material represented by the certification meets all MDOT listed specification requirements.

Test Data Certification - When this certification is specified as the basis of acceptance in the Materials Acceptance Requirements Table, in addition to the requirements of a General Certification, the following information must also be included:

- Laboratory test report(s) for samples obtained from the lot(s) of material represented by the certification and tested according to applicable specifications (ASTM, AASHTO, MDOT).

## Certification Distribution

All certification documents except those issued by Approved Manufacturers/Approved Suppliers must be distributed as follows: Submit to the Construction/Project Engineer. The Contractor is ultimately responsible for all materials documentation distribution to the Project Engineer's office.

Approved Manufacturer/Approved Supplier Certifications must follow the above distribution requirements with the addition of one a copy being mailed or emailed on the date of shipment to:

Michigan Department of Transportation  
Construction Field Services Division  
Materials Control  
P.O. Box 30049  
Lansing, Michigan 48909  
Facsimile: (517) 322-5664  
Email: [MDOT-MaterialsControl@michigan.gov](mailto:MDOT-MaterialsControl@michigan.gov)

## Certifications and Recertification

Information required on certifications may vary from one material to the next. The following examples of certification documents are only provided for reference.

### Materials Source List (See MQAP Section 1.04)

A completed and signed Materials Source List (Form 501) is required project documentation, and required for payment of associated items of work. The Materials Source List is not a substitute for other required material quality control and quality assurance documentation. Prime contractors are responsible for accurate submission of the Materials Source Lists for all materials including their subcontractors.



Enter Your Company Letterhead/Logo Here  
(Name, Address, Contact Info)

### General Certification

Date: \_\_\_\_\_ Name of Contractor: \_\_\_\_\_

Control Section/Project #: \_\_\_\_\_ Project/Job Location: \_\_\_\_\_

We certify that the following described materials/products meet the specification requirements of the Michigan Department of Transportation, ASTM, or AASHTO.

MDOT Material Name: As described in the MDOT Materials Source Guide

MDOT Spec #: As described in the MDOT Materials Source Guide

Lot #, Heat OR Identification:

Class, Grade OR Type:

Size or Weight:

Signature of Company Representative

Printed Name of Company Representative

Title of Company Representative

Distribution: Submit to the Construction/Project Engineer

Enter Your Company Letterhead/Logo Here  
(Name, Address, Contact Info)

Approved Supplier Recertification

Contract ID:

Control Section/Job #: \_\_\_\_\_ Date: \_\_\_\_\_

Contractor: \_\_\_\_\_

We certify that the following described material meets the specification requirements of the Michigan Department of Transportation for the above project and this material is certified by the manufacturers indicated below.

|                                                                     |
|---------------------------------------------------------------------|
| MDOT Material Name: As described in the MDOT Materials Source Guide |
| MDOT Spec #: As described in the MDOT Materials Source Guide        |
| Manufacturer:                                                       |
| Lot, Heat or Identification:                                        |
| Quantity:                                                           |
| MDOT Material Name: As described in the MDOT Materials Source Guide |
| MDOT Spec #: As described in the MDOT Materials Source Guide        |
| Manufacturer:                                                       |
| Lot, Heat or Identification:                                        |
| Quantity:                                                           |
| MDOT Material Name: As described in the MDOT Materials Source Guide |
| MDOT Spec #: As described in the MDOT Materials Source Guide        |
| Manufacturer:                                                       |
| Lot, Heat or Identification:                                        |
| Quantity:                                                           |

All materials furnished on this certification are of domestic origin and are in compliance with the project Domestic Materials provisions.

Signature of Company Representative

Printed Name of Company Representative

Title of Company Representative

Distribution: Submit to the Construction/Project Engineer. Submit one additional Copy mailed or emailed to Construction Field Services Division, MDOT, P.O. BOX 30049, LANSING, MI 48909, or via email to [MDOT-MaterialsControl@michigan.gov](mailto:MDOT-MaterialsControl@michigan.gov) , complete on date of material Shipment.

## Materials Acceptance Requirements Table Definitions

Sampling Frequency: (If Required) Amount of material or number of items, as defined in the Materials Acceptance Requirements Table or other contract documents, which require a sample when submitting material to the Construction Field Services Division for testing.

Size of Sample: Minimum size of sample required for testing as defined in the Materials Acceptance Requirements Table or other contract documents.

Maximum VI Quantity: Maximum amount of material which can be accepted by visual inspection for each material, per item, per project.

Remarks: Special notes pertaining to individual materials.

Special Instructions: More detailed information pertaining to particular types of materials, and referenced in "Remarks" or listed in the Materials Source Guide.

Note: When the Basis of Acceptance is not "Test", the sampling criteria provided may be used as guidance if the Project/Construction Engineer determines there may be a problem with the material and requests sampling and testing.

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| Tape, Lane Marking, Temporary .....           | 922.06A            |
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| Tie Bar Grouting Systems .....                | 603.03B2           |
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| Tower Lighting Units .....                    | 918.10A            |
| Traffic Cones .....                           | 922.03A            |
| Traffic Loop Sealant .....                    | 921.08B            |
| Treated Wood .....                            | 912.05             |
| Truss, Sign Support .....                     | 919.08             |
| Tube Railing, Galvanized .....                | 908.09B            |
| Turbidity Curtain .....                       | 916.07             |

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| Underdrain Outlet Endings ..... | 404.02C       |
| Underdrain Pipe .....           | 909.07A, B, C |

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| Warning Flashers and Lights .....                  | 922.07B        |
| Washers, Reflectorized .....                       | 908.13         |
| Water .....                                        | 911            |
| Water Main Materials .....                         | 923            |
| Water Reducing/Retarding Admixture .....           | 903.02         |
| Water Repellent, Penetrating Sealer .....          | 706.03S        |
| Waterproofing Membrane, Preformed .....            | 914.11         |
| Waterproofing Primer, Liquid Asphalt, RC 250 ..... | 904.03B        |
| Waterstop (Metallic) .....                         | 908.07, 908.08 |
| Watertight Joints .....                            | 909.03         |
| Weed Spray (Herbicides) .....                      | 917.15         |
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| Wet Reflective Optics.....                         | 920.02C        |
| Wire, Electrical Cable .....                       | 918.03         |
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| Wire, Rope .....                                   | 908.11B        |
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| Wood Fence Posts.....                              | 912.07B        |
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| Wood Posts and Lath for Silt Fence .....           | 916.02         |
| Wood Posts for Guardrail (Dimensioned Sawed) ..... | 912.08         |
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| Materials Acceptance Requirements                                                                                                                                                                                                                                                                                                  |                     |                                               |             |                     |                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------------------------|-------------|---------------------|----------------------------------------------------------------------------------------|
| See Miscellaneous area at the end of table for materials deleted from the 2020 Standard Specifications for Construction.<br>* Must be tested unless provided by an Approved Manufacturer.<br>** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                     |                                               |             |                     |                                                                                        |
| Spec. No. and Material Name                                                                                                                                                                                                                                                                                                        | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                                                |
| 401.03E<br>End Section Grate for Culverts                                                                                                                                                                                                                                                                                          | VI                  | -                                             | -           | -                   | See Standard Plans for Sizes.                                                          |
| 401.03E<br>Precast Concrete Headwalls                                                                                                                                                                                                                                                                                              | Gen Cert            | -                                             | -           | -                   | 24" or less. For larger than 24" construct per Section 706 of Standard Specifications. |
| 404.02C<br>Underdrain Outlet Endings                                                                                                                                                                                                                                                                                               | VI                  | -                                             | -           | -                   | See Standard Plans.                                                                    |
| 501.02<br>Asphalt, Release Agents                                                                                                                                                                                                                                                                                                  | VI                  | -                                             | -           | -                   |                                                                                        |
| NOTE: Must be approved by the project engineer. No fuel or oil-based agents.                                                                                                                                                                                                                                                       |                     |                                               |             |                     |                                                                                        |
| 603.03B2<br>Adhesive Systems for Grouting Dowel Bars and Tie Bars for Full-Depth Concrete Pavement Repairs                                                                                                                                                                                                                         | VI<br>See Remark    | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">603.03B2</a> ).                              |
| Note: Use for grouting to existing concrete in the same direction of traffic in the same lane as the repair. For grouting lane ties (deformed bars positioned transverse to the direction of traffic located between traffic lanes) select from Adhesive Anchor Systems for Structural Anchors and Lane Ties (712.03J).            |                     |                                               |             |                     |                                                                                        |
| 706.03K4<br>Expansion Joint Devices for Bridges                                                                                                                                                                                                                                                                                    | See Remark          | -                                             | -           | -                   | See project plans for list of approved devices and details.                            |
| 706.03S<br>Penetrating Water Repellent (Protective Coating for Concrete)                                                                                                                                                                                                                                                           | VI<br>See Remark    | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">706.03S</a> ).                               |

| Materials Acceptance Requirements                                                                                                                                                                                                                                                                                                  |                        |                                               |             |                     |                                                                                                                                                                                             |
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| Spec. No. and Material Name                                                                                                                                                                                                                                                                                                        | Basis of Acceptance    | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                                                                                     |
| 707.02<br>Bushings for Pins and Link Plates                                                                                                                                                                                                                                                                                        | VI<br>See Remark       | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">707.02</a> ).                                                                                                                                     |
| 708.01<br>Structural Prestressed Concrete Construction                                                                                                                                                                                                                                                                             | Fabrication Inspection | -                                             | -           | -                   | See Chapter 5 of the SFQM for Precast Concrete Beam Approved Supplier List. See subsection 2.2. of the SFQM for fabrication inspection procedure. <a href="#">See Special Instructions.</a> |
| 710.03D<br>Waterproofing Shotcrete                                                                                                                                                                                                                                                                                                 | VI                     | -                                             | -           | -                   |                                                                                                                                                                                             |
| 712.03A1c<br>Abrasive, Low Dusting                                                                                                                                                                                                                                                                                                 | Gen Cert               | -                                             | -           | -                   | See Section <a href="#">715.02</a> .                                                                                                                                                        |
| 712.03D<br>Epoxy Mastic                                                                                                                                                                                                                                                                                                            | VI                     | -                                             | -           | -                   |                                                                                                                                                                                             |
| 712.03J<br>Adhesive Anchor Systems for Structural Anchors and Lane Ties                                                                                                                                                                                                                                                            | VI<br>See Remark       | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">712.03J</a> ). Pull-out testing is required see MQAP Manual Section 3.03.                                                                         |
| 712.03K<br>Structure Expansion Anchors (Mechanical Expansion Anchors)                                                                                                                                                                                                                                                              | VI<br>See Remark       | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">712.03K</a> ). Pull-out testing is required see MQAP Manual Section 3.03.                                                                         |

| Materials Acceptance Requirements                                                                                                     |                     |                                               |             |                     |                                                                                                     |
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| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                     |                                               |             |                     |                                                                                                     |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                                                             |
| 712.03L<br>Mechanical Reinforcement Splicing                                                                                          | VI<br>See Remark    | 1 per project                                 | 2 splices   | -                   | See <a href="#">Special Instructions</a> . Must be a Qualified Product ( <a href="#">712.03L</a> ). |
| 712.03X<br>Grout Under Masonry Plates                                                                                                 | VI                  | -                                             | -           | -                   |                                                                                                     |
| 712.03Y<br>Embedded Galvanic Anodes                                                                                                   | VI<br>See Remark    | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">712.03Y</a> ).                                            |
| 713.02B<br>Sealant for Perimeter of Beam Repairs                                                                                      | VI<br>See Remark    | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">713.02B</a> ).                                            |
| 715.02<br>Coating Systems for New Hanger Assemblies                                                                                   | VI<br>See Remark    | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">915</a> ).                                                |
| 715.02<br>Abrasive, Low Dusting                                                                                                       | VI<br>See Remark    | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">715.02</a> ).                                             |
| 715.02<br>Abrasive, Steel Grit                                                                                                        | VI                  | -                                             | -           | -                   | Verify uniform profile after blasting of 1 to 2.8 mils per SSPC.                                    |
| 716.02<br>Abrasive, Low Dusting                                                                                                       | VI<br>See Remark    | -                                             | -           | -                   | See Section <a href="#">715.02</a> .                                                                |

| Materials Acceptance Requirements                                                                                                     |                        |                                               |             |                     |                                                                                                                                                     |
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| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                        |                                               |             |                     |                                                                                                                                                     |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance    | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                                             |
| 803.02B<br>Detectable Warning Surfaces                                                                                                | VI<br>See Remark       | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">803.02B</a> ).                                                                                            |
| 804.01<br>Glare Screen                                                                                                                | VI                     | -                                             | -           | -                   | Included in Concrete Spec.                                                                                                                          |
| 808.03C<br>Temporary Fence Materials                                                                                                  | VI                     | -                                             | -           | -                   |                                                                                                                                                     |
| 810.03O<br>Bridge Sign Connections                                                                                                    | Fabrication Inspection | -                                             | -           | -                   | See Chapter 5 of the SFQM for Steel Highway Structure Approved Suppliers List. See subsection 2.4 of the SFQM for fabrication inspection procedure. |
| 811.03D1<br>Waterborne, Liquid Pavement Marking Materials                                                                             | VI<br>See Remark       | -                                             | -           | -                   | MQAP Manual Section 5.13. Must be a Qualified Product ( <a href="#">811.03D1</a> ).                                                                 |
| 811.03D2<br>Low Temperature Waterborne, Liquid Pavement Marking Materials                                                             | VI<br>See Remark       | -                                             | -           | -                   | MQAP Manual Section 5.13. Must be a Qualified Product ( <a href="#">811.03D2</a> ).                                                                 |
| 811.03D3<br>Regular Dry Paint, Liquid Pavement Marking Materials                                                                      | VI<br>See Remark       | -                                             | -           | -                   | MQAP Manual Section 5.13. Must be a Qualified Product ( <a href="#">811.03D3</a> ).                                                                 |

| Materials Acceptance Requirements                                                                                                     |                          |                                               |             |                     |                                                                                     |
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| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                          |                                               |             |                     |                                                                                     |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance      | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                                             |
| 811.03D4<br>Cold Plastic Tape, Preformed Pavement Marking Material                                                                    | VI<br>See Remark         | -                                             | -           | -                   | MQAP Manual Section 5.14. Must be a Qualified Product ( <a href="#">811.03D4</a> ). |
| 811.03D5<br>Thermoplastic Liquid Pavement Marking Materials                                                                           | VI<br>See Remark         | -                                             | -           | -                   | MQAP Manual Section 5.13. Must be a Qualified Product ( <a href="#">811.03D5</a> ). |
| 811.03D5<br>Thermoplastic, Blocks Rumble Strips and Snowmobile Crossings                                                              | VI<br>See Remark         | -                                             | -           | -                   | MQAP Manual Section 5.13. Must be a Qualified Product ( <a href="#">811.03D5</a> ). |
| 811.03D6<br>Thermoplastic, Sprayable, Liquid Pavement Marking Materials                                                               | VI<br>See Remark         | -                                             | -           | -                   | MQAP Manual Section 5.13. Must be a Qualified Product ( <a href="#">811.03D6</a> ). |
| 811.03D7<br>Polyurea, Liquid Pavement Marking Materials                                                                               | VI<br>See Remark         | -                                             | -           | -                   | MQAP Manual Section 5.13. Must be a Qualified Product ( <a href="#">811.03D7</a> ). |
| 811.03D8<br>Modified Epoxy, Liquid Pavement Marking Materials                                                                         | VI<br>See Remark         | -                                             | -           | -                   | MQAP Manual Section 5.13. Must be a Qualified Product ( <a href="#">811.03D8</a> ). |
| 811.03D9<br>Preformed Thermoplastic, Preformed Pavement Marking Material                                                              | VI<br>See Remark         |                                               |             |                     | MQAP Manual Section 5.14. Must be a Qualified Product ( <a href="#">811.03D9</a> ). |
| 901<br>Cement                                                                                                                         | <a href="#">Appr Mfr</a> | See Remark                                    | 10 lb       | 45 ton              | <a href="#">See Special Instructions</a> , see MQAP Manual Section 2.06.            |

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| Materials Acceptance Requirements                                                                                                                                                                                                                                                                                                                 |                          |                                               |             |                     |                                                                                    |
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| Spec. No. and Material Name                                                                                                                                                                                                                                                                                                                       | Basis of Acceptance      | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                                            |
| 901.06<br>Slag Cement                                                                                                                                                                                                                                                                                                                             | <a href="#">Appr Mfr</a> | -                                             | 10 lb       | -                   | <a href="#">See Special Instructions for Cement.</a>                               |
| 901.07<br>Fly Ash, Pozzolanic Admixtures for Concrete                                                                                                                                                                                                                                                                                             | <a href="#">Appr Mfr</a> | -                                             | 10 lb       | -                   | <a href="#">See Special Instructions for Cement</a> , see MQAP Manual Section 2.07 |

| Materials Acceptance Requirements                                                                                                     |                     |                                               |             |                     |                                                                                                                                                                                                                                                                                                       |
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| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                     |                                               |             |                     |                                                                                                                                                                                                                                                                                                       |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                                                                                                                                                                                               |
| 902 Coarse Aggregates                                                                                                                 | Test                | See Remark                                    | See Remark  | See Remark          | <a href="#">See Special Instructions</a><br><br>Refer to Chapter 3 of the Procedures for Aggregate Inspection Manual for sampling and maximum visual inspection information.<br><br>See <a href="#">Current List</a> of all Prequalified Aggregate Suppliers at Construction Field Services Web Page. |
| 902 Dense-Graded Aggregates                                                                                                           | Test                | See Remark                                    | See Remark  | See Remark          |                                                                                                                                                                                                                                                                                                       |
| 902 Open-Graded Aggregates                                                                                                            | Test                | See Remark                                    | See Remark  | See Remark          |                                                                                                                                                                                                                                                                                                       |
| 902 Granular Material Class I                                                                                                         | Test                | See Remark                                    | See Remark  | See Remark          |                                                                                                                                                                                                                                                                                                       |
| 902 Granular Material Class II (Subbase), Class IIA and Class IIAA                                                                    | Test                | See Remark                                    | See Remark  | See Remark          |                                                                                                                                                                                                                                                                                                       |
| 902 Class II (Abutment B. F.)                                                                                                         | Test                | See Remark                                    | See Remark  | See Remark          |                                                                                                                                                                                                                                                                                                       |
| 902 Granular Material Class III                                                                                                       | Test                | See Remark                                    | See Remark  | See Remark          |                                                                                                                                                                                                                                                                                                       |
| 902 Granular Material Class IIIA                                                                                                      | Test                | See Remark                                    | See Remark  | See Remark          |                                                                                                                                                                                                                                                                                                       |
| 902 Fine Aggregate                                                                                                                    | Test                | See Remark                                    | See Remark  | See Remark          |                                                                                                                                                                                                                                                                                                       |
| 902 Mineral Filler for HMA Mixtures                                                                                                   | Test<br>See Remark  | 1 per project                                 | 1 qt        | 10 ton              | Refer to Section 902.11 of the 2020 Standard Specifications.                                                                                                                                                                                                                                          |
| 903.01 Air Entraining Admixtures                                                                                                      | VI<br>See Remark    | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">903.01</a> ).                                                                                                                                                                                                                                               |

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| Materials Acceptance Requirements                                                                                                                  |                     |                                               |             |                     |                                       |
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| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality.              |                     |                                               |             |                     |                                       |
| Spec. No. and Material Name                                                                                                                        | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)               |
| 903.02<br>Liquid Chemical Admixtures                                                                                                               | VI<br>See Remark    | -                                             | -           | -                   | Must be a Qualified Product (903.02). |
| 903.03<br>Latex Admixture for Concrete                                                                                                             | Appr Mfr            | 1 per lot                                     | 1 qt        | -                   |                                       |
| 903.04<br>Calcium Chloride Concrete Accelerators                                                                                                   | VI<br>See Remark    | -                                             | -           | -                   | Note the chemical composition.        |
| 903.06<br>Membrane Curing Compound                                                                                                                 | Test Data<br>Cert   | 1 per lot<br>or batch                         | 1 qt        | 200 gal             |                                       |
| NOTE: Curing compounds must not be used after ONE year from manufacture. Date of manufacture must be clearly printed on the outside of containers. |                     |                                               |             |                     |                                       |
| 903.07A<br>Interim Curing (Linseed Oil Based)                                                                                                      | Test Data<br>Cert   | 1 per lot<br>or batch                         | 1 qt        | 50 gal              | See Note for 903.06 above.            |
| 903.07C<br>Insulating Blanket                                                                                                                      | Test Data<br>Cert   | -                                             | -           | 10 sheets           |                                       |
| 903.07D<br>Polystyrene Insulation                                                                                                                  | Test Data<br>Cert   | -                                             | -           | -                   |                                       |
| 904.03A<br>Asphalt Binder for HMA Mixtures                                                                                                         | See Remark          | See Remark                                    | See Remark  | -                   | See Special Instructions.             |

| Materials Acceptance Requirements                                                                                                                                                                                                                                                                                                  |                                              |                                               |             |                     |                                                                                       |
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| Spec. No. and Material Name                                                                                                                                                                                                                                                                                                        | Basis of Acceptance                          | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                                               |
| 904.03B<br>Liquid Asphalt (MC)                                                                                                                                                                                                                                                                                                     | Gen Cert                                     | 1 per batch                                   | See Remark  | -                   | 1 gal from the top and 1 gal from the bottom of tank.                                 |
| 904.03B<br>Liquid Asphalt (RC-250)                                                                                                                                                                                                                                                                                                 | Gen Cert                                     | 1 per batch                                   | 2 qt        | 5 gal               |                                                                                       |
| 904.03C<br>Emulsified Asphalt                                                                                                                                                                                                                                                                                                      | Appr Mfr *<br>See Remark                     | See Remark                                    | See Remark  | -                   | See Special Instructions.                                                             |
| 905.03<br>Bar Reinforcement (Uncoated)                                                                                                                                                                                                                                                                                             | Appr Mfr *                                   | 1 per project per mfr per size                | See Remark  | 500 lb              | See Special Instructions.                                                             |
| 905.03<br>Bar Reinforcement (Epoxy Coated)<br>1. Bar<br>2. Epoxy Coating Companies<br>3. Epoxy Coating Material (905.03C)                                                                                                                                                                                                          | Appr Mfr *<br>Appr Mfr *<br>VI<br>See Remark | 1 per project per mfr per size                | See Note    | 500 lb              | See Special Instructions.<br><br>Epoxy Coating must be a Qualified Product (905.03C). |
| 905.03D<br>Bar Chairs and Wire Ties for Epoxy Coated Steel Reinforcement                                                                                                                                                                                                                                                           | VI                                           | -                                             | -           | -                   |                                                                                       |

| Materials Acceptance Requirements                                                                                                     |                                          |                                               |                       |                     |                                                                                                                                                                          |
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| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                                          |                                               |                       |                     |                                                                                                                                                                          |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance                      | Sample Frequency If Required by the Engineer* | Sample Size           | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                                                                  |
| 905.06<br>Welded Steel Wire Reinforcement (Mesh)                                                                                      | <a href="#">Appr Mfr *</a>               | 1 per project per mfr                         | See Remark            | 500 syd             | <a href="#">See Special Instructions.</a>                                                                                                                                |
| 905.07<br>Strand for Prestressed Concrete                                                                                             | <a href="#">Appr Mfr *</a>               | 1 per heat                                    | 2 pcs each 60 in long | -                   | <a href="#">See Special Instructions.</a>                                                                                                                                |
| 905.08<br>Tendons for Post Tensioning of Box Beams (Prestressing Strand)                                                              | <a href="#">Appr Mfr *</a><br>See Remark | 1 per heat                                    | 2 pcs each 60 in long | -                   | <a href="#">See Special Instructions.</a>                                                                                                                                |
| 905.08<br>Tendons for Post Tensioning of Box Beams (Post Tensioning Bar)                                                              | Test                                     | 1 per heat per project                        | 2 pcs each 30 in long | -                   |                                                                                                                                                                          |
| 906.04<br>Structural Steel                                                                                                            | Fabrication Inspection                   | -                                             | -                     | -                   | See subsections 2.3 and 2.4 of the SFQM for bridge steel and structural steel fabrication inspection procedures, respectively. <a href="#">See Special Instructions.</a> |
| 906.05<br>Foundation Piles (Steel H Piling and Special Sections, Steel Shells for Cast-in-Place Concrete Piles and Pile Points)       | Test Data Cert                           | -                                             | -                     | -                   |                                                                                                                                                                          |
| 906.05<br>Pile Cutoffs                                                                                                                | Gen Cert                                 | -                                             | -                     | -                   |                                                                                                                                                                          |

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| Materials Acceptance Requirements                                                                                                     |                     |                                               |                                            |                     |                                                         |
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| Spec. No. and Material Name                                                                                                           | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size                                | Maximum VI Quantity | Remarks (QPL Reference)                                 |
| 906.06<br>Steel Piles (Temporary and Permanent Steel Sheet Piling)                                                                    | Gen Cert            | -                                             | -                                          | -                   |                                                         |
| 906.07<br>High Strength Steel Bolts, Nuts, and Washers for Structural Joints                                                          | Test                | 1 per dia per length per lot per project      | 3 assemblies                               | -                   | <a href="#">See Special Instructions.</a>               |
| 906.09<br>Shear Developers (Studs)                                                                                                    | VI<br>See Remark    | -                                             | -                                          | -                   | Must be a Qualified Product ( <a href="#">906.09</a> ). |
| 907.03A – C<br>Woven Wire Fence (Woven Wire Fabric, Barbed Wire, Smooth Line Wire)                                                    | Test Data Cert      | 1 per project per mfr                         | Full width of roll<br>5 ft<br>6 ft<br>4 ft | 400 ft              |                                                         |
| 907.03D<br>Woven Wire Fence (Steel Posts)                                                                                             | Test Data Cert      | 1 per project per mfr                         | 1 post                                     | 25 posts            |                                                         |
| 907.03E<br>Woven Wire Fence (Treated Wood Posts)                                                                                      | See Remark          | -                                             | -                                          | -                   | See Section <a href="#">912.07B</a> .                   |
| 907.03F<br>Woven Wire Fence (Gates)                                                                                                   | VI                  | -                                             | -                                          | -                   |                                                         |

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| Materials Acceptance Requirements                                                                                                                                                                         |                     |                                               |                         |                     |                                                                       |
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| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality.                                                                     |                     |                                               |                         |                     |                                                                       |
| Spec. No. and Material Name                                                                                                                                                                               | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size             | Maximum VI Quantity | Remarks (QPL Reference)                                               |
| 907.04A<br>Steel Chain Link Fence (Fabric)                                                                                                                                                                | Test Data Cert      | See Remark                                    | 5 ft full width of roll | 250 ft              | 1 per height and/or mesh size, per project and 1 per mfr per project. |
| 907.04B<br>Steel Chain Link Fence (Tension Wire)                                                                                                                                                          | Gen Cert            | 1 per project per mfr                         | 3 ft                    | 500 ft              |                                                                       |
| 907.04C<br>Steel Chain Link Fence (Post for Fence and Gates), (Pedestrian Fence and Structure Fencing (Steel))                                                                                            | Test Data Cert      | 1 per project per mfr                         | 1 post                  | 25 posts            | <a href="#">See Special Instructions.</a>                             |
| Note: An alternative zinc/clear coat system will be allowed for pipe sections only. This alternative coating system shall comply with subsection 907.03D of the Standard Specifications for Construction. |                     |                                               |                         |                     |                                                                       |
| 907.04C<br>Steel Chain Link Fence (Top Rail), ((Horz. Rail) (Pedestrian Fence))                                                                                                                           | Test Data Cert      | 1 per project per mfr<br>See Remark           | 5 ft                    | 250 ft              | <a href="#">See Special Instructions.</a>                             |
| 907.04D & E<br>Steel Chain Link Fence (Gates, Fence Fittings and Hardware)                                                                                                                                | VI                  | -                                             | -                       | -                   |                                                                       |
| 907.05A<br>High Tensile Wire Fence (Wire)                                                                                                                                                                 | Test                | 1 per project per mfr                         | 3 ft                    | 250 ft              |                                                                       |

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| Materials Acceptance Requirements                                                                                                     |                        |                                               |                                 |                     |                                                                      |
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| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                        |                                               |                                 |                     |                                                                      |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance    | Sample Frequency If Required by the Engineer* | Sample Size                     | Maximum VI Quantity | Remarks (QPL Reference)                                              |
| 907.05B<br>High Tensile Wire Fence<br>(Treated Wood Posts)                                                                            | See Remark             | -                                             | -                               | -                   | See Section <a href="#">912.07B</a> .                                |
| 907.05C<br>High Tensile Wire Fence<br>(Hardware)                                                                                      | VI                     | -                                             | -                               | -                   |                                                                      |
| 907.06<br>Protective Fence                                                                                                            | VI                     | -                                             | -                               | -                   |                                                                      |
| 908<br>Castings, Manhole<br>908.03 Malleable Iron<br>908.04 Steel<br>908.05 Gray/Ductile Iron                                         | VI                     | -                                             | -                               | -                   |                                                                      |
| 908.07<br>Sheet Lead                                                                                                                  | Gen Cert               | -                                             | -                               | 25 sft              |                                                                      |
| 908.08<br>Sheet Copper                                                                                                                | Gen Cert               | 1 per consignment                             | 13 in square or equivalent area | 25 sft              | May be accepted in field if weight requirements can be documented.   |
| 908.09A<br>Tubing, Steel Railings<br>(Base Plate, Angle, and Non-Tubular Post Elements)                                               | Fabrication Inspection | -                                             | -                               | -                   | See subsection 2.4 of the SFQM for fabrication inspection procedure. |
| 908.09B<br>Tubing, Steel Railings<br>(Rail Elements and Tubular Post Elements)                                                        | Fabrication Inspection | -                                             | -                               | -                   | See subsection 2.4 of the SFQM for fabrication inspection procedure. |

| Materials Acceptance Requirements                                                                                                                                                                                                                                                                                                                 |                            |                                               |                              |                     |                                                              |
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| <p>See Miscellaneous area at the end of table for materials deleted from the 2020 Standard Specifications for Construction.</p> <p>* Must be tested unless provided by an Approved Manufacturer.</p> <p>** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality.</p> |                            |                                               |                              |                     |                                                              |
| Spec. No. and Material Name                                                                                                                                                                                                                                                                                                                       | Basis of Acceptance        | Sample Frequency If Required by the Engineer* | Sample Size                  | Maximum VI Quantity | Remarks (QPL Reference)                                      |
| 908.09C<br>Tubing, Steel Railings (Hardware)                                                                                                                                                                                                                                                                                                      | Test                       | 1 per lot per diameter per project            | 1 assembly                   | -                   | <a href="#">See Special Instructions.</a>                    |
| 908.10<br>Hardware for Timber Construction                                                                                                                                                                                                                                                                                                        | VI                         | -                                             | -                            | -                   |                                                              |
| 908.11A<br>Guardrail, Steel Beam Elements, End Sections                                                                                                                                                                                                                                                                                           | <a href="#">Appr Mfr *</a> | 1 per project per mfr                         | 1 piece at least 1 ft length | 125 ft              | Including Anchorage, Bridge, Shoes, Departing End Terminals. |
| 908.11A<br>Guardrail Approach Terminals                                                                                                                                                                                                                                                                                                           | See Remark                 | -                                             | -                            | -                   | See contract documents.                                      |
| 908.11B & C<br>B. Hardware<br><br>C. Steel Sleeves, Soil Plates, Bearing Plates, Backup Plates                                                                                                                                                                                                                                                    | VI                         | -                                             | -                            | -                   | Item supplied by guardrail supplier.                         |
| 908.11B<br>Wire Rope                                                                                                                                                                                                                                                                                                                              | Gen Cert                   | -                                             | -                            | -                   |                                                              |
| 908.12<br>Steel Posts for Beam Guardrail                                                                                                                                                                                                                                                                                                          | <a href="#">Appr Mfr *</a> | 1 per 1000 posts or fraction thereof          | 1 post                       | 25 posts            |                                                              |

| Materials Acceptance Requirements                                                                                                     |                     |                                               |                                   |                     |                                                         |
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| * Must be tested unless provided by an Approved Manufacturer.                                                                         |                     |                                               |                                   |                     |                                                         |
| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                     |                                               |                                   |                     |                                                         |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size                       | Maximum VI Quantity | Remarks (QPL Reference)                                 |
| 908.13<br>Reflective Washers                                                                                                          | VI<br>See Remark    | -                                             | -                                 | -                   | Inspect galvanizing, dimensions and type of sheeting.   |
| 908.14<br>Anchor Bolts, Nuts, and Washers                                                                                             | Test                | 1 per lot per diameter per project            | 1 assembly                        | -                   | <a href="#">See Special Instructions.</a>               |
| 908.14D<br>Anchor Bolts and Nuts for Other Purposes                                                                                   | Gen Cert            | 1 per lot per diameter per project            | 1 assembly                        | -                   | <a href="#">See Special Instructions.</a>               |
| 909.01<br>Recycled Rubber Adjusting Rings for Manholes and Drainage Castings                                                          | VI<br>See Remark    | -                                             | -                                 | -                   | Must be a Qualified Product ( <a href="#">909.01</a> ). |
| 909.03<br>Watertight Joint Systems                                                                                                    | VI<br>See Remark    | -                                             | -                                 | -                   | Must be a Qualified Product ( <a href="#">909.03</a> ). |
| 909.03<br>Gasket, Compression (O-Rings)                                                                                               | VI                  | -                                             | -                                 | -                   | Part of Watertight Joint System.                        |
| 909.03<br>Gasket, External Rubber Type                                                                                                | VI                  | 1 per lot or shipment                         | 18 in length full width of gasket | -                   | Part of Watertight Joint System.                        |

| Materials Acceptance Requirements                                                                                                                                                                                                                                                                                                                 |                                          |                                               |             |                              |                                                                                                                                                                                                                                                                                                                      |
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| Spec. No. and Material Name                                                                                                                                                                                                                                                                                                                       | Basis of Acceptance                      | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity          | Remarks (QPL Reference)                                                                                                                                                                                                                                                                                              |
| 909.04A<br>Reinforced Concrete Pipe                                                                                                                                                                                                                                                                                                               | <a href="#">Appr Mfr *</a>               | 1 percent of number of pcs of each size       | See Remark  | 5 pieces of 42 in or smaller | <a href="#">See Special Instructions.</a>                                                                                                                                                                                                                                                                            |
| 909.04B<br>Reinforced Concrete Elliptical Pipe                                                                                                                                                                                                                                                                                                    | <a href="#">Appr Mfr *</a>               | 1 percent of number of pcs of each size       | See Remark  | 5 pieces of 42 in or smaller | <a href="#">See Special Instructions.</a>                                                                                                                                                                                                                                                                            |
| 909.04C<br>Non-Reinforced Concrete Pipe                                                                                                                                                                                                                                                                                                           | <a href="#">Appr Mfr *</a>               | See Remark                                    | See Remark  | 10 pcs                       | <a href="#">See Special Instructions.</a>                                                                                                                                                                                                                                                                            |
| 909.04D<br>Precast Concrete Box Sections                                                                                                                                                                                                                                                                                                          | <a href="#">Appr Mfr *</a><br>See Remark | -                                             | -           | -                            | Spans 20 ft. and greater (measured from inside of exterior walls, parallel to the roadway centerline) require QA inspection. QA inspection may be required for spans from 10-20 ft. Box = 4 sided. See subsection 2.1 of the SFQM for fabrication inspection procedure.<br><a href="#">See Special Instructions.</a> |

| Materials Acceptance Requirements                                                                                                     |                                        |                                               |                 |                     |                                                                                                                                                                                                                                                                                                    |
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| * Must be tested unless provided by an Approved Manufacturer.                                                                         |                                        |                                               |                 |                     |                                                                                                                                                                                                                                                                                                    |
| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                                        |                                               |                 |                     |                                                                                                                                                                                                                                                                                                    |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance                    | Sample Frequency If Required by the Engineer* | Sample Size     | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                                                                                                                                                                                            |
| 909.04E<br>Precast Concrete End Section for Culverts and Sewers                                                                       | <a href="#">Appr Mfr *</a>             | 1 percent of number of pcs                    | Full size units | 10 pcs              | Strength test by coring or cylinders, VI dimensions and conditions. Test for air content. .                                                                                                                                                                                                        |
| 909.04G<br>Precast Concrete Three-Sided or Arch Culverts                                                                              | <a href="#">Appr Mfr</a><br>See Remark | -                                             | -               | -                   | Spans 20 ft. and greater (measured from inside of exterior walls, parallel to the roadway centerline) require QA inspection. QA inspection may be required for spans from 10-20 ft. See subsection 2.1 of the SFQM for fabrication inspection procedure. <a href="#">See Special Instructions.</a> |
| 909.05A<br>Corrugated Steel Pipe                                                                                                      | <a href="#">Appr Mfr *</a>             | See Remark                                    | See Remark      | -                   | <a href="#">See Special Instructions.</a>                                                                                                                                                                                                                                                          |
| 909.05A1<br>Corrugated Steel Sheets (Galvanized)                                                                                      | Gen Cert                               | See Remark                                    | See Remark      | -                   | <a href="#">See Special Instructions.</a>                                                                                                                                                                                                                                                          |
| 909.05A1<br>Polymer Coating, Galvanized Corrugated Steel Pipe                                                                         | VI<br>See Remark                       | -                                             | -               | -                   | Coating must be from Qualified Products List ( <a href="#">909.05A1</a> ).                                                                                                                                                                                                                         |
| 909.05A3<br>Coupling Bands                                                                                                            | Gen Cert                               | -                                             | -               | 5 pcs               |                                                                                                                                                                                                                                                                                                    |

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| Materials Acceptance Requirements                                                                                                     |                            |                                               |             |                             |                                                                                                                       |
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| See Miscellaneous area at the end of table for materials deleted from the 2020 Standard Specifications for Construction.              |                            |                                               |             |                             |                                                                                                                       |
| * Must be tested unless provided by an Approved Manufacturer.                                                                         |                            |                                               |             |                             |                                                                                                                       |
| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                            |                                               |             |                             |                                                                                                                       |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance        | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity         | Remarks (QPL Reference)                                                                                               |
| 909.05B<br>Corrugated Aluminum Alloy Sheet                                                                                            | Gen Cert                   | See Remark                                    | See Remark  | 25 sheets                   | <a href="#">See Special Instructions.</a>                                                                             |
| 909.05B<br>Corrugated Aluminum Alloy Pipe                                                                                             | Gen Cert                   | 1 per 1000 ft                                 | See Remark  | 250 ft                      | Sample Size: A 6 in by 3 in (minimum) section cut from the end of the pipe avoiding the seams. Do not damage coating. |
| 909.05C<br>Steel End Section                                                                                                          | Gen Cert                   | -                                             | -           | 4 pcs                       |                                                                                                                       |
| 909.05D<br>1. Steel Pipe (Jacked-in-Place)                                                                                            | Gen Cert                   | -                                             | -           | -                           | For drainage applications.                                                                                            |
| 909.05D<br>2. Casing, Steel Pipe                                                                                                      | VI                         | -                                             | -           | -                           | For drainage applications.                                                                                            |
| 909.06<br>1. Corrugated Polyethylene Pipe (CPE/HDPE), (Smooth Lined Type S)                                                           | <a href="#">Appr. Mfr*</a> | See Remark                                    | See Remark  | 100 ft                      | See MQAP Chapter 3.10.                                                                                                |
| 909.06<br>2. Corrugated Polyvinyl Chloride (CPV) Pipe                                                                                 | Test                       | 1 per 1000 ft                                 | See Remark  | 12 in. dia and over, 100 ft | Over 12 in. dia- one 10 ft and one 6 ft. length plus coupling.                                                        |

| Materials Acceptance Requirements                                                                                                     |                                                   |                                               |                         |                     |                                                                                                                                                                                |
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| * Must be tested unless provided by an Approved Manufacturer.                                                                         |                                                   |                                               |                         |                     |                                                                                                                                                                                |
| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                                                   |                                               |                         |                     |                                                                                                                                                                                |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance                               | Sample Frequency If Required by the Engineer* | Sample Size             | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                                                                        |
| 909.06<br>3. Plastic Pipe Class A, B and F Bury (CPE/HDPE & CPV)                                                                      | VI<br>See Remark                                  | -                                             | -                       | -                   | Must be a Qualified Product ( <a href="#">909.06</a> ).                                                                                                                        |
| 909.06<br>4. Smooth Polyvinyl Chloride (PVC) Pipe and Fittings for Sanitary Sewer                                                     | VI                                                | 1 per 6000 ft                                 | 1 piece, 5 ft in length | -                   | Sample must include bell end of pipe.                                                                                                                                          |
| 909.07A<br>Pipe for Underdrains<br>Smooth Perforated Plastic Pipe (PVC)                                                               | Test                                              | 1 per 2500 ft or fraction thereof             | 5 ft length             | 250 ft              | Sample must include bell end of pipe.                                                                                                                                          |
| 909.07A1<br>Pipe for Underdrains<br>Acrylonitrile-Butadiene-Styrene (ABS)                                                             | Test                                              | 1 per 6000 ft                                 | 1 piece, 6 ft in length | 600 ft              | If bell and spigot joint, sample from bell end.                                                                                                                                |
| 909.07B<br>Pipe for Underdrains<br>Corrugated Plastic Tubing (Perforated and Non-Perforated) (Wrapped and Non-Wrapped)                | <a href="#">Appr Mfr</a> *<br>4-, 6-, or 8-in dia | 1 per 5000 ft sample from coils               | See Remark              | 250 ft              | Sample Size, one 12 ft length plus coupling. For perforated tubing wrapped in fabric, tie fabric securely in place before cutting sample. Do not disturb fabric after cutting. |
| 909.07C<br>Outlet Pipe for Underdrains<br><br>1. Polyvinyl Chloride (PVC) Pipe                                                        | Test                                              | 1 per 2500 ft or fraction thereof             | 5 ft length             | 250 ft              | See 404.02C for Underdrain Outlet Endings. Sample must include bell end of pipe.                                                                                               |

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| Materials Acceptance Requirements                                                                                                     |                     |                                               |             |                                                      |                                                                                                                    |
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| See Miscellaneous area at the end of table for materials deleted from the 2020 Standard Specifications for Construction.              |                     |                                               |             |                                                      |                                                                                                                    |
| * Must be tested unless provided by an Approved Manufacturer.                                                                         |                     |                                               |             |                                                      |                                                                                                                    |
| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                     |                                               |             |                                                      |                                                                                                                    |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity                                  | Remarks (QPL Reference)                                                                                            |
| 909.07C<br>Outlet Pipe for Underdrains<br>2. Corrugated Steel Pipe                                                                    | Appr Mfr *          | See Remark                                    | See Remark  | -                                                    | See <a href="#">Special Instructions for 909.05A</a> ,. See <a href="#">404.02C</a> for Underdrain Outlet Endings. |
| 909.07C<br>Outlet Pipe for Underdrains<br>3. Corrugated Aluminum Alloy Pipe                                                           | Gen Cert            | 1 per 1000 ft                                 | 6 in x 3 in | 250 ft                                               | See <a href="#">404.02C</a> for Underdrain Outlet Endings. See <a href="#">909.05B</a> .                           |
| 909.08A<br>Bridge Deck Downspouts                                                                                                     | VI                  | -                                             | -           | -                                                    |                                                                                                                    |
| 909.08B<br>Culvert, Downspouts<br>1. Corrugated Steel Pipe                                                                            | Appr Mfr *          | See Remark                                    | See Remark  | -                                                    | See <a href="#">909.05A</a> Corrugated Steel Pipe.                                                                 |
| 909.08B<br>Culvert, Downspouts<br>2. Corrugated Aluminum Alloy Pipe                                                                   | Gen Cert            | 1 per 1000 ft                                 | 6 in x 3 in | 250 ft                                               | See <a href="#">909.05B</a> .                                                                                      |
| 909.08B<br>Culvert, Downspouts<br>3. Corrugated Polyethylene Pipe (Corrugated Type C) (CPE/HDPE)                                      | Test                | 1 per 1000 ft                                 | See Remark  | <12 in. dia up to 250 ft<br>≥12 in. dia up to 100 ft | A sample consists of one 10-foot-long piece, one 6-foot-long piece, and one coupling.                              |
| 909.08C<br>Bridge Deck Drain Extensions (Polyethylene)                                                                                | Gen Cert            | -                                             | -           | -                                                    |                                                                                                                    |

| Materials Acceptance Requirements                                                                                                     |                                      |                                               |             |                     |                                                                                                                           |
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| * Must be tested unless provided by an Approved Manufacturer.                                                                         |                                      |                                               |             |                     |                                                                                                                           |
| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                                      |                                               |             |                     |                                                                                                                           |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance                  | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                   |
| 909.09<br>Cold Applied Pipe Joint Sealer (Mastic)                                                                                     | VI                                   | 1 per shipment from a single container        | 1 qt        | -                   |                                                                                                                           |
| 909.10<br>Drainage Marker Post                                                                                                        | <a href="#">See Delineator Posts</a> | -                                             | -           | -                   |                                                                                                                           |
| 910.03A<br>Geotextile Blanket (incl. Filter Bags)                                                                                     | Test                                 | See Remark                                    | See Remark  | 500 syd             | <a href="#">See Special Instruction 910.03</a> . Anticipate up to 28 calendar days for the testing of geotextile samples. |
| 910.03A<br>Knitted Sock Pipe Wrap                                                                                                     | See Remark                           | -                                             | -           | -                   | See <a href="#">909.07B</a> Certified with Corrugated Plastic Tubing.                                                     |
| 910.03B<br>Geotextile Liner (Rip-Rap, etc.)                                                                                           | Test                                 | See Remark                                    | See Remark  | 500 syd             | <a href="#">See Special Instruction 910.03</a> . Anticipate up to 28 calendar days for the testing of geotextile samples. |
| 910.03B<br>Heavy Geotextile Liner (Rip-Rap, etc.)                                                                                     | Test                                 | See Remark                                    | See Remark  | 500 syd             | <a href="#">See Special Instruction 910.03</a> . Anticipate up to 28 calendar days for the testing of geotextile samples. |

| Materials Acceptance Requirements                                                                                                                                                                                                                                                                                                                 |                     |                                               |                                |                     |                                                                                                                                                                                                       |
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| Spec. No. and Material Name                                                                                                                                                                                                                                                                                                                       | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size                    | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                                                                                               |
| 910.03C<br>Geotextile Separator<br>(Woven, Non-woven)                                                                                                                                                                                                                                                                                             | Test                | See Remark                                    | See Remark                     | 500 syd             | <a href="#">See Special Instruction 910.03</a> . Anticipate up to 28 calendar days for the testing of geotextile samples.                                                                             |
| 910.03D<br>Stabilization Geotextile<br>(Woven, Non-woven)                                                                                                                                                                                                                                                                                         | Test                | See Remark                                    | See Remark                     | 500 syd             | <a href="#">See Special Instruction 910.03</a> . Anticipate up to 28 calendar days for the testing of geotextile samples.                                                                             |
| 910.04<br>Silt Fence Geotextile (fabric only)                                                                                                                                                                                                                                                                                                     | VI<br>See Remark    | -                                             | -                              | -                   | Must be a Qualified Product ( <a href="#">910.04</a> ). See <a href="#">916.02</a> for sampling and acceptance instructions for Silt Fence (full assembly).                                           |
| 910.05A<br>Wall Drain                                                                                                                                                                                                                                                                                                                             | Test                | 1 per 2000 ft or less                         | See Remark                     | 250 sft             | <a href="#">See Special Instruction 910.05</a> . Suppliers must provide separate samples of filter wrap geotextile and polymer core.                                                                  |
| 910.06<br>Road Grade Biaxial Geogrid                                                                                                                                                                                                                                                                                                              | Test                | 1 per lot per shipment                        | 1 pc 6 ft long full roll width | -                   | Sample must be rolled not folded. Include lot number and/or roll number, name of manufacturer, and the product or style number. Anticipate up to 28 calendar days for the testing of geogrid samples. |

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| Materials Acceptance Requirements                                                                                                     |                     |                                               |                        |                     |                                                                                                             |
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| * Must be tested unless provided by an Approved Manufacturer.                                                                         |                     |                                               |                        |                     |                                                                                                             |
| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                     |                                               |                        |                     |                                                                                                             |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size            | Maximum VI Quantity | Remarks (QPL Reference)                                                                                     |
| 911<br>Water                                                                                                                          | Test<br>See Remark  | 1 per source                                  | 1 qt                   | -                   | Water approved for drinking by the Michigan Dept of Public Health may be used without sampling and testing. |
| 912.05<br>Structural Timber and Lumber                                                                                                | Appr Mfr *          | Each Charge                                   | 22 cores<br>See Remark | -                   | 48 cores if treatment is creosote.                                                                          |
| 912.06<br>Timber Piles                                                                                                                | VI                  | -                                             | -                      | -                   |                                                                                                             |
| 912.07B<br>Treated Wood; Fence Posts, Guide Posts, Guard Posts and Mail Box Posts                                                     | VI                  | -                                             | -                      | -                   |                                                                                                             |
| 912.08<br>Wood Posts and Blocks for Guardrail and Highway Signs (Dimension Sawed)                                                     | Appr Mfr *          | Each Charge                                   | 22 cores               | -                   | Cedar post need not be treated.                                                                             |
| 912.08Q<br>Recycled Plastic or Rubber Guardrail Offset Blocks                                                                         | VI<br>See Remark    | -                                             | -                      | -                   | Must be a Qualified Product. May only be used on Steel Posts (912.08Q).                                     |
| 912.09<br>Timber for Rustic Construction                                                                                              | Gen Cert            | -                                             | -                      | -                   |                                                                                                             |

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| Materials Acceptance Requirements                                                                                                     |                     |                                               |             |                     |                                                                                                                         |
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| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                     |                                               |             |                     |                                                                                                                         |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                 |
| 913.03<br>Clay and Sand Lime Brick and Block                                                                                          | Test                | 1 per 250,000 or fraction thereof             | 6 pcs       | 1000 pcs            |                                                                                                                         |
| 913.03C<br>Concrete Brick                                                                                                             | Test Data Cert      | See Remark                                    | 6 pcs       | 1000 pcs            | 1 from each 10,000 bricks or fraction thereof; 2 from lots more than 10,000 to 100,000; 3 from each lot over 100,000.   |
| 913.05<br>Concrete Block                                                                                                              | Test Data Cert      | See Remark                                    | 4 pcs       | 1000 pcs            | One from lot of 10,000 or fraction thereof; 2 from lots more than 10,000.                                               |
| 913.06<br>Precast Reinforced Concrete Units for Drainage Structures (Tops, Risers and Sump Bases)                                     | Appr Mfr *          | 1 percent per size                            | See Remark  | 10 pcs total        | Submit QA cylinder test results and core samples. Submit sample 1-3 sq.in. from wall of unit if absorption is required. |
| 913.06<br>Precast Drainage Structure Adjusting Rings                                                                                  | Gen Cert            | -                                             | -           | -                   |                                                                                                                         |
| 913.07<br>Precast Concrete Bases, for Drainage Structures                                                                             | Appr Mfr *          | 5 percent of total                            | -           | 10 pcs total        |                                                                                                                         |
| 913.08<br>Structural Tile                                                                                                             | Test                | 1 per proj.                                   | 6 tiles     | 1000 tiles          |                                                                                                                         |

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| Materials Acceptance Requirements                                                                                                     |                     |                                               |                 |                     |                                                                                   |
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| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                     |                                               |                 |                     |                                                                                   |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size     | Maximum VI Quantity | Remarks (QPL Reference)                                                           |
| 913.09<br>Slope Pavement Blocks                                                                                                       | Appr Mfr *          | 1 per 25,000                                  | 6 blocks        | 1000 pcs            |                                                                                   |
| 914.03<br>Bituminized Fiber Joint Filler                                                                                              | Test Data Cert      | 1 per 1000 sft or fraction thereof            | 2 ft See Remark | 150 sft             | Sample for structure to be at least 5 in. wide. ¼ in. filler need not be sampled. |
| 914.03B<br>Recycled Rubber Joint Filler                                                                                               | VI                  | -                                             | -               | -                   |                                                                                   |
| 914.03C<br>Closed-Cell Polypropylene Foam                                                                                             | Test Data Cert      | 1 per 1000 sft or fraction thereof            | 2 ft See Remark | 150 sft             | Sample for structure to be at least 5 in. wide. ¼ in. filler need not be sampled. |
| 914.04A<br>Hot-Poured Joint and Crack Sealant                                                                                         | VI See Remark       | -                                             | -               | -                   | Must be a Qualified Product (914.04A).                                            |
| 914.04B<br>Backer Rod for Use with Hot-Poured Joint Sealant                                                                           | VI                  | -                                             | -               | -                   |                                                                                   |
| 914.04C<br>HMA Crack Treatment and Overband                                                                                           | VI See Remark       | -                                             | -               | -                   | Must be a Qualified Product (914.04C).                                            |
| 914.05<br>Joint Spall Repair Materials                                                                                                | See Remark          | -                                             | -               | -                   | See contract documents as applicable.                                             |

| Materials Acceptance Requirements                                                                                                     |                     |                                               |                |                     |                                                                                                                                                                                         |
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| Spec. No. and Material Name                                                                                                           | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size    | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                                                                                 |
| 914.06<br>Epoxy Resin Adhesive (Crack Injection)                                                                                      | VI<br>See Remark    | -                                             | -              | -                   | Must be a Qualified Product (914.06).                                                                                                                                                   |
| 914.07<br>Transverse Pavement Joints<br>1. Dowel Bars                                                                                 | Appr Mfr            | -                                             | 1 bar          | 1200 bars           | Bond Release Agent must be a Qualified Product (914.07A). See Special Instructions 914.07.<br><br>Field Inspection required, MQAP Manual Section 3.04. See Special Instructions 914.07. |
| 2. Dowel Baskets (Load Transfer Assemblies)                                                                                           | Appr Mfr            | -                                             | Full size unit | 100 assemblies      |                                                                                                                                                                                         |
| 914.07A<br>Coatings for Dowel Bars<br>1. Epoxy Coating Companies                                                                      | Appr Mfr *          | 1 per project per mfr                         | 1 bar          | 240 bars            | Epoxy Coating must be a Qualified Product (914.07A2).<br><br>Must be a Qualified Product (914.07A3).                                                                                    |
| 2. Epoxy Coating Material                                                                                                             | VI<br>See Remark    | -                                             | -              | -                   |                                                                                                                                                                                         |
| 3. Bond Release<br>a. Bituminous Material                                                                                             | Gen Cert            | -                                             | -              | 20 gal max          |                                                                                                                                                                                         |
| b. Alternate Bond Release Agents                                                                                                      | VI<br>See Remark    | -                                             | -              | -                   |                                                                                                                                                                                         |

| Materials Acceptance Requirements                                                                                                     |                                |                                               |             |                     |                                                                             |
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| Spec. No. and Material Name                                                                                                           | Basis of Acceptance            | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                                     |
| 914.07C<br>Dowel Bar Expansion Caps                                                                                                   | VI                             | -                                             | -           | -                   | Caps must conform to Standard Plan R-40 Series.                             |
| 914.08<br>End-of-Pour Joint Devices                                                                                                   | VI                             | -                                             | -           | -                   |                                                                             |
| 914.08<br>Deformed Bars<br>1. Bars<br>2. Epoxy Coating                                                                                | Appr Mfr *<br>VI<br>See Remark | 1 per project per mfr                         | -           | 500 lb              | Epoxy Coating must be Qualified Product (905.03C).                          |
| 914.09<br>Straight and Bent Tie Bars for Longitudinal Pavement Joints (Lane Ties)<br>1. Bars<br>2. Epoxy Coating                      | Appr Mfr *<br>VI<br>See Remark | 1 per project per mfr                         | 2 bar       | 500 lb              | Epoxy Coating must be a Qualified Product (905.03C).                        |
| 914.10<br>Bolts for Structure Expansion Anchors                                                                                       | Gen Cert                       | -                                             | -           | -                   |                                                                             |
| 914.11<br>Preformed Waterproofing Membrane and Joint Waterproofing Membrane                                                           | VI<br>See Remark               | -                                             | -           | -                   | Must be a Qualified Product (914.11). Do not use on Treated Wood Materials. |
| 914.12A<br>Elastomeric Bearings                                                                                                       | Gen Cert                       | -                                             | -           | -                   |                                                                             |

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| Materials Acceptance Requirements                                                                                                                                                      |                     |                                               |             |                     |                                                                                                                         |
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| Spec. No. and Material Name                                                                                                                                                            | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                 |
| 914.12B<br>Elastomeric Leveling Pads                                                                                                                                                   | Gen Cert            | -                                             | -           | -                   |                                                                                                                         |
| 915<br>Bridge Coating Systems                                                                                                                                                          | VI<br>See Remark    | -                                             | -           | -                   | Must be a Qualified Product (915).                                                                                      |
| 916.01A<br>Cobblestone                                                                                                                                                                 | VI                  | -                                             | -           | -                   |                                                                                                                         |
| 916.01C<br>Riprap                                                                                                                                                                      | VI                  | -                                             | -           | -                   |                                                                                                                         |
| 916.02<br>Silt Fence (full assembly)<br><br>Note: Sample to include identifying markings of fabricator. Indicate on sample ID description of markings. Note where markings were found. | Appr Mfr *          | See Remark                                    | See Remark  | 500 ft              | See Special Instructions 916.02.<br><br>See 910.04 for acceptance instructions for Silt Fence Geotextile (fabric only). |
| 916.07<br>Turbidity Curtain                                                                                                                                                            | VI                  |                                               |             |                     |                                                                                                                         |
| 917.03<br>Nursery Stock                                                                                                                                                                | VI                  | -                                             | -           | -                   |                                                                                                                         |
| 917.04<br>Balling Material                                                                                                                                                             | VI                  | -                                             | -           | -                   |                                                                                                                         |
| 917.05A<br>Wire for Bracing and Guying                                                                                                                                                 | VI                  | -                                             | -           | -                   |                                                                                                                         |
| 917.05B<br>Hose for Bracing and Guying                                                                                                                                                 | VI                  | -                                             | -           | -                   |                                                                                                                         |

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| Materials Acceptance Requirements                                                                                                     |                                           |                                               |             |                     |                                                                                                                                                                                       |
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| Spec. No. and Material Name                                                                                                           | Basis of Acceptance                       | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                                                                               |
| 917.05C<br>Stakes for Bracing and Guying                                                                                              | VI                                        | -                                             | -           | -                   |                                                                                                                                                                                       |
| 917.07<br>Compost                                                                                                                     | VI                                        | -                                             | -           | -                   |                                                                                                                                                                                       |
| 917.09<br>Chemical Fertilizer for Grass Seed                                                                                          | VI<br>See Remark                          | -                                             | -           | -                   | Provide the bag label, showing the guaranteed analysis.                                                                                                                               |
| 917.11<br>Grass Seeding Mixtures<br><br>Grass Seed Varieties                                                                          | VI<br>See Remarks<br><br>VI<br>See Remark | 1 per lot per shipment                        | 1/2 lb      | 1100 lbs            | For projects that include more than 5 acres of seeding, see Grass Seed Testing Special Provision in contract. Varieties of seed must be Qualified Product ( <a href="#">917.11</a> ). |
| 917.12<br>Sod                                                                                                                         | VI                                        | -                                             | -           | -                   |                                                                                                                                                                                       |
| 917.12A<br>Pegs for Sodding                                                                                                           | VI                                        | -                                             | -           | -                   |                                                                                                                                                                                       |
| 917.13<br>Mulching Materials for Nursery Stock                                                                                        | VI                                        | -                                             | -           | -                   | Only shredded hardwood, wood chips or wood products not allowed.                                                                                                                      |

| Materials Acceptance Requirements                                                                                                     |                     |                                               |                                       |                     |                                                                                                                                |
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| Spec. No. and Material Name                                                                                                           | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size                           | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                        |
| 917.14B1 & 2<br>High Velocity Mulch Blankets and Standard Mulch Blanket                                                               | VI<br>See Remark    | -                                             | -                                     | -                   | Must be a Qualified Product ( <a href="#">917.14B 1 &amp; 2</a> ). High velocity - netting 2 sides. Standard - netting 1 side. |
| 917.14C<br>Mulch Anchoring - Latex, Recycled Newsprint, Wood Fiber, Guar Gum, Other Tackifiers                                        | VI<br>See Remark    | -                                             | -                                     | -                   | Must be a Qualified Product ( <a href="#">917.14C</a> ).                                                                       |
| 917.15<br>Weed Control (Herbicides)                                                                                                   | Test Data Cert      | -                                             | -                                     | -                   |                                                                                                                                |
| 918.01<br>Flexible Metal Conduit                                                                                                      | VI                  | -                                             | -                                     | -                   |                                                                                                                                |
| 918.01A<br>Electrical Conduit, Rigid (Galvanized Steel)                                                                               | Gen Cert            | See Remark                                    | 6 ft, include coupling, if applicable | 400 ft              | 1 sample for 2500 ft or fraction thereof; 2 samples over 2500 to 10,000 ft; 1 sample for each additional 10,000 ft.            |
| 918.01B & C<br>Electrical Conduit (Polyvinyl Chloride) Schedule 40 and 80                                                             | Gen Cert            | See Remark                                    | 6 ft sample w/ bell end incl coupling | 400 ft              | 1 sample for 2500 ft or fraction thereof; 2 samples over 2500 to 10,000 ft; 1 sample for each additional 10,000 ft.            |

| Materials Acceptance Requirements                                                                                                     |                     |                                               |                                        |                     |                                                                                                                                                                                                           |
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| Spec. No. and Material Name                                                                                                           | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size                            | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                                                                                                   |
| 918.01D & E<br>Electrical Conduit<br>(Polyethylene/HDPE)<br>Schedule 40 and 80                                                        | Gen Cert            | See Remark                                    | See Remark                             | 400 ft              | 1 sample for 2500 ft or fraction thereof; 2 samples over 2500 to 10,000 ft; 1 sample for each additional 10,000 ft; 6 ft plus a separate section consisting of 2-18 in. long pcs. connected by the joint. |
| 918.01F<br>Electrical Conduit<br>(Rigid Fiberglass)                                                                                   | Gen Cert            | See Remark                                    | 6 ft sample w/ bell end incl. coupling | 400 ft              | 1 sample for 2500 ft or fraction thereof; 2 samples over 2500 to 10,000 ft; 1 sample for each additional 10,000 ft.                                                                                       |
| 918.02<br>Grounding System                                                                                                            | VI                  | -                                             | -                                      | -                   |                                                                                                                                                                                                           |
| 918.02C<br>Grounding Rods                                                                                                             | VI                  | -                                             | -                                      | -                   |                                                                                                                                                                                                           |
| 918.03<br>Electrical Cable                                                                                                            | Gen Cert            | -                                             | -                                      | -                   |                                                                                                                                                                                                           |
| 918.06<br>Precast Concrete Handholes and Manholes for Electrical and Telephone Connections                                            | Appr Mfr *          | 1 percent per size                            | -                                      | 10 pcs              |                                                                                                                                                                                                           |
| 918.08<br>Light Standards (Steel and Aluminum Light Standards)                                                                        | Gen Cert            | -                                             | -                                      | -                   |                                                                                                                                                                                                           |

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| Materials Acceptance Requirements                                                                                                     |                        |                                               |                                       |                     |                                                                                                                                                    |
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| Spec. No. and Material Name                                                                                                           | Basis of Acceptance    | Sample Frequency If Required by the Engineer* | Sample Size                           | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                                            |
| 918.08C<br>Light Standards, Frangible Transformer Bases                                                                               | VI<br>See Remark       | -                                             | -                                     | -                   | Must be a Qualified Product ( <a href="#">918.08C</a> ).                                                                                           |
| 918.09<br>Luminaries                                                                                                                  | Gen Cert               | -                                             | -                                     | -                   |                                                                                                                                                    |
| 918.10A<br>Tower Lighting Units                                                                                                       | Fabrication Inspection | -                                             | -                                     | -                   | See Chapter 5 of the SFQM for Steel Highway Structure Approved Supplier List. See subsection 2.4 of the SFQM for fabrication inspection procedure. |
| 918.11A<br>Guy Wire                                                                                                                   | Gen Cert               | 1 per size                                    | 3 ft                                  | -                   |                                                                                                                                                    |
| 919<br>Steel Sleeves for Wood Posts                                                                                                   | Gen Cert               | -                                             | -                                     | -                   |                                                                                                                                                    |
| 919.02<br>Signs (Permanent)                                                                                                           | See Remark             | -                                             | -                                     | -                   | General Cert must be attached and inspected at project site.                                                                                       |
| 919.02A1<br>Metal Sections (Extruded Aluminum)                                                                                        | VI<br>See Remark       | -                                             | 12 in. long and full width of section | -                   | Mill Cert must be submitted to the Project Engineer.                                                                                               |
| 919.02A2<br>Plywood                                                                                                                   | Gen Cert<br>See Remark | -                                             | -                                     | -                   | Grade mark on materials serves as certification.                                                                                                   |

| Materials Acceptance Requirements                                                                                                                                                                                                                                                                                                  |                        |                                               |                       |                                      |                                                                                                                     |
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| Spec. No. and Material Name                                                                                                                                                                                                                                                                                                        | Basis of Acceptance    | Sample Frequency If Required by the Engineer* | Sample Size           | Maximum VI Quantity                  | Remarks (QPL Reference)                                                                                             |
| 919.02A3<br>Aluminum Sheet                                                                                                                                                                                                                                                                                                         | VI<br>See Remark       | -                                             | Min. of 12 in. square | -                                    | Mill Cert must be submitted to the Project Engineer.                                                                |
| 919.02B1<br>Reflective Sheeting                                                                                                                                                                                                                                                                                                    | VI<br>See Remark       | 1 per run or lot                              | See Remark            | 1 roll, for less than 3 in. in width | Must be a Qualified Product (919.02B1) 4 pcs each 12 in. square. For rolls less than 12 in. width, at least 7.5 ft. |
| 919.02C<br>Sign Hardware                                                                                                                                                                                                                                                                                                           | Gen Cert<br>See Remark | -                                             | -                     | -                                    | Identifying marks on items may serve as certification.                                                              |
| 919.03A<br>Delineators, Aluminum Reflectors                                                                                                                                                                                                                                                                                        | Gen Cert               | 1 per shipment per color                      | 21 pcs                | 25 pcs each color                    |                                                                                                                     |
| 919.03B<br>Delineators, Reflective Sheeting Reflectors                                                                                                                                                                                                                                                                             | Gen Cert               | 1 per shipment per color                      | 2 pcs each color      | 25 pcs each color                    |                                                                                                                     |
| 919.03D<br>Delineator Posts, Steel                                                                                                                                                                                                                                                                                                 | Gen Cert               | 1 per project per mfr                         | 1 post                | 80 post                              |                                                                                                                     |
| 919.03D<br>Delineator Posts, Flexible                                                                                                                                                                                                                                                                                              | VI<br>See Remark       | -                                             | -                     | -                                    | Must be a Qualified Product (919.03D).                                                                              |

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| Materials Acceptance Requirements                                                                                                     |                        |                                               |             |                     |                                                                                                                                                    |
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| Spec. No. and Material Name                                                                                                           | Basis of Acceptance    | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                                            |
| 919.04<br>Steel, Galvanized Sign Posts                                                                                                | Test Data Cert         | 1 per project per mfr                         | See Remark  | 20 posts            | Sample 30 in. length min. length. Posts for temporary signs may be painted.                                                                        |
| 919.05<br>Wood Sign Posts                                                                                                             | Appr Mfr *             | Each charge                                   | 22 cores    | 20 posts            | See <a href="#">912.08</a> .                                                                                                                       |
| 919.06<br>Steel Column Breakaway Sign Supports                                                                                        | VI                     | -                                             | -           | -                   | Mill Cert must be submitted to the Project Engineer.                                                                                               |
| 919.07<br>Cantilever Sign Supports                                                                                                    | Fabrication Inspection | -                                             | -           | -                   | See Chapter 5 of the SFQM for Steel Highway Structure Approved Supplier List. See subsection 2.4 of the SFQM for fabrication inspection procedure. |
| 919.08<br>Truss Sign Supports                                                                                                         | Fabrication Inspection | -                                             | -           | -                   | See Chapter 5 of the SFQM for Steel Highway Structure Approved Supplier List. See subsection 2.4 of the SFQM for fabrication inspection procedure. |
| 919.10<br>Casings for Cantilever Drilled Piles                                                                                        | Gen Cert               | -                                             | -           | -                   | For Cantilever, Drilled Shaft, Strain Pole, etc. Foundations.                                                                                      |
| 920.02B<br>Standard Glass Beads                                                                                                       | Gen Cert               | 1 from each lot                               | 2 lb        | 500 lbs             |                                                                                                                                                    |

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| Materials Acceptance Requirements                                                                                                     |                     |                                               |             |                     |                                                          |
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| Spec. No. and Material Name                                                                                                           | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                  |
| 920.02C<br>Wet Reflective Optics                                                                                                      | VI<br>See Remark    | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">920.02C</a> ). |
| 921.02<br>Messenger Wire and Span Wire                                                                                                | Gen Cert            | 1 per size                                    | 3 ft        | -                   |                                                          |
| 921.03<br>Traffic Signals and Mounting Assemblies                                                                                     | Gen Cert            | -                                             | -           | -                   |                                                          |
| 921.05<br>Traffic Signal Strain Pole                                                                                                  | Gen Cert            | -                                             | -           | -                   |                                                          |
| 921.05A<br>Strain Pole Band Clamps                                                                                                    | VI<br>See Remark    | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">921.05A</a> ). |
| 921.08B<br>Traffic Loop Sealant                                                                                                       | Gen Cert            | 2 from each lot                               | Tubes       | -                   |                                                          |
| 922.02<br>Temporary Traffic Control Temporary Signs                                                                                   | See Remark          | -                                             | -           | -                   | See MQAP Manual Section 3.07.                            |
| 922.02B<br>Temporary Traffic Control Reflective Sheeting (Signs)                                                                      | See Remark          | -                                             | -           | -                   | See MQAP Manual Section 3.07.                            |
| 922.02D<br>Temporary Traffic Control Sign Covers                                                                                      | See Remark          | -                                             | -           | -                   | See MQAP Manual Section 3.07.                            |

| Materials Acceptance Requirements                                                                                                     |                              |                                               |             |                     |                                                                                                                                                                                     |
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| Spec. No. and Material Name                                                                                                           | Basis of Acceptance          | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                                                                             |
| 922.03<br>Temporary Traffic Control<br>A. Cones<br><br>B. Drums                                                                       | See Remark                   | -                                             | -           | -                   | See MQAP Manual Section 3.07.                                                                                                                                                       |
| 922.03E<br>Temporary Traffic Control<br>Type III Barricade, Reflective Sheeting                                                       | See Remark                   | -                                             | -           | -                   | See MQAP Manual Section 3.07.                                                                                                                                                       |
| 922.04<br>Temporary Traffic Control<br>Temporary Concrete Barriers (TCB)                                                              | Test Data Cert<br>See Remark | Each project                                  | -           | -                   | Contractor must provide certifications and documentation confirming the TCB provided meets the requirements of subsection 922.04.A of the Standard Specifications for Construction. |
| 922.04A<br>Barrier Reflectors<br>Temporary                                                                                            | See Remark                   | -                                             | -           | -                   | See MQAP Manual Section 3.07.                                                                                                                                                       |
| 922.04A<br>Barrier Reflectors<br>Permanent                                                                                            | VI                           | -                                             | -           | -                   |                                                                                                                                                                                     |
| 922.06A<br>Temporary Traffic Control<br>Temporary Pavement<br>Markings; Type R and NR<br>Tape                                         | VI<br>See Remark             | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">922.06A</a> ).                                                                                                                            |

| Materials Acceptance Requirements                                                                                                     |                     |                                               |                |                     |                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------------------------|----------------|---------------------|----------------------------------------------------------|
| See Miscellaneous area at the end of table for materials deleted from the 2020 Standard Specifications for Construction.              |                     |                                               |                |                     |                                                          |
| * Must be tested unless provided by an Approved Manufacturer.                                                                         |                     |                                               |                |                     |                                                          |
| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                     |                                               |                |                     |                                                          |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size    | Maximum VI Quantity | Remarks (QPL Reference)                                  |
| 922.06A2<br>Temporary Traffic Control<br>Temporary Pavement<br>Markings; Paint                                                        | VI<br>See<br>Remark | -                                             | -              | -                   | Must be a Qualified Product ( <a href="#">811.03D</a> ). |
| 922.06B<br>Temporary Traffic Control<br>Temporary Raised Pavement<br>Markers                                                          | VI<br>See<br>Remark | -                                             | -              | -                   | Must be a Qualified Product ( <a href="#">922.06B</a> ). |
| 922.06C<br>Temporary Traffic Control<br>Pavement Marking Cover                                                                        | VI<br>See<br>Remark | -                                             | -              | -                   | Must be a Qualified Product ( <a href="#">922.06C</a> ). |
| 922.06D<br>Temporary Rumble Strips<br>(Orange)                                                                                        | VI<br>See<br>Remark | -                                             | -              | -                   | See MQAP Manual Section 3.07.                            |
| 922.07A<br>Temporary Traffic Control<br>Lighted Arrows;<br>Type B and C (Solar Assist)                                                | See<br>Remark       | -                                             | -              | -                   | See MQAP Manual Section 3.07.                            |
| 922.07B<br>Temporary Traffic Control<br>Warning Flashers and Lights;<br>Type A, B, C                                                  | See<br>Remark       | Each<br>project                               | 3 each<br>type | -                   | See MQAP Manual Section 3.07.                            |
| 922.07C<br>Temporary Traffic Control<br>Portable Changeable<br>Message Signs                                                          | See<br>Remark       | -                                             | -              | -                   | See MQAP Manual Section 3.07.                            |
| 922.11<br>Temporary Traffic Control<br>Sign Paddles and Vests                                                                         | See<br>Remark       | -                                             | -              | -                   | See MQAP Manual Section 3.07.                            |

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| Materials Acceptance Requirements                                                                                                     |                     |                                               |             |                     |                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------------------------|-------------|---------------------|-----------------------------------------------------------|
| See Miscellaneous area at the end of table for materials deleted from the 2020 Standard Specifications for Construction.              |                     |                                               |             |                     |                                                           |
| * Must be tested unless provided by an Approved Manufacturer.                                                                         |                     |                                               |             |                     |                                                           |
| ** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality. |                     |                                               |             |                     |                                                           |
| Spec. No. and Material Name                                                                                                           | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size | Maximum VI Quantity | Remarks (QPL Reference)                                   |
| 922.12A<br>Temporary Traffic Control Dust Palliative<br>1. Calcium Chloride Solids                                                    | Test Data Cert      | 1 per project                                 | 5 lb        | 5000 lb             |                                                           |
| 922.12A<br>Temporary Traffic Control Dust Palliative<br>2. Calcium Chloride Solutions                                                 | Test Data Cert      | 1 per project                                 | 1 qt        | 1000 gal            |                                                           |
| 923<br>Watermain Materials                                                                                                            | Gen Cert            | -                                             | -           | 250 ft of pipe      | See contract documents as applicable.                     |
| 1005.02A<br>Standard Mortar and Grout Mixtures                                                                                        | VI                  | -                                             | -           | -                   |                                                           |
| 1005.02B<br>Non-Shrinking Mortar and Grout, Type H-1(Non-Metallic) Pre-Mixed                                                          | VI<br>See Remark    | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">1005.02B</a> ). |
| 1005.02C<br>Admixture for Expansive Grout, Type E-1                                                                                   | Test Data Cert      | -                                             | -           | -                   |                                                           |
| Note: Certification to include manufacturers recommended dosage per sack of cement.                                                   |                     |                                               |             |                     |                                                           |
| 1006<br>Prepackaged Hydraulic Fast Set Mortar                                                                                         | VI<br>See Remark    | -                                             | -           | -                   | Must be a Qualified Product ( <a href="#">1006</a> ).     |
| Misc. #2<br>Culvert, Cast and Ductile Iron                                                                                            | Gen Cert            | -                                             | -           | 250 ft              |                                                           |

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| Materials Acceptance Requirements                                                                                                                                                                                                                                                                                                                 |                     |                                               |                                         |                     |                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------------------------|-----------------------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>See Miscellaneous area at the end of table for materials deleted from the 2020 Standard Specifications for Construction.</p> <p>* Must be tested unless provided by an Approved Manufacturer.</p> <p>** When the Basis of Acceptance is not "Test", the sampling criteria below may be used when there are concerns with material quality.</p> |                     |                                               |                                         |                     |                                                                                                                                                                                              |
| Spec. No. and Material Name                                                                                                                                                                                                                                                                                                                       | Basis of Acceptance | Sample Frequency If Required by the Engineer* | Sample Size                             | Maximum VI Quantity | Remarks (QPL Reference)                                                                                                                                                                      |
| Misc. #3<br>Clay Pipe                                                                                                                                                                                                                                                                                                                             | Gen Cert            | See Remark                                    | See Remark                              | 10 pieces           | <a href="#">See Special Instructions.</a>                                                                                                                                                    |
| Misc. #5<br>Galvanized Slotted Drain Pipe                                                                                                                                                                                                                                                                                                         | VI<br>See Remark    | -                                             | -                                       | -                   | MDOT approval of Design is required. Coating thickness checked at project site.                                                                                                              |
| Misc. #8<br>Corrugated Galvanized Steel Structural Plated                                                                                                                                                                                                                                                                                         | Gen Cert            | 1 per 100 plates or fraction thereof          | 1 piece at least 3 in. by 3 in.         | 10 plates           |                                                                                                                                                                                              |
| Misc. #9<br>Aluminum Alloy Structural Plates                                                                                                                                                                                                                                                                                                      | Gen Cert            | -                                             | -                                       | -                   |                                                                                                                                                                                              |
| Misc. #13<br>Pavement Warning Strips                                                                                                                                                                                                                                                                                                              | VI                  | -                                             | -                                       | -                   |                                                                                                                                                                                              |
| Misc. #14<br>Bituminized Cotton Fabric and Fiberglass Fabric                                                                                                                                                                                                                                                                                      | Gen Cert            | See Remark                                    | 1 piece full width of roll, min of 3 ft | 5 rolls             | 1 per 100 rolls (50 sft per roll) or fraction thereof; for lots of more than 100 rolls - 1 sample plus 1 for each 500 rolls or fraction thereof.<br>Do not sample from first 3-4 ft of roll. |

\*\*\*\*\* See following pages for Special Instructions \*\*\*\*\*

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## Special Instructions

### 708.01 Prestressed Concrete

Fabrication inspection is required for all prestressed miscellaneous bridge products, prestressed straight-strand bridge beams, and prestressed deflected-strand bridge beams. The following steel components incorporated into prestressed concrete beams do not require fabrication inspection: dowel bars and sole plates.

### 712.03L Mechanical Reinforcement Splicing

The contractor must make test splices, witnessed by the Engineer, on the largest bar sizes that are to be spliced. Test splice consists of 2 pieces of reinforcing bar joined by the coupler with 20 inches of bar exposed on each end of the coupler.

### 901 Cements and Fly Ash

Samples of fly ash and slag cement must be accompanied by a sample of the Portland cement with which it is being used. The plastic lined cement sample bags furnished by the laboratory will hold 10 pounds when full.

### 902 Prequalified Aggregate Suppliers

Quality Assurance tests will be conducted by Department personnel at the frequencies stated in Chapter 3 of the MDOT Aggregate Supplier Program, found in the Procedures for Aggregate Inspection Manual.

### 904.03A Asphalt Binder for HMA Mixtures

If the Asphalt Binder is supplied from a source currently on the Approved Asphalt Binder Certifier List, a certification meeting the requirements of Section 2.04.05 of the Materials Quality Assurance Procedures Manual is required. See the contract documents for sampling, acceptance, and daily monitoring requirements.

If the binder is supplied from a source that is not currently shown in the Approved Asphalt Binder Certifier List, the asphalt binder must be sampled, tested, and approved for use prior to incorporation into the project. See contract documents for sampling, acceptance, and monitoring requirements.

See [Current List](#) of Asphalt Binder Certifiers at Construction Field Services Web Page.

Instructions to MDOT Construction web page: From MDOT home page ([michigan.gov/mdot](http://michigan.gov/mdot)), click on Business (top), then click on Construction (left side), and then click Go to Construction. The Approved Asphalt Binder Certifier List is under Resources heading.

#### 904.03C Emulsified Asphalt

Size of Sample – For CV Sampling see Section 2.05.06 of the Materials Quality Assurance Procedures Manual. For all other sampling see contract documents for criteria. Submit the samples in plastic containers only.

#### 905.03 Bar Reinforcement (Uncoated)

Sample size must be 2 pieces, one 24 in. and one 36 in. Sample ID must include the name of the bar manufacturer, lot number, and heat number. Mill Cert must be attached to the Sample ID form.

#### 905.03C Bar Reinforcement (Epoxy Coated)

Sample size must be 2 pieces, one 24 in. and one 36 in. Sample ID must include the name of the epoxy coating company, epoxy resin trade name, name of bar manufacturer, lot number, and heat number. Mill Cert must be attached to the Sample ID form. Epoxy coating must be a Qualified Product ([905.03C](#)).

#### 905.06 Welded Steel Wire Reinforcement

Sample size must be one-piece, full width of fabric with two transverse wires. Longitudinal wires must extend 6 in. to 8 in. either side of transverse wires. Sampling not required when larger wire is less than 0.13 in. (w1.5) in dia. Include on sample ID the size that the wires are supposed to be. Sample may be folded or cut into approx. 3 ft. sections. If cut, pieces should be wired together and identified. Mill Cert must be attached to the Sample ID form.

#### 905.07 Strand for Prestressed Concrete

Do not obtain sample from within 5 feet of the end of the reel. Mill Cert must be attached to the Sample ID form.

#### 905.08 Tendons for Post Tensioning of Box Beams – Prestressing Strand

Do not obtain sample from within 5 feet of the end of the reel. Mill Cert must be attached to the Sample ID form.

#### 906.04 Structural Steel

Fabrication inspection is required for all main and secondary bridge member pay items listed in 707.04.

Fabrication inspection is required for structural steel and pipe bridge railing pay items listed in 711.04.

Fabrication inspection is required for the following structural steel bridge rehabilitation pay items listed in 713.04: pin and hanger replacement, bearing stiffeners at temporary supports, retrofit structural steel, and structural steel welded repairs.

The following structural steel components do not require fabrication inspection: plate washers and pier nosing.

#### 906.07 High Strength Steel Bolts

An assembly is typically a combination of a bolt, nut, and washer but may be any combination of a bolt, nut, washer, lock washer, etc. depending on the project specifications. Mill Certs must be included for each component of the assembly and be attached to the Sample ID form. Plate washers are not required to be sampled and tested.

#### 907.04C Steel Chain Link Fence-Posts for Fence and Gates

An alternative zinc/clear coat system will be allowed for pipe sections only. This alternative coating system shall comply with subsection 907.03D of the Standard Specifications for Construction.

#### 907.04C Steel Chain Link Fence-Top Rail, Horizontal Rail

An alternative zinc/clear coat system will be allowed for pipe sections only. This alternative coating system shall comply with subsection 907.03D of the Standard Specifications for Construction.

#### 908.09C Tubing, Steel Railings (Hardware)

An assembly is typically a combination of a bolt, nut, and washer but may be any combination of a bolt, nut, washer, lock washer, etc. depending on the project specifications. Plate washers are not required to be sampled and tested.

#### 908.14 Anchor Bolts, Nuts, and Washers

An assembly is typically a combination of a bolt, nut, and washer but may be any combination of a bolt, nut, washer, lock washer, etc. depending on the project specifications. For Type C, D, E and J cantilevers, the sampling frequency is 1 assembly per heat, per diameter, per foundation, for a max of 3 per project. Full length bolts are required for testing but if the total length is less than 20", a second sample must be submitted for testing. Non MDOT

standard plan bolts require shop drawings along with a Mill Cert attached to the Sample ID form. Stainless steel anchor bolts are not required to be sample and tested. Plate washers are not required to be sampled and tested.

#### 908.14D Anchor Bolts and Nuts for Other Purposes

A General Cert is acceptable for stainless steel anchor bolts, pedestal foundations for pedestrian signals, push buttons, controller cabinets, Hawks signals and repeaters and pedestrian fencing. Anchor bolts for all other purposes require testing. An assembly is typically a combination of a bolt, nut, and washer but may be any combination of a bolt, nut, washer, lock washer, etc. depending on the project specifications. Plate washers are not required to be sampled and tested.

#### 909.04A Reinforced Concrete Pipe

##### 909.04B

Size of Sample - Full size units for strength test. For absorption tests, 26-inch square to 81-inch square in area from the wall of each piece of pipe tested.

Number of Samples - One percent of the number of pieces of each size.

Reinforced concrete pipe 42-inch diameter and larger may be tested by coring. Size of core will be 4-inch nominal diameter (but not less than 3 ¼ inches actual). Up to 1 percent of the number of pieces of pipe for each size, but not less than 3 pieces, will be selected for coring. One core will be drilled and tested from each of these test pieces. Reinforcement will be inspected prior to incorporation in the pipe.

#### 909.04C Nonreinforced Concrete Pipe

Size of Sample - Same as reinforced concrete pipe.

Number of Samples - One percent of the number of pieces, but not less than 2 pieces of each size except that at the option of the department the following sampling schedule will apply for 4 inches through 24 inches in diameter sewer pipe for quantities of 500 or more:

Sampling Schedule - Per the following:

| Concrete Pipe             | Number of Samples               |
|---------------------------|---------------------------------|
| 500 to 1,000 pieces       | 6                               |
| 1,001 to 2,000 pieces     | 8                               |
| 2,001 to 5,000 pieces     | 11                              |
| Over 5,000 pieces thereof | 2 samples per 1,000 or fraction |

#### 909.04D Precast Concrete Box Sections

The following structural steel components do not require fabrication inspection: plate washers, connection plates, and connection angles used to connect culvert segment, headwall, and wingwall.

#### 909.04G Precast Concrete Three-Sided or Arch Culverts

The following structural steel components do not require fabrication inspection: plate washers, connection plates, and connection angles used to connect culvert segment, headwall, and wingwall.

#### 909.05A Corrugated Steel Pipe

Size of Sample - A 6-inch by 3-inch (minimum) section cut from the pipe. The sample should be taken from the end of the pipe avoiding the seams. Care should be taken to assure the coating is not damaged during sampling. Mill Cert must be attached to the Sample ID form.

Number of Samples - Per the following:

| Diameter of Pipe            | Quantity Represented (maximum) |
|-----------------------------|--------------------------------|
| 12 inches or less           | 2500 ft                        |
| 15 inches through 54 inches | 1000 ft                        |
| 60 inches and over          | 500 ft                         |

Less than 5 percent of the quantity in the above table may be visually inspected.

#### 909.05A1 Corrugated Galvanized Steel Sheets

Size of Sample - One strip the full width of the sheet and 3 ½ inches in the direction of the length of the sheet. The strip may be cut from the end of the sheet for material coated in coils. If the sheets were individually coated after being cut to length, as indicated by heavy accumulations of zinc at one end, the sample strip shall be cut from the end opposite the heavy accumulation and after cutting 4 inches from the end of the sheet. Mill Cert must be attached to the Sample ID form.

Number of Samples - Per the following:

| Diameter of Pipe<br>Represented (max) | Length of Sheet           | Quantity |
|---------------------------------------|---------------------------|----------|
| 12 inches or less                     | 44 inches or less         | 2500 ft  |
| 15 through 54 inches                  | 50 to 175 inches, approx* | 1000 ft  |
| 60 inches and over                    | 190 inches and over*      | 500 ft   |

\*Larger pipe may be made from combination of shorter sheets. Less than 5 percent of the quantity in the table above may be visually inspected.

Note: Normally each heat and thickness is to be sampled. Exception may be made where quantities are limited and/or mixtures of heat numbers are excessive.

## 909.05B Corrugated Aluminum Alloy Sheets

Size of Sample - A transverse strip full width of the sheet and at least 3 inches in length cut from the end of the sheet.

Number of Samples - A sample shall be taken from each of 3 different sheets for lots weighing 5 tons or less, from 4 sheets for lots weighing more than 5 tons and less than 10 tons, and from 5 sheets for lots weighing 10 tons or more.

## 910.03 Geotextiles

Sampling Frequency - Obtain samples to represent the required quantity of geotextile according to the following schedule:

| Geotextile              | First Sample    | Additional Samples |
|-------------------------|-----------------|--------------------|
| Blanket                 | 500 to 1500 syd | 7,500 syd or less  |
| Liner for Riprap        | 500 to 1500 syd | 5,000 syd or less  |
| Separator/Stabilization | 500 to 1500 syd | 25,000 syd or less |
| Liner for Heavy Riprap  | 500 to 1500 syd | 4,000 syd or less  |

Maximum for VI - 500 syd (4500 sq ft)

Size of Sample - Sample must be a minimum of 75 sft, taken across the full roll width. For rolls over 15 ft wide, sample must be a minimum of 5 ft long, taken across the full roll width.

Geotextile samples submitted for testing must be identified with the lot number and/or roll number, the name of the manufacturer, and the product or style number.

Notes:

Geotextiles must be unwrapped one full roll circumference prior to sampling.

Geotextiles must be rolled, not folded, and shipped in a manner to prevent creases in the fabric.

## 910.05 Drainage Geocomposites

### Size of Sample –

Filter wrap geotextile sample must be a minimum of 75 sft, taken across the full roll width.

Polymer core sample must be a minimum of 6 ft long, taken across the full roll width.

Coupon of the assembled drainage geocomposite must be a minimum of 1 ft long, taken across the full roll width.

### Notes:

Manufacturers and suppliers must provide separate samples of filter wrap geotextile and polymer core for testing. These samples must be taken from the same production lot as the assembled drainage geocomposite intended for use on the project.

Include a coupon of the assembled drainage geocomposite when the separate components are submitted for testing.

Assembled coupon and component samples of the drainage geocomposite submitted for testing must be identified with the lot number and/or roll number, the name of the manufacturer, and the product or style number.

## 914.07 Load Transfer Assemblies; Dowel Baskets

Field Inspection required per Chapter 3.04 of the Materials Quality Assurance Procedures Manual. A Powerpoint in Division 602 of the Construction Manual has been created to assist with the field inspections. Form #0553 is to be used to document the inspections.

Assemblies must meet the requirements of Standard Plan, R-40-I.  
All shipments of load transfer assemblies will be accompanied by proper certification documentation.

- Certification from steel (dowel bar) manufacturer.
- Certification from epoxy coating company.
- Documentation of epoxy coating.
- Certification from assembly manufacturer.
- Documentation of bond release.

When shipment is made to a project, each bundle will bear a legible tag with the following information:

- Assembly manufacturer name and plant location.
- Control section/project number.
- Lot number or other identification that will also be shown on the accompanying certification.
- Supplier and/or contractor's name.

## 916.02 Silt Fence (full assembly)

Sampling Frequency - Obtain a sample for the first 3,000 ft or fraction thereof. Obtain subsequent samples for each additional 10,000 ft or fraction thereof.

Maximum for VI - 500 ft

Size of Sample - Sample must be a minimum of 25 ft long, taken across the full roll width. Must include at least 3 attached posts and laths.

Notes:

Silt fence must be unwrapped one full roll circumference prior to sampling. Samples must be clean and free of binding tape.

Silt fence must be tested unless provided by an Approved Manufacturer.

## Misc. #3 Clay Pipe

Normal Sampling Frequency - One percent of the number of pieces, but not less than 2 pieces of each size except that at the option of the department the following sampling schedule will apply for 4-inch through 24-inch diameter sewer pipe for quantities of 500 or more:

Sampling Schedule - Per the following:

| Clay Pipe                 | Number of Samples                       |
|---------------------------|-----------------------------------------|
| 500 to 1,000 pieces       | 6                                       |
| 1,001 to 2,000 pieces     | 8                                       |
| 2,001 to 5,000 pieces     | 11                                      |
| Over 5,000 pieces thereof | 2 samples per 1,000 or fraction thereof |

Size of Sample - Full size units for strength test. For absorption tests, 26 inches square to 82 inches square in area from the wall of each piece of pipe tested.

## Approved Suppliers

The firms listed in this section have received written permission from the Construction Field Services Division to recertify material for use on Michigan Department of Transportation projects. Supplying materials is also allowed by manufacturers listed in the Approved Manufacturers List.

When recertification of any materials is made by any firm not found on this list, please notify the Construction Field Services Division, Materials Control, immediately.

See also Section 2.02 of the Materials Quality Assurance Procedures Manual.

|                    |
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| Approved Suppliers |
|--------------------|

A.J. Rehmus & Son, Inc., Bay City, MI  
 ABC Coating Co. of Illinois, Inc., Manteno, IL  
 ABC Coating Co. of Michigan, Inc., Wyoming, MI  
 ABC Coating Co. of Minnesota, Inc., Minneapolis, MN  
 ABC Coating Co. of Oklahoma, Inc., Tulsa, OK  
 Action Traffic & Maintenance Co., Flint, MI  
 ADL Systems, Inc., Portland, MI  
 Allied Seed, L.L.C., Nampa, ID  
 Alro Steel Corporation, Alpena, MI  
 Anlaan Corporation, Grand Haven, MI  
 Art Thureson, Inc., Waterford, MI  
 Austin Morgan Companies, Clarkston, MI  
 B&R Reinforcing, Columbus, OH  
 BARNSCO, Detroit, MI  
 Bella Concrete Construction, LLC, Houghton Lake, MI  
 Boomer Construction Materials, Detroit, MI  
 Brandt Technologies LLC, Bensenville, IL  
 Burt Forest Products Co., Ann Arbor, MI  
 C & D Hughes, Inc., Charlotte, MI  
 C.A. Hull Co., Inc., Walled Lake, MI  
 Cadillac Culvert, Cadillac, MI  
 Carroll Distributing and Construction Supply, Inc. (Store 16), Wyoming, MI  
 Causie Contracting, Inc., Mason, MI  
 Central Michigan Contracting, Inc., Houghton Lake, MI  
 Chiles Michigan, Inc., Flat Rock, MI  
 Cipparrone Contracting, Inc., Southfield, MI  
 CMA Supply, South Bend, IN  
 Concrete Central Inc., Grand Rapids and Traverse City, MI  
 Core and Main LP, Canton, Mason, Shelby Twp. and Wayland, MI  
 Crawford Contracting, Inc., Mt. Pleasant, MI  
 D.J. McQuestion & Sons, Inc., LeRoy, MI  
 Dale Dukes & Sons, Inc., Big Rapids, MI  
 Davis Construction, Lansing, MI  
 Dayton Superior Corporation, Miamisburg, OH, Oregon, IL, Valparaiso, IN  
 Diane Dukes, Inc., Big Rapids, MI  
 Doan Construction, Ypsilanti, MI  
 Dornbos Sign & Safety Inc., Charlotte, MI  
 Eastlund Concrete Construction, Holt, MI  
 East Jordan Iron Works, Inc., Wyoming, MI  
 Edward R. White Contractor, Inc., Waterford, MI  
 Elsey Construction Products, Harper Woods, MI  
 Environmental Protection Products, Williamsburg, MI  
 ETNA Supply Co., Chesterfield, Flint, Grand Ledge, Grand Rapids and Holland, MI  
 ETNA Supply Co., Jackson, Kalamazoo, Mt. Pleasant and Muskegon, MI  
 ETNA Supply Co., Saginaw, Sault Ste. Marie, Springfield, Traverse City and Wixom, MI  
 ETNA Supply Co., South Bend, IN and Toledo, OH  
 Evergreen Seed Supply, Lambertville, MI  
 F and M Concrete Construction, LLC, Dimondale, MI  
 Ferguson Enterprises, Inc., Flushing, Kalamazoo, Kentwood, Lansing, and Warren, MI

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## Approved Suppliers

Firelands Supply Co., Norwalk, OH  
 Fort Wayne Contracting, Inc., Detroit, MI  
 Frederick Steel Company, Cincinnati, OH  
 Future Fence Co., Sterling Heights, MI  
 G3 Steel Group, Troy, MI  
 Geo Products, Birmingham, MI  
 Give 'Em-A-Brake Safety, Grandville, MI  
 Grant Welding Service, Grant, MI  
 Green Infrastructure Partners, Inc., Taylor, MI  
 Great Lakes Concrete Supply, Flint, MI  
 Harbor Pipe and Supply, Traverse City, MI  
 Harris Rebar, Bethlehem, PA  
 Harris Supply Solutions, Inc., Kokomo, IN  
 Hunt Brothers Concrete Contractors, Inc., Whittemore, MI  
 Hymmco, Saginaw, MI  
 Indiana Material Handling, IMH Products, Inc., Indianapolis, IN  
 InteRebar Fabricators/InteRebar Epoxy, Schererville, IN  
 J & J Contracting, Ithaca, MI  
 J & N Construction, LLC, Gaylord, MI  
 J.D. Russell Co., Utica, MI  
 JISI Group, LLC, Sterling Heights, MI  
 Jacklin Steel Supply Co., Escanaba, MI  
 Jensen Bridge and Supply Co., Grand Rapids and Sandusky, MI  
 John Deere Landscapes, Ann Arbor, and Grand Blanc, MI  
 John Deere Landscapes, Clinton and Commerce Townships, MI  
 John Deere Landscapes, Grand Rapids, Holland, and Kalamazoo, MI  
 John Deere Landscapes, Dimondale, Livonia, Madison Heights, and Saginaw, MI  
 John Deere Landscapes, Shelby Township  
 John Deere Landscapes, Taylor, and Traverse City, MI  
 Kalamazoo Forest Products, Inc., Otsego, MI  
 Kamminga & Roodvoets, Inc., Grand Rapids, MI  
 Kenmark, Inc., Buckley, MI  
 Klein Brothers Hardwood, Inc., Milford, MI  
 L.J. Construction, Inc., Clifford, MI  
 L.W. Lamb, Inc., Saugatuck, MI  
 Lane Enterprises, Inc., Carlisle, PA  
 Mack Industries, Inc., White Lake, MI  
 Manthei Development Corp., Charlevoix, MI  
 Martin J. Concrete, Inc., Coopersville, MI  
 Meadow Burke, Palisades Park, NJ  
 Metro Rebar, West Bloomfield, MI  
 Michigan Highway Signs, Flint, MI  
 Michigan Pipe and Valve, Grand Rapids, Holland, Jackson, Kalamazoo, Saginaw, MI  
 Michigan Pipe & Valve, Traverse City, MI  
 Midway Contractor Supply, Negaunee, MI  
 Midwest Pipe Coatings, Schererville, IN  
 Milbocker & Sons, Inc., Allegan, MI  
 Miller Development, Inc., Weidman, MI  
 Miller Products & Supply Company, Iron Mountain, MI

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| Approved Suppliers |
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Nashville Construction Company, Nashville, MI  
 Nationwide Fence & Supply Co., Chesterfield, MI  
 North Coast Roofing Systems, Grand Rapids, MI  
 Northern Concrete Pipe, Bay City, Charlotte, Clarkston, and Wyoming, MI; Sylvania, OH  
 Northern Construction Services Corp., Niles, MI  
 NuTek Steel, Toledo, OH  
 Nucor Rebar Fabrication Midwest, LLC, Bourbonnais, IL; Lansing, MI  
 OEM Distribution, LLC, Detroit, MI  
 Oglesby Construction, Inc., Norwalk, OH  
 Oldcastle Infrastructure, Kalamazoo, MI  
 One Supply Group, Auburn Hills, MI  
 P.K. Contracting, Inc., Lake City, MI  
 Power Line Supply Company, Reed City, MI  
 Prestress Services Industries, LLC, Decatur, IN and Mount Vernon, OH  
 Rathco Safety Supply, Inc., Portage, MI  
 Remington Construction Company, Inc., Mattawan, MI  
 Rhino Seed and Landscape Supply, Bradley and Brighton, MI  
 Rightway Fence Co., Sterling Heights, MI  
 Sanches Construction Company, Lansing, MI  
 Simcote, Inc., Saint Paul, MN and Marion, OH  
 Snowden, Inc., Escanaba, MI  
 Standale Lumber, Grandville, MI  
 StressCrete Group, Atchison, KS  
 Striker Supply, Traverse City, MI  
 Sweeney Construction Materials, Novi, MI  
 T & D Concrete Construction LLC, Mason, MI  
 Titusville Fabricators, Inc., Franklin, PA  
 Tri-Valley Landscaping, Inc., Saginaw, MI  
 Upper Peninsula Concrete Pipe Co., Escanaba, MI  
 Van Laan Construction Supply, Dutton, MI  
 Wady Industries, Maquoketa, IA  
 Watson Bowman Acme Corp., Amherst, NY  
 Weyand Bros. Inc., Saginaw, MI  
 White Cap, LP, Byron Center, Detroit, Grand Rapids, Highland, Lansing, MI  
 White Cap, LP, Madison Heights, Northville, Traverse City, and Wyoming, MI

## Approved Manufacturers

The materials in this section may be accepted for use on Michigan Department of Transportation projects on the basis of certification from the suppliers listed under specific materials.

This Approved Manufacturers List is in accordance with the 2020 Standard Specifications for Construction.

See also Section 2.02 of the Materials Quality Assurance Procedures Manual.

| Approved Manufacturers    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| Spec. # and Material Name | Approved Manufacturers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Approved Distribution Facilities (not manufacturer specific)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 901 Cement                | <p>Amrize Cement Inc. - Alpena, MI; Paulding, OH; and Bloomsdale, MO; Bath, Ontario, Canada</p> <p>Ash Grove - Chanute, KS; Mississauga, Ontario, Canada</p> <p>Buzzi Unicem USA - Chattanooga, TN; Festus MO; Greencastle, IN</p> <p>Central Plains Cement - Sugar Creek, MO</p> <p>Fairborn Cement Company - Fairborn (Xenia), OH</p> <p>Goltas Cement Company - Isparta, Turkey</p> <p>Heidelberg Materials - Logansport and Mitchell, IN; Union Bridge, Maryland; Fleetwood, PA; Picton, Ontario, Canada</p> <p>Holcim – Hammam, Dala, and Oggaz, Mascara, Algeria; Lykovrissi, Greece; Fujariah, United Arab Emirates</p> <p>Illinois Cement Co. - LaSalle, IL</p> <p>Kosmos Cement Co. – Louisville, KY</p> <p>Long Son Cement Company - Thanh Hoa Province, Vietnam</p> <p>McInnis Cement - Port Daniel-Gascons, Quebec, Canada</p> <p>Quikrete Cement – Hannibal, MO; Martinsburg, WV</p> <p>St-Lawrence Cement - Joliette, Quebec, Canada</p> <p>St. Mary's Cement, Inc. (US) - Detroit and Charlevoix, MI; Bowmanville and St. Mary's, Ontario, Canada</p> | <p>Amrize Cement Inc.- Detroit, Essexville, Muskegon, St. Joseph, Wixom and Zilwaukee, MI; Chicago, Lemont and Summit, IL; Toledo, OH; Green Bay, WI</p> <p>Ash Grove - Detroit, and Dundee, MI; Duluth, MN</p> <p>Buzzi Unicem USA - Elmira and Grandville, MI; Elkhart, IN; Joliet, IL</p> <p>High Grade Materials - Grand Rapids, MI</p> <p>Hollingshead Cement - Savannah, GA; Jacksonville, FL; Middletown, OH</p> <p>Ozinga - Chicago, IL</p> <p>St. Mary's Cement, Inc. (US) - Cleveland 1, Cleveland 2, Marysville, Newcomerstown and Toledo, OH; Ferrysburg, MI</p> <p>Stubbe's Cement - Princeton, Ontario, Canada</p> <p>Sultan Cement, LLC - Detroit, MI</p> |

| Approved Manufacturers                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| Spec. # and Material Name                              | Approved Manufacturers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Approved Distribution Facilities (not manufacturer specific)                                                                                                                                                                                                                                                                                                                                                               |
| 901.06<br>Slag Cement                                  | <p>Amrize Cement Inc. - South Chicago, IL; Beachville and Stoney Creek, Ontario, Canada</p> <p>Anshan Iron and Steel - Liaoning, China</p> <p>Ash Grove – Foreman, AR; Detroit, MI; Mississauga, Ontario, Canada</p> <p>Heidelberg Materials - Speed, IN</p> <p>Lehigh Cement Company, LLC - Middlebranch, OH</p> <p>National Cement Company – Beni Suef, Egypt</p> <p>Skyway Cement Company, LLC - Chicago, IL</p> <p>St. Mary's Cement, Inc. (US) - Charlevoix and Detroit, MI; Milwaukee, WI</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>Amrize Cement Inc. - Detroit, Essexville, Muskegon, St. Joseph, Wixom and Zilwaukee, MI; Chicago, Lemont and Summit, IL; Toledo, OH; Green Bay, WI</p> <p>Ash Grove - Dundee, MI</p> <p>High Grade Materials - Grand Rapids, MI</p> <p>Ozinga - Chicago, IL</p> <p>St. Mary's Cement, Inc. (US) - Cleveland 1, Cleveland 2, Marysville and Newcomerstown OH; Ferrysburg, MI</p> <p>Sultan Cement, LLC – Detroit, MI</p> |
| 901.07<br>Pozzolanic Admixtures (Fly Ash) for Concrete | <p>Amrize Cement Inc. - Will Co. Plant, Romeoville, IL; Elm Road Generating Station, Oak Creek, IL; Columbia, Portage, WI; Edgewater Sta. Unit 5, Sheboygan, WI; Pleasant Prairie, Kenosha, WI; Weston #3, Wausau, WI</p> <p>Charah, Inc. - Zimmer Power Station, Moscow, OH; Miami Fort Unit 7 &amp; 8, North Bend, OH</p> <p>EM Resources LLC - Monroe Power Plant, Monroe, MI; Scherer Plant, Juliette, GA; Cayuga Power Plant, Cayuga, IN; Schahfer Station, Unit 17 &amp; Unit 18, Wheatfield, IN; Labadie Power Station, Labadie, MO; Coal Creek Steam Generating Plant, Underwood, ND; Miller Power Plant, Quinton, AL</p> <p>Ozinga - Belle River Power Plant, East China, MI; Dallman Station, Springfield, IL</p> <p>Separation Technologies, LLC - Cardinal Power Plant, Brilliant, OH; Clifty Creek Power Station, Madison, IN; Longview Power Plant, Maidsville, WV</p> <p>Waste Mgmt./FlyAsh Direct - Zimmer Power Plant, Moscow, OH; Miami Fort Unit 7 &amp; 8, North Bend, OH; Avon Lake Unit 9, Cleveland, OH; Joppa Generating Station, Joppa, IL</p> | <p>Amrize Cement Inc. - Wixom, MI</p> <p>Ash Grove - Dundee, MI</p> <p>High Grade Materials - Grand Rapids, MI</p>                                                                                                                                                                                                                                                                                                         |

| Approved Manufacturers                 |                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |
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| Spec. # and Material Name              | Approved Manufacturers                                                                                                                                                                                                                                                                                                                                                                                                 | Manufacturers Location |
| 903.03<br>Latex Admixture For Concrete | Trinseo<br>BASF Corporation<br>Polytherm Systems, Inc., General<br>Tires                                                                                                                                                                                                                                                                                                                                               |                        |
| 904.03C<br>Emulsified Asphalt          | <p>See <a href="#">Current List</a> of Emulsified Asphalts at Construction Field Services Web Page.</p> <p>Instructions to Construction Field Services web page: From MDOT home page (michigan.gov/mdot), click on about MDOT (left side), then click on Highway Field Services, and then click Construction Field Services. The Approved Emulsified Asphalt Suppliers List is under Resources &amp; Publications.</p> |                        |

| Approved Manufacturers                 |                                  |                                              |
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| Spec. # and Material Name              | Approved Manufacturers           | Manufacturers Location                       |
| 905.03<br>Bar Reinforcement (Uncoated) | ABC Coating Co. of MI, Inc.      | Wyoming, MI                                  |
|                                        | ABC Coating Co. of IL, Inc.      | Manteno, IL                                  |
|                                        | ASI Alton Steel, Inc.            | Alton, IL                                    |
|                                        | BARNSCO                          | Detroit, MI                                  |
|                                        | Byer Steel (formerly A.B. Steel) | Cincinnati, OH                               |
|                                        | CMC Steel                        |                                              |
|                                        | CMC Steel Florida                | Baldwin, FL                                  |
|                                        | CMC New Jersey                   | Sayreville, NJ                               |
|                                        | CMC Steel Oklahoma               | Durant, OK                                   |
|                                        | CMC Tennessee                    | Knoxville, TN                                |
|                                        | CMC Steel Texas                  | Seguin, TX                                   |
|                                        | CMC Steel                        | Cayce, Columbia, SC                          |
|                                        | Cascade Steel Rolling Mills      | McMinnville, OR                              |
|                                        | EVRAZ Rocky Mountain Steel       | Pueblo, CO                                   |
|                                        | Great Lakes Concrete Supply      | Flint, MI                                    |
|                                        | Gerdau Ameristeel Corporation    |                                              |
|                                        | Charlotte Steel Mill Div.        | Charlotte, NC                                |
|                                        | Jackson Steel Mill Div.          | Jackson, TN                                  |
|                                        | Midlothian Steel Mill Div.       | Midlothian, TX                               |
|                                        | St. Paul Steel Mill Div.         | St. Paul, MN                                 |
|                                        | HYMMCO, LLC                      | Saginaw, MI                                  |
|                                        | Nucor Steel                      |                                              |
|                                        | Nucor Steel Auburn, Inc.         | Auburn, NY                                   |
|                                        | Nucor Steel Birmingham, Inc.     | Birmingham, AL                               |
|                                        | Nucor Steel Connecticut, Inc.    | Wallingford, CT                              |
|                                        | Nucor Steel Jackson, Inc.        | Flowood, MS                                  |
|                                        | Nucor Steel Kankakee, Inc.       | Bourbonnais, IL                              |
|                                        | Nucor Steel Marion, Inc.         | Marion, OH                                   |
|                                        | Nucor Steel Seattle, Inc.        | Seattle, WA                                  |
|                                        | Nucor Steel Sedalia, LLC         | Sedalia, MO                                  |
|                                        | Nucor Steel Texas, Inc.          | Jewett, TX                                   |
|                                        | Nucor Steel Utah, LLC            | Plymouth, UT                                 |
|                                        | Optimus Steel, LLC               | Vidor, TX                                    |
|                                        | Steel Dynamics Inc.              | Pittsboro, Columbia City, IN;<br>Roanoke, VA |
|                                        | White Cap, LP                    | Lansing and Wyoming, MI                      |

| Approved Manufacturers                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                   |
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| Spec. # and Material Name                        | Approved Manufacturers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Manufacturers Location                                                                                                                                                                                                                                                                                                                                            |
| 905.03C<br>Bar Reinforcement (Epoxy Coated)      | Great Lakes Concrete Supply<br>HYMMCO, LLC<br>Pacific Highway Products, LLC<br>White Cap, LP<br><u>Epoxy Coating Companies</u><br>ABC Coating Co.<br>ABC Coating Co. of OK, Inc.<br>ABC Coating Co. of MI, Inc.<br>ABC Coating Co. of IL, Inc.<br>ABC Coating Co. of MN, Inc.,<br>American Highway<br>CMC Rebar<br><br>Corrosion Control, Inc. (CCI)<br>Harris Rebar<br>Lane Enterprise, Epoxy Coating Div.<br>Midwest Pipe Coatings<br>Nucor Rebar Fabrication Midwest, LLC<br>Simcote<br>Simcote<br>Simcote<br>Titusville Fabricators, Inc.<br>Wady Industries, Inc. | Flint, MI<br>Saginaw, MI<br>Marion, OH<br>Lansing and Wyoming, MI<br><br>Tulsa, OK<br>Wyoming, MI<br>Manteno, IL<br>Roseville, MN<br>Kankakee, IL<br>Kankakee, IL; Knoxville, TN;<br>Waxahachie, TX<br>Auburn, NY<br>Bethlehem, PA<br>Carlisle, PA<br>Schereville, IN<br><br>Bourbonnais, IL<br><br>Saint Paul, MN<br>Marion, OH<br>Franklin, PA<br>Maquoketa, IA |
| 905.06<br>Welded Steel Wire Reinforcement (Mesh) | Hallett Wire Products Co.<br>Insteel Wire Products<br><br><br>Iowa Steel & Wire<br>National Wire, LLC<br>Numesh<br>Nucor Steel Connecticut, Inc.<br>Oklahoma Steel & Wire Co. Inc.<br>Structural Reinforcement Products Inc.<br>Tatano Wire Products LLC<br>Wire Mesh Corporation (WMC) -<br>Nelson Wire and Steel, LLC                                                                                                                                                                                                                                                | Kingman, AZ; Jacksonville, FL; Hickman, KY; St Joseph, MO; Mt Airy, NC; Upper Sandusky, OH; Hazelton, PA; Gallatin, TN; Dayton, TX<br>Centerville, IA<br>Conroe, TX<br>Glen Falls, NY<br>Wallingford, CT<br>Madill, OK<br>Hazelton, PA<br><br>Lemont Furnace, PA<br>Oglesby, IL; Jacksonville, FL<br>New Salem, PA                                                |

| Approved Manufacturers                                                                                               |                                                                                                                                                                                                       |                                                                                                                                                                                    |
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| Spec. # and Material Name                                                                                            | Approved Manufacturers                                                                                                                                                                                | Manufacturers Location                                                                                                                                                             |
| 905.07<br>Strand for Prestressed Concrete                                                                            | Bekaert Corporation<br>Insteel Wire Products<br><br>Kiswire, Inc.<br>Liberty Strand Tech Manufacturing, Inc.<br>RettCo Steel, LLC<br>Sumiden Wire Products Corporation<br>Wire Mesh Corporation (WMC) | Van Buren, AR<br>Sanderson, FL; Gallatin, TN;<br>Houston, TX<br>Newberry, SC<br><br>Summerville, SC<br><br>Newnan, GA<br>Stockton, CA; Dickson, TN<br>St. Matthews, SC; Conroe, TX |
| 905.08<br>Tendons for Lateral Post<br>Tensioning                                                                     |                                                                                                                                                                                                       |                                                                                                                                                                                    |
| 908.11A<br>Guardrail, Steel Beam<br>Elements, Anchorage, Bridge,<br>Shoes, Departing End Terminals<br>(End Sections) | Contech Engineered Solutions, LLC<br>Gregory Highway Products<br>Highway Safety Corporation<br>IMH Products, Inc.<br>R.G. Steel Corporation<br>SPIG Industry LLC<br>Valtir, LLC                       | Glastonbury, CT<br>Indianapolis, IN<br>Pulaski, PA<br>Abingdon, VA<br>Lima, OH                                                                                                     |
| 908.12<br>Steel Posts for Beam Guardrail                                                                             | Contech Engineered Solutions, LLC<br>Gregory Highway Products<br>Highway Safety Corporation<br>IMH Products, Inc.<br>R.G. Steel Corporation<br>SPIG Industry LLC<br>Valtir, LLC                       | Glastonbury, CT<br>Indianapolis, IN<br>Pulaski, PA<br>Abingdon, VA<br>Lima, OH                                                                                                     |
| 909.04A<br>Reinforced Concrete Pipe                                                                                  | County Materials Corporation<br>Green Infrastructure Partners, Inc.<br>Northern Concrete Pipe<br><br>Oldcastle Infrastructure<br>Upper Peninsula Concrete Pipe Co.                                    | Marathon, WI<br>Taylor, MI<br>Bay City, Charlotte,<br>Clarkston, and Wyoming, MI;<br>Toledo (Sylvania), OH<br>Elgin and Romeoville, IL<br>Escanaba, MI                             |
| 909.04C<br>Non-Reinforced Concrete Pipe                                                                              | Green Infrastructure Partners, Inc.<br>Northern Concrete Pipe<br><br>Upper Peninsula Concrete Pipe Co.                                                                                                | Taylor, MI<br>Bay City, Charlotte,<br>Clarkston, and Wyoming, MI;<br>Toledo (Sylvania), OH<br>Escanaba, MI                                                                         |

| Approved Manufacturers                                           |                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                    |
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| Spec. # and Material Name                                        | Approved Manufacturers                                                                                                                                                                                                                                                                                                                                                                                             | Manufacturers Location                                                                                                                                                                             |
| 909.04D<br>Precast Concrete Box Sections                         | ADL Systems, Inc.<br>Mack Industries<br><br>Northern Concrete Pipe<br><br>Oldcastle Infrastructure<br>Oldcastle Infrastructure, Inc. (dba<br>Quality Precast)<br>Upper Peninsula Concrete Pipe Co.<br>Wieser Concrete Products, inc.                                                                                                                                                                               | Portland, MI<br>White Lake, MI, and Toledo,<br>OH<br>Bay City, Charlotte,<br>Clarkston, and Wyoming, MI;<br>Toledo (Sylvania), OH<br>Elgin, IL<br>Kalamazoo, MI<br><br>Escanaba, MI<br>Portage, WI |
| 909.04E<br>Precast Concrete End Section<br>For Culverts & Sewers | County Materials Corporation<br>Green Infrastructure Partners, Inc.<br>Northern Concrete Pipe<br><br><br>Oldcastle Infrastructure<br>Upper Peninsula Concrete Pipe Co.                                                                                                                                                                                                                                             | Marathon, WI<br>Taylor, MI<br>Bay City, Charlotte,<br>Clarkston, and<br>Wyoming, MI; Toledo<br>(Sylvania), OH<br>Elgin and Romeoville, IL<br>Escanaba, MI                                          |
| 909.04G<br>Precast Concrete Three-Sided<br>or Arch Culverts      | ADL Systems, Inc. Design<br>Advance Concrete Ecospan<br>Products Adspan<br>Contech Engineered<br>Solutions, LLC BEBO<br>Contech Engineered<br>Solutions, LLC Conspan<br>Mack Industries Conspan<br>Northern Concrete Pipe Northern<br>Arch<br>Northern Concrete Pipe Hyspan<br>Peninsula Prestress, Inc.<br>Low/Span<br>Upper Peninsula Concrete Pipe Co.<br>Conspan<br>Low/Span<br>Wieser Concrete Products, Inc. | Portland, MI<br>Highland, MI<br><br>Huber Heights, OH<br>Huber Heights, OH<br>White Lake, MI<br>Bay City, MI<br><br>Bay City, MI<br>Clarksville, MI<br><br>Escanaba, MI<br><br>Portage, WI         |

| Approved Manufacturers                                                                                                   |                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                             |
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| Spec. # and Material Name                                                                                                | Approved Manufacturers                                                                                                                                                                                                                 | Manufacturers Location                                                                                                                                                                                                                                                      |
| 909.05A<br>Corrugated Steel Pipe                                                                                         | Armco Steel Corporation<br>Bark River Culvert & Equipment Co.<br>Contech Engineered Solutions, LLC<br><br>Jensen Bridge & Supply Co.<br><br>Lane Enterprises, Inc.<br>Cadillac Culvert<br>St. Regis Culvert, Inc.<br>Worthington Steel | South Bend, IN<br>Escanaba, MI<br>Mason, MI; Mitchell and<br>South Bend, IN; Portage, WI;<br>Shakopee, MN; Ashland and<br>Winchester, KY; Anderson,<br>SC and Canfield, OH<br>Grand Rapids and Sandusky,<br>MI<br>Pulaski, PA<br>Cadillac, MI<br>Charlotte, MI<br>Delta, OH |
| 909.06<br>Corrugated Polyethylene Pipe<br>(CPE/HDPE)                                                                     | Advanced Drainage Systems, Inc.                                                                                                                                                                                                        | Owosso, MI; Findlay, London<br>and Wooster, OH                                                                                                                                                                                                                              |
| 909.07B<br>Pipe for Underdrains<br>Corrugated Plastic Tubing<br>(Perforated & Non-Perforated)<br>(Wrapped & Non-Wrapped) | Advanced Drainage Systems, Inc.<br><br>Baughman Tile Co., Inc.<br>Cervell Drainage Products<br>Hancor, Inc.<br>Haviland Drainage<br>Prinsco, Inc.                                                                                      | Napoleon, OH; Owosso and<br>Clifford, MI<br>Paulding, OH<br>Lordstown, OH<br>Findlay, OH<br>Haviland, OH<br>Chatsworth, IL                                                                                                                                                  |
| 909.07C<br>Pipe for Underdrains<br>Underdrain Outlet<br>2. Corrugated Steel Pipe                                         | Armco Steel Corporation<br>Bark River Culvert & Equipment Co.<br>Contech Engineered Solutions, LLC<br><br>Jensen Bridge & Supply Co.<br><br>Lane Enterprises, Inc.<br>Cadillac Culvert<br>St. Regis Culvert, Inc.<br>Worthington Steel | South Bend, IN<br>Escanaba, MI<br>Mason, MI; Mitchell & South<br>Bend, IN; Portage, WI;<br>Shakopee, MN; Ashland and<br>Winchester, KY; Anderson,<br>SC; and Canfield, OH<br>Grand Rapids and Sandusky,<br>MI<br>Pulaski, PA<br>Cadillac, MI<br>Charlotte, MI<br>Delta, OH  |

| Approved Manufacturers                                                                  |                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                              |
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| Spec. # and Material Name                                                               | Approved Manufacturers                                                                                                                                                                                                                 | Manufacturers Location                                                                                                                                                                                                                                                       |
| 909.08B<br>Culvert, Downspouts<br>1. Corrugated Steel Pipe                              | Armco Steel Corporation<br>Bark River Culvert & Equipment Co.<br>Contech Engineered Solutions, LLC<br><br>Jensen Bridge & Supply Co.<br><br>Lane Enterprises, Inc.<br>Cadillac Culvert<br>St. Regis Culvert, Inc.<br>Worthington Steel | South Bend, IN<br>Escanaba, MI<br>Mason, MI; Mitchell and<br>South Bend, IN; Portage, WI;<br>Shakopee, MN; Ashland and<br>Winchester, KY; Anderson,<br>SC; and Canfield, OH<br>Grand Rapids and Sandusky,<br>MI<br>Pulaski, PA<br>Cadillac, MI<br>Charlotte, MI<br>Delta, OH |
| 912.05<br>Structural Timber & Lumber                                                    | American Timber and Steel Co., Inc.<br>Central Nebraska Wood Preservers,<br>Inc.<br>Iowa Wood Preservers, Inc.<br>John Biewer Lumber Company<br>Straits Wood Treating, Inc.<br>Midwest Timber<br>Woodstock, Inc.                       | Norwalk, OH<br>Sutton, NE<br><br>Oskaloosa, IA<br>Lansing and St Clair, MI<br>Bay City, MI<br>Edwardsburg, MI<br>West Branch, MI                                                                                                                                             |
| 912.08<br>Wood Posts and Blocks for<br>Guardrail and Highway Signs<br>(Dimension Sawed) | American Timber and Steel Co., Inc.<br>Central Nebraska Wood Preservers,<br>Inc.<br>Iowa Wood Preservers, Inc.<br>John Biewer Lumber Company<br>Straits Wood Treating, Inc.<br>Midwest Timber<br>Woodstock, Inc.                       | Norwalk, OH<br>Sutton, NE<br><br>Oskaloosa, IA<br>St. Clair, MI<br>Bay City, MI<br>Edwardsburg, MI<br>West Branch, MI                                                                                                                                                        |

| Approved Manufacturers                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                 |
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| Spec. # and Material Name                                                                               | Approved Manufacturers                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Manufacturers Location                                                                                                                                                                                                                                                                                                          |
| 913.06<br>Precast Reinforced Concrete<br>Units for Drainage Structures<br>(Tops, Risers and Sump Bases) | Advance Concrete Products Co.<br><br>Bush Concrete Products, Inc.<br>Consumers Concrete Products<br>Green Infrastructure Partners, Inc.<br>County Materials Corporation<br>Elmer's<br>Grand Valley Concrete Products<br>Mack Industries<br>Mack Vault of Toledo-a Div. of Mack Industries<br>Northern Concrete Pipe<br><br>Norwalk Concrete Industries<br>Oldcastle Infrastructure<br>Oldcastle Infrastructure, Inc. (dba Quality Precast)<br>Upper Peninsula Concrete Pipe Co. | Highland, MI (Specialty Items)<br>Muskegon, MI<br>Kalamazoo, MI<br>Taylor, MI<br>Marathon, WI<br>Traverse City, MI<br>Grand Rapids, MI<br>White Lake, MI<br>Bowling Green, OH<br><br>Bay City, Charlotte, Clarkston, and Wyoming, MI;<br>Toledo (Sylvania), OH<br>Norwalk, OH<br>Elgin, IL<br>Kalamazoo, MI<br><br>Escanaba, MI |
| 913.07<br>Precast Concrete Bases                                                                        | See Spec. <a href="#">913.06</a> , Drainage list                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                 |
| 913.09<br>Slope Pavement Blocks                                                                         | 4D, Inc.<br>Bark River Concrete Products<br>Best Block Company<br>Carlesimo Products, Inc.<br>Concrete Service, Inc.<br>Consumers Concrete Products<br><br>Fendt Builder's Supply, Inc.<br><br>Ferguson Block Co., Inc.<br>Grand Blanc Cement Products<br>Jansen Block Co.<br>Northern Concrete Pipe                                                                                                                                                                            | Midland, MI<br>Bark River, MI<br>Warren, MI<br>Farmington, MI<br>Traverse City, MI<br>Kalamazoo and South Haven, MI<br>Ann Arbor and Farmington Hills, MI<br>Davison, MI<br>Grand Blanc, MI<br>Grand Rapids, MI<br>Grand Rapids, MI                                                                                             |

| Approved Manufacturers                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                   |
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| Spec. # and Material Name                                                                                                                                                | Approved Manufacturers                                                                                                                                                                                                                                                                                                   | Manufacturers Location                                                                                                                                                                                            |
| 914.07<br>Transverse Pavement Joints<br>1. Dowel Bars (Uncoated)<br><br>See <a href="#">Spec. 914.07A</a> for Epoxy Coating Manufacturers (Coaters).                     | Alton Steel, Inc.<br>CMC Steel<br>CMC New Jersey<br>CMC Tennessee<br>Cascade Steel Rolling Mills<br>Nucor Steel<br>Kankakee Inc.<br>Marion Inc.<br>Steel Dynamics, Inc.                                                                                                                                                  | Alton, IL<br><br>Sayreville, NJ<br>Knoxville, TN<br>McMinnville, OR<br><br>Bourbonnais, IL<br>Marion, OH<br>Pittsboro, IN; Roanoke, VA                                                                            |
| 914.07<br>Load Transfer Assemblies;<br>Dowel Baskets                                                                                                                     | American Highway<br>Barnsco<br>Boomer Construction Materials<br>CMC Paving Solutions<br>CMT Highway, LLC<br>Pacific Highway Products, LLC<br>TyE Bar, LLC                                                                                                                                                                | Kankakee, IL<br>Detroit, MI<br>Detroit, MI<br>Kankakee, IL<br>Durant, IA<br>Marion, OH<br>Bethel Park, PA                                                                                                         |
| 914.07A<br>Transverse Pavement Joints<br>1. Dowel Bars (Epoxy Coated)<br><br>For coating info. See <a href="#">QPL 914.07A2</a> for approved material and manufacturers. | Barnsco<br>Boomer Construction Materials<br>CMC Paving Solutions<br>CMT Highway, LLC<br>Pacific Highway Products, LLC<br>TyE Bar, LLC<br><u>Epoxy Coating Companies</u><br>ABC Coating Co. of MI, Inc.<br>American Highway<br>CMC Rebar<br>CMT Highway, LLC<br>Lane Enterprises<br>Midwest Pipe Coating, Inc.<br>Simcote | Detroit, MI<br>Detroit, MI<br>Kankakee, IL<br>Durant, IA<br>Marion, OH<br>Bethel Park, PA<br><br>Wyoming, MI<br>Kankakee, IL<br>Kankakee, IL<br>East Moline, IL<br>Carlisle, PA<br>Schererville, IN<br>Marion, OH |
| 914.08<br>Transverse End of Pour Joint<br>Devices<br>B. Deformed Bars                                                                                                    | Bar Manufacturers<br>See Reinforcement Bar<br>Manufacturers<br><a href="#">Spec. 905.03</a>                                                                                                                                                                                                                              | Epoxy Coating Material<br>See Reinforcement Bar, <a href="#">Spec 905.03C</a> and <a href="#">QPL 905.03C</a> .                                                                                                   |
| 914.09<br>Straight and Bent Tie Bars for<br>Longitudinal Pavement Joints,<br>(Lane Ties)                                                                                 | Bar Manufacturers<br>See Reinforcement Bar<br>Manufacturers<br><a href="#">Spec. 905.03</a>                                                                                                                                                                                                                              | Epoxy Coating Material<br>See Reinforcement Bar, <a href="#">Spec 905.03C</a> and <a href="#">QPL 905.03C</a> .                                                                                                   |

| Approved Manufacturers                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Spec. # and Material Name                                                                                                                    | Approved Manufacturers                                                                                                                                                                                                                                                                                                                                                                                                                           | Manufacturers Location                                                                                                                                                                                                                                                                                                                                 |
| 916.02<br>Silt Fence (full assembly)<br><br>Must be assembled using a qualified geotextile fabric listed in the <a href="#">QPL 910.04</a> . | ACF Environmental – Ferguson Waterworks<br>American Excelsior Co. Inc.<br>Cherokee Manufacturing<br>Core and Main<br>DGI Industries<br>Environmental Protection Products<br>Geo-Synthetics<br>Geoproducts, Inc.<br>Hanes Geo Components<br><br>Klein Brothers Hardwood Inc.<br>MKB Company<br>Newberry Wood Products<br>Pallen Enterprises<br>Rhino Seed and Landscape Supply<br>Western Green<br>WINFAB (Willacoochee) Industrial Fabrics, Inc. | South Bend, IN; Richmond, VA<br>Westland, MI<br>South Saint Paul, MN<br>Schaumburg, IL<br>Bennington, NH<br>Williamsburg, MI<br>Waukesha, WI<br>Birmingham, MI<br>Charlotte and Winston-Salem, NC, Wixom and Wyoming, MI<br>Milford, MI<br>Belleville, PA; Portage, WI<br>Newberry, MI<br>Conyer, GA<br>Bradley, MI<br>Evansville, IN<br>Nashville, GA |
| 918.06<br>Precast Concrete Handholes & Manholes for Electrical & Telephone Connections                                                       | Advance Concrete Products<br>Bush Concrete Products, Inc.<br>Carlesimo Products, Inc.<br>Consumers Concrete Products<br>Elmer's<br>Grand Valley Concrete Products, Inc.<br>Hartford Concrete Products, Inc.<br>Mack Industries<br>Northern Concrete Pipe<br><br>Norwalk Concrete Industries<br>Oldcastle Infrastructure<br>Oldcastle Infrastructure, Inc. (dba Quality Precast)<br>Upper Peninsula Concrete Pipe Co.                             | Highland, MI<br>Muskegon, MI<br>Farmington, MI<br>Kalamazoo, MI<br>Traverse City, MI<br>Grand Rapids, MI<br>Hartford City and Ashley, IN<br>White Lake, MI<br>Bay City, Charlotte, Clarkston, and Wyoming, MI; Toledo (Sylvania), OH<br>Norwalk, OH<br>Elgin, IL<br>Kalamazoo, MI<br><br>Escanaba, MI                                                  |
| 919.05<br>Wood Sign Posts                                                                                                                    | American Timber and Steel Co., Inc.<br>John Biewer Lumber Company<br>Straits Wood Treating, Inc.<br>Midwest Timber<br>Woodstock, Inc.                                                                                                                                                                                                                                                                                                            | Norwalk, OH<br>St. Clair, MI<br>Bay City, MI<br>Edwardsburg, MI<br>West Branch, MI                                                                                                                                                                                                                                                                     |

## Qualified Products List

The materials in this section may be accepted for use on Michigan Department of Transportation projects based on the trade name, model number, etc., as listed.

This Qualified Products List is in accordance with the 2020 Standard Specifications for Construction.

Also see Section 5.01 of the MQAP Manual.

| Qualified Products List (QPL)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                          |                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------------------------------|
| Spec. # and Material Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Product Name             | Manufacturers or Suppliers                       |
| 603.03B2<br>Adhesive Systems for<br>Grouting Dowel Bars and Tie<br>Bars for Full-Depth Concrete<br>Pavement Repairs<br><br>Note: Use these Qualified<br>Products for grouting repairs<br>to existing concrete in the<br>same direction of traffic in the<br>same lane of repair. For<br>grouting lane ties (deformed<br>bars positioned transverse to<br>the direction of traffic located<br>between traffic lanes) use<br><a href="#">QPL 712.03J</a> , "Adhesive<br>Systems for Structural<br>Anchors and Lane Ties". | Ultrabond ASF-1000       | Adhesives Technology Corp.                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Ultrabond ASF-2000       | Adhesives Technology Corp.                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Ultrabond 1              | Adhesives Technology Corp.                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Ultrabond 2              | Adhesives Technology Corp.                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Ultrabond HS-1CC         | Adhesives Technology Corp.                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | UltraBond HS-200         | Adhesives Technology Corp.                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | UltraBond 1300           | Adhesives Technology Corp.                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Inject-Tite Standard Set | ANKR-Tite Fastening Systems                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Inject-Tite Fast Set     | ANKR-Tite Fastening Systems                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Aka Bond                 | Axson North America<br>(Formerly Akemi Plastics) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Aka Bond 550XP           | Axson North America<br>(Formerly Akemi Plastics) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Aka Bond 550XPP          | Axson North America<br>(Formerly Akemi Plastics) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | BHS-1250                 | Blackhawk Sales Company,<br>Inc.                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | BHS-1250XP               | Blackhawk Sales Company,<br>Inc.                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | CanRez 800               | Cansto Coatings                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Araldite AW / HW 8561    | Ciba Specialty Chemicals<br>Corp.                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Spec Bond 201            | Conspec by Dayton Superior,<br>Inc.              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Highway Fast Set Epoxy   | Dayton Superior Corp.                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pro-Poxy 300 Fast        | Dayton Superior Corp.                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DeWALT AC50              | DeWALT                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DeWALT AC100+ Gold       | DeWALT                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DeWALT PE1000+           | DeWALT                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DeWALT Pure50+           | DeWALT                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DeWALT Pure110+          | DeWALT                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | TRU Grip HI-Modepoxy 590 | J. Dedoes, Inc.                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Tru-Grip 591             | J. Dedoes, Inc.                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | AWA Gel                  | E-Chem                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Dural Fast Set Epoxy Gel | Euclid Chemical Company                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Dural HS Gel             | Euclid Chemical Company                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Futura Bond 566          | Futura Adhesives &<br>Chemicals                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Hilti RSE DOT            | Hilti, Inc.                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Redhead A7+              | ITW Commercial Construction                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Redhead C6+              | ITW Commercial Construction                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Redhead G5+              | ITW Commercial Construction                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Epcon A7                 | ITW Ramset/Red Head                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Epcon-Ceramic 6          | ITW Ramset/Red Head                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | SurePoxy 117             | Kaufman Products                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Kelipoxy II              | Kelken Construction Systems                      |
| (Continued)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Dynapoxy EP-430 FAST     | Pecora Corporation                               |

| Qualified Products List (QPL)                                                                                       |                                       |                                                    |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------|
| Spec. # and Material Name                                                                                           | Product Name                          | Manufacturers or Suppliers                         |
| 603.03B2<br>Adhesive Systems for<br>Grouting Dowel Bars and Tie<br>Bars for Full-Depth Concrete<br>Pavement Repairs | Poly-Carb                             | Olin Epoxy-Poly-Carb (Blue<br>Cube Operations LLC) |
|                                                                                                                     | Mark 198.4                            | Olin Epoxy-Poly-Carb (Blue<br>Cube Operations LLC) |
|                                                                                                                     | Polyject/Polybac 1257                 | Polygem, Inc.                                      |
|                                                                                                                     | Polyject/Polybac 1295                 | Polygem, Inc.                                      |
|                                                                                                                     | Speed Bond #1                         | Prime Resins, Inc.                                 |
|                                                                                                                     | Sikadur Injection Gel                 | Sika Corporation                                   |
|                                                                                                                     | Sikadur 881 DBA                       | Sika Corporation                                   |
|                                                                                                                     | Sikadur DOT-SP13                      | Sika Corporation                                   |
|                                                                                                                     | Arcylic -Tie AT                       | Simpson Strong-Tie<br>Company, Inc.                |
|                                                                                                                     | Epoxy Tie                             | Simpson Strong-Tie<br>Company, Inc.                |
|                                                                                                                     | SpecPoxy 3000 FS                      | SpecChem                                           |
|                                                                                                                     | Dowel Bar Adhesive #5                 | Superior Epoxies & Coatings                        |
|                                                                                                                     | Pro Poxy 300                          | Unitex                                             |
|                                                                                                                     | Pro Poxy 300 FAST                     | Unitex                                             |
|                                                                                                                     | Rezi-Weld Gel Paste                   | W.R. Meadows, Inc.                                 |
|                                                                                                                     | Rezi-Weld Gel Paste State             | W.R. Meadows, Inc.                                 |
| 706.03S<br>Penetrating Water Repellent<br>Treatment for Concrete<br>Surfaces (Protective Coating<br>for Concrete)   | Application Rate,<br><u>sq ft/gal</u> |                                                    |
|                                                                                                                     | ATS-200 150-200                       | Advanced Chemical<br>Technologies, Inc.            |
|                                                                                                                     | Baracade Silane 100C 150-200          | Euclid Chemical Company                            |
| 707.02<br>Bushings for Pins & Link<br>Plates                                                                        | CJ                                    | TriStar                                            |
|                                                                                                                     | Garmax                                | Garlock                                            |

| Qualified Products List (QPL)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                       |                       |                             |                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------|
| Spec. # and Material Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Product Name          |                       |                             | Manufacturers or Suppliers  |
| <p>712.03J<br/>Adhesive Systems for Structural Anchor &amp; Lane Ties*</p> <p>Note: *Lane Ties defined as deformed bars positioned transverse to the direction of traffic located between lanes. For grouting dowel bars and tie bars (bars positioned to existing concrete in the direction of the traffic in the same lane as the repair) use <a href="#">QPL 603.03B2</a>, “Adhesive Systems for Grouting Dowel Bars for Full-Depth Concrete Pavement Repairs”.</p> <p>Note 1. Anchors shall be installed per manufacturer’s recommendations with a minimum embedment depth of 12 diameters for reinforcing steel and 9 diameters for threaded bolts.</p> <p>Pull-out Testing is required per MQAP Manual Section 3.03.</p> <p>Note 2. Material is limited to the shelf-life recommendations by the manufacturer.</p> | <u>Name</u>           | <u>Adhesive Type</u>  | <u>Mixing &amp; Inject.</u> |                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Ultrabond 1           | Epoxy                 | Yes                         | Adhesives Technology Corp.  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | HS-200                | Epoxy                 | Yes                         | Adhesives Technology Corp.  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Hilti HIT-HY 100      | Urethane-Methacrylate | Yes                         | Hilti, Inc.                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Hilti HIT-HY 200-A V3 | Urethane-Methacrylate | Yes                         | Hilti, Inc.                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Hilti HIT-HY 200-R V3 | Methacrylate          | Yes                         | Hilti, Inc.                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Hilti HIT-RE-500v3    | Epoxy                 | Yes                         | Hilti, Inc.                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Redhead A7+           | Epoxy                 | Yes                         | ITW Commercial Construction |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Super Por-Rok         | Non-Shrink Grout      | Yes                         | CGM, Inc.                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | DeWALT Pure 110+      | Epoxy                 | Yes                         | DeWALT                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | DeWALT Pure 220+      | Epoxy                 | Yes                         | DeWALT                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Sika AnchorFix 500    | Epoxy                 | Yes                         | Sika Corporation            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Pro-Poxy 300          | Epoxy                 | Yes                         | Unitex                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Rezi Weld Gel         | Paste State           |                             | W.R. Meadows, Inc.          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       | Epoxy                 | Yes                         |                             |

| Qualified Products List (QPL)                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Spec # and Material Name                                                                                                                                                                                                                                                                                                      | Product Name                                                                                                                                                                                                                                                                                                                                                            | Manufacturers or Suppliers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p>712.03K<br/>Structure Expansion Anchors<br/>(Mechanical Expansion Anchors)</p> <p>Pull-out Testing is required per MQAP Manual Section 3.03.</p> <p>Note: Mechanical Expansion Anchors shall be set by applying the manufacturer's specified torque. The turn of the nut method will not be an acceptable alternative.</p> | <p>1. Pre-Drilled Flush Type<br/>a) Hilti HDI (3/8", 1/2", 3/4" dia. anchors only)</p> <p>2. Pre-Drilled Stud Type - Not suitable for lane ties or for guardrail end shoes because of exposed thread.<br/>a) Kwik-Bolt III<br/>3/8" dia. anchor - min. embedment = 2 1/2"<br/>1/2" dia. anchor - min. embedment = 3 1/2"<br/>5/8" dia. anchor - min. embedment = 4"</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p>712.03L<br/>Mechanical Reinforcement Splicing</p> <p>Note: Splices used to connect precast structural elements shall be high strength splices.</p>                                                                                                                                                                         | <p>BPI Barsplicer System</p> <p>Grip-Twist Threaded Position Coupler</p> <p>Taper Threaded Grip-Twist</p> <p>Zap Screwlok</p> <p>Tru-Splice Stainless Steel</p> <p>Bar-Lock L-Series</p> <p>DBDI</p> <p>Lenton</p> <p>Lenton Form Saver</p> <p>Lenton Interlok (High Strength)</p> <p>Lenton Position Coupler</p> <p>NMB Splice Sleeve (High Strength)</p>              | <p>BarSplice Products, Inc., Dayton, OH</p> <p>BarSplice Products, Inc., Dayton, OH</p> <p>BarSplice Products, Inc., Dayton, OH</p> <p>BarSplice Products, Inc., Dayton, OH</p> <p>Contractors Materials Company, Cincinnati, OH</p> <p>Dayton Superior Corp., Miamisburg, OH</p> <p>Dayton Superior Corp., Miamisburg, OH</p> <p>nVent Lenton, Solon, OH</p> <p>nVent Lenton, Solon, OH</p> <p>nVent Lenton, Solon, OH</p> <p>nVent Lenton, Solon, OH</p> <p>Splice Sleeve North America, Inc., Livonia, MI</p> |

| Qualified Products List (QPL)                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| Spec # and Material Name                                                                                                                                                                                                | Product Name                                                                                                                                                                                                                                                                                                                                                                                                                                      | Manufacturers or Suppliers                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 712.03Y<br>Embedded Galvanic Anodes                                                                                                                                                                                     | LifeAnode 65, 105 and 160<br>MasterProtect CP Models: 8065, 8105, 8150<br>RebaGuard<br>RebaGuard Plus<br>RebaGuard Ultra<br>Sentinel-GL<br>Mapeshield I 70, I 105, I 10/10, I 10/20, I 30/10, and I 30/20<br>NoCo Patchguard<br>Sika Galvashield XP<br>Sika Galvashield XP+<br>Sika FerroGard 650, 670, 675<br>Galvashield XP2<br><br>Galvashield XP4<br><br>Glavashield XPX<br><br>Galvashield XP+<br><br>Galvashield XPC<br><br>Galvashield XPT | ARTAZN LLC<br>BASF Chemical Company<br><br>CPT/No Corrosion<br>CPT/No Corrosion<br>CPT/No Corrosion<br>Euclid Chemical Co.<br>Mapei Corporation<br><br>NoCo<br>Sika Corporation<br>Sika Corporation<br>Sika Corporation<br>Vector Corrosion Technologies, Inc.<br>Vector Corrosion Technologies, Inc.<br>Vector Corrosion Technologies, Inc.<br>Vector Corrosion Technologies, Inc.<br>Vector Corrosion Technologies, Inc.<br>Vector Corrosion Technologies, Inc. |
| 713.02B<br>Sealant for Perimeter of Beam Repairs<br><br>Note: No silicone materials - only polyurethane (PU) or PU blended materials that are paintable. Typically 1 week cure prior to painting. All non-sag material. | Bostik 2020<br>Duralink (F1200)<br>Loxon H1<br>Loxon S1<br>Sikaflex-15LM<br>SikaHyflex-150 LM<br>Sikaflex NP1<br>Vulkem 116<br>XtraBond 9500                                                                                                                                                                                                                                                                                                      | Bostik US<br>Chem Link<br>Sherwin-Williams<br>Sherwin-Williams<br>Sika Corporation<br>Sika Corporation<br>Sika Corporation<br>Tremco, Inc.<br>Premier Industrial Supply                                                                                                                                                                                                                                                                                           |
| 715.02<br>Coating Systems for New Hanger Assemblies                                                                                                                                                                     | See Coating Systems for Steel Structures, Hanger Assemblies and End Diaphragms<br><a href="#">QPL 915</a>                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Qualified Products List (QPL)                                                                                                                                                                                                                                                                                                          |                                                        |                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------|
| Spec # and Material Name                                                                                                                                                                                                                                                                                                               | Product Name                                           | Manufacturers or Suppliers                        |
| 715.02<br>Abrasive, Low Dusting<br><br>Note: The blasting profile produced by these abrasives will depend on the equipment used. It is the responsibility of the contractor to produce a profile within the 1.0 to 2.8 mils specified range. The abrasive additive, Blastox, may be used with any of the listed low-dusting abrasives. | 20/40                                                  | 10X Engineered Materials, Wabash, IN              |
|                                                                                                                                                                                                                                                                                                                                        | 40/70                                                  | 10X Engineered Materials, Wabash, IN              |
|                                                                                                                                                                                                                                                                                                                                        | KinetiX 20/70                                          | 10X Engineered Materials, Wabash, IN              |
|                                                                                                                                                                                                                                                                                                                                        | Black Magic Coal Slag                                  | Abrasives, Inc., Minneapolis, MN                  |
|                                                                                                                                                                                                                                                                                                                                        | Black Diamond Abrasive - Coal Slag                     | U.S. Minerals, Tinley Park, IL                    |
|                                                                                                                                                                                                                                                                                                                                        | GMA Garnet Blast                                       | GMA Garnet Pty Ltd, Narngulu, WA, Australia       |
|                                                                                                                                                                                                                                                                                                                                        | Black Shot Granulated Slag                             | Bell & MacKenzie Co. Ltd, Hamilton, Ontario       |
|                                                                                                                                                                                                                                                                                                                                        | Jetmag 32B4                                            | Carpenter Brothers Inc., Mequon, WI               |
|                                                                                                                                                                                                                                                                                                                                        | StarBlast XL                                           | The Chemours Company, Wilmington, DE              |
|                                                                                                                                                                                                                                                                                                                                        | Emerald Creek Garnet                                   | Emerald Creek Garnet, Fernwood, ID                |
|                                                                                                                                                                                                                                                                                                                                        | Blackjack MSM, Waupaca Materials                       | Faulks Brothers Constr. Co., Inc., Waupaca, WI    |
|                                                                                                                                                                                                                                                                                                                                        | Green Diamond Products 3060, 3050, 2050, 1650 and 8x16 | Green Diamond Performance Materials, Riddle, OR   |
|                                                                                                                                                                                                                                                                                                                                        | Black Beauty                                           | Harsco Environmental, Camp Hill, PA               |
|                                                                                                                                                                                                                                                                                                                                        | Black Beauty Fine                                      | Harsco Environmental, Camp Hill, PA               |
|                                                                                                                                                                                                                                                                                                                                        | Black Beauty Platinum Fine and Medium                  | Harsco Environmental, Camp Hill, PA               |
|                                                                                                                                                                                                                                                                                                                                        | Black Beauty Medium                                    | Harsco Environmental, Camp Hill, PA               |
|                                                                                                                                                                                                                                                                                                                                        | Sure/Cut Velocity Fine and Coarse                      | Harsco Environmental, Camp Hill, PA               |
|                                                                                                                                                                                                                                                                                                                                        | Alluvial River Garnet                                  | Marco Group International, Beaver Falls, PA       |
|                                                                                                                                                                                                                                                                                                                                        | Ebony Grit - Copper Slag                               | Opta Minerals Inc.                                |
|                                                                                                                                                                                                                                                                                                                                        | International Garnet 20-40                             | Opta Minerals Inc.                                |
|                                                                                                                                                                                                                                                                                                                                        | International Garnet 30-60                             | Opta Minerals Inc.                                |
|                                                                                                                                                                                                                                                                                                                                        | Galaxy Garnet 30-60                                    | Opta Minerals Inc.                                |
|                                                                                                                                                                                                                                                                                                                                        | Sharpshot XL - Iron Silicate                           | Universal Minerals Kentucky, Inc., Louisville, KY |

| Qualified Products List (QPL)                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| Spec # and Material Name                                                                                                     | Product Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Manufacturers or Suppliers                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 803.02B<br>Detectable Warning Surfaces<br>(ADA Compliant Sidewalk<br>Ramps),<br>1. Cast-in-Place                             | Access Tile Cast In Place Replaceable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Access Products, Inc., Buffalo, NY                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                              | Advantage Classic<br>Advantage Premier<br>AlertCast<br>ADA Solutions Cast in Place Paver - Composite<br>ADA Solutions Cast in Place Replaceable - Rectangular & Radius - Composite<br>ADA Solutions Iron Dome© - Cast in Place Replaceable - Cast Iron<br>CAST-DWD<br>DetecTile Replaceable Tactile Panel<br>Duralast® Detectable Warning Plates<br>Armor-Tile Cast in Place Composite<br>Composite DWP<br>NF Detectable Warning Plate<br>TufTile Cast Iron Tile<br>TufTile Galvanized Steel Tile<br>TufTile Polymer Tactile Tile | Advantage Tactile Systems, Buffalo, NY<br>Advantage Tactile Systems, Buffalo, NY<br>AlertTiles, Wilmington, NC<br>ADA Solutions, Wilmington, MA<br>ADA Solutions, Wilmington, MA<br>ADA Solutions, Wilmington, MA<br>Pioneer Detectable, LLC<br>DetecTile Corporation<br>East Jordan Iron Works, East Jordan, MI<br>Engineered Plastics, Inc., Williamsville, NY<br>Neenah Enterprises, Inc., Neenah, WI<br>Neenah Foundry Company, Neenah, WI<br>TufTile, Inc.<br>TufTile, Inc.<br>TufTile, Inc. |
| 2. Surface Applied*<br><br>*Note: Surface applied detectable warning surfaces may only be used to retrofit existing concrete | ADA Solutions Surface Applied - Composite<br>Alerttile<br>Armor-Tile Surface Applied Composite Warning System                                                                                                                                                                                                                                                                                                                                                                                                                     | ADA Solutions, Wilmington, MA<br>Detectable Warning Systems, Wilmington, NC<br>Engineered Plastics, Inc., Williamsville, NY                                                                                                                                                                                                                                                                                                                                                                       |

| Qualified Products List (QPL)                                                  |                   |                         |                               |
|--------------------------------------------------------------------------------|-------------------|-------------------------|-------------------------------|
| Spec # and Material Name                                                       | Product Name      |                         | Manufacturers or Suppliers    |
| 811.03D1<br>Waterborne, Liquid<br>Pavement Marking Material                    | <u>Product ID</u> | <u>Color</u>            |                               |
|                                                                                | TM-2582           | White                   | Sherwin-Williams              |
|                                                                                | TM-2204           | White                   | Sherwin-Williams              |
|                                                                                | TM-2583           | Yellow                  | Sherwin-Williams              |
|                                                                                | TM-2205           | Yellow                  | Sherwin-Williams              |
|                                                                                | 982211            | White                   | Ennis-Flint/PPG               |
|                                                                                | 982212            | Yellow                  | Ennis-Flint/PPG               |
|                                                                                | 982221            | White                   | Ennis-Flint/PPG               |
|                                                                                | 982222            | Yellow                  | Ennis-Flint/PPG               |
|                                                                                | 982201            | White                   | Ennis-Flint/PPG               |
|                                                                                | 982202            | Yellow                  | Ennis-Flint/PPG               |
|                                                                                | 985205            | Blue                    | Ennis-Flint/PPG               |
|                                                                                | 985203            | Black                   | Ennis-Flint/PPG               |
|                                                                                | 800171            | White                   | Ingevity                      |
|                                                                                | 800327            | Yellow                  | Ingevity                      |
| 811.03D2<br>Low Temperature<br>Waterborne, Liquid<br>Pavement Marking Material | <u>White</u>      | <u>Lead Free Yellow</u> |                               |
|                                                                                | 985351            | 985352                  | Ennis-Flint/PPG               |
|                                                                                | TM2372            | TM2373                  | Sherwin-Williams              |
| 811.03D3<br>Regular Dry Paint, Liquid<br>Pavement Marking Material             | <u>White</u>      | <u>Lead Free Yellow</u> |                               |
|                                                                                | 985151            | 985152                  | Ennis-Flint/PPG               |
|                                                                                | TM5626            | TM5627                  | Sherwin-Williams              |
|                                                                                | 2070              | 2076                    | Swarco/Colorado Paint Company |

| Qualified Products List (QPL)                                                                                            |                                                                                                                                                          |                                              |
|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Spec # and Material Name                                                                                                 | Product Name                                                                                                                                             | Manufacturers or Suppliers                   |
| 811.03D4<br>Cold Plastic Tape, Preformed<br>Pavement Marking Material,<br>Permanent (Long Line,<br>Legends & Crosswalks) | Wet Reflective Long Line:                                                                                                                                |                                              |
|                                                                                                                          | <u>White</u> <u>Yellow</u> <u>Adhesive</u>                                                                                                               |                                              |
|                                                                                                                          | 380 AW                      381 AW                      P50                                                                                              | 3M                                           |
|                                                                                                                          | DeltaLine XRP-R                      D-20                                                                                                                | Brite-line Technologies, LLC                 |
|                                                                                                                          | DeltaLine XRP-R                      D-20                                                                                                                |                                              |
|                                                                                                                          | Standard Long Line:                                                                                                                                      |                                              |
|                                                                                                                          | <u>White</u> <u>Yellow</u> <u>Adhesive</u>                                                                                                               |                                              |
|                                                                                                                          | 380I ES                      381I ES                      P50                                                                                            | 3M                                           |
|                                                                                                                          | Director 60                      Director 60                      DP-E4                                                                                  | Swarco                                       |
|                                                                                                                          | Director 60 HPT                      DP-E4                                                                                                               | Swarco                                       |
|                                                                                                                          | Director 60 HPT                      DP-E4                                                                                                               |                                              |
|                                                                                                                          | Shadow Tape:                                                                                                                                             |                                              |
|                                                                                                                          | <u>Black</u> <u>Adhesive</u>                                                                                                                             |                                              |
|                                                                                                                          | 385 AW                                              P50                                                                                                  | 3M                                           |
|                                                                                                                          | 385 ES                                              P50                                                                                                  | 3M                                           |
|                                                                                                                          | Director 60                                              DP-E4                                                                                           | Swarco                                       |
|                                                                                                                          | Special Markings (symbols, legends,<br>stop bars, crosswalks, crosshatching):                                                                            |                                              |
|                                                                                                                          | <u>White</u> <u>Yellow</u> <u>Adhesive</u>                                                                                                               |                                              |
|                                                                                                                          | 270 ES                      271 ES                      P50                                                                                              | 3M                                           |
|                                                                                                                          | 380I ES                      381I ES                      P50                                                                                            | 3M                                           |
|                                                                                                                          | ATM 300                      ATM 300                      ATM                                                                                            | Advanced Traffic Markings                    |
|                                                                                                                          |                                                                                                                                                          | Perma-<br>nent<br>Primer                     |
|                                                                                                                          | Director 60                      Director 60                      DP-E4                                                                                  | Swarco                                       |
|                                                                                                                          | Director 60 HPT                      DP-E4                                                                                                               | Swarco                                       |
|                                                                                                                          | Director 60 HPT                      DP-E4                                                                                                               |                                              |
| 811.03D5<br>Thermoplastic, Liquid<br>Pavement Marking Material                                                           | <u>White</u> <u>Yellow</u><br>884285                                              884685<br>Swarcotherm EWH 131<br>Swarcotherm EYH 132<br>Viatherm E413W | Ennis-Flint/PPG<br>Swarco<br>Geveko Markings |
| 811.03D5<br>Thermoplastic, Blocks<br>Rumble Strips                                                                       | Viatherm E411W                                                                                                                                           | Geveko Markings                              |

| Qualified Products List (QPL)                                                  |                                   |                            |
|--------------------------------------------------------------------------------|-----------------------------------|----------------------------|
| Spec # and Material Name                                                       | Product Name                      | Manufacturers or Suppliers |
| 811.03D6<br>Thermoplastic, Sprayable,<br>Liquid Pavement Marking<br>Material   | <u>White</u>                      | <u>Yellow</u>              |
|                                                                                | 01-WAK-BADA                       | 01-YAK-AADA                |
|                                                                                | 01-WHK-BADA                       | 01-YHK-AADA                |
|                                                                                | 0321012                           | 0321212                    |
|                                                                                | W1SS7056                          | Y1SS7006                   |
|                                                                                | W2SS7056                          | Y2SS7006                   |
|                                                                                | 617496 Thermodrop                 |                            |
|                                                                                |                                   | 617369 Thermodrop          |
|                                                                                | 884822                            | 883241                     |
|                                                                                | 884822PT                          | 883241PT                   |
|                                                                                | 884824                            | 883240                     |
|                                                                                | ED-9951-WHT-000                   |                            |
|                                                                                |                                   | ED-9952-YEL-000            |
|                                                                                | 800079                            | 800255                     |
| 811.03D7<br>Polyurea, Liquid Pavement<br>Marking Material                      | 1157MWHSI                         | 2798MYHSI                  |
|                                                                                | 3023MWASI                         | 3021MYASI                  |
|                                                                                | 5000 LPM                          | White                      |
|                                                                                | 5001 LPM                          | Yellow                     |
|                                                                                | LS90                              | White and Yellow           |
|                                                                                | HPS-5                             | White and Yellow           |
| 811.03D8<br>Modified Epoxy, Liquid<br>Pavement Marking Material                | FT988                             | White and Yellow           |
|                                                                                | 6180 MFUA-12                      | White                      |
|                                                                                | 6186 MFUA-12                      | Yellow                     |
| 811.03D9<br>Preformed Thermoplastic,<br>Preformed Pavement<br>Marking Material | HPS-4                             | White and Yellow           |
|                                                                                | MFUA-10                           | White and Yellow           |
| 811.03D9<br>Preformed Thermoplastic,<br>Preformed Pavement<br>Marking Material | Tuff-Mark Preformed Thermoplastic | Crown USA, Inc.            |
|                                                                                | PreMark                           | Ennis-Flint/PPG            |
|                                                                                | PreMark XF                        | Ennis-Flint/PPG            |
|                                                                                | HotTape                           | Ennis-Flint/PPG            |
|                                                                                | Preformed Thermoplastic           | Gentem Inc.                |
|                                                                                | OPTAMARK                          | Geveko Markings            |
|                                                                                | CHOICE Preformed Thermoplastic    | Ingevity                   |
|                                                                                | PREFORM                           | Preform, LLC               |
|                                                                                | SWARCO Preformed Thermoplastic    | Swarco                     |
|                                                                                |                                   |                            |

| Qualified Products List (QPL)                      |                                                    |      |                            |                                            |
|----------------------------------------------------|----------------------------------------------------|------|----------------------------|--------------------------------------------|
| Admixtures for Concrete                            |                                                    |      |                            |                                            |
| Air Entraining - ASTM C 260; Chemical - ASTM C 494 |                                                    |      |                            |                                            |
| (See Notes Following Listing of Admixtures)        |                                                    |      |                            |                                            |
| Spec. # and Material Name                          | Manufacturer or Supplier and Trade Name            | Type | Producer and Description   | Recommended Dosage min. or range fl oz/cwt |
| 903.01<br>Air Entraining Admixtures                | <u>CHRYSO, INC.</u><br>EnviroMix SE 30<br>Quad 842 | A    | Water-reducer              | 8 - 12                                     |
|                                                    |                                                    | A    | Water-reducer              | 4 - 8.5                                    |
|                                                    |                                                    | F    | High-range water-reducer   | 8.5 - 20                                   |
| 903.02<br>Liquid Chemical Admixtures               | ADVA 140M                                          | A    | Water-reducer              | 5 - 9                                      |
|                                                    |                                                    | F    | High-range water-reducer   | 9 - 16                                     |
|                                                    |                                                    | F    | High-range water-reducer   | 11 - 18                                    |
|                                                    | ADVA 405                                           | F    | High-range water-reducer   | 4 - 15                                     |
|                                                    | ADVA Cast 198                                      | F    | High-range water-reducer   | 3.5 - 10                                   |
|                                                    | ADVA Cast 575                                      | F    | High-range water-reducer   | 4 - 10                                     |
|                                                    | ADVA Cast 585                                      | F    | High-range water-reducer   | 2 - 4                                      |
|                                                    | ADVA Cast 600                                      | A    | Water-reducer              | 4 - 10                                     |
|                                                    | Airalon 7000                                       | F    | High-range water-reducer   | 0.5 - 3                                    |
|                                                    |                                                    | AE   | Air-entraining             | 11-18                                      |
|                                                    |                                                    | F    | High-range water-reducer   | 6 - 20                                     |
|                                                    | Concera SA8080                                     | F    | High-range water-reducer   | 15                                         |
|                                                    | Daracem 19                                         | C    | Accelerator (non-chloride) | 1                                          |
|                                                    | Daraset 400                                        | AE   | Air-entraining             | 0.5 - 5.0                                  |
|                                                    | Daravair 1400                                      | AE   | Air-entraining             | 1 - 5                                      |
|                                                    | Darex AEA ED                                       | AE   | Air-entraining             | 4.5                                        |
|                                                    | Darex II AEA                                       | A    | Water-reducer              | 6 - 12                                     |
|                                                    | MIRA 62                                            | MR   | Mid-range water-reducer    | 12 - 15                                    |
|                                                    | MIRA 95                                            | F    | High-range water-reducer   | 2.0 - 6.0                                  |
|                                                    |                                                    | A    | Water-reducer              | 10 - 15                                    |
|                                                    |                                                    | F    | High-range water-reducer   | 6.0 - 10.0                                 |
|                                                    | MIRA 110                                           | MR   | Mid-range water-reducer    | 9 - 12                                     |
|                                                    |                                                    | MR   | Mid-range water-reducer    | 12 - 15                                    |
|                                                    |                                                    | F    | High-range water-reducer   | 8 - 60                                     |
|                                                    | Polarset                                           | C    | Accelerator (non-chloride) | 2.5 - 6                                    |
|                                                    | Recover                                            | D    | Water-reducer retarder     | 1.5                                        |
|                                                    | Terapave AEA                                       | AE   | Air-entraining             | 3                                          |
|                                                    | WRDA 82                                            | A    | Water-reducer              | 4 - 7                                      |
|                                                    | ZYLA 630                                           | A    | Water-reducer              | 2 - 7                                      |
| (Continued)                                        | ZYLA R                                             | D    | Water-reducer retarder     | 6 - 12                                     |

| Qualified Products List (QPL)                      |                                                             |         |                                                            |                                            |
|----------------------------------------------------|-------------------------------------------------------------|---------|------------------------------------------------------------|--------------------------------------------|
| Admixtures for Concrete                            |                                                             |         |                                                            |                                            |
| Air Entraining - ASTM C 260; Chemical - ASTM C 494 |                                                             |         |                                                            |                                            |
| (See Notes Following Listing of Admixtures)        |                                                             |         |                                                            |                                            |
| Spec. # and Material Name                          | Manufacturer or Supplier and Trade Name                     | Type    | Producer and Description                                   | Recommended Dosage min. or range fl oz/cwt |
| 903.01<br>Air Entraining Admixtures                | <u>EUCLID CHEMICAL CO.</u><br>Eucon AEA 92<br>Accelguard G3 | AE<br>E | Air-entraining<br>Water-reducer accelerator (non-chloride) | 1.5<br>16 - 90                             |
| 903.02<br>Liquid Chemical Admixtures               | Accelguard NCA                                              | C       | Accelerator (non-chloride)                                 | 15                                         |
|                                                    | Eucon Air Mix 200                                           | AE      | Air-entraining                                             | 3                                          |
|                                                    | EUCON Air MAC6                                              | AE      | Air-entraining                                             | 0.5 - 4                                    |
|                                                    | EUCON MR                                                    | A       | Water-reducer                                              | 4.5                                        |
|                                                    |                                                             | MR      | Mid-range water-reducer                                    | 5.5                                        |
|                                                    |                                                             | F       | High-range water-reducer                                   | 12                                         |
|                                                    | EUCON MRX                                                   | MR      | Mid-range water-reducer                                    | 3.5                                        |
|                                                    |                                                             | F       | High-range water-reducer                                   | 7.5                                        |
|                                                    | EUCON SE                                                    | A       | Water-reducer                                              | 2.5                                        |
|                                                    |                                                             | D       | Water-reducer retarder                                     | 4.5                                        |
|                                                    | EUCON WR                                                    | A       | Water-reducer                                              | 2.5 - 10                                   |
|                                                    |                                                             | D       | Water-reducer retarder                                     | 2.5 - 10                                   |
|                                                    | EUCON WR-91                                                 | A       | Water-reducer                                              | 3                                          |
|                                                    |                                                             | MR      | Mid-range water-reducer                                    | 5                                          |
|                                                    |                                                             | D       | Water-reducer retarder                                     | 6                                          |
|                                                    | EUCON A+                                                    | A       | Water-reducer                                              | 3.5                                        |
|                                                    |                                                             | MR      | Mid-range water-reducer                                    | 4.5                                        |
|                                                    | EUCON Retarder75                                            | D       | Water-reducer retarder                                     | 3.5                                        |
|                                                    | EUCON Stasis                                                | D       | Water-reducer retarder                                     | 1 - 16                                     |
|                                                    | EUCON AIR MAC12                                             | AE      | Air-entraining                                             | 1.5 - 4                                    |
|                                                    | PLASTOL 5700                                                | F       | High-range water-reducer                                   | 2 - 10                                     |
|                                                    | PLASTOL 6400                                                | F       | High-range water-reducer                                   | 4.5 - 12                                   |
|                                                    | PLASTOL 6420                                                | MR      | Mid-range water-reducer                                    | 2 - 5.5                                    |
|                                                    |                                                             | F       | High-range water-reducer                                   | 5.5 - 10                                   |
| (Continued)                                        | PLASTOL ULTRA 209                                           | F       | High-range water-reducer                                   | 3.5 - 12                                   |

| Qualified Products List (QPL)                      |                                                          |      |                                          |                                            |
|----------------------------------------------------|----------------------------------------------------------|------|------------------------------------------|--------------------------------------------|
| Admixtures for Concrete                            |                                                          |      |                                          |                                            |
| Air Entraining - ASTM C 260; Chemical - ASTM C 494 |                                                          |      |                                          |                                            |
| (See Notes Following Listing of Admixtures)        |                                                          |      |                                          |                                            |
| Spec. # and Material Name                          | Manufacturer or Supplier and Trade Name                  | Type | Producer and Description                 | Recommended Dosage min. or range fl oz/cwt |
| 903.01<br>Air Entraining Admixtures                | <u>MAPEI Corporation</u><br>Dynamon EW 100<br>Dynamon SX | A    | Water-reducer                            | 4                                          |
|                                                    |                                                          | A    | Water-reducer                            | 2 - 3                                      |
|                                                    |                                                          | MR   | Mid-range water-reducer                  | 3 - 5                                      |
| 903.02<br>Liquid Chemical Admixtures               | Dynamon SX 37                                            | F    | High-range water-reducer                 | 5 - 12                                     |
|                                                    |                                                          | A    | Water-reducer                            | 1.5                                        |
|                                                    |                                                          | MR   | Mid-range water-reducer                  | 2.5                                        |
|                                                    | Dynamon Easy 75                                          | F    | High-range water-reducer                 | 4.5                                        |
|                                                    |                                                          | A    | Water-reducer                            | 2.0                                        |
|                                                    |                                                          | MR   | Mid-range water-reducer                  | 4.0                                        |
|                                                    | Mapeair 154                                              | F    | High-range water-reducer                 | 6.0                                        |
|                                                    |                                                          | A    | Water-reducer                            | 0.5                                        |
|                                                    |                                                          | MR   | Mid-range water-reducer                  | 1.0                                        |
|                                                    | Mapeair N                                                | AE   | Air-entraining                           | 1.0                                        |
|                                                    | Mapeair SA                                               | AE   | Air-entraining                           | 0.4 - 3                                    |
|                                                    | Mapeair SA-50                                            | AE   | Air-entraining                           | 0.5 - 3                                    |
|                                                    | MapeCube 60                                              | A    | Water-reducer                            | 8.0                                        |
|                                                    | Mapecrete Resolve                                        | D    | Water-reducer retarder                   | 3.0                                        |
|                                                    | Mapefast Super Set                                       | C    | Accelerator (non-chloride)               | 16 - 32                                    |
|                                                    | Mapefast Super Set II                                    | E    | Water-reducer accelerator (non-chloride) | 10                                         |
|                                                    | Mapefast Super Set Plus                                  | C    | Accelerator (non-chloride)               | 10 - 90                                    |
|                                                    |                                                          | E    | Water-reducer accelerator (non-chloride) | 10 - 90                                    |
|                                                    | Mapeplast 400NC                                          | A    | Water-reducer                            | 3.0                                        |
|                                                    | Mapeplast 400NS                                          | A    | Water-reducer                            | 5.5                                        |
|                                                    | Mapeplast KB-1200                                        | D    | Water-reducer retarder                   | 8.0                                        |
|                                                    |                                                          | A    | Water-reducer                            | 3 - 5                                      |
|                                                    |                                                          | MR   | Mid-range water-reducer                  | 5 - 8                                      |
|                                                    | Mapeplast Paver Plus                                     | A    | Water-reducer                            | 2 - 8                                      |
|                                                    | Mapetard R                                               | D    | Water-reducer retarder                   | 3 - 5                                      |
|                                                    | Polychem VR                                              | AE   | Air-entraining (vinsol resin)            | 0.5                                        |
|                                                    | Polychem SA-14                                           | AE   | Air-entraining                           | 0.5 - 3.0                                  |
|                                                    | Polychem RENU                                            | D    | Water-reducer retarder                   | 3                                          |
| (Continued)                                        | Polychem SPC                                             | F    | High-range water-reducer                 | 5.5                                        |

| Qualified Products List (QPL)                                                                                                |                                            |      |                          |                                                  |
|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|------|--------------------------|--------------------------------------------------|
| Admixtures for Concrete<br>Air Entraining - ASTM C 260; Chemical - ASTM C 494<br>(See Notes Following Listing of Admixtures) |                                            |      |                          |                                                  |
| Spec. # and<br>Material Name                                                                                                 | Manufacturer or Supplier<br>and Trade Name | Type | Producer and Description | Recommended<br>Dosage min. or<br>range fl oz/cwt |
| 903.01<br>Air Entraining<br>Admixtures                                                                                       | <u>Master Builders Solutions</u>           |      |                          |                                                  |
|                                                                                                                              | <u>US LLC</u>                              |      |                          |                                                  |
| 903.02<br>Liquid Chemical<br>Admixtures                                                                                      | MasterSet DELVO                            | D    | Water-reducer retarder   | 3                                                |
|                                                                                                                              | MasterGlenium 3400                         | F    | High-range water-reducer | 3                                                |
|                                                                                                                              | MasterGlenium 7500                         | A    | Water-reducer            | 1.5                                              |
|                                                                                                                              | MasterGlenium7511                          | F    | High-range water-reducer | 3 – 15                                           |
|                                                                                                                              |                                            | A    | Water-reducer            | 2 – 4                                            |
|                                                                                                                              |                                            | MR   | Mid-range water-reducer  | 4 – 6                                            |
|                                                                                                                              | MasterGlenium 7700                         | F    | High-range water-reducer | 6 – 15                                           |
|                                                                                                                              |                                            | F    | High-range water-reducer | 4 – 15                                           |
|                                                                                                                              |                                            | F    | High-range water-reducer | 4                                                |
|                                                                                                                              | MasterGlenium 7720                         | A    | Water-reducer            | 1.7                                              |
|                                                                                                                              |                                            | MR   | Mid-range water-reducer  | 2.6                                              |
|                                                                                                                              |                                            | F    | High-range water-reducer | 3.2                                              |
|                                                                                                                              | MasterGlenium 7920                         | F    | High-range water-reducer | 4                                                |
|                                                                                                                              |                                            | MR   | Mid-range water-reducer  | 2                                                |
|                                                                                                                              |                                            | F    | High-range water-reducer | 4                                                |
|                                                                                                                              | MasterGlenium 7925                         | MR   | Mid-range water-reducer  | 2                                                |
|                                                                                                                              |                                            | A    | Water-reducer            | 2                                                |
|                                                                                                                              |                                            | MR   | Mid-range water-reducer  | 3                                                |
|                                                                                                                              | MasterGlenium 7960                         | F    | High-range water-reducer | 4                                                |
|                                                                                                                              |                                            | AE   | Air-entraining           | 1                                                |
|                                                                                                                              |                                            | AE   | Air-entraining           | 1                                                |
|                                                                                                                              | MasterAir AE 200                           | AE   | Air-entraining           | 0.5                                              |
|                                                                                                                              | MasterAir AE 400                           | AE   | Air-entraining           | 0.5                                              |
|                                                                                                                              | MasterEase 5000                            | A    | Water-reducer            | 1 - 5                                            |
|                                                                                                                              | MasterPolyheed 900                         | A    | Water-reducer            | 4                                                |
|                                                                                                                              |                                            | MR   | Mid-range water-reducer  | 7                                                |
|                                                                                                                              |                                            | A    | Water-reducer            | 4.0                                              |
|                                                                                                                              | MasterPolyheed 980                         | MR   | Mid-range water-reducer  | 11.0                                             |
|                                                                                                                              |                                            | F    | High-range water-reducer | 13.0                                             |
|                                                                                                                              |                                            | A    | Water-reducer            | 3                                                |
|                                                                                                                              | MasterPolyheed 997                         | MR   | Mid-range water-reducer  | 6                                                |
|                                                                                                                              |                                            | F    | High-range water-reducer | 10                                               |
|                                                                                                                              |                                            | A    | Water-reducer            | 2.5 – 4                                          |
|                                                                                                                              | MasterPolyheed 1725                        | MR   | Mid-range water-reducer  | 5.5 – 7                                          |
|                                                                                                                              |                                            | F    | High-range water-reducer | 8 – 12                                           |
|                                                                                                                              |                                            | A    | Water-reducer            | 4                                                |
|                                                                                                                              | MasterPolyheed 100                         | MR   | Mid-range water-reducer  | 8                                                |
|                                                                                                                              |                                            | A    | Water-reducer            | 2                                                |
|                                                                                                                              |                                            | D    | Water-reducer retarder   | 4                                                |
|                                                                                                                              | MasterPozzololith 200                      | A    | Water-reducer            | 2                                                |
|                                                                                                                              |                                            | D    | Water-reducer retarder   | 5                                                |
|                                                                                                                              | MasterPozzololith 700                      | A    | Water-reducer            | 2                                                |
|                                                                                                                              |                                            | D    | Water-reducer retarder   | 5                                                |

(Continued)

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| Qualified Products List (QPL)                                                                                                |                                                    |      |                            |                                                  |
|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|------|----------------------------|--------------------------------------------------|
| Admixtures for Concrete<br>Air Entraining - ASTM C 260; Chemical - ASTM C 494<br>(See Notes Following Listing of Admixtures) |                                                    |      |                            |                                                  |
| Spec. # and<br>Material Name                                                                                                 | Manufacturer or Supplier<br>and Trade Name         | Type | Producer and Description   | Recommended<br>Dosage min. or<br>range fl oz/cwt |
| 903.01<br>Air Entraining<br>Admixtures                                                                                       | Master Builders Solutions<br><u>US LLC (cont.)</u> |      |                            |                                                  |
|                                                                                                                              | MasterSet AC 534                                   | C    | Accelerator (non-chloride) | 10                                               |
|                                                                                                                              | MasterSet AC 534V1                                 | C    | Accelerator (non-chloride) | 10                                               |
| 903.02<br>Liquid Chemical<br>Admixtures                                                                                      | MasterSet FP 20                                    | C    | Accelerator (non-chloride) | 10                                               |
|                                                                                                                              | MasterSet R 99                                     | D    | Water-reducer retarder     | 2.5                                              |
|                                                                                                                              | MasterRheobuild 1000                               | MR   | Mid-range water-reducer    | 9                                                |
|                                                                                                                              |                                                    | F    | High-range water-reducer   | 13                                               |
| (Continued)                                                                                                                  | Master X-Seed 66                                   | A    | Water-reducer              | 4                                                |

| Qualified Products List (QPL)                                                                                                |                                                               |      |                                             |                                                  |
|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------|---------------------------------------------|--------------------------------------------------|
| Admixtures for Concrete<br>Air Entraining - ASTM C 260; Chemical - ASTM C 494<br>(See Notes Following Listing of Admixtures) |                                                               |      |                                             |                                                  |
| Spec. # and<br>Material Name                                                                                                 | Manufacturer or Supplier<br>and Trade Name                    | Type | Producer and Description                    | Recommended<br>Dosage min. or<br>range fl oz/cwt |
| 903.01<br>Air Entraining<br>Admixtures                                                                                       | <u>Premiere Concrete</u><br><u>Admixtures</u><br>EcoFlo Green | F    | High-range water-reducer                    | 8 - 16                                           |
|                                                                                                                              |                                                               | A    | Water-reducer                               | 2 - 4                                            |
| 903.02<br>Liquid Chemical<br>Admixtures                                                                                      | Optiflo 700                                                   | MR   | Mid-range water-reducer                     | 5 - 8                                            |
|                                                                                                                              |                                                               | A    | Water-reducer                               | 3 - 5                                            |
|                                                                                                                              |                                                               | MR   | Mid-range water-reducer                     | 5 - 10                                           |
|                                                                                                                              | OptiFlo 50                                                    | F    | High-range water-reducer                    | 12.0 - 16.0                                      |
|                                                                                                                              |                                                               | A    | Water-reducer                               | 3 - 5                                            |
|                                                                                                                              |                                                               | MR   | Mid-range water-reducer                     | 5 - 6                                            |
|                                                                                                                              |                                                               | D    | Water-reducer retarder                      | 6                                                |
|                                                                                                                              | OptiFlo 500                                                   | A    | Water-reducer                               | 2 - 3.5                                          |
|                                                                                                                              |                                                               | D    | Water-reducer retarder                      | 3.5 - 5                                          |
|                                                                                                                              | OptiFlo MR                                                    | A    | Water-reducer                               | 3 - 5                                            |
|                                                                                                                              |                                                               | MR   | Mid-range water-reducer                     | 5 - 12                                           |
|                                                                                                                              |                                                               | G    | High-range water-reducer<br>retarder        | 12.0 - 16.0                                      |
|                                                                                                                              | OptiFlo N2A                                                   | A    | Water-reducer                               | 3 - 6                                            |
|                                                                                                                              |                                                               | MR   | Mid-range water-reducer                     | 6 - 9                                            |
|                                                                                                                              |                                                               | G    | High-range water-reducer<br>retarder        | 13 - 15                                          |
|                                                                                                                              | OptiFlo Plus                                                  | MR   | Mid-range water-reducer                     | 5 - 12                                           |
|                                                                                                                              | OptiFlo 100R                                                  | D    | Water-reducer retarder                      | 3 - 5                                            |
|                                                                                                                              | ConAir                                                        | AE   | Air-entraining                              | 0.5 - 4                                          |
|                                                                                                                              | ConAir 260                                                    | AE   | Air-entraining                              | 0.5 - 4                                          |
|                                                                                                                              | ConAir X                                                      | AE   | Air-entraining                              | 0.5 - 4                                          |
|                                                                                                                              | UltraFlo 2000                                                 | A    | Water-reducer                               | 2 - 4                                            |
|                                                                                                                              |                                                               | MR   | Mid-range water-reducer                     | 4 - 6                                            |
|                                                                                                                              |                                                               | F    | High-range water-reducer                    | 6 - 12                                           |
|                                                                                                                              | UltraFlo 5600                                                 | MR   | Mid-range water-reducer                     | 6 - 10                                           |
|                                                                                                                              |                                                               | F    | High-range water-reducer                    | 10 - 24                                          |
|                                                                                                                              |                                                               | A    | Water-reducer                               | 3 - 6                                            |
|                                                                                                                              | UltraFlo DP                                                   | F    | High-range water-reducer                    | 5 - 12                                           |
|                                                                                                                              | NitroCast K                                                   | E    | Water-reducer accelerator<br>(non-chloride) | 10 - 90                                          |
|                                                                                                                              | NitroCast NC                                                  | E    | Water-reducer accelerator<br>(non-chloride) | 10 - 90                                          |
| (Continued)                                                                                                                  | ProLong L                                                     | D    | Water-reducer retarder                      | 2.5 - 6.5                                        |

| Qualified Products List (QPL)                      |                                         |      |                                          |                                            |
|----------------------------------------------------|-----------------------------------------|------|------------------------------------------|--------------------------------------------|
| Admixtures for Concrete                            |                                         |      |                                          |                                            |
| Air Entraining - ASTM C 260; Chemical - ASTM C 494 |                                         |      |                                          |                                            |
| (See Notes Following Listing of Admixtures)        |                                         |      |                                          |                                            |
| Spec. # and Material Name                          | Manufacturer or Supplier and Trade Name | Type | Producer and Description                 | Recommended Dosage min. or range fl oz/cwt |
| 903.01<br>Air Entraining Admixtures                | <u>SIKA CORP.</u>                       |      |                                          |                                            |
|                                                    | Sika Plastocrete-10N                    | A    | Water-reducer                            | 2                                          |
|                                                    | Sika Plastocrete-250                    | D    | Water-reducer retarder                   | 3.5                                        |
|                                                    |                                         | A    | Water-reducer                            | 2                                          |
| 903.02<br>Liquid Chemical Admixtures               | Sika Plastiment XR                      | D    | Water-reducer retarder                   | 5                                          |
|                                                    |                                         | D    | Water-reducer retarder                   | 3                                          |
|                                                    | Sika AEA-14                             | AE   | Air-entraining                           | 2                                          |
|                                                    | Sika AIR 260                            | AE   | Air-entraining                           | 2                                          |
|                                                    | Sika AIR 360                            | AE   | Air-entraining                           | 1                                          |
|                                                    | SikaControl Air-160                     | AE   | Air-Entraining                           | 1                                          |
|                                                    | Sikament AFM                            | A    | Water-reducer                            | 2                                          |
|                                                    |                                         | MR   | Mid-range water-reducer                  | 5                                          |
|                                                    | Sikament SPMN                           | F    | High-range water-reducer                 | 10                                         |
|                                                    |                                         | MR   | Mid-range water-reducer                  | 6.5                                        |
|                                                    | Sikament 475                            | F    | High-range water-reducer                 | 10                                         |
|                                                    |                                         | A    | Water-reducer                            | 3                                          |
|                                                    | Sikament 686                            | F    | High-range water-reducer                 | 7                                          |
|                                                    |                                         | MR   | Mid-range water-reducer                  | 5                                          |
|                                                    | SikaPlast 200                           | A    | Water-reducer                            | 3                                          |
|                                                    |                                         | MR   | Mid-range water-reducer                  | 5.5                                        |
|                                                    | Sikaplast 300 GP                        | F    | High-range water-reducer                 | 8                                          |
|                                                    |                                         | A    | Water-reducer                            | 3                                          |
|                                                    | SikaSet NC                              | G    | High-range water-reducer retarder        | 13                                         |
|                                                    |                                         | MR   | Mid-range water-reducer                  | 6.5                                        |
|                                                    | Sikatard 440                            | A    | Water-reducer                            | 5                                          |
|                                                    |                                         | MR   | Mid-range water-reducer                  | 7.5                                        |
|                                                    | Rapid - 1                               | C    | Accelerator (non-chloride)               | 10                                         |
|                                                    |                                         | E    | Water-reducer accelerator (non-chloride) | 10                                         |
|                                                    | ViscoCrete 1000                         | D    | Water-reducer retarder                   | 3                                          |
|                                                    |                                         | C    | Accelerator (non-chloride)               | 20                                         |
|                                                    | ViscoCrete 1100                         | A    | Water-reducer                            | 1.5                                        |
|                                                    |                                         | MR   | Mid-range water-reducer                  | 3                                          |
|                                                    | ViscoCrete 2100                         | F    | High-range water-reducer                 | 8                                          |
|                                                    |                                         | A    | Water-reducer                            | 2.5                                        |
|                                                    | ViscoCrete 4100                         | MR   | Mid-range water-reducer                  | 4.0                                        |
|                                                    |                                         | F    | High-range water-reducer                 | 4.5                                        |
|                                                    |                                         | F    | High-range water-reducer                 | 5                                          |
|                                                    |                                         | F    | High-range water-reducer                 | 5                                          |
| (Continued)                                        |                                         |      |                                          |                                            |

| Qualified Products List (QPL)                                                                                                |                                         |      |                          |                                            |
|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------|--------------------------|--------------------------------------------|
| Admixtures for Concrete<br>Air Entraining - ASTM C 260; Chemical - ASTM C 494<br>(See Notes Following Listing of Admixtures) |                                         |      |                          |                                            |
| Spec. # and Material Name                                                                                                    | Manufacturer or Supplier and Trade Name | Type | Producer and Description | Recommended Dosage min. or range fl oz/cwt |
| 903.01                                                                                                                       | <u>SIKA CORP. (cont.)</u>               |      |                          |                                            |
| Air Entraining Admixtures                                                                                                    | ViscoCrete 5100                         | F    | High-range water-reducer | 5                                          |
|                                                                                                                              | ViscoCrete 6100                         | F    | High-range water-reducer | 5                                          |
|                                                                                                                              | ViscoFlow-585                           | A    | Water-reducer            | 3.0                                        |
| 903.02                                                                                                                       |                                         | MR   | Mid-range water-reducer  | 5.0                                        |
| Liquid Chemical Admixtures                                                                                                   |                                         | F    | High-range water-reducer | 7.0                                        |
|                                                                                                                              | Viscoflow-2020                          | A    | Water-reducer            | 3                                          |
| (Continued)                                                                                                                  |                                         | MR   | Mid-range water-reducer  | 6                                          |

## Spec. 903 Admixture Notes:

### 1. Dosage Rate

The dosage rate indicated is that recommended by the producer or that used in qualification tests for approval of the admixture. There is no assurance that the desired water-reduction and/or retardation will be achieved with these dosages with a particular cement being used, as the effect is dependent on the cement chemistry, concrete temperature, and other factors. Increasing the dosage appreciably above that recommended may result in abnormal behavior of the concrete, such as extremely long or very short setting times. Reducing the dosage below that recommended may have the effect of substantially no change from concrete without the admixture. The dosage shown for retarding admixtures will normally produce a 1- to 3-hour retardation in the setting of the concrete, compared to similar concrete without the admixture, when used at normal temperatures (approximately 70°F). Increased dosage, within reasonable limits, will usually increase the retardation. Use of a retarding admixture will not slow the stiffening of concrete due to loss of slump.

### 2. Air-Entraining Admixtures

The contractor is responsible for verifying the compatibility of all chemical admixtures and the air-entraining admixture. If admixtures are from more than one manufacturer, run a trial batch prior to concrete placement. Provide test results for slump, air-entrainment and seven-day compression for two (2) cylinders. Actual dosage for Air-Entrainers may vary from those listed on the Qualified Products List as required by the mix design.

### 3. Lignin Type Admixtures

Lignin (or lignosulfonate) admixtures typically will cause the entrainment of additional air in air-entrained concrete. This type admixture does not generally entrain air by itself, but makes other air-entraining materials much more efficient. Thus, a change in dosage of either the chemical admixture or the air-entraining admixture may have a more significant effect on the air content than normally expected. It is the contractor's responsibility to be sure the specific admixture proposed for use is compatible with his operations so that excessive air content in the concrete is not developed. Most lignosulfonate type water-reducers will provide a moderate retardation if used at higher dosage rates.

### 4. High-Range Water-Reducers

Type F and G high range water-reducing (HRWR) admixtures (frequently called "superplasticizers") are capable of greater water reduction and greater strength gain than regular Type A water-reducers, or can provide substantial increase in slump while maintaining a cohesive concrete without loss of strength. Type G admixtures will also provide retardation of setting similar to Type D admixtures. Problems with this type of admixture include the following: (a) Loss of slump is frequently much more rapid than with plain concrete or when other admixtures are used, especially for older formulations of superplasticizers; (b) Effectiveness depends on the chemistry of the Portland cement, and the cements generally available in Michigan do not have the most favorable chemistry; (c) The air-void system may be adversely affected. Type F and G admixtures are to be used only according to the provisions of the Standard Specifications.

## 5. Admixtures Containing Chlorides

Some Type A and D admixtures may contain chlorides, as noted in the above listing. Section 903.03 of the Standard Specifications permits the use of these admixtures, except they are prohibited in concrete for bridge superstructure, prestressed concrete, and concrete containing galvanized steel or aluminum.

(End of Admixture Notes)

| Qualified Products LIST (QPL)                                                                                                                                                                         |                                                                                                                                                                                                                          |                                                                                                                                                                                                               |                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Spec. # and Material Name                                                                                                                                                                             | Product Name                                                                                                                                                                                                             |                                                                                                                                                                                                               | Manufacturers or Suppliers                                                                                                                                                                                                             |
| 905.03C<br>Bar Reinforcement<br>(Epoxy Coating)<br><br>Note: Epoxy Coating Material Only. The Coating Applicator and Bar Manufacturer can be Approved Manufacturers, see Approved Manufacturers List. | <u>Epoxy Coating Product Name</u><br>Scotchkote FBEC 413<br>Resicoat RB-600<br><br>Nap-Gard 7-2719 Rebar FBE<br>Nap-Gard 7-2750<br><br>Pureflex Green<br>Greenbar 720A009<br>Greenbar 720A009LG<br>Vectrashield PFY80006 | <u>Repair Coating Product Name</u><br>Scotchkote 323R<br>Thermal Chem BarPatch #803<br>Nap-Gard 7-1868<br><br>Nap-Gard 7-1868<br>Tnemec Series 66 G8925<br><br>Greenbar 920966S<br><br>Vectrashield Patch Kit | 3M<br>Akzo Nobel Powder Coatings<br>Axalta Coating Systems<br><br>Axalta Coating Systems<br>Axalta Coating Systems<br><br>IFS Coatings, Inc.<br>Valspar (Sherwin Williams)<br>Valspar (Sherwin Williams)<br>Valspar (Sherwin Williams) |
| 906.09<br>Shear Developers<br>(Studs)                                                                                                                                                                 | <u>Markings</u><br>B<br>C<br>N<br><br>X<br><br>TW                                                                                                                                                                        |                                                                                                                                                                                                               | Bluearc Stud Welding<br>Cox Industries<br>Nelson Stud Welding Co.<br>(Div. of Gregory Ind.)<br>Stud Welding Associates, Inc.<br>Tru-Weld from Tru-Fit Products Corp.                                                                   |
| 909.01<br>Recycled Rubber<br>Adjusting Rings for<br>Manholes and Drainage<br>Structures                                                                                                               | Flex-O-Ring<br><br>Pivoted Turnbuckle<br><br>Pro-Ring<br>Infra-Riser<br>Ladtech HDPE<br>HDPE Recycled Manhole Adjusting Ring<br>UGT Grade Ring<br>Whirlygig                                                              |                                                                                                                                                                                                               | American Highway Products<br>American Highway Products<br>Cretex Specialty Products<br>East Jordan Iron Works<br>Ladtech, Inc.<br>P. Spear Company<br>Underground Technologies<br>Whirlygig, Inc.                                      |

| Qualified Products List (QPL)      |                                          |                                                                                                           |                        |                                     |
|------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------|
| Spec. #                            | Pipe Material                            | Joint System                                                                                              | Pipe Diameter (Inches) | Approved Manufacturers              |
| 909.03<br>Watertight Joint Systems | Corrugated Polyethylene Pipe             | Bell/Spigot N-12WT Pro-Link Ultra WT Rubber Gasket                                                        | 12 thru 60             | ADS – Hancor                        |
|                                    | Corrugated Polyethylene Pipe             | Compression Gasket                                                                                        | 12 thru 24             | Baughman Tile Co.                   |
|                                    | Corrugated Polyethylene Pipe             | Haviland Smooth-Flow WT Compression Gasket                                                                | 12 thru 36             | Haviland Drainage Products Co.      |
|                                    | Corrugated Polyethylene Pipe             | MaxSeal Gasket                                                                                            | 12 thru 60             | JM Eagle                            |
|                                    | Corrugated Polyethylene Pipe             | Gold Flow Corrugated SLCP Compression Gasket                                                              | 12 thru 36             | Prinsco, Inc.                       |
|                                    | Corrugated Polyethylene Pipe             | Gold Flow WT w/SpringSeal gaskets                                                                         | 12 thru 36             | Prinsco, Inc                        |
|                                    | Corrugated Polyethylene Pipe             | Bell/Spigot Polyisoprene Gaskets                                                                          | 12 thru 60             | Southeast Culvert, Inc.             |
|                                    | Corrugated Polyethylene Pipe             | Vertex Single Compression Gasket                                                                          | 12 thru 60             | Southeast Culvert, Inc.             |
|                                    | Corrugated Polyvinyl Chloride Pipe (PVC) | Integrally Formed Elastomeric Gasket, Bell/Spigot                                                         | 12 thru 36             | Contech Engineered Solutions, LLC   |
|                                    | Concrete Pipe                            | Single Offset Self-Lubricating Gasket, Tylox - Hamilton Kent                                              | 12 thru 24             | Green Infrastructure Partners, Inc. |
|                                    | Concrete Pipe                            | Press Seal Gasket Corp.-4G, 4F; Hamilton Kent-Tylox Super Seal; Universal Polymer & Rubber-Profile Gasket | 12 thru 33             | Northern Concrete Pipe, Inc.        |
|                                    | Concrete Pipe                            | Press Seal Gasket Corp.-4G, 4F, O-ring, M875;                                                             | 36 thru 72             | Northern Concrete Pipe, Inc.        |
| (Continued)                        |                                          |                                                                                                           |                        |                                     |

| Qualified Products List (QPL)      |                       |                                                                                       |                                                             |                                   |
|------------------------------------|-----------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------|
| Spec. #                            | Pipe Material         | Joint System                                                                          | Pipe Diameter (Inches)                                      | Approved Manufacturers            |
| 909.03<br>Watertight Joint Systems | Concrete Pipe         | Hamilton Kent-Tylox SuperSeal Press Seal Gasket Corp.O-ring, M875;                    | 78 thru 144                                                 | Northern Concrete Pipe, Inc.      |
|                                    | Concrete Pipe         | Hamilton Kent Compression Gasket                                                      | 30 thru 72                                                  | Oldcastle Infrastructure          |
|                                    | Concrete Pipe         | Compression Gasket, Profile Cross Section, O-Ring Cross Section, Pipe Gasket & Supply | 12 thru 24                                                  | Upper Peninsula Concrete Pipe Co. |
|                                    | Concrete Pipe         | Profile X-Section Gasket, Hamilton Kent                                               | 12 thru 36                                                  | County Materials Corp.            |
|                                    | Corrugated Metal Pipe | H12 Hugger Band with Single Bolt Bar and Strap with Compression Gasket                | 12 thru 24                                                  | Contech Engineered Solutions, LLC |
|                                    | Corrugated Metal Pipe | Gasket-Bidco Wrap 12 x 3/8 Band                                                       | 12 thru 18 Band 7<br>24 thru 30 Band 12<br>& larger Band 24 | Jensen Bridge & Supply Co.        |
|                                    | Corrugated Metal Pipe | 12 Bolted Band Angle with Compression Gasket Bidco Wrap 6 x 1/8 Band                  | 12 thru 72                                                  | Cadillac Culvert                  |
|                                    | Corrugated Metal Pipe | Bolted Corrugated Steel Band with Compression Gasket Ensolute IV Series               | 12 thru 24                                                  | St. Regis Culvert Inc.            |

| Qualified Products List (QPL)                                                                                                                      |                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Spec. # and Material Name                                                                                                                          | Product Name                                                                                                                                                                                                                                      | Manufacturers or Suppliers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 909.05A1<br>Polymer Coated Corrugated Steel Pipe                                                                                                   | Trenchcoat Protective Film                                                                                                                                                                                                                        | Valfilm USA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 909.06<br>Class A, B and F Bury Plastic Pipe<br>Smooth Lined Corrugated Plastic Pipe (CPE/HDPE);<br>Corrugated Polyvinyl Chloride Pipe (CPV)       | N12 Dual Wall (CPE/HDPE)<br><br>A-2000 PVC (CPV)<br><br>Smooth Flow (CPE)<br>GoldFlo WT HDPE (CPE/HDPE)                                                                                                                                           | Advanced Drainage Systems (ADS)<br>Contech Engineered Solutions, LLC<br>Haviland Drainage Products<br>Prinsco, Inc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 909.10<br>Drainage Marker Post                                                                                                                     | See Delineator Posts, Flexible Material, <a href="#">QPL 919.03D</a>                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 910.04<br>Silt Fence Geotextile (fabric only)<br>Fabricated Fence must be assembled by an Approved Manufacturer listed in <a href="#">916.02</a> . | LS125N<br><br>GTX-2023-01-233<br><br>ANITA-100SF<br>ANITA-124SF<br>Belton 940<br><br>Stronghold 100G<br><br>Kintex SF-3<br><br>GTF - 180<br>NCIF SF77<br><br>NCIF SF100<br><br>Propex 2130<br><br>SKAPS W100<br>TerraTex SF-D<br><br>WINFAB 105SF | ACF Environmental, Richmond, VA<br>Acme Landscape & Geotextiles, Gujarat, INDIA<br>Anita Plastics, Inc., Solon, OH<br>Anita Plastics, Inc., Solon, OH<br>Belton Industries, Inc., Norcross, SC<br>Cherokee Manufacturing LLC, Morganton, NC<br>Geoproducts, Inc., Birmingham, MI<br>LinQ Industrial Fabrics<br>Nanjing Cenmen Industrial Fabrics (NCIF) Geosynthetics, Linyi, Shandong, China<br>Nanjing Cenmen Industrial Fabrics (NCIF) Geosynthetics, Linyi, Shandong, China<br>Propex Fabrics, Inc., Austell, GA<br>Skaps Industries, Athens, GA<br>Hanes Geo Components, Winston-Salem, NC<br>Willacoochee Industrial Fabrics, Inc., Willacoochee, GA |

| Qualified Products List (QPL)                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Spec. # and Material Name                                                                                                           | Product Name                                                                                                                                                                                                                                                                                                                                                                                                                | Manufacturers or Suppliers                                                                                                                                                                                                                                                                                                                                                                                                        |
| 912.08Q<br>Recycled Plastic Or Rubber<br>Guardrail Offset Blocks                                                                    | <u>Model</u><br><u>Type B/BD, MGS-8 and MGS-8D</u><br>Dura-Bull Blocclout SPI #4<br>Diamond Block<br>Eco-Block<br>Mondo Block<br><br>P-Block<br><br>Thrie Beam Block<br><br>EDEN Block<br>Polylumber PL6814R<br>King Block<br>8 in. King MASH-16 Composite<br>Block<br><u>Type T/TD</u><br>Mondo Block<br>Thrie Beam Block<br><br>EDEN Block<br>Polylumber<br>King Size King Block<br>8 in. King MASH-16 Composite<br>Block | Creative Building Products<br>Diamond Roadway Products<br>Eco-Composites LLC<br>Mondo Polymer Technologies,<br>Inc.<br>Monroeville Industrial<br>Moldings<br>Monroeville Industrial<br>Moldings<br>Project Back to EDEN<br>Ramco International<br>Valtir, LLC<br>Valtir, LLC<br><br>Mondo Polymer Technologies<br>Monroeville Industrial<br>Moldings<br>Project Back to EDEN<br>Ramco International<br>Valtir, LLC<br>Valtir, LLC |
| 914.04A<br>Hot-Poured Joint and Crack<br>Sealant<br>(Joint and Crack Sealer in<br>Concrete Pavements, Bridges,<br>Other Structures) | Deery 101 ELT<br>Roadsaver 522<br>3725<br>Elastoflex 72<br>MACSEAL 6690-4 MOD<br>Dura-Fill 3725<br>3405-M Michigan                                                                                                                                                                                                                                                                                                          | Crafco, Inc.<br>Crafco, Inc.<br>Crafco, Inc.<br>Maxwell Products<br>McAsphalt, Ind.<br>P & T Products<br>W.R. Meadows                                                                                                                                                                                                                                                                                                             |
| 914.04C<br>HMA Crack Treatment and<br>Overband                                                                                      | Roadsaver 515MN<br>Deery 3723<br>Nuvo Spec 3405<br>Dura-Fill 3405MI<br>Pure Asphalt 3405                                                                                                                                                                                                                                                                                                                                    | Crafco, Inc.<br>Crafco, Inc.<br>Maxwell Products<br>P & T Products<br>Pure Asphalt Company, Inc.                                                                                                                                                                                                                                                                                                                                  |

| Qualified Products List (QPL)                                                                                  |                                 |                                                   |
|----------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------------------------|
| Spec. # and Material Name                                                                                      | Product Name                    | Manufacturers or Suppliers                        |
| 914.06<br>Epoxy Resin Adhesive<br>(Crack Injection)                                                            | Crackbond LR321 LV              | Adhesives Technology Corp.                        |
|                                                                                                                | Crackbond LR321 SLV             | Adhesives Technology Corp.                        |
|                                                                                                                | Akabond 817                     | Axson, Eaton Rapids, MI<br>(formerly Akemi Corp.) |
|                                                                                                                | Akabond 818                     | Axson, Eaton Rapids, MI<br>(formerly Akemi Corp.) |
|                                                                                                                | Akabond 819                     | Axson, Eaton Rapids, MI<br>(formerly Akemi Corp.) |
|                                                                                                                | BHS-1617                        | Blackhawk Sales Co, Inc.,<br>Rock Island, IL      |
|                                                                                                                | BHS-1618                        | Blackhawk Sales Co, Inc.,<br>Rock Island, IL      |
|                                                                                                                | BHS-1619                        | Blackhawk Sales Co, Inc.,<br>Rock Island, IL      |
|                                                                                                                | Arndite 8560                    | Ciba Corporation, East<br>Lansing, MI             |
|                                                                                                                | Pro-Poxy 50                     | Dayton Superior (Unitex)                          |
|                                                                                                                | EP-SLV                          | E-Chem, LLC                                       |
|                                                                                                                | True Grip 150                   | J. Dedoes, Inc., Milford, MI                      |
|                                                                                                                | NIP124LV                        | Epoxy Unlimited, Harrison<br>Twp, MI              |
|                                                                                                                | CI 060                          | Hilti Inc., Columbus, OH                          |
| 914.07A<br>Transverse Pavement Joint<br>2. Dowel Bar Coating (Epoxy)<br><br>3. Alternate Bond Release<br>Agent | Dynapoxy EP-450                 | Pecora Corporation                                |
|                                                                                                                | E Bond 550                      | Ridgemoor Supply, Kentwood,<br>MI                 |
|                                                                                                                | Sikadur 35, Hi-Mod LV           | Sika Corporation, Lyndhurst,<br>NJ                |
|                                                                                                                | Sikadur 52                      | Sika Corporation, Lyndhurst,<br>NJ                |
| 914.08<br>Transverse Pavement Joint,<br>Deformed Dowel Bar Coating                                             | Rezi-Weld LV State              | W.R. Meadows                                      |
|                                                                                                                | Scotchkote 426                  | 3M                                                |
|                                                                                                                | Resicoat RB 601                 | Akzo Nobel Powder Coatings                        |
|                                                                                                                | Nap-Gard 7-2732P                | Axalta Coating Systems, LLC                       |
|                                                                                                                | PFR 70001                       | Valspar (Sherwin Williams)                        |
| 914.09<br>Straight & Bent Tie Bars for<br>Longitudinal Pavement Joints<br>(Lane Ties), Coating                 | Bond Release Agent - Tectyl 506 | Daubert Chemical                                  |
|                                                                                                                | Safecote HP                     | Daubert Chemical                                  |
|                                                                                                                | BCG Protec 6116 DS MA           | Bradley Coatings Group                            |
| See Reinforcement Bar Coating, <a href="#">QPL 905.03C</a>                                                     |                                 |                                                   |
| See Reinforcement Bar Coating, <a href="#">QPL 905.03C</a>                                                     |                                 |                                                   |

| Qualified Products List (QPL)                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                           |                                                                                                                                            |                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Spec. # and Material Name                                                                                                                                                                                                                                                                                                                                                             | Product Name                                                                                                                                              | Manufacturers or Suppliers                                                                                                                 |                                   |
| 914.11<br>Preformed Waterproofing Membrane<br><br>Note: Not to be used on Treated Wood Materials.                                                                                                                                                                                                                                                                                     | Carlisle CCW 711-Highway and Bridge Membrane<br>Geotac Waterproofing Membrane<br>Geotac Polyester HS<br>Petrotac 4591<br>Protecto Wrap M400 AR<br>MEL-DEK | Carlisle Coatings and Waterproofing<br>Crafcro Inc.<br>Crafcro Inc.<br>Propex Operating Company<br>Protecto Wrap Co.<br>W.R. Meadows, Inc. |                                   |
| 915<br>Coating Systems for Steel Structures, Hanger Assemblies and End Diaphragms<br><br>Notes:<br>*Indicates product can be used on faying surfaces of slip critical bolted connections which require Class "B".<br><br>+Information from the Slip Coefficient and Creep Resistance Test Certificate is given for use with primed bolted connections to meet Class "B" requirements. | *Carbozinc 859<br>+100 hrs min cure, 6 mils max DFT, 10 oz/gal max thin<br>Carboguard 893<br>Carbothane 133 LV                                            | Coats                                                                                                                                      | Carboline Company                 |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                           | 1 <sup>st</sup>                                                                                                                            |                                   |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                           | 2 <sup>nd</sup><br>3 <sup>rd</sup>                                                                                                         |                                   |
|                                                                                                                                                                                                                                                                                                                                                                                       | *Interzinc 315B<br>+48 hrs min cure, 4 mils max DFT, no thinner allowed<br>Intergard 475HS<br>Interthane 870UHS                                           | 1 <sup>st</sup>                                                                                                                            | International Protective Coatings |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                           | 2 <sup>nd</sup><br>3 <sup>rd</sup>                                                                                                         |                                   |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                           | 1 <sup>st</sup>                                                                                                                            |                                   |
|                                                                                                                                                                                                                                                                                                                                                                                       | *Zinc Clad 4100<br>+72 hrs min cure, 5 mils max DFT, 6 oz/gal max thin<br>Macropoxy 646 Fast Cure Epoxy<br>Hi-Solids Polyurethane 250                     | 2 <sup>nd</sup><br>3 <sup>rd</sup>                                                                                                         | Sherwin-Williams                  |
|                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                           |                                                                                                                                            |                                   |

| Qualified Products List (QPL)                                         |                                                                                                                          |                                                                                                                                                               |                                                                                                                                                       |                                                                                                                                 |                                        |
|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Spec. # and Material Name                                             | Seed Varieties                                                                                                           |                                                                                                                                                               |                                                                                                                                                       |                                                                                                                                 |                                        |
| 917.11<br>Seed Varieties                                              | <u>*Kentucky<br/>Blue Grass</u>                                                                                          | <u>*Perennial<br/>Ryegrass</u>                                                                                                                                | <u>*Hard<br/>Fescue</u>                                                                                                                               | <u>*Creeping<br/>Red Fescue</u>                                                                                                 | <u>*Fults Salt<br/>Grass</u>           |
| Varieties of Seed on QPL<br>Date of Testing Not to Exceed<br>One Year | Arc<br>Baron<br>Bristol<br>Brooklawn<br>Cannon<br>Corsair<br>Diva<br>Fielder<br>Guinness<br>Midnight<br>Nassau<br>NuBlue | Advent<br>Accent II<br>Charger II<br>Grand Slam<br>Fiesta 4<br>Manhattan 5<br>Palace II<br>Palmer III<br>Pennant III<br>Pepper II<br>Pillar II<br>Prelude III | Aurora II<br>Aurora Gold<br>Clarinet<br>Eureka II<br>Matterhorn<br>Nanook<br>Nordic<br>Reliant II<br>Reliant IV<br>Rescue<br>Rescue 911<br>Scaldis II | Celestial<br>Chorus<br>Cindy Lou<br>Dawson<br>Epic<br>Garnet<br>Hector<br>Kent<br>Kevin<br>Maxima 1<br>Ruddy<br>Seabreeze<br>GT | Fults<br>Fults II<br>Salty<br>Sea Salt |
| Approved MDOT seed mixtures,<br>see Table 917-2 in the Spec<br>Book.  | NuBlue<br>Plus<br>Parade<br>Raven<br>Rugby II<br>SR 2100<br>SR 2150<br>Touchdown<br>Wildwood                             | Premium<br>Primary II<br>Process<br>Quickstart II<br>Saguaro<br>Savant<br>Sideways<br>SR 4650<br>SR 4660ST                                                    | Spartan II<br>SR 3150                                                                                                                                 | Shademaster<br>II<br>Shoreline<br>Silverlawn<br>SR 5250                                                                         |                                        |
| *Species                                                              |                                                                                                                          |                                                                                                                                                               |                                                                                                                                                       |                                                                                                                                 |                                        |

| Qualified Products List (QPL)                                                       |                                             |                                      |
|-------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------------|
| Spec. # and Material Name                                                           | Product Name                                | Manufacturers or Suppliers           |
| 917.14B1<br>Turf Mulch Blankets,<br>High Velocity Mulch Blankets<br>(Two-Sided Net) | AEC Premier Straw Highway<br>Double Net     | American Excelsior Co.               |
|                                                                                     | Curlex II                                   | American Excelsior Co.               |
|                                                                                     | Contech High Velocity ERO-MAT               | Contech Engineered Solutions,<br>LLC |
|                                                                                     | ECB EX32                                    | ErosionControlBlanket                |
|                                                                                     | ECB S32                                     | ErosionControlBlanket                |
|                                                                                     | ECS-2D                                      | Hanes Geo Components                 |
|                                                                                     | Enviroscape HV Straw Mulch<br>Blanket S2000 | MKB                                  |
|                                                                                     | Erosion Control Blanket DS-150              | MKB                                  |
|                                                                                     | ETRS-2-RD                                   | MKB                                  |
|                                                                                     | Excel SS-2 (Regular)                        | MKB                                  |
|                                                                                     | S150                                        | MKB                                  |
|                                                                                     | S2000D Straw Blanket                        | MKB                                  |
|                                                                                     | Erosion King High Velocity<br>Double Net    | Rhino Seed & Landscape<br>Supply     |
|                                                                                     | S2 Erosion Control Blanket                  | S.I. Geosolutions / Land             |
|                                                                                     | WinterStraw HVW                             | Winters Excelsior Company            |
| 917.14B2<br>Turf Mulch Blankets,<br>Mulch Blankets (Single Sided<br>Net)            | AEC Premier Straw Highway<br>Single Net     | American Excelsior Co.               |
|                                                                                     | Curlex 1-CL                                 | American Excelsior Co.               |
|                                                                                     | Curlex I                                    | American Excelsior Co.               |
|                                                                                     | Contech ERO-MAT                             | Contech Engineered Solutions,<br>LLC |
|                                                                                     | ECB EX31                                    | ErosionControlBlanket                |
|                                                                                     | ECB S31                                     | ErosionControlBlanket                |
|                                                                                     | ECS-1D Mulch Blanket                        | MKB                                  |
|                                                                                     | Erosion Control Blanket DS-75               | MKB                                  |
|                                                                                     | Enviroscape Straw Mulch<br>Blanket S1000    | MKB                                  |
|                                                                                     | ETRS-1-RD                                   | MKB                                  |
|                                                                                     | Excel SR-1 (Regular)                        | MKB                                  |
|                                                                                     | S75                                         | MKB                                  |
|                                                                                     | S1000D Straw Blanket                        | MKB                                  |
|                                                                                     | Futerra Mulch Blanket                       | Profile Products, LLC                |
|                                                                                     | Erosion King Mulch Blanket                  | Rhino Seed & Landscape<br>Supply     |
|                                                                                     | S1 Erosion Control Blanket                  | Synthetic Ind. / BonTerra<br>America |
|                                                                                     | ERO-MAT V75S                                | Verdyol-Canada                       |
|                                                                                     | WinterStraw SNW                             | Winters Excelsior Company            |

| Qualified Products List (QPL)                              |                                                                                                                                                                                                     |                                                                                                                                                                                                  |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Spec. # and Material Name                                  | Product Name                                                                                                                                                                                        | Manufacturers or Suppliers                                                                                                                                                                       |
| 917.14C<br>Mulch Binders (Tackifiers)                      | 1. Latex Base Adhesive<br>BUTOFAN NS 268<br>EZ Straw Seeding Mulch w/Tack                                                                                                                           | BASF Corp.<br>Rhino Seed & Turf Supply                                                                                                                                                           |
|                                                            | 2. Paperfiber Mulch Binders<br>Applegate Mulch                                                                                                                                                      | Applegate Insulation System                                                                                                                                                                      |
|                                                            | Cellin Fiber Mulch<br>Geopro Basis Plus<br>Hydro Green Hydroseeding Mulch<br>Hydro Green Hydroseeding Mulch<br>Profile SB 50/50<br>Profile Cellulose<br>Profile Cellulose w/Tack<br>Rhino Greenstar | Cellin Manufacturing, Inc.<br>Hanes Geo Components<br>Nu-Wool, Inc.<br>Nu-Wool, Inc.<br>Profile Products, LLC<br>Profile Products, LLC<br>Profile Products, LLC<br>Rhino Seed & Landscape Supply |
|                                                            | Rhino Greenstar Plus                                                                                                                                                                                | Rhino Seed & Landscape Supply                                                                                                                                                                    |
|                                                            | 3. Excelsior/Guar Gum Base Adhesive<br>Excel Fiber Mulch<br>Profile Wood Fiber with Tackifier                                                                                                       | American Excelsior Co.<br>Profile Products, LLC                                                                                                                                                  |
|                                                            | 4. Guar Gum Base Adhesive<br>EcoTak-OP5<br>Finn A500 Hydro-Stik<br>Landtack<br>ConTack<br>Lawn Tack                                                                                                 | Eastern Products, Inc.<br>Finn Corporation<br>Midwest Land Supply, Inc.<br>Profile Products, LLC<br>Rhino Seed & Landscape Supply                                                                |
|                                                            | 5. Hydrophilic Polymers<br>Agro Tack MP<br>Exact-Tac (E-T)<br>Con-Tack A/T<br>FlocLoc<br>Eco-Tak-SAT 11<br>RMB Plus                                                                                 | Agro Diversified Industries<br>American Excelsior Co.<br>Profile Products, LLC<br>Profile Products, LLC<br>Eastern Products, Inc.<br>Reinco Mulch Binder Corp                                    |
| 918.08C<br>Light Standards, Frangible<br>Transformer Bases | TB1-17<br>TB1-17 Modified<br>TB2-17<br>TB3-17                                                                                                                                                       | Akron Foundry Co.<br>Akron Foundry Co.<br>Akron Foundry Co.<br>Akron Foundry Co.                                                                                                                 |

| Qualified Products List (QPL)        |                                                      |                                     |                                  |                                  |                                                 |
|--------------------------------------|------------------------------------------------------|-------------------------------------|----------------------------------|----------------------------------|-------------------------------------------------|
| Spec. # and Material Name            | Product Name                                         |                                     |                                  |                                  | Manufacturers or Suppliers                      |
| 919.02B1<br>Reflective Sheeting      | <u>Type III</u><br>Series<br>3870                    | <u>Type IV</u><br>Series<br>3930    | <u>Type IX</u><br>Series<br>3990 | <u>Type XI</u><br>Series<br>4000 | 3M                                              |
|                                      | --                                                   | T-6500<br>Series                    | T-9500<br>Series                 | T-11500<br>Series                | Avery Dennison                                  |
|                                      | Nikkalite<br>Ultralite<br>Grade II                   | Nikkalite<br>CRG<br>94000<br>Series | --                               | --                               | Nippon Carbide Industries<br>(USA) Inc.         |
|                                      | --                                                   | Oralite<br>5900<br>Series           | Oralite<br>7900<br>Series        | Oralite<br>9900<br>Series        | ORAFOL Americas Inc.                            |
| 919.03D<br>Delineator Post, Flexible |                                                      |                                     |                                  |                                  |                                                 |
| 1. Ground Mount                      | FTSTR Series                                         |                                     |                                  |                                  | PEXCO LLC, Davidson<br>Traffic Control Products |
|                                      | Shur-Flex Driveable Delineator                       |                                     |                                  |                                  | Shur-Tite                                       |
|                                      | Safe-Hit SQR-LOC Flexible Delineator                 |                                     |                                  |                                  | Valtir, LLC                                     |
| 2. Surface Mount                     | IRS Multipurpose Delineator Post                     |                                     |                                  |                                  | Impact Recovery Systems                         |
|                                      | OmegaPost                                            |                                     |                                  |                                  | Impact Recovery Systems                         |
|                                      | Pexco Bike Bollard                                   |                                     |                                  |                                  | PEXCO LLC, Davidson<br>Traffic Control Products |
|                                      | City Post                                            |                                     |                                  |                                  | PEXCO LLC, Davidson<br>Traffic Control Products |
|                                      | Flexi-Guide FG 300 Model UR                          |                                     |                                  |                                  | PEXCO LLC, Davidson<br>Traffic Control Products |
|                                      | Flexi-Guide FG 300 Model EFX                         |                                     |                                  |                                  | PEXCO LLC, Davidson<br>Traffic Control Products |
|                                      | TSM Series Flexible Delineator Post                  |                                     |                                  |                                  | PEXCO LLC, Davidson<br>Traffic Control Products |
|                                      | K71 Flexible Marker Post                             |                                     |                                  |                                  | US Reflector                                    |
|                                      | SM 700 Series                                        |                                     |                                  |                                  | Flexstake                                       |
|                                      | TM 750 Series                                        |                                     |                                  |                                  | Flexstake                                       |
|                                      | Shur-Flex Surface Mount Delineator                   |                                     |                                  |                                  | Shur-Tite                                       |
|                                      | U-Flex                                               |                                     |                                  |                                  | Shur-Tite                                       |
|                                      | Dura-Post                                            |                                     |                                  |                                  | Valtir, LLC                                     |
|                                      | Safe-Hit Delineator Post                             |                                     |                                  |                                  | Valtir, LLC                                     |
| 920.02C<br>Wet Reflective Optics     | Connected Roads All Weather<br>Elements Series 50/51 |                                     |                                  |                                  | 3M                                              |
|                                      | Reflective Elements Series All Weather<br>50/51      |                                     |                                  |                                  | 3M                                              |
|                                      | Visi-Ultra                                           |                                     |                                  |                                  | Potters Industries LLC                          |
|                                      | Duralux                                              |                                     |                                  |                                  | Swarco                                          |

| Qualified Products List (QPL)                                                                                                                                                                                         |                                                                                                                                                                    |                                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Spec. # and Material Name                                                                                                                                                                                             | Product Name                                                                                                                                                       | Manufacturers or Suppliers                                                                                                                                                   |
| 921.05A<br>Steel Clamps for Traffic Signal Strain Poles                                                                                                                                                               | Strain Clamps                                                                                                                                                      | Utility Metals                                                                                                                                                               |
| 922.06A<br>Temporary Traffic Control,<br>Temporary Pavement Markings<br><br>Type R and NR Tape<br><br>Paint - See Specific Paint Type in<br><a href="#">QPL 811.03D</a><br><br>*WR Tape is wet-night retro reflective | <u>White (Type)</u><br>710IR (WR)<br>Visaline TWR (NR)<br><br><u>Yellow (Type)</u><br>711IR (WR)<br>Visaline TWR (NR)                                              | 3M<br>Volare/ Swarco Industries, Inc                                                                                                                                         |
| 922.06B<br>Temp. Raised Pavement Markers                                                                                                                                                                              | Type 1: Model 932 Chip Seal Marker<br>TRPM Chip Seal Marker<br><br>Type 2: Model 932 Overlay Marker<br>Temporary Overlay Marker<br><br>Type 3: Stimsonite Model 88 | Apex Universal, Inc.<br>PEXCO LLC, Davidson<br>Traffic Control Products<br>Apex Universal, Inc.<br>PEXCO LLC, Davidson<br>Traffic Control Products<br>Stimsonite Corporation |
| 922.06C<br>Temporary Pavement Marking,<br>Pavement Marking Cover                                                                                                                                                      | <u>Black (Type)</u><br>ATM-19-285<br>715IR (WR)<br><br><u>Other (Type)</u>                                                                                         | ATM<br>3M                                                                                                                                                                    |

| Qualified Products List (QPL)                                                                         |                          |                                             |
|-------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------------------|
| Spec. # and Material Name                                                                             | Product Name             | Manufacturers or Suppliers                  |
| 1005.02B<br>Non-Shrinking Mortar and Grout<br>Type H-1(Non-Metallic) Pre-Mixed<br><br>H-2 eliminated. | Boomer Premium Grout     | Boomer Construction Materials, Detroit, MI  |
|                                                                                                       | Conset Grout-XT          | ChemMasters, Madison, OH                    |
|                                                                                                       | Conset One               | ChemMasters, Madison, OH                    |
|                                                                                                       | 1107 Advantage Grout     | Dayton Superior, Kansas City, KS            |
|                                                                                                       | Sure Grip Grout          | Dayton Superior, Kansas City, KS            |
|                                                                                                       | NS Grout                 | Euclid Chemical Co., Cleveland, OH          |
|                                                                                                       | Five Star Grout          | Five Star Products, Inc.                    |
|                                                                                                       | SureGrout                | Kaufman Products, Inc., Baltimore, MD       |
|                                                                                                       | Crystex                  | L&M Construction Chemicals, Inc., Omaha, NE |
|                                                                                                       | Duragrout                | L&M Construction Chemicals, Inc., Omaha, NE |
|                                                                                                       | Quikrete Precision Grout | Quikrete Technical Center, Atlanta, GA      |
|                                                                                                       | SikaGrout-928            | Sika Corporation, Lyndhurst, NJ             |
|                                                                                                       | SC Multipurpose Grout    | SpecChem                                    |
|                                                                                                       | Superb Grout 611         | Specco Industries, Lemont, IL               |
|                                                                                                       | Sealtight 588-10K        | W. R. Meadows, Inc., Elgin, IL              |



## Selecting and Shipping Samples

The following instructions will apply for the selection, identification, and shipment of samples unless otherwise specified:

1. Samples shall be selected with care and shall be representative of the material sampled.
2. Pack samples to withstand rough shipment. Liquid materials shall be shipped in screw-top cans or friction-top cans with lids soldered in place unless otherwise specified or required. Friction-top cans with lids not soldered in place and glass jars must be surrounded and packed with suitable absorbent material in sufficient quantity to absorb all the liquid if the tops of the cans should come off or the glass jars should become broken. All packages containing liquid samples shall be marked "Fragile-Liquid."

Mark pipe, tile, and concrete test specimens conspicuously, "Handle with Care-Fragile."

3. The sample identification form must be legibly prepared and filled out in detail. All available information for proper identification of the sample shall be given including the lot number, batch number, serial number, or other identification marks.

The sample identification form shall be securely attached to the container in which the sample is shipped by means of a tag envelope. Also, include duplicate identification sheet inside wrappings, or if shipped in cloth sack, inside the sack.

4. Aggregate samples shipped to the Testing Laboratory shall be shipped in a closely woven bag. Do not use sacks which have contained sugar.
5. Cement and Pozzolanic Admixtures shall be shipped in plastic lined cloth bags.
6. The method of transportation of the samples will depend on the size, weight or quantity of material being shipped, and the time element. Small and light-weight samples shall be sent via UPS, bus, parcel post, or express. Large and heavy-weight samples shall be sent by motor freight. The sampler, being familiar with conditions, shall make shipment in the manner deemed most appropriate and economical.
7. Cloth bags, plastic liners, screw-top cans and friction-top cans may be obtained from the Laboratory. All containers must be clean and free from foreign materials. Cloth bags or sacks must be clean, free from tears or holes, and tightly woven to prevent loss of fine material.
8. All samples shall be consigned to the Michigan Department of Transportation, Construction Field Services Division, Secondary Governmental Complex, 8885 Ricks Road, Lansing, Michigan 48909, unless otherwise noted.

## Appendix

### Visual Inspection Items - Alphabetical

This list is intended as a quick reference, alphabetical by material name, for materials which normally require some form of testing but have VI quantities listed. It does not include materials which are accepted by VI basis only.

### Visual Inspection Items - By Specification Number

This list is intended as a quick reference, by specification number for materials which normally require some form of testing but have VI quantities listed. It does not cover materials which are accepted on a VI basis only.

This Visual Inspection Items List is in accordance with the 2020 Standard Specification for Construction.

## Visual Inspection Items - Alphabetical

| SEC.  | Material                                                  | Maximum V.I.             |
|-------|-----------------------------------------------------------|--------------------------|
| 909   | Acrylonitrile-Butadiene-Styrene (ABS) Pipe for Underdrain | 600 ln ft                |
| 919   | Aluminum Sheet                                            | 100 sq ft                |
| 902   | Aggregate, Coarse                                         | 100 tons                 |
| 902   | Aggregate, Dense-Graded                                   | 500 tons                 |
| 902   | Aggregate, Fine                                           | 100 tons                 |
| 902   | Aggregate, Open-Graded                                    | 100 tons                 |
| 904   | Asphalt, Liquid (RC-250)                                  | 5 gal - 150 lbs          |
| 905   | Bar Reinforcement (all)                                   | 500 lbs                  |
| 914   | Bituminous Fiber Joint Filler                             | 150 sq ft                |
| 914   | Bolts for Structure Exp. Anchor                           | 250 units                |
| 914   | Bond Release                                              | 20 gal max               |
| 922   | Calcium Chloride Solids                                   | 5000 lbs                 |
| 922   | Calcium Chloride Solutions                                | 1000 gals                |
| Misc. | Cast & Ductile Iron Pipe                                  | 250 ft                   |
| 901   | Cement                                                    | 45 tons                  |
| Misc. | Clay Pipe                                                 | 10 pcs                   |
| 913   | Clay and Sand Lime Brick                                  | 1000 pcs                 |
| 913   | Concrete Block                                            | 1000 pcs                 |
| 913   | Concrete Brick                                            | 1000 pcs                 |
| 909   | Concrete Pipe, Non-Reinforced                             | 10 pcs                   |
| 909   | Concrete Pipe, Reinforced & Elliptical                    | 5 pcs of 42" dia or less |
| Misc  | Corrugated Galv. Steel Plates                             | 10 plates                |
| 909   | Corrugated Aluminum Sheets                                | 25 sheets                |
| 909   | Corrugated Aluminum Alloy Pipe                            | 250 ln ft                |
| 909   | Corrugated Plastic Pipe                                   | <12 in dia 250 ft        |
|       | " "                                                       | >12 in dia 100 ft        |
| 909   | Corrugated Plastic Pipe, Smooth Lined                     | Same as CPP              |
| 909   | Corrugated Plastic Tubing for Underdrains                 | 250 ft                   |
| 909   | Corrugated Steel Pipe                                     | *                        |
|       | 12" or less                                               | 125 ln ft                |
|       | 15" to 54"                                                | 50 ln ft                 |
|       | 60" or greater                                            | 25 ln ft                 |
| 909   | Corrugated Steel Pipe for Underdrains                     | *                        |
| 909   | Corrugated Steel Sheets                                   | *                        |
|       | 12" or less                                               | 125 ln ft                |
|       | 15" to 54"                                                | 50 ln ft                 |
|       | 60" or greater                                            | 25 ln ft                 |
| 909   | Coupling Bands                                            | 5 pcs                    |
| 914   | Deformed Bars                                             | 500 lbs                  |
| 919   | Delineator Posts, Steel                                   | 80 posts                 |
| 919   | Delineator Reflectors (Plastic and Reflective Sheeting)   | 25 pcs each color        |
| 914   | Dowel Bars                                                | 1200 pcs                 |
| 918   | Electrical Conduit, Plastic                               | 400 ln ft                |
| 918   | Electrical Conduit, Rigid                                 | 400 ln ft                |

## Visual Inspection Items - Alphabetical

| SEC.  | Material                                     | Maximum V.I.                   |
|-------|----------------------------------------------|--------------------------------|
| 914   | Epoxy Binder                                 | 5 gals                         |
| Misc. | Fiberglass and Bit. Cotton Fabric            | 5 rolls                        |
| 910   | Geotextile Blanket                           | 500 sq yd                      |
| 910   | Geotextile Liner/ Riprap                     | 500 sq yd                      |
| 910   | Geotextile Liner/Heavy Riprap                | 500 sq yd                      |
| 910   | Geotextile Stabilizer/Separator              | 500 sq yd                      |
| 916   | Geotextile Silt Fence                        | 500 ln ft                      |
| 920   | Glass Beads, Standard                        | 500 lbs                        |
| 902   | Granular, Class I                            | 100 tons                       |
| 902   | Granular, Class II (Subbase)                 | 500 cu yd                      |
| 902   | Granular, Class II (Abutment b.f.)           | 100 cu yd                      |
| 902   | Granular, Class IIA                          | 500 cu yd                      |
| 902   | Granular, Class III                          | 500 cu yd                      |
| 902   | Granular, Class IIIA                         | 100 cu yd                      |
| 908   | Guardrail Beam Elements/End Sections         | 125 ln ft                      |
| 908   | Guardrail Posts, Steel                       | 25 posts                       |
| 918   | Handholes, Precast Concrete                  | 10 pcs                         |
| 907   | High Tensile Wire Fence (Wire)               | 250 ft                         |
| 903   | Insulating Blanket                           | 10 sheets                      |
| 903   | Interim Curing (Linseed Based)               | 50 gals                        |
| 914   | Joint Assemblies                             | Fab. Insp. Req./100 assemblies |
| 909   | Mastic (Cold-Applied Joint Sealer)           | 10 gals                        |
| 903   | Membrane Curing Compound                     | 200 gals                       |
| 908   | Metallic Waterstop (Sheet Lead & Copper)     | 25 sq ft                       |
| 902   | Mineral Filler (Bit. Mixes)                  | 10 tons                        |
| 909   | Polyethylene Pipe (Downspouts)               | <12 in dia 250 ft              |
|       | “ “ “ “                                      | >12 in dia 100 ft              |
| 913   | Precast Concrete Bases and Sumps             | 10 pcs total                   |
| 918   | Precast Concrete Handholes                   | 10 pcs                         |
| 909   | Precast Concrete End Sections                | 10 pcs                         |
| 913   | Precast Units for Dr. Structures             | 10 pcs total                   |
| 909   | PVC Pipe (Sanitary Sewer)                    | 600 ft                         |
| 907   | Rail for Braces (Chain Link)                 | 250 ft                         |
| 919   | Reflective Sheeting                          | 1 roll for less than 3" width  |
| 905   | Reinforcement Steel                          | 500 lbs                        |
| 917   | Seed and Seeding Mixtures                    | 1100 lbs                       |
| 913   | Slope Paving Blocks                          | 1000 pcs                       |
| 909   | Smooth Plastic Pipe for Underdrains (Outlet) | 250 ft                         |
| 907   | Steel Chain Link Fence Fabric                | 250 ft                         |
| 909   | Steel End Sections                           | 4 pcs                          |
| 919   | Steel, Galvanized Sign Posts                 | 20 posts                       |
| 907   | Steel Posts/Chain Link Fence                 | 25 line, 25 gate posts         |
| 919   | Steel Posts/Delineator                       | 80 posts                       |
| 905   | Steel Wire Fabric (Mesh)                     | 500 sq yds                     |
| 913   | Structural Tile                              | 1000 tiles                     |
| 907   | Top Rail (Chain Link)                        | 250 ft                         |
| 907   | Tension Wire                                 | 500 ft                         |
| 914   | Tie Bars (Lane Ties)                         | 500 lbs                        |

## Visual Inspection Items - Alphabetical

| SEC. | Material        | Maximum V.I. |
|------|-----------------|--------------|
| 910  | Wall Drain      | 100 sq ft    |
| 919  | Wood Sign Posts | 20 posts     |

\*See Remarks in Acceptance Requirements Section

# Visual Inspection Items – by Specification Number

| SEC. | Material                                  | Maximum V.I.               |
|------|-------------------------------------------|----------------------------|
| 901  | Cement                                    | 45 tons                    |
| 902  | Coarse Aggregate                          | 100 tons                   |
| 902  | Dense-Graded Aggregate                    | 500 tons                   |
| 902  | Open-Graded Aggregate                     | 100 tons                   |
| 902  | Granular, Class I                         | 100 tons                   |
| 902  | Granular, Class II (Subbase)              | 500 cu yds                 |
| 902  | Granular, Class II (Abutment b.f.)        | 100 cu yds                 |
| 902  | Granular, Class IIA                       | 500 cu yds                 |
| 902  | Granular, Class III                       | 500 cu yds                 |
| 902  | Granular, Class IIIA                      | 100 cu yds                 |
| 902  | Fine Aggregate                            | 100 tons                   |
| 902  | Mineral Filler (Bit. Mixes)               | 10 tons                    |
| 903  | Membrane Curing Compound                  | 200 gals                   |
| 903  | Insulating Blanket                        | 10 sheets                  |
| 903  | Interim Curing (Linseed Based)            | 50 gals                    |
| 904  | Liquid Asphalt (RC-250)                   | 5 gals                     |
| 905  | Bar Reinforcement (all)                   | 500 lbs                    |
| 905  | Steel Wire Fabric (Mesh)                  | 500 sq yds                 |
| 907  | High Tensile Wire Fence (Wire)            | 250 ft                     |
| 907  | Steel Chain Link Fence Fabric             | 250 ft                     |
| 907  | Tension Wire                              | 500 ft                     |
| 907  | Top Rail (Chain Link)                     | 250 ft                     |
| 907  | Steel Posts/Chain Link Fence              | 25 line, 25 gate posts     |
| 907  | Rail for Braces (Chain Link)              | 250 ft                     |
| 908  | Metallic Waterstop (Sheet Lead & Copper)  | 25 sq ft                   |
| 908  | Guardrail Beam Elements/End Sections      | 125 ft                     |
| 908  | Guardrail Posts, Steel                    | 25 posts                   |
| 909  | Reinforced Concrete Pipe & Elliptical RCP | 5 pcs of 42 in dia or less |
| 909  | Non-Reinforced Concrete Pipe              | 10 pcs                     |
| 909  | Corrugated Steel Pipe                     | *                          |
|      | 12" or less                               | 125 ln ft                  |
|      | 15" to 54"                                | 50 ln ft                   |
|      | 60" or greater                            | 25 ln ft                   |
| 909  | Corrugated Steel Sheets                   | *                          |
|      | 12" or less                               | 125 ln ft                  |
|      | 15" to 54"                                | 50 ln ft                   |
|      | 60" or greater                            | 25 ln ft                   |
| 909  | Steel End Sections                        | 4 pcs                      |
| 909  | Coupling Bands                            | 5 pcs                      |
| 909  | Corrugated Aluminum Sheets                | 25 sheets                  |
| 909  | Corrugated Aluminum Alloy Pipe            | 250 ln ft                  |
| 909  | PVC Pipe (Sanitary Sewer)                 | 600 ln ft                  |
| 909  | Corrugated Plastic Pipe                   | <12 in dia - 250 ft        |
|      | " "                                       | >12 in dia 100 ft          |
| 909  | Corrugated Plastic Pipe, Smooth Lined     | Same as CPP                |
| 909  | Mastic (Cold-Applied Joint Sealer)        | 10 gals                    |
| 909  | Precast Concrete End Sections             | 10 pcs                     |

## Visual Inspection Items – by Specification Number

| SEC. | Material                                                  | Maximum V.I.                   |
|------|-----------------------------------------------------------|--------------------------------|
| 909  | Acrylonitrile-Butadiene-Styrene (ABS) Pipe for Underdrain | 600 ln ft                      |
| 909  | Corrugated Steel Pipe for Underdrains                     | *                              |
| 909  | Smooth Plastic Pipe for Underdrains (Outlet)              | 250 ln ft                      |
| 909  | Corrugated Plastic Tubing for Underdrains                 | 250 ln ft                      |
| 909  | Polyethylene Pipe (Downspouts)                            | <12 in dia 250 ft              |
|      | “ “                                                       | >12 in dia 100 ft              |
| 910  | Geotextile Blanket                                        | 500 sq yd                      |
| 910  | Geotextile Liner/Riprap                                   | 500 sq yd                      |
| 910  | Geotextile Stabilizer/Separator                           | 500 sq yd                      |
| 910  | Geotextile Liner/Heavy Riprap                             | 500 sq yd                      |
| 910  | Wall Drain                                                | 250 sq ft                      |
| 913  | Clay and Sand Lime Brick                                  | 1000 pcs                       |
| 913  | Concrete Brick                                            | 1000 pcs                       |
| 913  | Concrete Block                                            | 1000 units                     |
| 913  | Precast Units for Dr. Structures                          | 10 pcs total                   |
| 913  | Precast Concrete Bases and Sumps                          | 10 pcs total                   |
| 913  | Structural Tile                                           | 1000 tiles                     |
| 913  | Slope Paving Blocks                                       | 1000 pcs                       |
| 914  | Bituminized Fiber Joint Filler                            | 150 sq ft                      |
| 914  | Epoxy Binder                                              | 5 gals                         |
| 914  | Dowel Bars                                                | 1200 bars                      |
| 914  | Joint Assemblies                                          | Fab. Insp. Req./100 assemblies |
| 914  | Bond Release                                              | 20 gal max                     |
| 914  | Deformed Bars                                             | 500 lbs                        |
| 914  | Tie Bars                                                  | 500 lbs                        |
| 914  | Bolts for Structure Exp. Anchor                           | 250 units                      |
| 916  | Geotextile Silt Fence                                     | 500 ft                         |
| 917  | Seed and Seeding Mixtures                                 | 1100 lbs                       |
| 918  | Precast Concrete Handholes                                | 10 pcs                         |
| 918  | Electrical Conduit, Polyethylene                          | 400 ft                         |
| 918  | Electrical Conduit, Rigid                                 | 400 ft                         |
| 919  | Aluminum Sheet                                            | 100 sq ft                      |
| 919  | Reflective Sheeting                                       | 1 roll for less than 3" width  |
| 919  | Delineator Reflectors (Plastic & Reflective Sheeting)     | 25 pcs each color              |
| 919  | Steel Delineator Posts                                    | 80 posts                       |
| 919  | Galvanized Steel Sign Posts                               | 20 posts                       |
| 919  | Wood Sign Posts                                           | 20 posts                       |
| 920  | Glass Beads, Standard                                     | 500 lbs                        |
| 922  | Calcium Chloride Solids                                   | 5000 lbs                       |
| 922  | Calcium Chloride Solutions                                | 1000 gals                      |
| Misc | Clay Pipe                                                 | 10 pcs                         |
| Misc | Cast & Ductile Iron Pipe                                  | 250 ft                         |
| Misc | Fiberglass and Bit. Cotton Fabric                         | 5 rolls                        |
| Misc | Corrugated Galvanized Steel Plates                        | 10 plates                      |

\*See Remarks in Acceptance Requirements Section

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