

MATERIALS SOURCE GUIDE

January 2022



**CONSTRUCTION FIELD SERVICES
DIVISION**

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 and Federal Aid Secondary projects. Its purpose is to supplement the Materials Quality Assurance Procedures (MQAP) Manual, Hot Mix Asphalt (HMA) Production Manual, Procedures for Aggregate Inspection, Density Control Handbook, and the Michigan Construction Manual to standardize procedures and assure adequate, uniform quality control.

Buy America step certification is required for pay items and materials as listed in the document located at the following web link: http://www.michigan.gov/documents/mdot/MDOT_BuyAmericaStepCertPayItems_401954_7.pdf Please also review the Special Provision for Source of Steel and Iron (Buy America), 20SP105(A) at the following web link: https://mdotcf.state.mi.us/public/dessssp/spss_source/20SP-105A-01.pdf To reference The Buy America - Compliance Listing of Approved Manufacturers, Qualified Products List and Tested Stock Suppliers navigate to the following web link: http://www.michigan.gov/mdot/0,4616,7-151-9622_11044_11367-291113--,00.html

For copies of the most recent Materials Source Guide you can:

Download from the internet at web address:

https://www.michigan.gov/mdot/0,4616,7-151-9622_11044_11367_68095---,00.html

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Periodically check the website for updates to the Materials Source Guide. Updated guides can be downloaded and printed.

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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.)
- **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, emailed, or faxed 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

CERTIFICATIONS AND RECERTIFICATIONS

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.

MATERIALS SOURCE LIST

INSTRUCTIONS: Use the "Materials Source Guide" for material name and specification number. Enter "SP" for MDOT SPEC # for materials specified by special provision. To avoid delays, submit as soon as possible. No testing of materials will be conducted until forms are received. Submit to Construction/Project Engineer. Construction/Project Engineer to forward to Region Materials Supervisor. (Please Print or Type all Fields)

CONSTRUCTION/PROJECT ENGINEER	CONTRACTOR
CONTROL SECTION	JOB NUMBER

MDOT SPEC #	PROJECT LOCATION	MDOT MATERIAL/PRODUCT NAME	TYPE/SIZE or CLASS	APPX. QTY.	SOURCE OF MATERIAL (NAME, ADDRESS, LOCATION, PI#)	FOR OFFICE USE ONLY (Owner Agency)				REMARKS/OTHER	
						BASIS OF ACCEPTANCE					
						TEST	T.S.	V.I.	GPL		CERTS

Check here if there are any revisions. Mark any revisions with an asterisk.

CONTRACTOR'S SIGNATURE		PRINT NAME	TELEPHONE NUMBER	DATE SUBMITTED
OWNER AGENCY (Rep. Signature)		PRINT NAME	TELEPHONE NUMBER	DATE RECEIVED

**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: <i>As described in the MDOT Materials Source Guide</i>
MDOT SPEC #: <i>As described in the MDOT Materials Source Guide</i>
MANUFACTURER:
LOT, HEAT OR IDENTIFICATION:
QUANTITY:
MDOT MATERIAL NAME: <i>As described in the MDOT Materials Source Guide</i>
MDOT SPEC #: <i>As described in the MDOT Materials Source Guide</i>
MANUFACTURER:
LOT, HEAT OR IDENTIFICATION:
QUANTITY:
MDOT MATERIAL NAME: <i>As described in the MDOT Materials Source Guide</i>
MDOT SPEC #: <i>As described in the MDOT Materials Source Guide</i>
MANUFACTURER:
LOT, HEAT OR IDENTIFICATION:
QUANTITY:

All steel furnished on this certification is of domestic origin and is in compliance with the project "Buy America" provision.

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 FAXED to Construction Field Services Division, MDOT, P.O. BOX 30049, LANSING, MI 48909. FAX # (517)322-5664 or via email to 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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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 End Section Grate for Culverts	VI	-	-	-	See Standard Plans for Sizes.
401.03E Precast Concrete Headwalls	Gen Cert	-	-	-	24" or less. For larger than 24" construct per Section 706 of Standard Specifications.
404.02C Underdrain Outlet Endings	VI	-	-	-	See Standard Plans.
501.02 Asphalt, Release Agents	VI	-	-	-	
NOTE: Must be approved by the project engineer. No fuel or oil based agents.					
502.02B Overband Crackfill	VI See Remark	-	-	-	Must be a Qualified Product (502.02B).
603.03B2 Adhesive Systems for Grouting Dowel Bars and Tie Bars for Full-Depth Concrete Pavement Repairs	VI See Remark	-	-	-	Must be a Qualified Product (603.03B2).
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 Expansion Joint Devices for Bridges	See Remark	-	-	-	See project plans for list of approved devices and details.
706.03S Penetrating Water Repellent (Protective Coating for Concrete)	VI See Remark	-	-	-	Must be a Qualified Product (706.03S).
707.02 Bushings for Pins and Link Plates	VI See Remark	-	-	-	Must be a Qualified Product (707.02).
708.01 Structural Prestressed Concrete Construction	Fabrication Inspection	-	-	-	See Chapter 5 of the Structural Fabrication Quality Manual for Approved Supplier List and section 2.2. See Special Instructions.
710.03D Waterproofing Shotcrete	VI	-	-	-	
712.03A1c Abrasive, Low Dusting	Gen Cert	-	-	-	See Section 715.02.
712.03D Epoxy Mastic	VI	-	-	-	
712.03J Adhesive Anchor Systems for Structural Anchors and Lane Ties	VI See Remark	-	-	-	Must be a Qualified Product (712.03J).

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712.03K Structure Expansion Anchors (Mechanical Expansion Anchors)	VI See Remark	-	-	-	Must be a Qualified Product (712.03K). Pull-out testing is required see MQAP Manual Section 3.03.
712.03L Mechanical Reinforcement Splicing	VI See Remark	1 per project	2 splices	-	See Special Instructions. Must be a Qualified Product (712.03L).
712.03X Grout Under Masonry Plates	VI	-	-	-	
712.03Y Embedded Galvanic Anodes	VI See Remark	-	-	-	Must be a Qualified Product (712.03Y).
713.02B Sealant for Perimeter of Beam Repairs	VI See Remark	-	-	-	Must be a Qualified Product (713.02B).
715.02 Coating Systems for New Hanger Assemblies	VI See Remark	-	-	-	Must be a Qualified Product (915).
715.02 Abrasive, Low Dusting	VI See Remark	-	-	-	Must be a Qualified Product (715.02).
715.02 Abrasive, Steel Grit	VI	-	-	-	Verify uniform profile after blasting of 1 to 2.8 mils per SSPC.
716.02 Abrasive, Low Dusting	VI See Remark	-	-	-	See Section 715.02.
803.02B Detectable Warning Surfaces	VI See Remark	-	-	-	Must be a Qualified Product (803.02B).
804.01 Glare Screen	VI	-	-	-	Included in Concrete Spec.
808.03C Temporary Fence Materials	VI	-	-	-	
810.03O Bridge Sign Connections	Fabrication Inspection	-	-	-	See Section 2.4 of the Structural Fabrication Quality Manual.
811.03D1 Waterborne, Liquid Pavement Marking Materials	VI See Remark	-	-	-	MQAP Manual Section 5.13. Must be a Qualified Product (811.03D1).
811.03D2 Low Temperature Waterborne, Liquid Pavement Marking Materials	VI See Remark	-	-	-	MQAP Manual Section 5.13. Must be a Qualified Product (811.03D2).

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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)
811.03D3 Regular Dry Paint, Liquid Pavement Marking Materials	VI See Remark	-	-	-	MQAP Manual Section 5.13. Must be a Qualified Product (811.03D3).
811.03D4 Cold Plastic Tape, Preformed Pavement Marking Material	VI See Remark	-	-	-	MQAP Manual Section 5.14. Must be a Qualified Product (811.03D4).
811.03D5 Thermoplastic Liquid Pavement Marking Materials	VI See Remark	-	-	-	MQAP Manual Section 5.13. Must be a Qualified Product (811.03D5).
811.03D5 Thermoplastic, Blocks Rumble Strips and Snowmobile Crossings	VI See Remark	-	-	-	MQAP Manual Section 5.13. Must be a Qualified Product (811.03D5).
811.03D6 Thermoplastic, Sprayable, Liquid Pavement Marking Materials	VI See Remark	-	-	-	MQAP Manual Section 5.13. Must be a Qualified Product (811.03D6).
811.03D7 Polyurea, Liquid Pavement Marking Materials	VI See Remark	-	-	-	MQAP Manual Section 5.13. Must be a Qualified Product (811.03D7).
811.03D8 Modified Epoxy, Liquid Pavement Marking Materials	VI See Remark	-	-	-	MQAP Manual Section 5.13. Must be a Qualified Product (811.03D8).
811.03D9 Preformed Thermoplastic, Preformed Pavement Marking Material	VI See Remark	-	-	-	MQAP Manual Section 5.14. Must be a Qualified Product (811.03D9).
901 Cement	Appr Mfr	See Remark	10 lb	45 ton	See Special Instructions, see MQAP Manual Section 2.06.
901.06 Slag Cement	Appr Mfr	-	10 lb	-	See Special Instructions for Cement.
901.07 Fly Ash, Pozzolanic Admixtures for Concrete	Appr Mfr	-	10 lb	-	See Special Instructions for Cement, see MQAP Manual Section 2.07

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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)
902 Coarse Aggregates	Test	See Remark	50 lb	100 ton	See Special Instructions Refer to Chapter 3 of the Procedures for Aggregate Inspection Manual for sampling information. See Current List of all Prequalified Aggregate Suppliers at Construction Field Services Web Page. Actual Current List of Prequalified Aggregate Suppliers web page address: https://www.michigan.gov/documents/mdot/MDOT_Prequalified_Aggregate_Supplier_List_691933_7.pdf
902 Dense-Graded Aggregates	Test	See Remark	50 lb	500 ton	
902 Open-Graded Aggregates	Test	See Remark	50 lb	100 ton	
902 Granular Material Class I	Test	See Remark	50 lb	100 ton	
902 Granular Material Class II (Subbase), Class IIA and Class IIAA	Test	See Remark	50 lb	500 cyd	
902 Class II (Abutment B. F.)	Test	See Remark	50 lb	100 cyd	
902 Granular Material Class III	Test	See Remark	50 lb	500 cyd	
902 Granular Material Class IIIA	Test	See Remark	25 lb	100 cyd	
902 Fine Aggregate	Test	See Remark	25 lb	100 ton	
902 Mineral Filler for HMA Mixtures	Test See Remark	1 per project	1 qt	10 ton	Refer to Section 902.11 of the 2012 Standard Specifications.
903.01 Air Entraining Admixtures	VI See Remark	-	-	-	Must be a Qualified Product (903.01).
903.02 Liquid Chemical Admixtures	VI See Remark	-	-	-	Must be a Qualified Product (903.02).
903.03 Latex Admixture for Concrete	Appr Mfr	1 per lot	1 qt	-	
903.04 Calcium Chloride Concrete Accelerators	VI See Remark	-	-	-	Note the chemical composition.
903.06 Membrane Curing Compound	Test Data Cert	1 per lot 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.

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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)
903.07A Interim Curing (Linseed Oil Based)	Test Data Cert	1 per lot or batch	1 qt	50 gal	See Note for 903.06 above.
903.07C Insulating Blanket	Test Data Cert	-	-	10 sheets	
903.07D Polystyrene Insulation	Test Data Cert	-	-	-	
904.03A Asphalt Binder for HMA Mixtures	See Remark	See Remark	See Remark	-	See Special Instructions.
904.03B 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 Liquid Asphalt (RC-250)	Gen Cert	1 per batch	2 qt	5 gal	
904.03C Emulsified Asphalt	Appr Mfr * See Remark	See Remark	See Remark	-	See Special Instructions.
905.03 Bar Reinforcement (Uncoated)	Appr Mfr *	1 per project per mfr per size	See Remark	500 lb	See Special Instructions.
905.03 Bar Reinforcement (Epoxy Coated) 1. Bar 2. Epoxy Coating Companies 3. Epoxy Coating Material (905.03C)	Appr Mfr * Appr Mfr * VI See Remark	1 per project per mfr per size	See Note	500 lb	See Special Instructions. Epoxy Coating must be a Qualified Product (905.03C).
905.03D Bar Chairs and Wire Ties for Epoxy Coated Steel Reinforcement	VI	-	-	-	
905.06 Welded Steel Wire Reinforcement (Mesh)	Appr Mfr *	1 per project per mfr	See Remark	500 syd	See Special Instructions.
905.07 Strand for Prestressed Concrete	Appr Mfr *	1 per heat	2 pcs each 60 in long	-	See Special Instructions.
905.08 Tendons for Post Tensioning of Box Beams (Prestressing Strand)	Appr Mfr * See Remark	1 per heat	2 pcs each 60 in long	-	See Special Instructions.

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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)
905.08 Tendons for Post Tensioning of Box Beams (Post Tensioning Bar)	Test	1 per heat per project	2 pcs each 30 in long	-	
906.04 Structural Steel	Fabrication Inspection	-	-	-	See Section 2.3 of the Structural Fabrication Quality Manual. See Special Instructions.
906.05 Foundation Piles (Steel H Piling and Special Sections, Steel Shells for Cast-in-Place Concrete Piles and Pile Points)	Test Data Cert	-	-	-	
906.05 Pile Cutoffs	Gen Cert	-	-	-	
906.06 Steel Piles (Temporary and Permanent Steel Sheet Piling)	Gen Cert	-	-	-	
906.07 High Strength Steel Bolts, Nuts, and Washers for Structural Joints	Test	1 per dia per length per heat per project	3 assemblies	-	See Special Instructions.
906.09 Shear Developers (Studs)	VI See Remark	-	-	-	Must be a Qualified Product (906.09).
907.03A - C Woven Wire Fence (Woven Wire Fabric, Barbed Wire, Smooth Line Wire)	Test Data Cert	1 per project per mfr	Full width of roll 5 ft 6 ft 4 ft	400 ft	
907.03D Woven Wire Fence (Steel Posts)	Test Data Cert	1 per project per mfr	1 post	25 posts	
907.03E Woven Wire Fence (Treated Wood Posts)	See Remark	-	-	-	See Section 912.07B.
907.03F Woven Wire Fence (Gates)	VI	-	-	-	
907.04A 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 Steel Chain Link Fence (Tension Wire)	Gen Cert	1 per project per mfr	3 ft	500 ft	

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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)
907.04C 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	See Special Instructions.
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 Steel Chain Link Fence (Top Rail), ((Horz. Rail) (Pedestrian Fence))	Test Data Cert	1 per project per mfr See Remark	5 ft	250 ft	See Special Instructions.
907.04D & E Steel Chain Link Fence (Gates, Fence Fittings and Hardware)	VI	-	-	-	
907.05A High Tensile Wire Fence (Wire)	Test	1 per project per mfr	3 ft	250 ft	
907.05B High Tensile Wire Fence (Treated Wood Posts)	See Remark	-	-	-	See Section 912.07B.
907.05C High Tensile Wire Fence (Hardware)	VI	-	-	-	
907.06 Protective Fence	VI	-	-	-	
908 Castings, Manhole 908.03 Malleable Iron 908.04 Steel 908.05 Gray/Ductile Iron	VI	-	-	-	
908.07 Sheet Lead	Gen Cert	-	-	25 sft	
908.08 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 Tubing, Steel Railings (Base Plate, Angle, and Non-Tubular Post Elements)	Fabrication Inspection	-	-	-	See Structural Fabrication Quality Manual Section 2.3.
908.09B Tubing, Steel Railings (Rail Elements and Tubular Post Elements)	Fabrication Inspection	-	-	-	See Structural Fabrication Quality Manual Section 2.3.

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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)
908.09C Tubing, Steel Railings (Hardware)	Test	1 per heat per diameter per project	1 assembly	-	See Special Instructions.
908.10 Hardware for Timber Construction	VI	-	-	-	
908.11A Guardrail, Steel Beam Elements, End Sections	Appr Mfr *	1 per project per mfr	1 piece at least 1 ft length	125 ft	Including Anchorage, Bridge, Shoes, Departing End Terminals.
908.11A Guardrail Approach Terminals	Appr Mfr *	-	-	-	
908.11B & C B. Hardware C. Steel Sleeves, Soil Plates, Bearing Plates, Backup Plates	VI	-	-	-	Item supplied by guardrail supplier.
908.11B Wire Rope	Gen Cert	-	-	-	
908.12 Steel Posts for Beam Guardrail	Appr Mfr *	1 per 1000 posts or fraction thereof	1 post	25 posts	
908.13 Reflective Washers	VI See Remark	-	-	-	Inspect galvanizing, dimensions and type of sheeting.
908.14 Anchor Bolts, Nuts, and Washers	Test	1 per heat per diameter per project	1 assembly	-	See Special Instructions.
908.14D Anchor Bolts and Nuts for Other Purposes	Gen Cert	1 per heat per diameter per project	1 assembly	-	See Special Instructions.
909.01 Recycled Rubber Adjusting Rings for Manholes and Drainage Castings	VI See Remark	-	-	-	Must be a Qualified Product (909.01).
909.03 Watertight Joint Systems	VI See Remark	-	-	-	Must be a Qualified Product (909.03).
909.03 Gasket, Compression (O-Rings)	VI	-	-	-	Part of Watertight Joint System.
909.03 Gasket, External Rubber Type	VI	1 per lot or shipment	18 in length full width of gasket	-	Part of Watertight Joint System.

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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 Reinforced Concrete Pipe	Appr Mfr *	1 percent of number of pcs of each size	See Remark	5 pieces of 42 in or smaller	See Special Instructions.
909.04B Reinforced Concrete Elliptical Pipe	Appr Mfr *	1 percent of number of pcs of each size	See Remark	5 pieces of 42 in or smaller	See Special Instructions.
909.04C Non-Reinforced Concrete Pipe	Appr Mfr *	See Remark	See Remark	10 pcs	See Special Instructions.
909.04D Precast Concrete Box Sections	Appr Mfr * 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 section 2.1 of the Structural Fabrication Quality Manual. See Special Instructions.
909.04E Precast Concrete End Section for Culverts and Sewers	Appr Mfr *	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 Precast Concrete Three-Sided or Arch Culverts	Appr Mfr 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 section 2.1 of the Structural Fabrication Quality Manual. See Special Instructions.
909.05A Corrugated Steel Pipe	Appr Mfr *	See Remark	See Remark	-	See Special Instructions.
909.05A1 Corrugated Steel Sheets (Galvanized)	Gen Cert	See Remark	See Remark	-	See Special Instructions.
909.05A1 Polymer Coating, Galvanized Corrugated Steel Pipe	VI See Remark	-	-	-	Coating must be from Qualified Products List (909.05A1).
909.05A3 Coupling Bands	Gen Cert	-	-	5 pcs	

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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)
909.05B Corrugated Aluminum Alloy Sheet	Gen Cert	See Remark	See Remark	25 sheets	See Special Instructions.
909.05B 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 Steel End Section	Gen Cert	-	-	4 pcs	
909.05D 1. Steel Pipe (Jacked-in-Place)	Gen Cert	-	-	-	
909.05D 2. Casing, Steel Pipe	VI	-	-	-	
909.06 1. Corrugated Polyethylene Pipe (CPE/HDPE), (Smooth Lined Type S)	See Remark	-	-	100 ft	See MQAP Chapter 3.10.
909.06 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.
909.06 3. Plastic Pipe Class A, B and F Bury (CPE/HDPE & CPV)	VI See Remark	-	-	-	Must be a Qualified Product (909.06).
909.06 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 Pipe for Underdrains 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 Pipe for Underdrains 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 Pipe for Underdrains Corrugated Plastic Tubing (Perforated and Non-Perforated) (Wrapped and Non-Wrapped)	Appr Mfr * 4-, 6-, or 8- in dia	1 per 5000 ft sample from coils	See Remark	250 ft	Sample Size, one 10 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 Outlet Pipe for Underdrains 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.

