**LPA Local-let Materials Procedures, Guidelines & Documents**

LPA Local-let projects are required to comply with ODOT Construction and Materials Specifications unless there are local specifications accepted by the department. This document serves to assist the LPA in setting up controls to assure materials meet FHWA and ODOT specifications during construction management of the project.

**PROJECT MATERIALS CONTROL PROCESS**

The Construction Project Engineer (CPE) is responsible for assuring that all materials used in a project meet specification. This is an important process that is critical to both the quality of the finished project and the ability of the LPA to receive payment. Materials used in a project that cannot be traced to acceptance requirements of the specifications are defined as non-specification materials. ODOT’s policy and procedure for non-specification materials are located in [Supplement 1102](http://www.dot.state.oh.us/Divisions/ConstructionMgt/Specification%20Files/1102_10212016_for_2016.pdf).

Read Supplement 1102 as deductions for non-specification materials can be expensive if a deduction can even be accepted.

***Materials Acceptance Process Steps***

**Step 1** – Evaluate the project plans, special provisions and any special materials requirements.

* Structures
	+ Does the structure have steel beams?
		- Do you have qualified personnel to inspect the steel beams during fabrication in accordance with ODOT specifications?
	+ Does the structure have prestressed concrete beams?
		- Do you have qualified personnel to inspect the prestressed concrete beams during fabrication in accordance with ODOT specifications?
	+ Structural members (prestressed concrete, steel beams and girders)
		- If previously arranged, ODOT will perform structural acceptance of fabricated bridge components (steel and prestressed concrete beams). The LPA furnishes ODOT a complete set of plans; Contractor approved and LPA accepted set of shop drawings in conformance with 513 and/or 515 requirements.
		- If an item 513, Mill test reports for the structural steel
	+ Does the structure have structural concrete?
		- Do you have qualified personnel to inspect and test the structural concrete in accordance with ODOT specifications?
		- Develop a list of the tests required and the maximum quantity each test can cover.
* What special items do you have in the plans?
* What special or non-standard materials do you have?
* Asphalt Pavement
	+ Do you have qualified personnel to inspect and test the asphalt pavement in accordance with ODOT specifications?
	+ Develop a list of tests required and the maximum quantity each test can cover.
	+ In areas where ODOT is monitoring asphalt plant production at the same time as asphalt is being produced for your LPA project, you can request ODOT to perform the monitoring. Contact the ODOT DET.
	+ Monitoring will not include the acceptance testing so you will still need to arrange for those tests.
* Concrete Pavement
	+ Do you have qualified personnel in line to inspect and test the concrete pavement in accordance with ODOT specifications?
	+ Develop a list of the tests required and the maximum quantity each test can cover.
* Bridge Painting
	+ Do you have qualified personnel to inspect and test the bridge painting in accordance with ODOT specifications?

**Step 2** – Create a PROJECT BILL OF MATERIAL (PBOM) to track materials items and quantities needed for each construction bid item. The PBOM is a management method for materials delivery and acceptance on the project. To create a PBOM go to:

<http://www.dot.state.oh.us/Divisions/ConstructionMgt/LPAConstructionContractAdministration/Pages/LPAConstructionContractAdministration.aspx>

Scroll down and click on the “Project Bill of Materials Set Up” link to download the PBOM spreadsheet. After saving the form, read the directions listed on the first tab of the spreadsheet labeled “Instructions.” In order to successfully complete the PBOM, the Project Item Codes (with extensions), Reference Numbers, and Item Quantities will be needed.

**Step 3** – For materials that require specific tests for acceptance of each quantity (like structural concrete, asphalt pavement, concrete pavement) develop a list of the tests required and the quantity of tests needed to be completed for each material. Include in the PBOM to help tracking of materials acceptance.

**Step 4** – At the pre-construction meeting require the Contractor to provide a complete list of material suppliers. Check the list against the PBOM to assure that all materials are covered. Check the final Contractor’s list against all certified supplier lists for ODOT’s material suppliers, fabricators, and aggregate suppliers at the following link: <http://www.dot.state.oh.us/divisions/constructionmgt/materials/pages/certifiedsuppliers.aspx>

Depending on the material type, materials may come from ODOT’s Qualified Products List (QPL) and/or the Approved Products List (APL):

QPL: <http://www.dot.state.oh.us/divisions/constructionmgt/materials/pages/qpl.aspx>

APL: <http://www.dot.state.oh.us/Divisions/ConstructionMgt/Materials/Approved-List/Pages/default.aspx>

Notify the Contractor of any suppliers not on the ODOT’s lists and his responsibility to obtain material from only ODOT certified suppliers. (Note: special items may not follow this requirement.)

**Step 5** – Project Materials Control. This is the process of tracking materials coming in; approving acceptable materials and documenting what you have.

**Recommendations for control**

* Keep the PBOM up to date.
* ODOT’s certified suppliers ship materials on Form TE-24. This is your documentation and notification that the material meets the requirements.
	+ **If a TE-24 does not accompany the materials, don’t use them!**
	+ **TE-24 Materials Certification does not guarantee that damage hasn’t occurred or someone didn’t ship the wrong material for your project.**
	+ **Field inspection on TE-24 material is required to assure it meets what you need on the project.**
* Retain the TE-24 for documentation.
* Record and assign the quantity of material accepted in the PBOM to the correct construction item. You can accept all, a portion, or none of the material shipped.
* Materials accepted under ODOT’s QPL do not come on a TE-24. The QPL lists the manufacturer and the product.
	+ Identifying the product by markings or shipping tags is acceptable.
	+ Keep your documentation. Photos of the markings and/or tags is helpful.
* Record and assign the quantity of material accepted in the PBOM to the correct construction item. You can accept all, a portion, or none of the material shipped.
* Types of materials not shipped on a TE-24 or QPL are limited. The majority are:
	+ Aggregate suppliers are certified but they don’t ship on a TE-24. They ship with a tonnage tag that should show they are ODOT certified and the quantity and type of material provided.
	+ Concrete plants ship with computer printed batch tickets for each truck. See ODOT specification 499 for ticket requirements.
	+ Asphalt plants ship with batch tickets for each truck and should also provide testing Data on TE-199 and TE-125.
* Record and assign the quantity of material accepted in the PBOM to the correct construction item. You can accept all, a portion, or none of the material shipped.
* **Keep your records up to date. Reviews by ODOT and FHWA will be made. Avoid non-specification material issues.**
* **Construction invoices for payment should only be approved if the materials used for the construction item are approved and documented.**

**OTHER RESOURCES**

ODOT’s Construction and Material Specification Book

<http://www.dot.state.oh.us/Divisions/ConstructionMgt/OnlineDocs/Pages/2016-Online-Spec-Book.aspx>

2016 Sampling and Testing Manual

<http://www.dot.state.oh.us/Divisions/ConstructionMgt/Materials/2016-Sampling-and-Testing-Manual/Pages/default.aspx>

Aggregate Specific Gravities List

<http://www.dot.state.oh.us/divisions/constructionmgt/materials/pages/aggregateinformation.aspx>

ODOT Office of Materials Management website

<http://www.dot.state.oh.us/Divisions/ConstructionMgt/Materials/Pages/default.aspx>

ODOT Certified Aggregate, Approved Asphalt and Concrete Plants, Active Portland Cement Concrete JMFs and Active Bituminous Marshall/Superpave JMFs.

CMRS Portal – Contractors Reports: <http://www.odotonline.org/cmsportal/>

**MATERIAL REQUIREMENTS and SPECIFICATIONS**

All materials not specifically listed below, must be supplied by certified ODOT producer/ suppliers.

Aggregate, to be provided by a certified ODOT supplier.

* Asphalt Concrete production and testing will be performed according to ODOT item 441 All asphalt concrete supplied will be from ODOT approved Job Mix Formulas (JMFs).
* Portland Cement Concrete for paving will be batched from an ODOT approved concrete plant, delivered to the project site in an ODOT inspected mixer, from an ODOT approved Job Mix Formula (JMF) and according to ODOT 499 for each day’s pour, air, slump, temperature and yield tests shall be taken for each 50 cubic yards of delivered concrete. A beam tensile test shall be performed to represent that day’s production. Further testing and quality control requirements are found in the ODOT Manual of Procedures for Concrete. The individual performing the tests shall be ACI Concrete Field Testing Technician – Grade I certified.
* Miscellaneous Portland Cement Concrete will be batched from an ODOT approved concrete plant, delivered to the project site in an ODOT inspected mixer, from an ODOT approved Job Mix Formula (JMF) and according to ODOT 499. Each 50 cubic yards of delivered concrete, or fraction thereof, air, slump, temperature and yield tests shall be taken and one set of cylinders made according to the ODOT Manual of Procedures for Concrete.
* Miscellaneous Materials such as guardrail, pipe, catch basins, manholes, signs, posts, lighting fixtures, etc. shall be provided by a certified ODOT supplier and field inspected for defects prior to incorporation into the project.
* Small Quantities: Before accepting a material as a small quantity, the LPA will evaluate: (1) whether the item meets the requirements of ODOT CMS 106.03, (2) does not exceed 10% of the total quantity required for the specific construction item , and (3) is not a critical structural or highway safety item.

 Materials meeting the above three (3) criteria may be accepted as small quantities. For a construction item with a minimal quantity, the 10% limit will not apply if the requirements of (1) and (3) are met.

* Structures, minimum requirements are as follows:
* Three test cylinders, made of the concrete incorporated in each day of work, will be made from each 200 cy (150 m3) or fraction thereof, on structures over 20 ft clear span (6.1 m), as per Section 511 of the Construction & Material Specifications (C&MS).
* Three test cylinders, made of the concrete incorporated in each day of work, will be made from each 50 cy (35 m3) or fraction thereof, on structures 20 ft clear span (6.1 m) or less, as per Section 511 of the C&MS.
* When necessary to permit early removal of false work or to permit backfilling, a concrete test beam shall be made and tested in accordance with Supplement 1023, as per Specification 511 of the C&MS.
* Air, slump, temperature, and yield tests shall be performed on the first three loads of each day’s production of concrete to ensure the concrete meets the required specifications and to ensure the proper adjustments have been made to bring the concrete into the required specifications, as per MOP.
* After the initial testing, concrete for substructures shall have air, slump, temperature, and yield tests performed randomly to assure the required specifications are met as per the Manual of Procedures.
* After the initial testing, concrete for superstructures shall have an air test completed on each load of concrete. Slump and yield tests shall be performed as often as necessary to assure the required specifications are met as per the Manual of Procedures.
* Each time test cylinders or test beams are made, an air, slump, temperature, and yield test shall also be performed.
* Structural members, steel members, pre-stressed concrete box and I-beams shall be from ODOT certified producers.

The ODOT District Testing Engineer will approve materials not listed above or available from ODOT certified suppliers.