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## MDOT SHOP DRAWING REVIEW PROCESS

This Bridge Field Services advisory serves to notify MDOT Construction Engineers (CE) and MDOT Design Project Managers (PM) that there have been changes to MDOT shop drawing review process for fabricated structural elements and temporary works. Attached is a document that summarizes the electronic shop drawing review process and provides a listing of shop drawings to be reviewed with annotations indicating which MDOT Review Areas need to be involved in their review. Note that this shop drawing listing is general in nature and is applicable for most projects; however, exceptions may apply on a case-by-case basis and it is the responsibility of the PM to ensure the shop drawings are being reviewed by all applicable parties.

The contractor must always have one point of contact with the department through the CE. However, to expedite the shop drawing review process, it is critical that the shop drawings be electronically submitted in portable document format (PDF) concurrently to the CE and PM. The CE should notify the contractor of this requirement at the pre-construction meeting and provide them with the necessary contact information for the PM and their delegate (if applicable). Additionally, the CE should arrange with the contractor at this meeting for the department to work directly with the fabricator or supplier while reviewing the shop drawings. This should be documented in the pre-construction meeting minutes, and the Structural Fabrication Unit should be on the carbon copy list for final minutes. This will also help reduce the department's review time.

MDOT PM's must use an official electronic MDOT approval stamp, whereas consultant PM's must use an acceptable stamp that meets the requirements stated in the MDOT Bridge Design Manual, Chapter 10. All shop drawing sheets must be stamped after the PM ensures that all applicable comments from all review areas have been incorporated into the final set of shop drawings. The PM's are encouraged to communicate with the review areas until they are satisfied that all of the comments have been addressed. In some cases, the PM may request the review area to check the final shop drawings to verify that their comments have been properly addressed. The use of acceptable stamps is important to create consistency in the appearance of our stamps for MDOT's consultant shop inspectors. The MDOT Bridge Design Manual, Chapter 10 provides guidance for MDOT and consultant approval stamps. The only exception to the manual is that MDOT PM's outside of Bridge Design must use their signature and name in their approval stamp. MDOT Adobe approval stamps are available for MDOT PM's from MDOT's Design Services Section, which can be contacted at [MDOT-Eproposal@michigan.gov](mailto:MDOT-Eproposal@michigan.gov).

# MDOT SHOP DRAWING REVIEW PROCESS

This document summarizes the Michigan Department of Transportation's (MDOT) electronic shop drawing review process for fabricated structural elements and temporary works. It also includes a flowchart showing the high level functions from submittal to approval. Additionally, it provides a listing of common shop drawings that are reviewed and indicates the respective MDOT review areas. Information for this document has been obtained from the 2012 MDOT Standard Specifications for Construction (SSC) and the current MDOT Bridge Design Manual. Note the terms shop and working drawing are synonymous in this document.

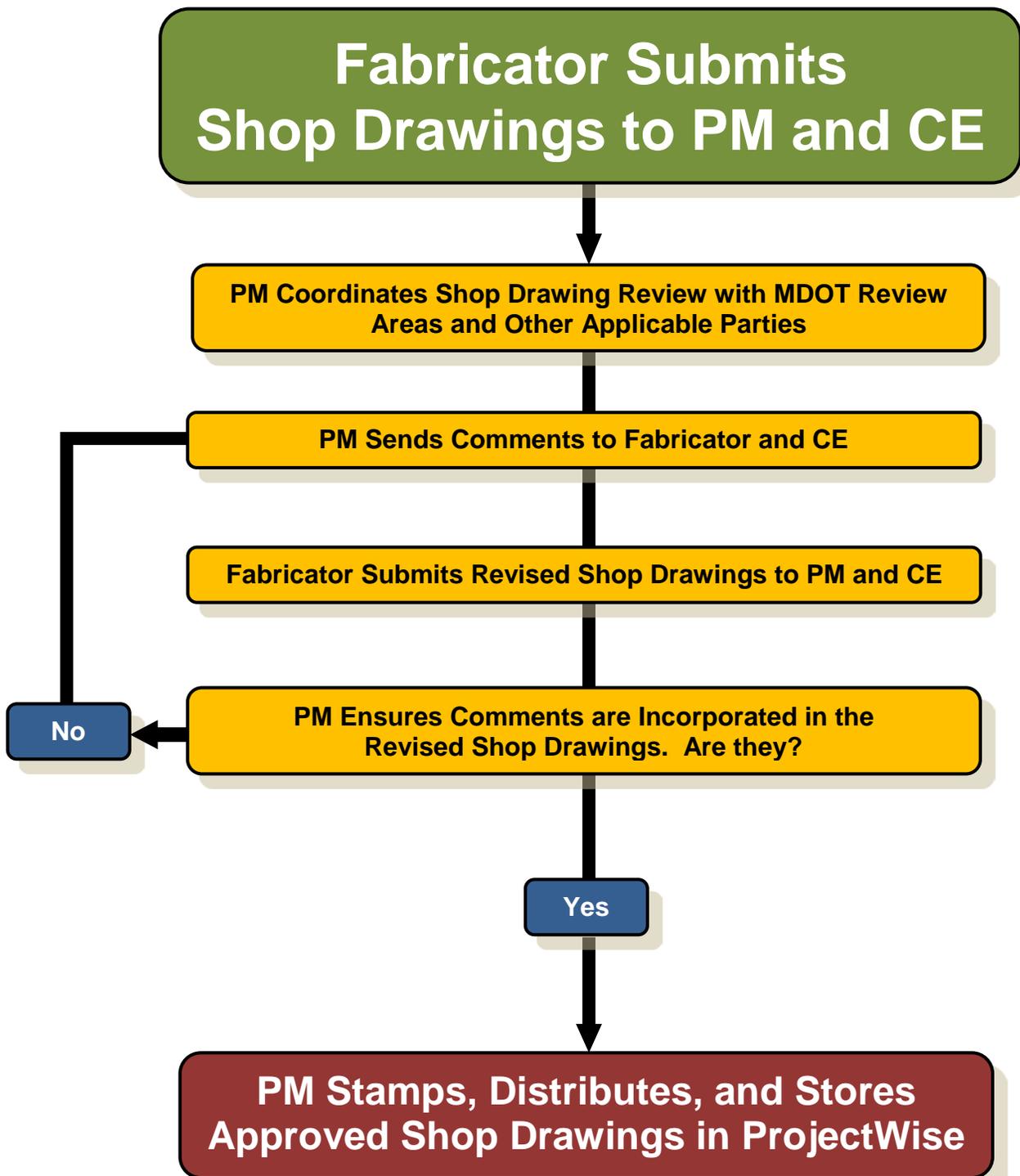
Subsection 104.02 of the SSC discusses general requirements of plans and working drawings for MDOT contracts. It is the responsibility of MDOT to ascertain that the contractor is supplying the items specified in the contract documents. It is important to note that MDOT's review and approval does not relieve the Contractor of full responsibility for all negligence in the construction of the project resulting from the working drawings. MDOT's review and approval of the working drawings is not a warranty of the adequacy and correctness of the working drawings.

The Contractor must submit for review all working drawings (including calculations as applicable) not furnished by MDOT for all parts of the work as required by the contract in portable document format (PDF). The Contractor is responsible for the correctness of the working drawings and design calculations, and ensuring the design complies with any permit requirements. It is the Contractor's responsibility that all items are fabricated to the correct dimensions. MDOT's approval of the working drawings is a verification that the drawings appear to be consistent with the contract documents. "Approval" does not relieve the contractor of the responsibility for the accuracy of dimensions on shop drawings or for complete submittals satisfying applicable contract requirements, nor does it permit deviations from the contract without MDOT's documented consent.

MDOT's shop drawing review process is shown in Figure 1. In general, the process originates when the fabricator submits shop drawings to the MDOT Design Project Manager (PM) and the MDOT Construction Engineer (CE) for MDOT's review and approval. The PM (or their delegate) coordinates the shop drawing review with MDOT's Review Areas per subsection 10.02.02 of the MDOT Bridge Design Manual (BDM) and as shown on page 3. The PM then sends any comments to the fabricator and CE. The fabricator submits the revised shop drawings to the PM and CE. The PM ensures that all comments have been addressed by either reviewing the revised shop drawings or sending them to the applicable Review Areas. After the PM is satisfied, the shop drawings are stamped with either MDOT's electronic approval stamp or the consultant's electronic approval stamp that meets the requirements of subsection 10.04.03 of the MDOT BDM. The PM distributes the approved shop drawings per subsection 10.02.03 of the MDOT BDM and electronically stores them in ProjectWise.

Changes or modifications during the fabrication process must be submitted to the PM and CE for approval and incorporated into the final as-built shop drawings. The Contractor must provide the CE with one complete set of final drawings in portable document format (PDF).

# MDOT Shop Drawing Review Process



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Figure 1. MDOT shop drawing review process showing high level functions. *CE* refers to MDOT Construction Engineer; *PM* refers to MDOT Design Project Manager or their delegate.

# MDOT Shop Drawing Review Process

## Shop Drawing List

Bearings <sup>1,9</sup>	Modular Expansion Joints <sup>1,9</sup>
Bridge Railings <sup>1,9</sup>	Permanent Metal Deck Forms <sup>1</sup>
CCTV Towers <sup>4,6,9</sup>	Precast Bridge Element Systems (PBES) <sup>1,9</sup>
Cofferdams <sup>4</sup>	Prestressed Concrete Beams <sup>1,9, (see note e)</sup>
Cofferdams, LIP <sup>4</sup>	Rest Area Buildings <sup>2,4,8</sup>
Communication Towers <sup>4,6,9</sup>	Sound Walls <sup>1,4,9</sup>
EPS Lightweight Fill <sup>1,4</sup>	Spun Concrete Poles <sup>4,6,9</sup>
ESS Towers <sup>4,6,9</sup>	Steel Sheet Piling, Temp <sup>4</sup>
High Mast Towers <sup>2,4,9</sup>	Steel Sheet Piling, Temp, LIP <sup>4</sup>
High Tension Cable Barriers <sup>3,4,9</sup>	Structural Steel <sup>1,9, (see note e)</sup>
Light Standards <sup>2,9</sup>	Temporary Bridges <sup>1,4,7</sup>
Mechanically Stabilized Earth Walls <sup>1,4,9</sup>	Three-Sided, Arch, or Box Culverts (≥10 ft) <sup>1,5,7,9</sup>

## MDOT Review Areas

- |                                 |                                      |
|---------------------------------|--------------------------------------|
| 1 Bridge Design                 | 6 Intelligent Transportation Systems |
| 2 Electrical                    | 7 Load Rating                        |
| 3 Geometrics                    | 8 Roadside Development               |
| 4 Geotechnical Services Section | 9 Structural Fabrication             |
| 5 Hydraulics                    |                                      |

### Notes:

- Superscript notations next to shop drawings indicate applicable MDOT Review Areas.
- The above shop drawing list is applicable for most projects; however, exceptions may apply on a case by case basis.
- DMS, mast arm, strain pole, and cantilever and truss sign structures do not require shop drawing review unless details deviate from the standard plans.
- Design calculations may be required in accordance with the SSC and/or special provision.
- The Load Rating Unit must be notified of any changes that affect the structural capacity of the elements shown in the contract documents.