



Road & Bridge Design Publications

Monthly Update – April 2013

Revisions for the month of **April** are listed and displayed below. The special detail index for **February** will remain in effect. Please contact Wayne Pikka (pikkaw@michigan.gov) for any questions regarding the changes.

Road Design Manual

1.02.18: Pavement Marking Plans: A reference and a link to revised section 7.04 was added.

7.04.06: Witness, Log and Layout: This is a new section involving pavement markings which requires a special pay item be used when there is a need for the contractor to witness and log any existing pavement markings.

Updates to MDOT Cell Library, Bridge Auto Draw Program, etc., may be required in tandem with some of this month's updates. Until such updates to automated tools can be made, it is the designer's/detailer's responsibility to manually incorporate any necessary revisions to notes and plan details to reflect these revisions.

MICHIGAN DESIGN MANUAL

ROAD DESIGN

1.02.17 (revised 11-28-2011)

Signing Plans

Occasionally, as part of the contract, construction projects will include permanent signing along a relocated highway or upgraded signing along an existing highway.

The Design Division - Traffic Sign Unit is responsible for preparing permanent signing plans. Working together, the designer and a representative from the Traffic Sign Unit, will determine sign types (ground mount, cantilever, truss, etc.), size, location, legend, and other details. These details will be shown on base plan sheets, usually prepared as strip plans on a small scale, i.e., such as a 200 scale. Standard signing plans from Traffic and Safety are then added to the plans. The signing standards show the details necessary to fabricate and construct the permanent signing.

1.02.18 (revised 4-22-2013)

Pavement Marking Plans

Pavement marking plans show the details of the permanent markings for lane lines, edge lines, and special markings such as: stop bars, directional arrows, and railroad crossings.

Base plans are prepared at a suitable scale that will show the necessary details. Repetitive markings, such as lane and edge lines need not be shown P.O.B. to P.O.E. but only for a portion of the project and where they may vary from the typical situation.

Intersections, parking areas and parking lots, railroad crossings, school areas, hospitals, pedestrian crossings, and other special situations should have pavement marking plans showing the details.

Again, close coordination with Traffic and Safety is needed to prepare detailed and complete pavement marking plans. ***The Michigan Manual of Uniform Traffic Control Devices*** gives details for pavement markings. Also see [Section 7.04 Pavement Markings](#).

1.02.19 (revised 11-28-2011)

Miscellaneous Plans

Occasionally, a project may require traffic signal plans, municipal utility plans, wetland mitigation plans or other miscellaneous plan sheets. Traffic signal plans are prepared by the Operations Field Services Division - Traffic Signal Unit. Municipal utility plans, such as water mains, street lighting, sanitary sewers, etc. would be prepared by or coordinated through the Utility Section of the Design Division. Wetland mitigation plans are coordinated with the Roadside Development Unit of the Design Division.

1.02.20 (revised 11-28-2011)

Log of Borings

Many construction projects require numerous soil borings, pavement coring, and other geotechnical information. Soil borings and cores are needed for a variety of reasons, including but not limited to:

1. Subgrade information
2. Pavement structure type and depth
3. Foundation (signs, trusses, retaining walls, bridges, etc.) information
4. Proposed sewer, culvert, and other underground utility information
5. Location of water table
6. Signal poles

When there are only a few borings required on a project, they can be shown on the plan or profile sheet where they are located. In most cases, however, separate log of boring sheets should be prepared. These sheets show the number and location of the boring and a sketch which includes the depth and a description of the material encountered. The Design Division's Guidelines for Plan Preparation have a sample soil boring sheet which is a good reference when preparing log of borings plan sheets.

MICHIGAN DESIGN MANUAL

ROAD DESIGN

CHAPTER 7 APPURTENANCES INDEX (continued)

- 7.01.59 Concrete Glare Screen
- 7.01.60 Retrofitting Concrete Median Barrier
- 7.01.65 Concrete Median Barrier Between Roadways of Different Elevations
- 7.01.66 Concrete Barrier, Single Face
- 7.01.67 Temporary Barrier
- 7.01.68 Ending Temporary Barrier
- 7.01.69 Temporary Barrier at Bridge Deck and Railing Reconstruction
- 7.01.70 Temporary Barrier Adjacent to a Precipitous Drop-off
- 7.01.75 Concrete Filler Walls

7.02 IMPACT ATTENUATORS

7.03 GLARE SCREEN

- 7.03.01 References
- 7.03.02 General
- 7.03.03 Criterion for Use

7.04 PAVEMENT MARKINGS

- 7.04.01 General
- 7.04.02 Temporary Pavement Markings
- 7.04.03 Pavement Marking Quantities
- 7.04.04 Removing Permanent Pavement Markings
- 7.04.05 Statutory Participating Cities
- 7.04.06 Witness, Log and Layout

ROAD DESIGN MANUAL ROAD DESIGN

7.04.06 (added 4-22-2013)

Witness, Log and Layout

Most projects call for the placement and/or replacement of permanent pavement markings. To ensure the markings are laid out properly the Designer must include information in the plans or proposal to allow a Contractor to do so.

Markings are placed or replaced using one or a combination of the following methods:

- A log of previously witnessed markings
- Pavement marking plan sheets
- Reference to standard plans (only if the standard can be placed in the field)

When there is a need for the Contractor to witness and log any existing pavement markings, the pay item "Witness, Log, Layout, \$1,000.00", must be included in the contract. This item must be used when any portion of the pavement markings must be witnessed and logged by the Contractor or Sub-Contractor prior to the pavement being removed.