Minimum Design Criteria for Stormwater Management

SL 2013-82 requirements

Progress to date

Expected path forward

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SL 2013-82 (H480) requirements

DENR shall convene stakeholders to:

1. Develop MDC that encompass all requirements for BMPs.
   Deadline for DENR to submit to ERC: Feb. 1, 2015.

2. Develop a fast-track permitting process – no technical review when all BMPs comply with all MDC & the permit application is prepared by a qualified individual.
   Deadline for rule adoption: July 1, 2016.
Stakeholders represented:

Engineering/design community (8)
Home Builder’s Association (1)
Construction (1)
Local government (4)
Environmental Group (2)
Landscape Architect (1)
Academia (2)
Soil Scientist (1)
DOT (1)
DWR & DEMLR (3)
Nutrient Design Criteria

Design criteria that increase the Total Nitrogen (TN) and Total Phosphorus (TP) pollutant removal rates
Voluntary design recommendations to optimize the device’s effectiveness in reducing SW temperature.

MDC apply to all measures regardless of:

Geographical location, stormwater program or fast-track or regular review process.
MDC Team process since March 2014:

1. Team selects our *Practice of the Month*

2. DEMLR staff list all *Potential MDC* based on 2H .1000 rules and the BMP Manual (~25-40)

3. Team debates merit & wording of each potential MDC and creates updated MDC list for the practice (~7-15)

We have now completed all of the SCMs!

Preview of the MDC....
General MDC

- Recorded drainage easement.
- Dewatering device.
- No erosion at BMP inlets or outlets.
- Operation & maintenance agreement.
- Vegetated slopes no steeper than 3:1.
- Designer certification.
- Water quality volume calculation.

Which one of these is STILL a wet pond MDC?

a. The permanent pool must be within 6” of the SHWT or a liner shall be installed.
b. The SHWT must be determined for every wet pond.
c. The vegetated shelf must be 10 feet wide.
d. The forebay must be approximately 20% of the total volume of the pond.
e. The SA/DA tables are required.
The permanent pool must be within 6” of the SHWT or a liner shall be installed.

The SHWT must be determined for every wet pond.

Only if the wet pond is within 50 feet of a wetland.
The vegetated shelf must be 10 feet wide.

The forebay must be approximately 20% of the total volume of the pond.
The SA/DA tables must be used for sizing.

Option: Hydraulic Retention Time (HRT) method

**Permanent Pool Volume, \( V_{pp} \):**

\[
V_{pp} = \frac{HRT}{HRT - T_{dd}} \times WQV
\]

Where:
- \( V_{pp} \) = Permanent pool volume (cu ft)
- \( T_{dd} \) = Drawdown time (days)
- \( HRT \) = 14 days (hydraulic residence time)
- \( WQV \) = Water quality volume (cu ft)

One other highlight: wet pond MDCs

A level spreader-vegetated filter strip is no longer required at the outlet.
Which one of these is STILL an infiltration MDC?

a. Only the design storm may be conveyed to an infiltration system.

b. Pre-treatment must be provided to prevent clogging.

c. The maximum drainage area for an inlet to an infiltration system is 2 acre-inches.

d. A 4-inch layer of washed sand shall be provided at the bottom of the infiltration system.

Only the design storm may be conveyed to an infiltration system.
Pre-treatment must be provided to prevent clogging.

The maximum drainage area for an inlet to an infiltration system is 2 acre-inches.
A 4-inch layer of washed sand shall be provided at the bottom of the infiltration system.

New design basis: infiltration system MDCs

Infiltration systems shall dewater to the bottom of the infiltration device within 72 hours.

A site-specific soil investigation shall establish the hydraulic properties & characteristics of the infiltration site.
Highlight: Peak Flow Attenuation

All devices are now allowed to store peak attenuation volume.

MDC Highlights: Bioretention Cells

• Media: 75-85% medium to coarse washed sand & no mechanical compaction
• Maintain drawdown rate of 1 in/hr
• Plant to achieve 50% coverage at 5 years. Sod shall be non-clumping & deep-rooted.
• Must provide internal water storage unless in-situ soil infiltration rate > 2 in/hr
MDC Highlights: Stormwater Wetlands

- Ponding depth increased from 12 to 15 inches above the permanent pool.
- The pH, compaction and other attributes of the first 12” depth of the soil shall be adjusted if necessary to promote plant growth.

MDC Highlights: Level Spreader-Filter Strips

- Size based on the 0.75 inch/hour storm, with a flow bypass system for larger storm events.
- Blind swale is sufficient to provide pre-treatment.
• The volume of water that can be stored in the sediment chamber and the sand chamber above the sand surface combined shall be 0.75 times the treatment volume.
• Sand media shall meet ASTM C33.
• Media shall be maintained in a manner that results in a drawdown of at least two inches per hour at the sand surface.

Now it’s time to start discussing the fast-track process!
Session Law on fast-track permitting

The EMC shall adopt a fast-track permitting rule no later than July 1, 2016. The rule shall provide processes for:

- Permit application, review, and determination.
- Ensuring compliance with the MDC.
- Specifying the types of professionals that are qualified to prepare a fast-track permit application.
- Establishing the liability of a professional who prepares a fast-track permit application that fails to comply with the MDCs.

Suggested approach:

Let’s agree on the overall process, then we’ll fill in the details meeting-by-meeting.
Possible Rule-Making Schedule

The fast-track rule must be adopted no later than May 2016.

Jul 8, 2015 WQC approves rule text
Jul - Oct 2015 DEMLR develops fiscal note
Nov 1, 2015 OSBM certifies fiscal note
Nov 12, 2015 WQC / EMC approves rule & fiscal note
Nov 20, 2015 DEMLR’s files rule & fiscal note in Register
Dec 15, 2015 Comment period begins (hearing after 12/29)
Feb 16, 2016 Comment period ends
May 2016 WQC / EMC adopts rule
Thank you to the MDC Team!

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