**Minimum Design Criteria (MDC) Team  
05/19/2014  
Triangle J COG, Durham**

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| **Attendees** | | | |  |
| **Team Members** |  |  |  | **Others** |
| Eban Bean |  | Brian Lipscomb |  | Mark Senior, City of Raleigh |
| Bradley Bennett |  | Annette Lucas |  | Ryan Eaves, Durham County |
| Jonathan Bivens |  | Mike MacIntyre |  | Larry Ragland, McNeely Associates PA |
| Ben Brown |  | Todd Miller |  | Jeanette Powell, NC State |
| Tim Clinkscales |  | Cameron Moore |  |  |
| Tracy Davis |  | Tom Murray |  |  |
| Boyd Devane |  | Robert Patterson |  |  |
| Hunter Freeman |  | Derek Pielech |  |  |
| Mike Gallant |  | Peter Raabe |  |  |
| Joe Hinton |  | JD Solomon |  |  |
| Marc Houle |  | Virginia Spillman |  |  |
| Ron Horvath |  | Rob Weintraub |  |  |
| Bill Hunt |  |  |  |  |
| Linda Lewis |  |  |  |  |

**Old Business:**

Charter –

* Discussion noted need to adjust some of the team membership based on changes/additions.
* Annette also noted potential for 2014 Bill change to provide more time for the group’s work.
* *Team approved Charter*

**New Business**

MDC’s That Apply to all BMPs

* *Annette* noted that #8 involving the calculation of runoff using either Simple or Discrete SCS methods was not discussed at the previous meeting.
* *Jonathan* questioned the design for difference in pre-post runoff where there is offsite drainage coming to the system.
* A number of team members noted that item #1 noted that offsite drainage could b routed around.
* **Hunter** mentioned a need to clarify the project as a whole need to control runoff for the project and for a specific BMP it is just it’s contributing drainage area.
* *Mark* felt the MDC is for a BMP and isn’t for the whole site
* *Todd* asked how local governments dealt with offsite and Wilmington (*Derek*) said they allowed it to be conveyed as before.
* There was some discussion that some local governments (Durham?) that were considering banking if people treated offsite runoff.
* *Bill* – BMPs have to cumulatively capture all drainage and suggested that ref to BMP in # 8 be changed to stormwater system.
* *Jonathan* noted the need to focus on the BMP, only have to calculate the volume that hasn’t been by-passed.
* *Tim* questioned whether offsite by-passed water was reviewed.
* *Hunter* suggested changing language in #8 to refer to “inflow treatment volume.”
* *Brian* noted that the coastal rules don’t allow for a choice in methods but says that you must use the greater of the design volumes. #8 needs to reflect this.
* *Todd* questioned how the certification in #7 worked. Local governments attach the certification to Certificates of Occupancy (CO’s).
* *Todd* asked if engineers felt comfortable doing certification without as-builts. *Mark* – as-builts are important, but also need to be involved with on the ground construction to feel comfortable.
* *Todd* asked if as-builts should be required? *Rob* and *Jonathan* – up to the professional, need to be there as constructed. *Virginia* noted the need for a good form and indicated they had established a good template in Greensboro – Asked *Virginia* to provide the form to us.
* *Bill* noted a bioretention study that found areas with as-builts were significantly better systems and that the group should look at this with each BMP.
* There was a question about what was meant by “..completion of BMP..”
* *Todd* agreed to look at item #7 and the issue of certifications and come back with suggestions at the next meeting.
* City of Raleigh process – look to certify all at once, but with phased development tend to tie to CO’s and hold a certain number until BMPs complete & certified.
* *Linda* – Built-upon area (BUA) also has to be certified to assure BMP’s proper function.
* *Mike* – On commercial property all BUA may not be built, engineer is certifying the pond and may not be involved down the road, should be the permitee’s responsibility.
* *Tim* – CO’s are local government items and not part of state process.
* *Hunter* – Does certification based on BMP construction being appropriate, not BUA. Also, noted certifying the water quality components, not pipes, catch basins, etc.
* *Todd* – Is the certification for the BMP or for the stormwater system?
* Comments that there should be multiple stage certifications for some BMPs.
* Items # 1 – # 6 and item # 8 approved
* Item #7 – seemed some wanted to replace “stormwater system” with “BMP” but concern that “stormwater system” is in the rule. Also concern with the number of certifications that might be needed if it was BMP.
* There was a question about whether the group would consider partial certifications (like wastewater partials?). It was noted that the BMP has to be complete.

Process for Designation MDC’s

* Discussion of the bacteria and nutrient items indicated that we may need to look at renaming these. It was suggested that we look at the language in the phase II regs for these.
* There were also questions about the nutrient item being called a design criteria, but TN and TP do have rules that establish load reduction numbers.
* *Annette* asked for help from any members interested in developing potential MDCs for review.
* There was some discussion about MDC questions 2 and 3 and whether they could be combined on the scorecard.

Wet Detention Pond MDC Scorecard Review

* *Mike Gallant* gave an overview of an alternative Wet Pond design methodology developed as part of the previous Technical Review Workgroup (TRW). This method is intended to provide an alternative to the current methodology in the BMP Manual. It is based on Hydraulic Residence Time (HRT) within the basin necessary to achieve pollutant removal. Some key components mentioned – not changing volume to control, get the volume and geometry up to the designer; looked at designs and found minimum SA was 3% of DA; design assumes draw down and then have to go back and check; long draw down time is better from a sizing standpoint because it is subtracted out.
* *Mike* – concerns with deep ponds in residential settings
* *Mike* – prefer infiltration but seasonal high water table (SHWT) impacts, also developers sometimes push the types of BMPs for various reasons.
* *Boyd* – should point people to infiltration to protect shellfish waters.
* *Bill* – HRT approach could be used for number of BMP, ex. would be good for wetlands also.
* *Annette* – asked group if they supported HRT vs. SA/DA approach – most people supported the alternative.
* *Tim* – concern with HRT as replacing SA/DA, and noted he was against it if the ponds got bigger.
* *JD* – asked if changes to use HRT would require rulemaking or notice.
* *Annette* – in July we hope to come to the group with information to describe a possible process for rule changes, etc.

MDC #1 - Siting

* *Tim* – remove 6” requirement, up to the designer and noting in the law or rule.
* *Mike* – agreed the 6” requirement should be removed, regulated by the outlet and didn’t want to have to provide fill to make a site work.
* *Mark* – MDC #2 makes more sense than #1 and noted use of wetlands for treatment.
* *Tim* – doesn’t think it should even be reviewed.
* *Annette* – asked about concerns that the permanent pool volume would be taken up with groundwater.
* *Mike* – didn’t see as a problem because wate would have to come n faster than the outlet so would need a really large driving head.
* *Rob* – strike #1 and go with #2.
* *Joe* – should be concerned more with lateral flow than SHWT. Doesn’t think much space in the permanent pool would be taken up. Noted a number of factors in the impact of SHWT.
* *Tim* – SHWT is irrelevant and should not be considered.
* Discussion about deleting #1 and only ½ would strike it.
* *Joe* – SHWT more important in other BMPs, need borings where the BMP will be not just general location.
* Proposed language to address dewatering of wetlands. Some discussion about addition “jurisdictional.”
* *Jonathan* - noted the DOT approach with borrow pits and distance to wetlands.
* *Tim* – can’t drain wetlands if discharging to dry land.

MDC #2 – - Siting Removed

MDC #3 - Geometry

* *Bill* – can strike for HRT because it is in other calculations, assume minimum depth and if you design for 14 days it is taken care of.
* *Tm* – question about going with HRT vs SA/DA

MDC #4 – Permanent Pool Surface Area

* Discussion about rule change to just say design for 85% TSS removal. Were questions about allowing less if part of a treatment train.
* *Rob* – system has to meet the 85% requirement so this doesn’t get you anything. Remove #4

MDC #5 and #6 – Permanent Pool Surface Area

* Use these tables or the HRT method
* Group felt #5 and #6 should be linked together and simplified by saying use SA/DA or HRT.

MDC #7 – Permanent Pool Depth

* Discussion about combining with #9
* *Jonathan* – could go to min o 4ft but this would include sediment storage.
* *Mike* – sediment storage in forebay rather than the rest of the pond?
* *Bill* – fines will still go across into the rest of the pond
* *Tim* – with 4ft you get a smaller pond
* *Mike* - without sediment storage, would allow the HRT to use the full 4ft
* Discussion about using 6 inch sediment storage instead.
* *Todd* – should assume poor maintenance so why are we changing this?
* *Bill* – if forebays are cleaned out then should be okay for 4 ft.
* *Virginia* – challenging to get maintenance on residential situations, also noted failure of corrugated metal pipe.
* After discussion – change to 3ft plus 6” of sediment storage.

MDC #8 – Permanent Pool Depth

* Permanent pool depth should be part of the two methods – SA/DA or HRT.
* *Todd* – are we locking someone into having to maintain if we find that the system is actually infiltrating? Add language to link to “designed depth” to allow for infiltrating systems (could put in text of the document).
* *Virginia* – need to have discussion include so people understand that infiltration would be acceptable.

MDC #11 - Freeboard

* *Tim* – nothing to do with water quality so take this out.
* *Hunter* – feels that this is handled under other MDC including overall design. Maybe overall MDC #1
* *Eban* – as long as the spillway handles it is okay and is the engineer’s responsibility. Probably not one standard, depends on downstream issues.
* *Annette* and *Jeanette* will work on this item.

MDC #12 – Permanent Pool Volume

* Can we remove in lieu of #10 even though it is in the rule?

MDC #13 – Design Storage Volume

* Remove 13 through 15 and just make part of HRT and SA/DA designs.

MDC #16 – Pretreatment

* Language is “may” so really not and MDC. Recommend taking out of the rule.

**Next Meeting – June 23, 2014 – Finish Wet Detention Ponds; Infiltration Basins**