DRAFT MEETING MINUTES

June 22, 2004
PADEP Stormwater Manual Oversight Committee
Rachel Carson Building First Floor Conference Room

I. PADEP Announcements and Inputs

Ken Reisinger chaired the meeting. Denny Stum distributed a new outline for the stormwater website (same address and location but new organization) which should reduce confusion. Cahill's Wes Horner recapped the schedule status, passing out the Cahill memo with OC meeting dates and due dates for draft manual section completion for the OC. The PADEP overall calendar schedule has not been changed, with draft manual completion by October 2004 and the official draft manual release to the public in November 2004.

OC's Warren Cohn also presented his offer, as a private vendor, to provide summaries of various stormwater-related products for inclusion in the manual. These would either be summarized at the end of Section 4 and 5 or in an appendix, with sources for additional information. Warren will try to organize/group these products by function to facilitate this process. Such information could provide more explicit guidance for interested users. Consensus was to receive this information from Warren (and anyone else so inclined), review it at the next meeting, and then decide how it would be treated in the manual. Note: Warren will submit his work before the July meeting so that all OC members have a chance to review and consider.

Kevin Abbey of the Center for Dirt and Gravel Road Studies was announced as a new member of the OC. Anthony Miller represented PENNDOT on the OC due to the departure of Rebecca Burns.

II. Review of Fourth OC Meeting Minutes and Comments Received

The May meeting minutes were adopted without comment and/or change. Cahill's Wes Horner indicated that a modest number (7) of comments have been received since the last meeting. Several additional comments were made. Tony Miller: case study examples in the manual are important and should come from all over the state. Al Brulo: make sure PADEP plans for an updating process (webpage?) so that the completed manual can absorb new information on an ongoing basis.

III. Review of Draft Manual Section 3.0 as Applied to Case Studies (Section 8)

- **Standards Update Proposed by Villanova Urban Stormwater Partnership**
- **Draft Section 3.0 – Cahill Associates**
- **Case Studies and Preliminary Draft Methodologies**

Dr. Traver was unable to attend this meeting and could not report on the final VUSP meeting and its consideration of proposed stormwater management standards. Tom Cahill also was traveling and could not attend. Setting aside the direct question of standards, Cahill's Michele Adams provided a PowerPoint presentation (to be posted on the stormwater manual website) focusing on the application of stormwater management standards recommended in draft section 3.0 (peak rate for large storms, total volume for smaller storms, water quality for both typical areas and special areas) and how such application might be treated methodologically in Section 8. Especially important issues (among many others) here include:

> **How can we integrate peak rate control, total volume control and water quality control, both in terms of calculation methodologies and in terms of BMP's (issues are very much interrelated)?**
>
> **How can we apply these methodologies to the highly decentralized stormwater systems being promoted, rather than the conventional centralized basin approach, without being overwhelmed by detailed calculation and routing requirements?**

Though other challenges need to be addressed, these issues must be overcome in this manual if recommendations are to be implemented across the state and used by both applicant's engineers and municipal engineers. Michele reviewed approaches being used by other states/jurisdictions (Portland stormwater manual, Georgia stormwater manual, New Jersey stormwater manual, Delaware's DURMM) where the use of credits has been integrated into simplified methods to encourage their use. Cahill proposes to develop a hybrid-simplified method, using a series of work sheets which integrate a variety of credits, always allowing for use of alternative methodologies. This method will be detailed and presented in Section 8, but can be summarized as follows:

- **Calculate the volume increase from land use changes and if the volume for 2-year storm is met (for runoff volume control, for channel protection and for recharge), the peak for larger storms is assumed to be met and the water quality standard is met.**
- **Calculate contribution of BMP's**
- **Detailed routing may be waived**
- **Design standards for BMP's must be met**
- **Alternative analysis accepted**

Michele presented two case studies with calculations, using the same 10-acre site with conditions considered to be typical for many Pennsylvania regions. They were a moderate density residential site and a commercial site. Detailed calculations based on the TR-55 soil cover complex method with detailed routing were developed, demonstrating that use of infiltration-oriented BMP's designed for 2-year storm volume control also achieved 100-year storm peak rate control. A conventional peak rate control detention basin designed for peak rate control for up to the 100-year storm also was

evaluated and compared. Advantages of using preventive non-structural BMP's such as reducing street widths also were demonstrated.

Numerous comments were made by OC members and members of the audience. Some highlights:

Generally the committee liked the idea of keeping the plan development process simple provided it was founded on solid science and engineering and could be implemented at the local level.

There was general support for this Section 8 concept. Although Section 8 is not due to be drafted until the September 28 meeting, Ken Reisinger suggested that this very important section be provided to the OC ASAP for a thorough review, and discussion at the September meeting.

IV. Review of Additional Section 5.0 Structural BMP's

Cahill Associates distributed four more structural BMP's to be included in Section 5:

-Porous Pavement/Conventional Pavement with Recharge Beds
Note that this BMP can include either porous pavement or conventional pavement (with inlets) located above sub-surface recharge beds.

-Capture and Reuse
This BMP is gaining favor for volume control, especially in more developed areas and as retrofits.

-Special Detention Areas: Parking Areas, Rooftop
Not expected to be a frequently used BMP but with special developed areas applications.

-Water Quality Inserts
Includes a variety of different types of products which are commercially available.

Michele Adams briefly reviewed these BMP's and urged OC members to review more carefully in the coming weeks and provide comments before or at the next meeting. The committee members questioned the consistency of the information relative to the depth to bedrock and depth to seasonal high water table guidance that was provided.

V. Status of Sections 1.0 and 2.0

Cahill Associates is still editing both sections based on the comments received. Comments had been made earlier in the meeting relating the need to make very clear the relationship between this manual and any standards recommended by this manual and the 167 program and any other PADEP stormwater program element, including NPDES Phase II. Cahill's Horner indicated that, based on this discussion, additional editing would be undertaken in Section 1 so that these program relationships were made absolutely clear. Additionally, as commented by Scott Brown, some of the discussion in Sections 3 and 8 may require support in Section 2. The point here is that editing Section

2 is necessarily becoming an iterative process and will have to continue as other sections of the manual are developed.

VI. Public Q & A/Closing Comments

In closing, several OC members requested that the issue of stormwater management standards (both whether standards should appear at all in the document and if so, what should these standards be?) be revisited. PADEP will make an effort to cull out/summarize what standards are being set forth by adopted 167 plans across the state. Cahill will work to try to organize this discussion. Consensus was that different points of view could be presented during the August roundtable discussion along with the technical support required for these different points of view. The meeting concluded at approximately 1 PM.