



STORMWATER MANAGEMENT COMMISSION

We hope to see you at the next TAC meeting on **Thursday, August 15, 2019** at 9:00 AM.

The meeting will be held at:

Lake County Central Permit Facility
500 W. Winchester
Second Floor - Large Conference Room
Libertyville, IL 60048

Meeting Topic:

Continue discussion on release rates and stormwater detention options.

Presentation slides are available for download at:

<https://www.lakecountyil.gov/2338/Standing-Advisory-Committees>



STORMWATER MANAGEMENT COMMISSION

**TECHNICAL ADVISORY COMMITTEE
AGENDA**

August 15, 2019

9:00 AM – 12:00 PM

500 W. Winchester, Libertyville, Illinois



- 1.0 CALL TO ORDER
- 2.0 ADDITIONS TO THE AGENDA
- 3.0 PUBLIC COMMENT
- 4.0 STAFF REPORT
 - 4.1 Public Information Meeting Updates
- 5.0 APPROVAL OF THE MINUTES
 - 5.1 July 18, 2019 Minutes
Action Requested: APPROVAL
- 6.0 OLD BUSINESS
 - 6.1 Site-Specific Detention Analyses with Updated Bulletin 70 Rainfall
Presentation by Joy Corona, PE, CFM, Bleck Engineering
Action Requested: IMPACT DETERMINATION
 - 6.2 Runoff Volume Reduction (RVR) Quantitative Standard [WDO 503.02]
Action Requested: SUMMARY OF TAC-APPROVED NUMERIC STANDARD
 - 6.3 Alternative Volume Control Practices
Presentation by Carrie Bristoll-Groll, PE, CFM, Stormwater Solutions Engineering
 - Regenerative Stormwater Conveyance
 - StormGUARDenAction Requested: RVR CREDIT APPLICABILITY
 - 6.4 Watershed-Specific Release Rate Study for North Mill Creek
Criteria Discussion with Greg Byard, PE, CFM, Illinois State Water Survey
Action Requested: APPROVAL OF SELECTED WATERSHED
- 7.0 NEW BUSINESS
 - 7.1 NONE
- 8.0 ADJOURNMENT

Technical Advisory Committee

<p>James Anderson (Term Expires May 2020) Director of Natural Resources LC Forest Preserve District 1899 W. Winchester Rd. Libertyville, IL 60048 Phone: 847-968-3282 Fax: 847-367-6649 Email: janderson@lcfpd.org</p>	<p><u>Alternates</u> John Nelson Director of Operations & Infrastructure LC Forest Preserve Dist. 19808 W. Grand Avenue. Lindenhurst, IL 60046 Phone: 847-968-3407 Fax: 847-367-6649 Email: jnelson@lcfpd.org</p> <p>Ken Klick Restoration Ecologist LC Forest Preserve Dist. 1899 W. Winchester Rd. Libertyville, IL 60048 Phone: 847-968-3284 Fax: 847-367-6649 Email: kklick@lcfpd.org</p>	<p>Tom Polzin (Vice Chairman) (Term Expires May 2020) Hey & Assoc., Inc. 26575 W. Commerce Dr., Ste. 601 Volo, IL 60073 Phone: 847-740-0888 Fax: 847-740-2888 Email: tpolzin@heyassoc.com</p>	<p><u>Alternate</u> Vince Mosca Hey & Assoc., Inc. 26575 W. Commerce Dr., Ste. 601 Volo, IL 60073 Phone: 847-740-0888 Fax: 847-740-2888 Email: vmosca@heyassoc.com</p>
<p>Mike Zemaitis (Term Expires May 2020) Engineer of Design LC Division. of Transportation 600 Winchester Rd. Libertyville, IL 60048 Phone: 847-377-7400 Fax: 847-362-5290 Email: mzemaitis@lakecountyil.gov</p>	<p><u>Alternate</u> AI Giertych Assist. County Engineer LC Division of Transportation 600 Winchester Rd. Libertyville, IL 60048 Phone: 847-377-7400 Fax: 847-362-5290 Email: agiertych@lakecountyil.gov</p>	<p>Pat Bleck (Term Expires May 2020) Bleck Engineering Co., Inc. 1375 Western Ave. Lake Forest, IL 60045 Phone: 847-295-5200 Fax: 847-295-7081 Email: pbleck@bleckeng.com</p>	<p><u>Alternate</u> Joy Corona Bleck Engineering Co., Inc. 1375 Western Ave. Lake Forest, IL 60045 Phone: 847-295-5200 Fax: 847-295-7081 Email: jcorona@bleckeng.com</p>
<p>Patrick Glenn (Term Expires May 2020) Senior Engineer Gewalt Hamilton Assoc. Inc. 625 Forest Edge Dr. Vernon Hills, IL 60061 Phone: 847-478-9700 Fax: 847-478-9701 Email: pglenn@gha-engineers.com</p>	<p><u>Alternate</u> Mei Zhu Senior Engineer Gewalt Hamilton Assoc. Inc. 625 Forest Edge Dr. Vernon Hills, IL 60061 Phone: 847-478-9700 Fax: 847-478-9701 Email: mzhu@gha-engineers.com</p>	<p>Bill Heinz (Term Expires May 2020) Village of Grayslake 585 Berry Ave. Grayslake, IL 60030 Phone: 847-223-2323 Fax: 847-223-4821 Email: wheinz@villageofgrayslake.com</p>	<p><u>Alternate</u> Kurt Baumann Baxter & Woodman 442 N. Cedar Lake Rd. Round Lake, IL 60073 Phone: 815-444-3313 Email: baumann@baxterwoodman.com</p>
<p>Kathy Chernich (Term Expires May 2020) U.S. Army Corp. of Engineers 231 LaSalle St., Ste. 1500 Chicago, IL 60604 Phone: 312-846-5531 Fax: 312-353-4110 Email: Kathy.G.Chernich@usace.army.mil</p>	<p><u>Alternate</u> Kaitlyn Pascus U.S. Army Corp. of Engineers 231 LaSalle St., Ste. 1500 Chicago, IL 60604 Phone: 312-846-5533 Fax: 312-353-4110 Email: kaitlyn.a.pascus@usace.army.mil</p>	<p>Peter Manhard (Term Expires May 2020) Vice President Manhard Consulting 900 Woodlands Parkway Vernon Hills, IL 60061 Phone: 847-634-5550 Fax: 847-634-0095 Email: pmanhard@manhard.com</p>	<p><u>Alternates</u> Brian Valleskey Manhard Consulting, Ltd. 900 Woodlands Parkway Vernon Hills, IL 60061 Phone: 847-634-5550 Fax: 847-634-0095 Email: bvalleskey@manhard.com</p> <p>Bill Hupperich Manhard Consulting, Ltd. 900 Woodlands Parkway Vernon Hills, IL 60061 Phone: 847-634-5550 Fax: 847-634-0095 Email: whupperich@manhard.com</p>

Technical Advisory Committee

<p>Don Dressel (Chairman) <i>(Term Expires May 2020)</i> Christopher Burke Engineering 9575 W. Higgins Rd., Ste. 600 Rosemont, IL 60018-4920 Phone: 847-823-0500 Fax: 847-823-0520 Email: Ddressel@cbbel.com</p>	<p><u>Alternates</u> Kay Whitlock Christopher Burke Engineering 9575 W. Higgins Rd., Ste. 600 Rosemont, IL 60018-4920 Phone: 847-823-0500 Fax: 847-823-0520 Email: kwhitlock@cbbel.com</p> <p>Scott Griffith Christopher Burke Engineering 9575 W. Higgins Rd., Ste. 600 Rosemont, IL 60018-4920 Phone: 847-823-0500 Fax: 847-823-0520 Email: sgriffith@cbbel.com</p>	<p>Ramesh Kanapareddy <i>(Term Expires May 2020)</i> City of Highland Park 1150 Half Day Rd. Highland Park, IL 60035 Phone: 847-432-9907 Fax: 847-432-0807 Email: rkanapareddy@cityhpil.com</p>	<p><u>Alternate</u> Manny Gomez City of Highland Park 1150 Half Day Rd. Highland Park, IL 60035 Phone: 847-432-1186 Fax: 847-432-0807 Email: egomez@cityhpil.com</p>
<p>Eric Steffen <i>(Term Expires May 2020)</i> Operations Manager Lake County Planning Building & Development 500 W. Winchester Rd. Libertyville, IL 60048 Phone: 847-377-2109 Fax: 847-984-5853 Email: esteffen@lakecountyil.gov</p>	<p><u>Alternates</u> Matt Meyers Deputy Director/Chief Engineer Lake County Planning, Building & Development 500 W. Winchester Rd. Libertyville, IL 60048 Phone 847-377-2079 Fax: 847-984-5853 Email: mmeyers@lakecountyil.gov</p> <p>Brian Frank Principal Engineer Lake County Planning, Building & Development 500 W. Winchester Rd. Libertyville, IL 60048 Phone: 847-377-2086 Fax: 847-984-5853 Email: bfrank@lakecountyil.gov</p>	<p>Heather Galan <i>(Term Expires May 2020)</i> Village Engineer Village of Gurnee 325 N. O'Plaine Rd. Gurnee, IL 60031 Phone: 847-599-7582 Fax: 847-623-9475 Email: hgalan@village.gurnee.il.us</p>	<p><u>Alternates</u> Nicholas Leach Village of Gurnee 325 N. O'Plaine Rd. Gurnee, IL 60031 Phone: 847-599-7586 Fax: 847-623-9475 Email: nleach@village.gurnee.il.us</p> <p>Dave Ziegler Director of Community Development Village of Gurnee 325 N. O'Plaine Rd. Gurnee, IL 60031 Phone: 847-599-7550 Fax: 847-623-9475 Email: davidz@village.gurnee.il.us</p>

**TECHNICAL ADVISORY COMMITTEE
MEETING MINUTES
July 18, 2019
Lake County Stormwater Management Commission
600 W. Winchester, Libertyville, IL**

1.0 CALL TO ORDER 9:07 AM

TAC Members & Alternates	Staff Present	General Public	
Eric Steffen	Ernesto Huaracha	Scott Griffith	Darren Olson
Donald Dressel	Angela Panateri	David Brown	Brittany Sloan
Mike Zemaitis	Mike Warner	Susan Novak	Chuck DeGrave
Kurt Baumann (arrived at 9:11am)	Kurt Woolford	Joanna Colletti	
Kathy Chernich (arrived at 9:20am)	Kelcey Traynoff	Kaitlyn Pascus	
Mei Zhu			
Tom Polzin			
Joy Corona			
Bill Hupperich			

2.0 ADDITIONS TO THE AGENDA – None

3.0 PUBLIC COMMENT- None

4.0 STAFF REPORT-

Mr. Kurt Woolford introduced the new alternates: Scott Griffith for Don Dressel and Bill Hupperich for Pete Manhard.

Mr. Woolford discussed the conclusion of the public comment period for the updated Bulletin 70. SMC received approximately 80 comments, of which a majority related to site-specific drainage problems.

Mr. Woolford introduced Mike Warner (SMC) and invited the TAC hear his testimony for the U.S. House of Representatives Small Business Committee to be held on July 19, 2019.

5.0 APPROVAL OF THE MINUTES

Mr. Kurt Baumann moved to approve the June 20, 2019 TAC minutes, seconded by Ms. Mei Zhu. Ms. Joy Corona, Mr. Tom Polzin, Mr. Bill Hupperich, and Mr. Eric Steffen abstained. Vote: Approved 4-0-4.

6.0 OLD BUSINESS

6.1 Mr. Woolford introduced Mr. Darren Olson to present on the Upper Des Plaines River Watershed future build-out scenarios. Mr. Olson presented a floodplain sensitivity analysis for two build-out scenarios: 1. Maximum build-out, including all agricultural areas and 2. More targeted build-out.

6.2 Mr. Woolford began the discussion on release rate adjustments. He noted that during the June TAC meeting, ISWS presented their methodology for determining watershed-specific release rates for Cook County. TAC requested SMC Staff to contact ISWS and discuss the level of detail in current Lake County floodplain studies in order to conduct a similar release rate analysis. The initial study would be for a single watershed to confirm the appropriateness of the current 0.15 cfs/acre release rate standard, or justify changing release rates, whether higher or lower. Ms. Joy Corona presented her modeling results for the release rate analysis. Multiple scenarios were analyzed with varying rainfall, release rates, and curve numbers. TAC requested additional analyses considering impacts on existing permitted sites.

- 6.3 There was consensus among the TAC that the Detention Volume Unit Area Curve in WDO Appendix K should be kept as a design tool, but it will need to be updated. It was noted that a large increase will be seen for the lower percent impervious areas.
- 6.4 There was consensus that the TAC does not feel strongly that a Credit Trading Market be pursued as a detention volume option at this time.
- 6.5 The fee-in-lieu detention option was discussed. It was clarified that this option should only be allowed for the additional storage volume required from the new rainfall standard, and not allowed if downstream flood problems exist. The additional revenue would be used to address the drainage problems outside of the development. The idea was also brought up that upland BMPs should be incentivized because storage placed in the headwaters of development can be more beneficial than a detention pond. The Runoff Volume Reduction (RVR) criteria was briefly discussed and TAC requested this option be further discussed and revisited at the next meeting.

7.0 NEW BUSINESS - None

8.0 ADJOURNMENT

Motion to adjourn by Mr. Kurt Baumann, seconded by Ms. Joy Corona. Meeting adjourned at 11:36AM
Vote: Approved 8-0-0 (unanimous).

WDO 503.02 Runoff Volume Reduction (RVR) Quantitative Standard

The minimum RVR quantitative standard shall be the volume achieved utilizing applicable RVR Credits, as determined by the applicant and approved by the Enforcement Officer, based on the [maximum extent practicable](#), for the following development. The term “new” for the RVR Quantitative Standard refers to impervious surface area created after April 1, 2009.

Minor and Major Development that result in at least one (1) acre hydrologic disturbance and more than one-half (0.5) acre of new impervious surface area;

Redevelopment of previously developed sites that result in at least one (1) acre hydrologic disturbance;

Public Road Development that meet or exceed the thresholds in 300.07.

A. RVR Implementation Criteria

1. Runoff volume reduction quantity shall be implemented with appropriate methods, as approved by the Enforcement Officer, which may include the following: Best management practices; [green infrastructure](#); detention facilities; and preservation or enhancement of natural streams, wetlands, and areas with deed restricted native vegetation.
2. Best management practices, and the portion of the detention facility designed to meet this provision, shall be designed to dewater the RVR quantity in no greater than 96 hours. The applicant shall provide infiltration rate information for each RVR practice. The use of an underdrain system may be incorporated into the design in order to achieve the required draw down time. Underdrain systems shall be designed to dewater the RVR quantity in not less than 48 hours.

B. RVR Credits

The following credits may be used alone or in combination to meet the RVR quantity requirement:

1. Detention Facility Credit – Up to 50% of the RVR quantity may be provided within the portion of the detention facilities that have been designed to meet this standard. The volume provided to meet this provision shall be below the elevation of the primary outlet for the RVR portion of the facility.
2. Native Vegetation Cover Credit – Up to 100% of the reduced 2-year, 24-hour runoff volume achieved with native vegetation in deed or plat restricted areas (e.g., compensatory storage and buffer areas) as described in Soil Runoff Characteristics (501.06) and Streams and Channels (506.02).
3. Isolated Wetland Hydrology Credit – A maximum of 100% of the existing 2-year, 24-hour runoff volume to a preserved IWLC if the Wetland Hydrology (§1002 Wetland Hydrology for Isolated Waters of Lake County) and Water Quality Treatment (§504 Water Quality Treatment) requirements are met.
4. Water Quality Treatment Credit – Up to 100% of the volume utilized to meet the Water Quality Treatment Volume (§504 Water Quality Treatment).
5. Off-Site RVR Credit – RVR practices may be provided on off-site, localized properties that are within the same basin. Deed or plat restrictions shall be obtained and recorded on off-site properties to assure perpetual operation and maintenance of RVR facilities.
6. Best Management Practice and Green Infrastructure Credits – Up to 100% of the volume within the practices designed to meet this standard.

TECHNICAL ADVISORY COMMITTEE

MEETING MINUTES

April 8, 2010

Lake County Stormwater Management Commission
333 Peterson Road, Libertyville, IL

1.0 CALL TO ORDER

Vice-Chairman Don Dressel called the meeting to order at 8:57 AM.

TAC Members & Alternates		Staff Present	General Public
Graig Neville	Tom Polzin	Kurt Woolford	John Hood
Megan Elberts	Brittany Albrecht	Joanna Colletti	
Don Dressel	Jim Anderson	Mike Warner	
Kurt Baumann	Joy Corona		
Scott Drabicki	Cory Horton		
Mike Zemaitis	Kurt Kaszuba		

2.0 ADDITIONS TO THE AGENDA – Kurt Baumann moved to add a supporting memorandum to Old Business Item 6.1, seconded by Scott Drabicki. Motion unanimously approved.

3.0 PUBLIC COMMENT - None.

4.0 STAFF REPORT

- 4.1 Kurt Woolford informed the TAC Committee that the next TAC meeting will be held at the new Central Permit Facility located at 500 W. Winchester, Libertyville.
- 4.2 Mr. Woolford informed that the vacant environmental seat has been filled by the U.S. Army Corps of Engineers.
- 4.3 Mr. Woolford announced that elections for Chair and Vice-Chair will be held at the next TAC meeting.

5.0 Approval of the Minutes

- 5.1 Mr. Drabicki moved to approve the March 18, 2010 TAC minutes, seconded by Graig Neville. Motion unanimously approved with 3 abstained (Zemaitis, Kaszuba, Anderson).

6.0 OLD BUSINESS

6.1 Discussion of the Runoff Volume Reduction (RVR) Design Depth – Discussion of Methodology memo dated March 19, 2010. The resultant volume required by 4 different site designs was evaluated by staff using the different methodologies described in the memorandum. Mr. Horton discussed additional analysis he performed prior to the meeting; he independently determined a countywide average CN of 70 which further supports the analysis provided by Staff. Mr. Horton then suggested the provision state 3000-CF/ac of impervious (to reduce a computation step for the applicant). Mr. Baumann provided additional information in response to Staff’s presentation at the March meeting regarding the Center for Watershed Protection study results. Mr. Baumann asserted that there is no discrepancy between the last three sentences ahead of Table 1 in the CWP memorandum, and Table 1, as discussed at the March meeting. Mr. Baumann stated that the provision should require 0.85-in rainfall and not 0.85-in runoff. A majority of members felt that the additional information provided by staff was adequate to support the 0.85-inch of runoff as included in the current amendment. Motion to re-open amendment #49b paragraph 2 by Baumann seconded by Drabicki. Roberts Rules dictated that this motion wasn’t valid since Mr. Baumann didn’t vote in favor of the amendment (he abstained) in February 2010 when this portion of the amendment was approved; therefore no vote was taken.

6.2 Motion by Neville, second by Drabicki to reopen Amendment #49b paragraph 2 for discussion all ayes with 2 abstain (Corona, Anderson). Further discussion on the use of a cubic foot value versus inches/acre. [0.85” of runoff would equate to 3086-CF/ac, Mr. Horton’s suggested 3000-CF/ac equates to approximately 0.82-inches/ac and 3100-CF/ac equates to approximately 0.865-inches/ac]. After much discussion, Paragraph (2). Approved as modified – all ayes with 1 nay (Anderson wanted 3,086 cubic feet instead of 3,000) and 1 abstain (Corona). Paragraph (2).(a). moved to strike – All ayes with one abstain (Albrecht). Paragraph (2).(d) and (2).(e). combined into new Paragraph (2).(c). – approved as modified – unanimously approved. Paragraph (2).(f). approved as modified Paragraph (2).(d). – unanimously approved. Paragraph (2).(g) and (2).(h). moved to strike – unanimously approved. **Amendment #49b approved as a whole with re-ordering paragraphs in this order: c, d, a, b. – unanimously approved.**

7.0 NEW BUSINESS

7.1 WDO Amendments: Mr. Drabicki moved to approve WDO Amendment #57, seconded by Mr. Kaszuba. Motion unanimously approved.

7.2 WDO Amendments: Mr. Horton moved to approve WDO Amendment #58 as modified, seconded by Mr. Kaszuba. Motion approved – all ayes with 1 abstain (Albrecht).

8.0 ADJOURNMENT – Motion to adjourn by Ms. Corona, seconded by Mr. Anderson. Unanimously approved. Meeting adjourned at 12:01 p.m.