

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
ANNUAL FACILITY INSPECTION REPORT
NPDES PERMIT FOR STORM WATER DISCHARGES
FROM MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4)**

Complete each section of this report.

REPORT PERIOD:	FROM: MARCH 2018	TO: MARCH 2019
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MS4 OPERATOR INFORMATION: (As it appears on the current permit)

NAME: Village of Buffalo Grove	TELEPHONE NUMBER: 847-459-2547	
MAILING ADDRESS: 51 Raupp Boulevard		
CITY: Buffalo Grove	STATE: IL	ZIP: 60089
CONTACT PERSON: Michael J. Reynolds (Person responsible for Annual Report)		

NAME(S) OF GOVERNMENTAL ENTITY(IES) IN WHICH MS4 IS LOCATED: (As it appears on the current permit)

Cook County	Lake County

THE FOLLOWING ITEMS MUST BE ADDRESSED.

A. CHANGES TO BEST MANAGEMENT PRACTICES (check appropriate BMP change(s) and attach information regarding change(s) to BMP and measurable goals.)

1. Public Education and Outreach	<input type="checkbox"/>	4. Construction Site Runoff Control	<input type="checkbox"/>
2. Public Participation/Involvement	<input type="checkbox"/>	5. Post-Construction Runoff Control	<input type="checkbox"/>
3. Illicit Discharge Detection & Elimination	<input type="checkbox"/>	6. Pollution Prevention/Good Housekeeping	<input type="checkbox"/>

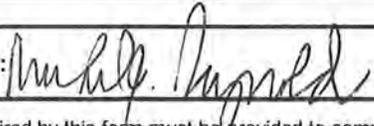
B.
Attach the status of compliance with permit conditions, an assessment of the appropriateness of your identified best management practices and progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP, and your identified measurable goals for each of the minimum control measures.

C.
Attach results of information collected and analyzed, including monitoring data, if any during the reporting period.

D.
Attach a summary of the storm water activities you plan to undertake during the next reporting cycle (including an implementation schedule.)

E.
Attach notice that you are relying on another government entity to satisfy some of your permit obligations (if applicable).

F.
Attach a list of construction projects that your entity has paid for during the reporting period.

SIGNATURE: 	DATE: May 31, 2019
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Information required by this form must be provided to comply with 415 ILCS 5/39 (1996). Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

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Part A. Changes to Best Management Practices

Note: X indicates BMPs performed that were proposed in your NPDES permit
 ✓ indicates changes to BMPs proposed in your NPDES permit

Year 16	Year 17	Year 18	Year 19	Year 20	
MS4					
A. Public Education and Outreach					
X	X	X	X	X	A.1 Distributed Paper Material
✓	✓	✓	✓	✓	A.2 Speaking Engagement
X	X	X	X	X	A.3 Public Service Announcement
					A.4 Community Event
					A.5 Classroom Education Material
X	X	X	X	X	A.6 Other Public Education
B. Public Participation/Involvement					
					B.1 Public Panel
X	X	X	X	X	B.2 Educational Volunteer
X	X	X	X	X	B.3 Stakeholder Meeting
✓	✓	✓	✓	✓	B.4 Public Hearing
					B.5 Volunteer Monitoring
X	X	X	X	X	B.6 Program Coordination
X	X	X	X	X	B.7 Other Public Involvement
C. Illicit Discharge Detection and Elimination					
X	X	X	X	X	C.1 Storm Sewer Map Preparation
X	X	X	X	X	C.2 Regulatory Control Program
X	X	X	X	X	C.3 Detection/Elimination Prioritization Plan
X	X	X	X	X	C.4 Illicit Discharge Tracing Procedures
X	X	X	X	X	C.5 Illicit Source Removal Procedures
X	X	X	X	X	C.6 Program Evaluation and Assessment
X	X	X	X	X	C.7 Visual Dry Weather Screening
X	X	X	X	X	C.8 Pollutant Field Testing
✓	✓	✓	✓	✓	C.9 Public Notification
X	X	X	X	X	C.10 Other Illicit Discharge Controls

Year 16	Year 17	Year 18	Year 19	Year 20	
MS4					
D. Construction Site Runoff Control					
X	X	X	X	X	D.1 Regulatory Control Program
X	X	X	X	X	D.2 Erosion and Sediment Control BMPs
X	X	X	X	X	D.3 Other Waste Control Program
X	X	X	X	X	D.4 Site Plan Review Procedures
X	X	X	X	X	D.5 Public Information Handling Procedures
X	X	X	X	X	D.6 Site Inspection/Enforcement Procedures
					D.7 Other Construction Site Runoff Controls
E. Post-Construction Runoff Control					
X	X	X	X	X	E.1 Community Control Strategy
X	X	X	X	X	E.2 Regulatory Control Program
X	X	X	X	X	E.3 Long-Term O&M Procedures
X	X	X	X	X	E.4 Pre-Const Review of BMP Designs
X	X	X	X	X	E.5 Site Inspections During Construction
X	X	X	X	X	E.6 Post-Construction Inspections
					E.7 Other Post-Const Runoff Controls
F. Pollution Prevention/Good Housekeeping					
X	X	X	X	X	F.1 Employee Training Program
X	X	X	X	X	F.2 Inspection and Maintenance Program
X	X	X	X	X	F.3 Municipal Operations Storm Water Control
X	X	X	X	X	F.4 Municipal Operations Waste Disposal
X	X	X	X	X	F.5 Flood Management/Assess Guidelines
X	X	X	X	X	F.6 Other Municipal Operations Controls

Part B. Status of Compliance with Permit Conditions

(Provide the status of compliance with permit conditions, an assessment of the appropriateness of your identified best management practices and progress towards achieving the statutory goal of reducing the discharge of pollutants to the maximum extent practicable [MEP], and your identified measurable goals for each of the minimum control measures.)

The status of BMPs and measurable goals performed in Year 16 are described below.

1) PUBLIC EDUCATION AND OUTREACH

The Village performs a variety of activities that meet the requirements of the Public Education and Outreach minimum control measure. These activities include BMPs A.1, A.2, A.3, and A.6. A brief description and status is provided below.

BMP No. A.1, A.3 – Distibuted Paper Material, Public Service Announcement

Brief Description of BMP: The Village newsletter has been used to provide information for the purposes of public outreach. A stormwater article was included in the May to June 2018 newsletter. The Village website provides additional links related to notifying residents of various collection events for leaves, landscape waste, tires, prescription drugs, holiday trees, and holiday lights. By promoting proper disposal of these items, the Village reduces the likelihood of illegal dumping into storm drains and drainage ways. The Village will continue to include a stormwater and/or ambient water quality-related articles in the Village’s newsletter at least once a year. The Village will continue to utilize other available outlets such as the Village website to reach residents regarding stormwater and water quality information.

BMP No. A.2 – Speaking Engagement

Brief Description of BMP: The Village regularly participates in or provides presentations to local civic clubs, watershed groups or other interested parties on topics related to NPDES, stormwater quality, or other similar subjects. Speaking engagements provide the opportunity to inform concerned citizens or interested parties about stormwater quality, environmental impacts, and other issues NPDES-related issues and activities including ways to help. During previous permit years, the Village’s Director of Public Works provided a chloride presentation to the Buffalo Creek Clean Water Partnership, Lake County Stormwater Management Commission Municipal Advisory Committee, and the Buffalo Grove Rotary Club on responsible salt usage and ways to reduce chloride usage and impacts to the environment. Additionally, the Maintenance Superintendent is on the American Public Works Association Winter Maintenance Committee and provides numerous presentations regarding the Buffalo Grove snow and ice program and other salt reduction efforts.

BMP No. A.6 – Other Public Education

Brief Description of BMP: The Village has information on its website relating to recycling of waste, waste disposal, stormwater and/or water quality and provides contact information for residents to report any potential stormwater or water quality-related issues. The Village also has a website link on the Village's website to include information on the potential effects on storm water discharge due to climate change. The Village also holds an annual Public Works Open House where residents have the opportunity to learn about the functions of the Public Works Department including stormwater quality activities. This year's demonstrations included a mock drain set up to inform residents on the importance of the "only stormwater down the drain" concept and the distribution of educational materials.

2) PUBLIC PARTICIPATION AND INVOLVEMENT

The Village performs a variety of activities that meet the requirements of the Public Participation and Involvement minimum control measure. These activities include BMPs B.2, B.3, B.4, B.6, and B.7. A brief description and status is provided below.

BMP No. B.2 – Educational Volunteer

Brief Description of BMP: The Village participates and coordinates with the Des Plaines River Watershed Workgroup (DRWW), the Municipal Advisory Committee (MAC) of the Lake County Stormwater Management Commission, the Lower Des Plaines Watershed Planning Council, and Buffalo Creek Clean Water Partnership (BCCWP). The goal of the work groups is to identify BMPs that are most appropriate and cost-effective for the region to be used by municipalities and includes an element for chloride reduction.

BMP No. B.3 – Stakeholder Meeting

Brief Description of BMP: The Village will hold an annual public meeting to discuss topics including steps the public can take to reduce pollutants to stormwater runoff or the impacts of stormwater runoff on local water bodies. The goal is to increase public education and involvement regarding the Village's stormwater management and NDPEs program and their knowledge on ways they can help.

BMP No. B.4 – Public Hearing

Brief Description of BMP: The Village supports the BCCWP whose activities reduce the amount of pollutants and other materials that make it to the MS4. The Village regularly participates in volunteering activities that provide opportunities to interact with residents and educate them on the importance of stormwater and water quality. Village staff will continue to perform these activities and work to increase participation from its staff and attendance by residents. Stormwater was specifically included in the August 6, 2018 Village Board Committee of the Whole agenda.

BMP No. B.6 – Program Coordination

Brief Description of BMP: The Village coordinates with local groups to perform clean-up activities. These activities directly reduce the amount of pollutants entering the Village’s storm sewer system.

The Village supports the BCCWP whose activities reduce the amount of pollutants and other materials that make it to the MS4. The Village regularly participates in volunteering activities that provide opportunities to interact with residents and educate them on the importance of stormwater and water quality. Village staff will continue to perform these activities and work to increase participation from its staff and attendance by residents.

BMP No. B.7 – Other Public Involvement

Brief Description of BMP: The Public Works Department provides contact information on the Village website to allow residents to report stormwater or water quality-related issues.

Buffalo Grove has actively participated in the DRWW. The DRWW is a dues-paying organization with a mission to bring together a diverse coalition of stakeholders to work together to improve water quality in the Des Plaines River and its tributaries in a cost-effective manner to meet Illinois EPA requirements. The DRWW will monitor water quality in the river and tributaries, prioritize and implement water quality improvement projects, and secure grant funding to offset the cost. This committee has worked to reduce pollution in the Des Plaines River Watershed.

Buffalo Grove has actively participated in the MAC of the Lake County Stormwater Management Commission. This committee has worked to reduce pollution in waterways and water bodies in Lake County.

The Village also holds an annual Public Works Open House where residents have the opportunity to learn about the functions of the Public Works Department including stormwater quality activities. This year’s demonstrations included a mock drain set up to inform residents on the importance of the “only stormwater down the drain” concept and the distribution of educational materials. The Village also hosted a public groundbreaking ceremony for the Buffalo Creek reservoir in April 2018.

3) ILLICIT DISCHARGE DETECTION AND ELIMINATION

The Village performs a variety of activities that meet the requirements of the Illicit Discharge Detection and Elimination minimum control measure. These activities include BMPs C.1, C.2, C.3, C.4, C.5, C.6, C.7, C.8, C.9, and C.10. A brief description and status is provided below.

BMP No. C.1 – Storm Sewer Map Preparation

Brief Description of BMP: The Village maintains an updated storm sewer system map. The map shows the location all of the outfalls within the Village and identifies the name of all waters that receive discharges from those outfalls. The map is currently up-to-date and will

be updated as needed based on development and other stormwater improvements. The village also hosted a public groundbreaking ceremony for the Buffalo Creek reservoir in April 2018.

BMP No. C.2 – Regulatory Control Program and C.3 Detection/Elimination Prioritization Plan

Brief Description of BMP: The Village has established a high-quality suburban environment through adoption and enforcement of building and other codes which provide for polluted discharges to be properly routed to the sanitary sewer system for treatment. The Village’s Municipal Code prohibits improper discharges and Village staff effectively follow up any observation of improper discharges of pollutants. The Village will continue to enforce the ordinance to prevent or eliminate non-stormwater discharges from the MS4.

BMP No. C.4 – Illicit Discharge Tracing Procedures and C.5 Illicit Source Removal Procedures

Brief Description of BMP: The Village has existing policies and procedures in place to trace and eliminate illicit discharges to the MS4 identified by resident reporting, visual screening, and public works maintenance activities. These procedures include the utilization of the storm sewer map, existing design plans, and other available data to locate the source of potential pollutants. The Village will continue these tracing activities as needed to reduce or eliminate non-stormwater discharges to the MS4.

BMP No. C.6 – Program Evaluation and Assessment

Brief Description of BMP: The Village performs an annual review of the effectiveness of the regulatory program. The Village also performs screenings of all Village outfalls to identify illicit discharges as part of its maintenance activities. The Village will continue to perform these activities.

BMP No. C.7 – Visual Dry Weather Screening

Brief Description of BMP: The Village performs inspections of all MS4 outfalls during dry weather conditions as determined by the inspection prioritization plan.

BMP No. C.8 – Pollutant Field Testing

Brief Description of BMP: The Village regularly samples, test, and documents the results of influent and effluent flow to various lakes and streams throughout the community.

BMP No. C.10 – Other Illicit Discharge Controls

Brief Description of BMP: The Village performs annual monitoring of the receiving waters as required by the ILR40 permit conditions.

A segment of Buffalo Creek (GST) is in an approved TMDL water quality plan (Des Plaines River/Higgins Creek Watershed TMDL Report, dated May 2013).

A segment of the Des Plaines River (G-36) is identified on the IEPAs 303d list as impaired for primary recreational contact (fecal coliform), aquatic life (total phosphorus), and fish consumption (mercury and PCBs). No TMDL has been identified for the segment of the Des Plaines River in the Village.

A segment of Indian Creek (GU-02) is identified on the IEPAs 303d list as impaired for aquatic life (DO). No TMDL has been identified for this segment of Indian Creek in the Village.

The Village will monitor the progress of watershed work groups and the establishment of any applicable TMDLs or other Watershed Management Plans. The Village will continue the monitoring and evaluation program.

4) CONSTRUCTION SITE RUNOFF CONTROL

The Village has ordinances and activities in place that meet the requirements of the Construction Site Runoff Control minimum control measure as a certified community under the Lake County Watershed Development Ordinance (WDO). These activities include BMPs D.1, D.2, D.3, D.4, D.5, and D.6. A brief description and status is provided below.

BMP No. D.1 – Regulatory Control Program

Brief Description of BMP: The Village has ordinances in place to require the review, inspection, and enforcement of construction site runoff controls. The Village will continue with these policies/procedures and update as needed based on the impending MS4 permit.

BMP No. D.2 – Erosion and Sediment Control BMPs and D.3 Other Waste Control Program

Brief Description of BMP: The Village has ordinances in place to require the review, inspection, and enforcement of soil erosion and sediment control BMPs. The Village will continue these procedures to reduce or prevent the discharge of soil and other potential pollutants from construction sites and amend as needed based on the impending permit. Other wastes which would leave the site, such as littering are also prohibited.

BMP No. D.4 – Site Plan Review Procedures

Brief Description of BMP: The Village has procedures that require the review of site plan for proposed developments for compliance. The Village will continue the review procedures for developments to verify compliance with applicable NDPEs regulations.

BMP No. D.5 – Public Information Handling Procedures

Brief Description of BMP: The Village has procedures in place to receive, log, and address publicly-reported issues. The Village will continue these procedures and respond and/or investigate as needed.

BMP No. D.6 – Site Inspection/Enforcement Procedures

Brief Description of BMP: The Village and County have regulatory control programs for the inspection and enforcement of construction site runoff control. The Village will continue the inspection and enforcement program to prevent the discharge of pollutants from construction sites.

5) POST-CONSTRUCTION RUNOFF CONTROL

The Village has ordinances and activities in place that meet the requirements of the Post-Construction Runoff Control minimum control measure as a certified community under the Lake County Watershed Development Ordinance (WDO). These activities include BMPs E.1, E.2, E.3, E.4, E.5, and E.6. A brief description and status is provided below.

BMP No. E.1 – Community Control Strategy and E.2 – Regulatory Control Program

Brief Description of BMP: The Village has ordinances in place that require the review, inspection, and enforcement of post-construction runoff control measures. The Village will continue to enforce the ordinances and verify compliance of all developments following construction to reduce or prevent the discharge of pollutants to the MS4.

BMP No. E.3 – Long-Term O&M Procedures

Brief Description of BMP: The Village has procedures for assisting and evaluating long-term maintenance of stormwater BMPs. The Village will continue to assist developers, residents, and other target audiences by providing sample maintenance plans and conducting inspections as needed.

BMP No. E.4 – Pre-Construction Review of BMP Designs

Brief Description of BMP: The Village’s existing practices include the pre-construction review of BMP designs. These procedures include pre-application meetings for large-scale developments. The Village will continue the review procedures and modify as necessary to maintain compliance.

BMP No. E.5 – Site Inspections During Construction

Brief Description of BMP: The Village performs site inspections during and after construction at new development and redevelopment projects to verify compliance with the runoff control requirements. The Village will continue these procedures aimed at preventing the discharge of pollutants to the MS4.

Additionally, the Village, Lake County, and MWRDGC have ordinances and procedures in place that protect water quality and reduce the discharge of pollutants by controlling construction site runoff. These procedures include review of the BMP designs by qualified staff and inspection/enforcement during and after construction.

BMP No. E.6 – Post-Construction Inspections

Brief Description of BMP: The Village, Lake County, and MWRDGC have ordinances and procedures in place that protect water quality and reduce the discharge of pollutants by controlling post-construction site runoff. These procedures include review of the BMP designs by qualified staff and inspection/enforcement during and after construction.

6) POLLUTION PREVENTION AND GOOD HOUSEKEEPING

The Village performs a number of activities that meet the requirements of the Pollution Control and Good Housekeeping minimum control measure. These activities include BMPs F.1, F.2, F.3, F.4, F.5, and F.6. A brief description and status is provided below.

BMP No. F.1 – Employee Training Program

Brief Description of BMP: The Village conducts annual stormwater pollution prevention training for Village employees to reduce or eliminate the discharge of pollutants from Village-owned facilities to the storm sewer system. The Village staff also includes trained and licensed pesticide applicators.

BMP No. F.2 - Inspection and Maintenance Program

Brief Description of BMP: This year the village has an inspection and maintenance program in place to evaluate and maintain the municipal stormwater facilities. The Village has performed 16,000 linear feet of storm sewer televising and cleaning during this permit year. This year the Village also completed the Navajo storm sewer relining and headwall restoration project. The Village activities also include the Village's street sweeping program. The Village will continue this program aimed at reducing the amount of debris and other potential pollutants entering the MS4.

BMP No. F.3 – Municipal Operations Storm Water Control and F.4 – Municipal Operations Waste Disposal

Brief Description of BMP: The Village has procedures and policies to prevent the discharge of pollutants to the MS4 from municipal operations. These policies include dewatering procedures, pumping activities, and waste disposal. The Village has performed the annual evaluation of the Village's Pollution Prevention Plan and will continue these operations and re-evaluate and/or modify as needed to prevent the discharge of pollutants to the MS4.

The Village also has a comprehensive Spill Prevention, Control, and Countermeasure (SPCC) Plan for the Public Works facility to reduce the potential impacts to the environment.

Specifically, the SPCC plan details operating procedures that prevent spills and/or discharges, control measures installed to prevent spills from reaching the environment, and countermeasures to contain, clean up, and mitigate a spill or discharge that reaches the environment.

BMP No. F.5 - Flood Management/Assess Guidelines

Brief Description of BMP: The Village, Lake County, and MWRDGC ordinances require the appropriate management of development and other uses within special flood hazard areas. The Village this year completed streambank stabilization of Buffalo Creek.

BMP No. F.6 - Other Municipal Operations Controls

Brief Description of BMP: The Village performs a variety of activities that reduce or prevent pollutants including pesticides, herbicides, fertilizers and trash from entering the storm sewer system and to minimize exposure. These activities are part of the Village's municipal operations controls and include proper storage and handling, certification, spill and leak prevention, and response procedures, street sweeping, and waste recycling.

Part C. Information and Data Collection Results

(Provide information and water quality sampling/monitoring data related to illicit discharge detection and elimination collected during the reporting period.)

The 2018 Water Quality Monitoring Results for NPDES Phase II Permit Requirements, Buffalo Grove, Lake & Cook Counties, Illinois have been prepared as in previous years and are available upon request.

Information is also provided regarding events and procedures utilized to meet measurable goals for the minimum control measures.

MEMORANDUM

DATE: April 29, 2019

TO: Darren Monico/Mike Reynolds, Village of Buffalo Grove, Public Works

CC: Darren Olson, PE, CBBEL
Travis Parry, PE, CBBEL

FROM: Eric Japsen, CBBEL

SUBJECT: 2018 Water Quality Monitoring Results for NPDES Phase II Permit Requirements, Buffalo Grove, Lake & Cook Counties, Illinois (CBBEL Project No. 180259)

On October 2, 2018, Christopher B. Burke Engineering, Ltd. (CBBEL) completed water quality monitoring for the Village of Buffalo Grove (Village) to address Illinois Environmental Protection Agency (IEPA) National Pollutant Discharge Elimination System (NPDES) Phase II requirements for its Municipal Separate Storm Sewer (MS4) Permit No. ILR400303. 2018 was the tenth year CBBEL monitored and reported to address the evolving total maximum daily load (TMDL) requirements, which are applicable to each MS4 permittee within the Des Plaines River watershed. 2018 was the third year since water sampling for some pollutants was added for similarity to recent water sampling results collected by the Buffalo Creek Clean Water Partnership (BCCWP) as published in the IEPA approved Buffalo Creek Watershed Plan, dated December 2015. In addition, relevant water quality monitoring results collected by the Des Plaines River Watershed Workgroup (DRWW) and presented in "Biological and Water Quality Assessment of the Upper Des Plaines River and Tributaries, 2016", prepared by Midwest Biodiversity Institute (MBI), dated December, 2017 (<http://www.drww.org/wp-content/uploads/2018/04/MBI-Upper-Desplaines-Bioassessment-Report-20180403-FINAL-REVISED-II.pdf>) are included with the October 2, 2018 water sampling results in this report. The Village is an active member of the (www.drww.org) and the BCCWP (<http://www.buffalocreekcleanwater.org/>). A bioassessment, such as that completed in the DRWW report, was not within this project scope.

A Village map showing the sampling sites and a representative photo exhibit are attached in Appendix 1. A DRWW monitoring location map is available at <http://www.drww.org/wp-content/uploads/2017/02/Map-4-DesPlaines-Watershed-Map-with-WWTP-and-DAF-with-303d-Waters-IEPAUSGS-Monitoring-Locations-NOAERIAL-suburbanLabDRWWSitesFINAL.pdf>. Water testing laboratory results and summary spreadsheets are attached in Appendix 2. Recommendations for 2019 water quality sampling, monitoring, and reporting are listed at the end of this document.

Purpose

The NPDES permit for MS4 communities specifies that stormwater discharges shall not cause or contribute to a violation of state water quality standards (35 IAC 302). Compliance with state water quality standards is mandatory for MS4 facilities. The NPDES permit states that when a TMDL is approved for a waterbody, MS4s must attempt to comply with Waste



MEMORANDUM

Load Allocations (WLAs) for those pollutants having TMDLs. WLAs were allocated for each discharger based on the size of the MS4 and percent area within the Des Plaines River watershed (Appendix 3). The BCCWP includes MS4s in its watershed wide attempt to meet water quality standards through TMDLs. Buffalo Creek flow and load analysis, methods, and models used for land use and pollutant loading are presented in the document titled, "SWAMM Results & Methodology, Spatial Watershed Assessment & Management Model, Des Plaines River Watershed, Illinois, Wisconsin", prepared by Northwater Consulting, February 2018 (<https://www.lakecountyil.gov/DocumentCenter/View/22789/Appendix-G-Pollutant-Load-Methodology-and-Flow-and-Load-Duration-Results>).

TMDLs for pollutants within the impaired reach of Buffalo Creek (IL_GST), a portion of which lies within Village limits, were developed using water quality data from the Metropolitan Water Reclamation District of Greater Chicago (MWRD) Site WW-12 and approved by IEPA for fecal coliform, chloride, and dissolved oxygen (DO) in August 2013. The USGS stream gauge at Wheeling is near sampling Site BC-2, a few hundred feet south of the Village's south boundary. USGS stream gauge information was used to correlate water quality sampling with IEPA approved TMDL flow regimes for pollutants causing impairments.

Recent TMDL updates included TMDL development for total suspended solids (TSS) for Buffalo Creek in 2014, and prioritizing TMDL development for DO in Indian Creek (IL_GU-02) in 2016. Both Buffalo Creek (TSS) and Indian Creek (DO) are on the 2018 303(d) list of impaired waters. The IEPA determined that carbonaceous biological oxygen demand (CBOD) and ammonia nitrogen are the two pollutants that must be controlled in order to improve DO levels in Buffalo Creek. The 303(d) listing for DO in the impaired reach of Indian Creek includes the portion of Indian Creek that occurs within Village limits. Aptakisic Creek and Kildeer Creek Tributary are not on the State's 303(d) list, but are within the Des Plaines River watershed. Annual water quality sampling is completed by DRWW at or near several of the stream sampling sites located within the Village's upstream or downstream limits.

MWRD results collected from Buffalo Creek during portions of the period of 1977-2009 and on five dates in 2015 are presented along with 10 years of sampling results by CBBEL, 2009-2018, in spreadsheets in Appendix 2. DRWW and BCCWP sampling results associated with streams within the Village's limits are also included in Appendix 2.

Methods

On October 2, 2018, water samples were collected from creeks/tributaries near upstream and downstream Village boundaries at eight locations to describe its MS4 discharge for the 2018 NPDES monitoring/reporting period. The eight samples were collected in the same locations as previous years' sampling to maintain consistency for comparison of results. Sampling sites numbered 1 are located at upstream Village limits; sites numbered 2 are located at downstream Village limits. The eight sampling sites are shown on the Village map in Appendix 1.



MEMORANDUM

Aptakisic Creek
AC-1 & AC-2

Indian Creek
IC-1 & IC-2

Kildeer Creek Tributary
KCT-1 & KCT-2

Buffalo Creek
BC-1 & BC-2

Recent IEPA sampling guidelines recommends that water samples be collected within 24 hours of a rain totaling at least 0.25 inch. On October 1-2, 2018 (Monday evening to Tuesday morning), rain totaling 1.32 inches was recorded at nearby Green Lake Park in Buffalo Grove, Illinois (Weather Underground - www.wunderground.com). We collected water samples mid-morning to early afternoon on October 2, 2018.

CBBEL collected grab samples for laboratory testing of nine potential pollutants at each of the eight sampling sites. Water samples were collected in designated bottles and placed on ice for laboratory testing by our sub-contractor, PDC Laboratories, Inc., McHenry, Illinois (formerly Prairie Analytical Systems, Inc.), under standard chain-of-custody procedures. Field observations were recorded using a handheld Oakton 300 Series probe and an Oakton ECTestr at the time of sample collection at each site.

The Buffalo Creek sites (Sites BC-1 & BC-2) and Indian Creek sites (Sites IC-1 & IC-2) having TMDLs for DO were also sampled for carbonaceous biochemical oxygen demand (CBOD) and ammonia nitrogen, per IEPA guidance. In 2018, the following analytes were sampled at the eight sampling sites within the four streams:

Laboratory Tests

Fecal Coliform
Chloride
Total Suspended Solids (TSS)
Total Phosphorous (TP)
Nitrate Nitrogen
Nitrite Nitrogen
Total Kjeldahl Nitrogen
Total Nitrogen (TN)
Oil & Grease
CBOD (only Sites BC-1 & 2 and IC-1 & 2)
Ammonia (only Sites BC-1 & 2 and IC-1 & 2)

Field Observations

Dissolved Oxygen (DO)
pH
Conductivity
Temperature

Laboratory test results were reported in terms of reporting limits or method detection limits (Appendix 2).

Results and Discussion

On October 2, 2018, stream water levels were slightly above to >1.0 foot above base flow conditions at all of the stream sampling sites. Water clarity was somewhat murky at all sites due to heavy rain and high stream flows at the time of sampling.



MEMORANDUM

On 9:00 am on October 2, 2018, the USGS stream gauge on Buffalo Creek at Wheeling reported a mean flow rate of 68.7 cubic feet per second and a stream gage height of 2.54 feet. For comparison, at 9:00 am on October 9, 2017, the USGS stream gauge on Buffalo Creek at Wheeling reported a mean flow rate of 4.9 cubic feet per second and a stream gage height of 1.46 feet. At 9:00 am on October 27, 2016, the mean flow rate was 80 cubic feet per second and stream gage height was 2.80 feet. Historically, the median discharge rate over the 67 year recorded period was 2.2 cubic feet per second, with a stream gage height of 1.34 feet. Therefore, the median discharge rate on October 2, 2018 was greater than 30 times the historical median flow rate.

Water sampling results for each site over the past five years 2014-2018 are listed in the spreadsheet in Appendix 2. The results spreadsheet includes State water quality standards (WQS) and other measures for some constituents not having standards, as sourced from the 2015 Buffalo Creek Watershed Plan. Water quality testing results for Buffalo Creek are presented in a separate spreadsheet. Historic results for Buffalo Creek by the MWRD are also provided in the spreadsheet for some constituents (Appendix 2). There are few 2016 results for DRWW stream sampling locations to compare with our 2018 sampling results within Village limits; these are provided in Appendix 2, as well, with some discussion in the results below. Refer to the BCCWP and DRWW websites for complete reports that include water sampling results www.DRWW.org and (<http://www.buffalocreekcleanwater.org/>). Note that DRWW sampling was completed monthly from May to September, and March and November 2016 during stream baseflow conditions, which differs from the current requirement for NPDES sampling after a minimum 0.25 inch rain.

Each years' water quality results from the sampling points at the upstream Village limits (Sites AC-1, BC-1, IC-1 and KCT-1) may be considered the background levels. This provides a reference for which the water quality results at the downstream Village limits can be compared. The Village should note, attempt to find the causes, and/or remediate when water quality test results show:

- 1) Any sampling result exceeds state water quality standards;
- 2) Sampling results at the downstream Village limits (sites numbered 2) exceed those at the upstream limits (sites numbered 1), which indicates that sources within the Village limits may be contributing to the pollutant level(s).

Laboratory Test Results

2018 laboratory and field test results for most of the tested parameters indicate overall good water quality at each of the eight sample sites, except for the fecal coliform results. Fecal coliform at all eight sites exceeded State Water Quality standards (WQS); none of the other tested analytes exceeded WQS or other measures (Appendix 2).

Besides fecal coliform, most of the October 2, 2018 water sample results were similar to or showed improvement from previous years' results. Notably, 2018 chloride results were at the lowest levels over the past five years at seven of the eight sample sites, and were at the lowest levels over the 10 year sample period by CBEL at Sites IC-1 & IC-2. Also, notably,



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conductivity was at the lowest levels over the 10 year sampling period at seven of the eight sample sites.

Discussion of water testing results below focuses on pollutants having TMDLs, those not meeting state WQS, and those differing substantially from previous sampling results or ranges. IEPA guidance is needed regarding TMDLs and WLAs for fecal coliform since that was the only analyte exceeding WQS.

Fecal Coliform

In 2018, all eight sample sites had fecal coliform levels exceeding the 200 colonies per 100 milliliters (100ml) and the 400 colonies/100ml WQS. However, we observed that fecal results decreased from upstream to downstream within two streams (Sites KCT-1 & 2 and AC-1 & 2), while fecal results increased within the other two streams having TMDLs (Sites IC-1 & 2 and BC-1 & 2). In comparison, all 2017 fecal results were lower, ranging from 160 colonies/100ml at Site BC-1 to 590 colonies/100ml at Sites KCT-1 & 2.

The 2018 fecal results were the highest levels we have reported over the past 10 years at five of the eight sites. However, the 2018 fecal results, as well as all fecal results at these eight sites in previous years, were lower than the highest result recorded at WW-12 by MWRD on August 3, 2015 (11,000 colonies/100ml), and much lower than the highest MWRD result of 28,000 colonies/100ml observed at WW-12 on one date during 2000-2009 sampling.

As in the previous years' sampling, the 2018 samples were collected on only one sampling date in order to compare to previous years' testing results and to address the annual MS4 water quality monitoring requirement. A minimum of five sampling results averaged over a maximum five-year period is required to evaluate the fecal coliform standards. When averaging fecal results over the recent five year period, all eight sites exceeded the WQS maximum of 200 colonies/100ml.

The mean of the most recent five samples for Buffalo Creek Sites BC-1 & 2 from our sampling results (over the most recent five years) and from MWRD results (June-October 2015) are listed in Table 1 below. DRWW Site 17-2 was near the Wheeling stream gage (Site BC-2).

Table 1. The Most Recent Five Sample Means of Fecal Coliform Samples, CBBEL Annual Testing & MWRD Monthly Testing, within Buffalo Creek, IL GST, Buffalo Grove, Illinois

Sampling Site	Mean* colonies/100ml, 2014-2018	Mean* colonies/100ml, 2013-2017	Mean* colonies/100ml, 2012-2016	Mean* colonies/100ml, 2011-2015	MWRD 2015 Mean** colonies/100ml	DRWW 2016 Mean*** colonies/100ml
BC-1	1,034	554	548	116	-	-
BC-2	1,308	888	862	496	-	73.4 (B)
WW-12	-	-	-	-	2,514	-

*CBBEL sampling frequency was once annually; **MWRD sampling frequency was monthly June-October 2015; ***DRWW sampling frequency at its Site ID 17-2 was monthly May-September 2016. B indicates that monthly DRWW sampling was in baseflow conditions.



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2018 fecal coliform test results indicate Not Supporting Primary Contact Use caused by fecal coliform in Buffalo Creek. Sites BC-1 & BC-2 both had five sample means exceeding 200 colonies/100ml and had at least 1 exceedance of the 400 colonies/100ml standard over the five-year period 2014-2018. For comparison, at MWRD Site WW-12 located near Site BC-2, the monthly 2015 sampling results indicate Not Supporting Primary Contact Use for fecal coliform because exceedances of 400 colonies/100ml were observed on two of five dates (40%) and the mean of the five samples was 2,514 colonies/100ml.

Results in Table 1 show:

- 1) the most recent five-year fecal coliform average (2014-2018) was lower at the Village upstream Site BC-1 than at downstream Site BC-2; and,
- 2) fecal coliform averages increased each year over the past four five-year periods.

Higher fecal coliform test results were observed since 2016, when IEPA required testing to be within 24 hours of rain totaling at least 0.25 inch. Mean 2016 fecal results at DRWW Site 17-2 (73.4 colonies/100ml) were much lower and maximum fecal results (167 colonies/100ml) were lower than our recent single sample results for Site BC-2. For comparison, the 2013-2014 fecal results for nearby BCCWP Site BC11 ranged from 20 colonies/100ml in May 2014 to >1,900 colonies/100ml in October 2013. The October 2013 result was higher than 6 of the 10 sampling results we have observed at Site BC-2 during 2009-2018. Rain events result in more runoff containing fecal material entering streams, lakes, and other waterbodies; therefore, higher fecal coliform test results might be expected following rain than during a dry period.

Chloride

None of the 2018 chloride results exceeded the state maximum WQS of 500 mg/L. The chloride levels ranged from 74 mg/L at Site IC-2 to 140 mg/L at Site BC-1. For comparison, the 2017 chloride levels ranged from 131 mg/L at Site IC-1 to 295 mg/L at Site KCT-1. On average, the chloride results peaked in 2015, and have since declined. Over the past five years, chloride was at its lowest level at seven of the eight sampling sites in 2018. The lowest chloride levels of the year are expected to be observed in October before de-icer applications begin in November.

Chloride results at each of the four downstream sampling sites were lower than the upstream sites in 2018. The Village's annual efforts to reduce de-icer/chloride use began in 2014-2015 and contributed to 2018's lower chloride results. In 2015, the Village began pre-treating streets with an environmentally friendly beet product that has reduced liquid chloride and road salt use by 25% - 30%. The critical condition for chloride is over Winter when de-icers are applied.

Note that the DRWW report applies DuPage River Salt Creek Workgroup Integrated Prioritization System (DRSCW IPS) derived effects based thresholds for tested water quality parameters in the DRWW report. As such, chloride thresholds that are thought to impair biological processes were exceeded by half of 2018 site results and almost all conductivity results from previous years.



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Ammonia Nitrogen

Ammonia nitrogen sampling was limited to Sites BC-1, BC-2, IC-1 & IC-2 in 2018 (and 2017 & 2016) because Buffalo Creek IL_GST has a TMDL for DO and a TMDL is being developed for Indian Creek IL_GU-02 for DO. Per the IEPA, ammonia is a pollutant of concern that contributes to low DO levels (Integrated Report-2012). The 2018 ammonia levels ranged from 0.026 mg/L at Site IC-1 to 0.22 mg/L at Site BC-2. These levels were much lower than the state WQS maximum of 15 mg/L. Note that the DRWW report notes that the level at which ammonia impairs aquatic life is 0.15 mg/L; however, this level is not an Illinois WQS). In the 2016 DRWW sampling at Site ID-15-2, which is near 2018 Site IC-1, the ammonia level was 0.1 mg/L and was below any standard or recommended threshold level. In 2018, our results were even lower, 0.026 mg/L at Site IC-1 and 0.049 mg/L at Site IC-2.

We did not sample ammonia at Site AC-2, which appears to be near DRWW Site ID 18-1 located downstream of the Lake County wastewater treatment site. In the 2016 DRWW sampling at this site, the ammonia level was 0.1 mg/L and was below any standard or recommended threshold level.

Carbonaceous Biochemical Oxygen Demand (CBOD)

CBOD sampling was limited to Sites BC-1 & 2 and IC-1 & IC-2 in 2018 (and 2017), per the IEPA listing CBOD as a pollutant of concern that contributes to low DO (Integrated Report-2012). The critical condition for CBOD is during the Summer when decomposition of organic matter and other oxygen consuming processes are occurring.

The 2018 CBOD levels ranged from 3.5 at Site BC-2 to 4.0 at Site BC-1. Although the CBOD level at Site BC-2 was the highest observed in the past five years, it was lower than Site BC-1 located upstream. The three other CBOD results were intermediate over the past five years' levels, with a slight decrease from upstream Site IC-1 to downstream Site IC-2. All 2018 CBOD results were lower than the 8.0 mg/l standard that applies to wastewater effluent (there is currently no General Use WQS).

For comparison to BCCWP sampling at Site BC11 (near 2018 Site BC-2), where BOD levels ranged from <4.0 mg/L to 23.7 mg/L over four 2013-2014 samplings, the 2018 result at Site BC-2 was lower at 3.5 mg/L.

Total Suspended Solids (TSS)

In 2018, four of the eight test results for TSS were within a typical range of 20.0 mg/L at Site AC-1 to 29.0 mg/L at Site AC-2; Site IC-1 had a TSS result of 27.0 mg/L, and downstream Site IC-2 had a TSS result of 22.0 mg/L. Site KCT-1 and KCT-2 TSS results were both 53.0 mg/L, indicating no contribution from the Village. Site BC-1 had a TSS result of 61.0 mg/L, while downstream Site BC-2 result was slightly decreased at 58.0 mg/L.

There is no General Use water quality standard for TSS. Therefore, the test results for the eight sites were not exceedances of a State WQS. However, in the Buffalo Creek Watershed Plan in which a range of 15-30 mg/L for wastewater effluent was proposed to be applicable to Buffalo Creek, the BC and KCT sites exceeded this range.



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We expect to observe higher TSS due to particulates entering the streams following runoff from the heavy rain. Sediment, organic, and mineral particulates likely contributed to the higher TSS results we observed. As noted above, we observed that the water was slightly murky or murky at all sampling sites.

For comparison to 2013-2014 testing by BCCWP at Site BC11, four sampling results ranged from 4.0 mg/l to 19.0 mg/L. These results were lower than the 58.0 mg/L and 61.0 mg/l results we observed. The higher 2018 results were caused in part by the rain, higher water level, energy, and erosive action entraining more particulates in the water column.

Nutrients

Results for Total Phosphorous (P), Total Nitrogen (N), Nitrate N, Nitrite N, and Kjeldahl N had no applicable WQS, were intermediate over the past five years, or were lower than wastewater standards that were listed as a basis of comparison in the Buffalo Creek Watershed report.

Similarly, the 2016 DRWW sampling results for nutrients near several of the Village's upstream and downstream sites, including DRWW Sites 15-2 (IC-2), 17-2 (BC-2), and 15-4 (KCT-2) were relatively low. Only DRWW Site 18-1 (near AC-2) had very high levels of nitrate nitrogen (17.4 mg/L) and TP (2.42 mg/L). These high levels were thought to be caused by wastewater effluent. We observed a combined nitrate and nitrite N level of 0.21 mg/l and a TP of 0.06 mg/L, much lower results at the point where the concrete basin discharges into the 'natural' stream bed downstream of the wastewater treatment facility.

Oil & Grease

In 2018, oil and grease results ranged from <2.7 mg/L at four sites to <2.8 mg/L at four sites. Actual results are less than the laboratory reporting limits; thus, the numerical results are unknown. There is no General Use WQS for oil and grease; however, the standard for Public and Food Processing Water Supply (PFPWS) standard of 0.1 mg/L was used in the Buffalo Creek Watershed Report as a basis of comparison. A General Use WQS would likely be much higher than the PFPWS standards.

Field Test Results

Dissolved Oxygen (DO)

On October 2, 2018, none of the sampling sites' results exceeded (were lower than) the state minimum WQS of 3.5 mg/L (applicable August through February). Our field testing results ranged from 7.42 mg/L at Site BC-1 to 8.51 mg/L at Site IC-2. See relevant discussion above for ammonia and CBOD that influence DO levels in Buffalo and Indian Creeks.

pH

The 2018 pH results for all eight sites were within the state WQS range of 6.5-9.0. The pH levels ranged from 7.07 at Site BC-2 to 8.16 at Site AC-1. The MWRD 2015 pH results were also within the WQS range.



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Conductivity

The October 2, 2018 conductivity results were the lowest recorded during the 2009-2019 sampling period at seven of the eight sampling sites; only Site BC-1 had higher results once during that period. The 2018 results ranged from 590 microsiemens (*ms* or *umhos*) at Site IC-2 to 840 *ms* at Site BC-1, and are within the 50-1,500 *ms* range provided as the standard in the Buffalo Creek Watershed Plan (Volunteer Stream Monitoring Manual, USEPA, 1997). Conductivity is a measure of electrically charged particles in water, such as salt, clay/soil, and bio-chemical, and other dissolved matter that tend to be high during Winter or high flow, turbid stream conditions. Thus, it is surprising that conductivity levels were low considering murkiness was observed and TSS results were relatively high at the time of sampling, with the expectation that particulates in the water would result in higher conductivity readings, as well.

Note that the DRWW applied DRSCW IPS effects based thresholds were exceeded by all 2018 (and previous) conductivity results.

Temperature

On October 2, 2018, water temperature readings for all sites were lower than the state maximum WQS of 32.0 degrees Celsius for April through November. Stream temperatures ranged from 16.7 degrees Celsius at Site IC-1 to 17.6 degrees Celsius at Site BC-2.

Storm Water Controls

The Village of Buffalo Grove is an active participant in the BCCWP, and continues its efforts to comply with MS4 NPDES requirements. Village programs and activities for implementing the six minimum control measures to reduce pollutants are described in its 2018 report. Each year, the Village implements Best Management Practice (BMP) projects, such as the de-icer reduction program that benefit stream water quality.

Recommendations for 2019

We recommend that the Village:

- 1) Continue to participate in the Des Plaines River Watershed Workgroup (DRWW) and the Buffalo Creek Clean Water Partnership (BCCWP).
- 2) Complete annual laboratory water quality sampling, within 24 hours of a rain event totaling at least 0.25 inches to meet minimum MS4 sampling and reporting requirements. Include sampling of Buffalo Creek and the Indian Creek sites for CBOD and ammonia to help address their TMDLs for DO.
 - A) Consider water quality sampling through the DRWW and/or BCCWP, in accordance with the format of the BCCWP 2015 Report, to meet the Village's annual MS4 water sampling requirements.
 - B) Or, as in past years, contract CBBEL to sample all eight sampling sites within the four streams located within Village limits for fecal coliform, chloride, TSS,



MEMORANDUM

- nitrogen, total phosphorous, oil and grease, CBOD and ammonia (for Buffalo Creek and Indian Creek sites), and field test for DO, pH, conductivity, and temperature.
- 3) Continue programs, informational postings, and activities that address the six minimum control measures to reduce pollutants to the maximum extent practicable (MEP), such as BMPs for:
 - A. Public education and outreach
 - B. Public participation/involvement
 - C. Illicit discharge detection and elimination
 - D. Construction site runoff control
 - E. Post-construction runoff control
 - F. Pollution prevention/good housekeeping
 - 4) Leverage DPRWW and BCCWP involvement to fund and enact water quality improvement projects, stream restoration/maintenance, and cost-share opportunities for each of the four streams within Village limits contributing to the Des Plaines River watershed. See an excerpt from the 2018 Water Quality Report in the following references section.
 - 5) Continue to incorporate BCCWP and DRWW updates and information in addressing NPDES requirements in annual reports.

References

Illinois Environmental Protection Agency, Bureau of Water. 2018. Illinois Integrated Water Quality Report and Section 303(d) List, 2016, Clean Water Act Sections 303(d), 305(b) and 314, Water Resource Assessment Information and List of Impaired Waters
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<https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Documents/Draft-2018-Integrated-Report-11-14-2018.pdf>

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Illinois Pollution Control Board. 2014. 35 IL. Adm. Code Part 302, IL Water Quality Standards, <http://www.ipcb.state.il.us/SLR/IPCBandIEPAEnvironmentalRegulations-Title35.asp>.

Weather Underground, 2016, as recorded at Green Lake Park in Buffalo Grove, Illinois. <http://www.wunderground.com>.

Excerpt from the 2018 Draft Illinois Integrated Water Quality Report

The Illinois EPA views TMDLs as a tool for developing water-quality-based solutions that are incorporated into an overall watershed management approach. The TMDL establishes the link between water quality standards attainment and water-quality-based control actions. For these control actions to be successful, they must be developed in conjunction with local involvement, which incorporates regulatory, voluntary and incentive-based approaches with existing applicable laws and programs. The three Illinois programs that have provided funds for implementation of TMDL watersheds include: Illinois EPA's Nonpoint Source Management Program, Illinois Priority Lake and Watershed Implementation Program (PLWIP), as well as the Illinois Department of Agriculture's Conservation Practices Program (CPP). The Illinois EPA administers the Illinois Nonpoint Source Management Program and the PLWIP. The Illinois Nonpoint Source Management Program was developed to meet the requirements of Section 319 of the Clean Water Act (CWA). Section 319 projects can include educational programs and nonpoint source pollution control projects such as Best Management Practices (BMPs). The PLWIP supports lake protection/restoration activities at priority lakes where causes and sources of problems are apparent, project sites are highly accessible, project size is relatively small, and local entities are in a position to quickly implement needed treatments.

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MEMORANDUM

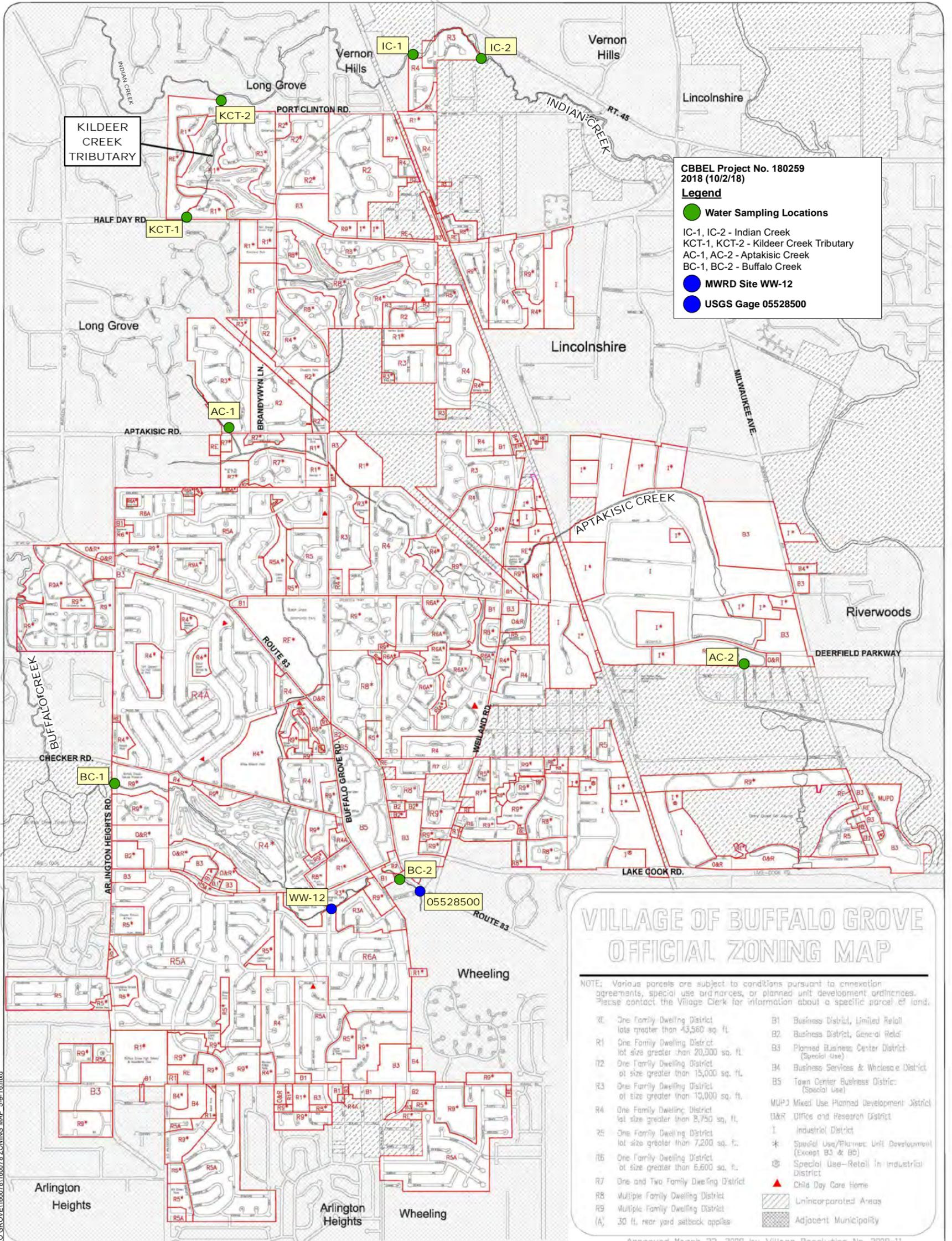
APPENDIX 1

Village Map of Sampling Sites & 2018 Photo Exhibit



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CBBEL Project No. 180259
2018 (10/2/18)
Legend

- Water Sampling Locations
- IC-1, IC-2 - Indian Creek
- KCT-1, KCT-2 - Kildeer Creek Tributary
- AC-1, AC-2 - Aptakisic Creek
- BC-1, BC-2 - Buffalo Creek
- MWRD Site WW-12
- USGS Gage 05528500

VILLAGE OF BUFFALO GROVE OFFICIAL ZONING MAP

NOTE: Various parcels are subject to conditions pursuant to annexation agreements, special use ordinances, or planned unit development ordinances. Please contact the Village Clerk for information about a specific parcel of land.

- | | | | |
|----|--|------|---|
| R1 | One Family Dwelling District lot size greater than 43,560 sq. ft. | B1 | Business District, Limited Retail |
| R2 | One Family Dwelling District lot size greater than 20,000 sq. ft. | B2 | Business District, General Retail |
| R3 | One Family Dwelling District of size greater than 15,000 sq. ft. | B3 | Planned Business Center District (Special Use) |
| R4 | One Family Dwelling District of size greater than 10,000 sq. ft. | B4 | Business Services & Wholesale District |
| R5 | One Family Dwelling District lot size greater than 7,200 sq. ft. | B5 | Town Center Business District (Special Use) |
| R6 | One Family Dwelling District of size greater than 6,600 sq. ft. | MUPD | Mixed Use Planned Development District |
| R7 | One and Two Family Dwelling District | O&R | Offices and Research District |
| R8 | Multiple Family Dwelling District | I | Industrial District |
| R9 | Multiple Family Dwelling District (A) 30 ft. rear yard setback applies | * | Special Use/Planned Unit Development (Except B3 & B5) |
| | | ⊗ | Special Use—Retail in Industrial District |
| | | ▲ | Child Day Care Home |
| | | ▨ | Unincorporated Areas |
| | | ▩ | Adjacent Municipality |

Approved March 23, 2009 by Village Resolution No. 2009-11



INDEX TO NUMBERED STREETS

10000	10001	10002	10003	10004	10005	10006	10007	10008	10009	10010	10011	10012	10013	10014	10015	10016	10017	10018	10019	10020	10021	10022	10023	10024	10025	10026	10027	10028	10029	10030	10031	10032	10033	10034	10035	10036	10037	10038	10039	10040	10041	10042	10043	10044	10045	10046	10047	10048	10049	10050	10051	10052	10053	10054	10055	10056	10057	10058	10059	10060	10061	10062	10063	10064	10065	10066	10067	10068	10069	10070	10071	10072	10073	10074	10075	10076	10077	10078	10079	10080	10081	10082	10083	10084	10085	10086	10087	10088	10089	10090	10091	10092	10093	10094	10095	10096	10097	10098	10099	10100
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Village of Buffalo Grove
 Department of Building and Zoning 498-2530
 Division of Planning Services 498-2518
 Map prepared by the Division of Planning Services
 and the Engineering Division of the Department
 of Public Works
 This map is subject to a disclaimer, see <http://www.vbg.org/MAPS/mapdiscalmer.htm>



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Sampling Location BC-1 (upstream)



Sampling Location BC-2 (downstream)



Sampling Location AC-2 (downstream)



Sampling Location AC-2, view upstream from collection point



Sampling Location IC-1 (upstream)



Sampling Location IC-2 (downstream)



Sampling Location KCT-1 (upstream)



Grab Sampling



Sampling Location KCT-1 (upstream)



Sampling Location KCT-2 (downstream)



Sampling Location KCT-2 (view downstream)

CBB **CHRISTOPHER B. BURKE ENGINEERING, LTD.**
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Client: Village of Buffalo Grove

Project No: 180259

Title: NPDES Phase II MS4 Water Sampling, 2018

Date: 10/2/18

Exhibit No.: 1

MEMORANDUM

APPENDIX 2

**CBBEL & MWRD Results Spreadsheets,
PDC Laboratories, Inc. Test Results, 2018,
& Selected BCCWP and DRWW Water Quality Test Results**



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Buffalo Grove 2018-2009 Selected Water Quality Sampling Results for MS4 & Historical Downstream Data for Buffalo Creek
CBBEL Project No. 180259

Site Location	BC-1										BC-2										MWRD	Units	State Maximum Standard *	
Analyte	Year	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	Site WW-12 [^]		or Reference (NE Illinois)
Fecal Coliform		2600	160	2200	<9.9	200	200	130	40	8	40	4200	530	2000	<9.9	100	1800	400	170	250	3170	856	no./100 mL	** 200/100 ml; 400/100 ml
Fluoride		NA	NA	NA	0.12	0.131	0.158	0.223	0.213	0.167	0.239	NA	NA	NA	0.186	0.143	0.166	0.215	0.214	0.172	0.296	NA	mg/L	1.4 mg/L
Total Suspended Solids		61.0	15.5	26.0	5.5	NA	25.0	31.0	38.0	50.5	21.3	58.0	<1.34	33.0	<4.0	NA	<4.0	<4.0	13.5	16.0	14.0	NA	mg/L	*** No GU Std; 15-30 mg/L effluent
Phosphorus (Total)		0.094	0.067	0.147	NA	NA	0.134	0.0914	0.174	0.181	0.237	0.091	0.044	0.124	NA	NA	0.0777	0.088	0.126	0.152	0.125	0.16	mg/L	**** Standard NA; 0.05 mg/L
Chloride		140	169	176	399	171	206	198	126	126	225	130	172	171	490	174	221	206	126	130	254	249	mg/L	500 mg/L
Carbonaceous BOD		4.0	1.74	4.53	2.88	2.44	3.75	NA	NA	NA	NA	3.5	1.26	3.3	2.7	<2.0	<2.0	NA	NA	NA	NA	NA	mg/L	*** No GU Std; 8.0 mg/L effluent
Ammonia Nitrogen		0.21	0.027	0.209	<0.1	<0.1	<0.1	NA	NA	NA	NA	0.22	0.042	0.243	<0.1	<0.1	<0.1	<0.1	NA	NA	NA	NA	mg/L	15 mg/L
Field Observation																								
Dissolved Oxygen		8.13	7.48	6.6	10.1	7.12	7.99	8.47	7.27	6.81	8.15	7.19	7.19	6.91	10.46	6.24	7.56	5.42	4.82	6.84	4.30	9.9	mg/L	Min 5.0 mg/L Mar-Jul; 3.5 mg/L Aug-Feb
pH		7.75	8.18	7.64	8.76	7.8	8.05	9.08	8.36	8.34	NA	7.26	7.26	7.91	7.86	7.43	7.75	7.91	7.63	8.48	7.73	NA	pH	6.5 - 9.0
Conductivity		840	830	900	1840	930	1090	1100	910	920	910	870	870	930	1960	910	1110	1090	840	930	1420	NA	microsiemens	50-1,500 m s (USEPA)
Temperature		17.6	20.9	11.2	7.5	24.1	26.8	27.9	26.4	27	25.6	17.4	17.4	11.1	6.1	22.9	23.3	24.3	27	24.7	20.2	NA	degrees C	Max 32°C Apr-Nov; 16°C Dec-Mar

Notes

Site BC-1 is located at upstream Village limits; Site BC-2 is located at downstream Village limits of Buffalo Creek.

Data is provided for BC-1 & BC-2 samples collected on the following dates: October 2, 2018; October 9, 2017; October 27, 2016; March 7, 2016 (2015); August 28, 2014; August 21, 2013; August 31, 2012; August 19, 2011; August 18, 2010; August 5, 2009.

* Standard is listed for *General Use*, except as specified or not provided, per the Illinois Integrated Water Quality Report & Section 303(d) List - 2016.

** Fully Supporting Use (Good water quality) is observed in protected waters when the mean of at least 5 samples within a 5 year period is less than 200 colonies/100 ml, and when less than 10% of samples exceed 400 colonies/100 ml. within a 30 day period May-October (or within all samples May-October), for *Primary Contact* Designated Use (Buffalo Creek).

*** There are no General Use Standards for TSS and Carbonaceous Biological Oxygen Demand (CBOD). However, the TSS standard for Public & Food Processing Water Supply is 500 mg/L and for MS4 effluent is 15-30 mg/L. The CBOD standard for MS4 effluent is 8.0 mg/L.

**** Not applicable for the Village sampling sites. The TP water quality standard of 0.05 mg/L particularly applies to lakes and reservoirs with a surface area of >20 acres, or in streams at the point of entry into these lakes and reservoirs.

USEPA standard for conductivity from the USEPA Volunteer Stream Monitoring Manual (1997).

Shaded cells contain results that do not meet State Water Quality Standards or other noted standards/recommendations.

NA = Not Applicable - a WQS does not apply; or sampling was not completed.

Note - Beginning in 2016, some standards were added, modified, or omitted based on those used in the 2014 Water Quality Report, Buffalo Creek Watershed, Lake and Cook Counties, Illinois, prepared by the Buffalo Creek Clean Water Partnership, dated February 2015, or in response to developing TMDLs.

[^] Historical averages of data collected 1977-2009 at Metropolitan Water Reclamation District stream gage WW-12 on Buffalo Creek (below).

Fecal (#/100ml) /Yr	Total P (mg/L) /Yr	D. oxygen (mg/l)	Year	Chloride (mg/l) / Yr
60-28,000	0.14-0.18		2000-09	94-882
	'77-2007	2.1-13.4	2000-07	2001-07



October 11, 2018

Mr. Eric Japsen
Christopher B. Burke Engineering, LTD
9575 West Higgins Road Suite 600
Rosemont, IL 60018

Dear Mr. Eric Japsen:

Please find enclosed the analytical results for the sample(s) the laboratory received on **10/2/18 3:55 pm** and logged in under work order **8100517**. All testing is performed according to our current TNI certifications unless otherwise noted. This report cannot be reproduced, except in full, without the written permission of PDC Laboratories, Inc.

If you have any questions regarding your report, please contact your project manager. Quality and timely data is of the utmost importance to us.

PDC Laboratories, Inc. appreciates the opportunity to provide you with analytical expertise. We are always trying to improve our customer service and we welcome you to contact the Vice President, John LaPayne with any feedback you have about your experience with our laboratory.

Sincerely,

Penny Janus
Wastewater Project Manager
(815) 344-4044 x1613
pjanus@pdclab.com





ANALYTICAL RESULTS

Sample: 8100517-01
Name: AC1
Matrix: Surface Water - Grab

Sampled: 10/02/18 14:20
Received: 10/02/18 15:55

Parameter	Result	Unit	Qualifier	MDL	RDL	Analyzed	Analyst	Method
General Chemistry - CHI								
Chloride	140	mg/L		4.6	10	10/04/18 15:34	PLJ/LER	10-117-07-1-A
Solids - total suspended solids (TSS)	20	mg/L		0.90	2.0	10/03/18 11:00	KLV	SM 2540D
General Chemistry - PIA								
Oil & Grease - total	< 2.8	mg/L		2.8	6.0	10/09/18 12:34	CJP	EPA 1664
Total Nitrogen	1.2	mg/L		0.75	1.0	10/10/18 14:35	ARL	varies
Microbiology - CHI								
Fecal coliform bacteria	3400	CFU/100 ml			10	10/02/18 16:35	LER	SM 9222D*
Nutrients - PIA								
Nitrate/Nitrite-N	0.081	mg/L		0.0039	0.020	10/10/18 14:35	ALS	EPA 353.2 - SM 4500-NO3 F - QC 10-107-04-1-C*
Phosphorus - total as P	0.16	mg/L		0.018	0.10	10/10/18 12:20	TTH	SM 4500-P F*
Total Kjeldahl Nitrogen (TKN)	1.2	mg/L		0.75	1.0	10/10/18 13:57	ARL	OIA/PAI-DK03 & EPA 351.2

Sample: 8100517-02
Name: AC2
Matrix: Surface Water - Grab

Sampled: 10/02/18 12:10
Received: 10/02/18 15:55

Parameter	Result	Unit	Qualifier	MDL	RDL	Analyzed	Analyst	Method
General Chemistry - CHI								
Chloride	110	mg/L		4.6	10	10/04/18 15:36	PLJ/LER	10-117-07-1-A
Solids - total suspended solids (TSS)	29	mg/L		0.90	2.0	10/03/18 11:00	KLV	SM 2540D
General Chemistry - PIA								
Oil & Grease - total	< 2.8	mg/L		2.8	5.9	10/09/18 12:34	CJP	EPA 1664
Total Nitrogen	< 1.0	mg/L		0.75	1.0	10/10/18 14:35	ARL	varies
Microbiology - CHI								
Fecal coliform bacteria	2700	CFU/100 ml			10	10/02/18 16:35	LER	SM 9222D*
Nutrients - PIA								
Nitrate/Nitrite-N	0.21	mg/L		0.0039	0.020	10/10/18 14:35	ALS	EPA 353.2 - SM 4500-NO3 F - QC 10-107-04-1-C*
Phosphorus - total as P	0.060	mg/L	J	0.018	0.10	10/10/18 12:20	TTH	SM 4500-P F*
Total Kjeldahl Nitrogen (TKN)	< 0.75	mg/L		0.75	1.0	10/10/18 13:40	ARL	OIA/PAI-DK03 & EPA 351.2



ANALYTICAL RESULTS

Sample: 8100517-03
Name: BC1
Matrix: Surface Water - Grab

Sampled: 10/02/18 14:50
Received: 10/02/18 15:55

Parameter	Result	Unit	Qualifier	MDL	RDL	Analyzed	Analyst	Method
General Chemistry - CHI								
BOD - carbonaceous	4.0	mg/L		0.90	2.0	10/03/18 08:42	LER	SM 5210B
Chloride	140	mg/L		4.6	10	10/04/18 15:52	PLJ/LER	10-117-07-1-A
Solids - total suspended solids (TSS)	61	mg/L		0.90	2.0	10/03/18 11:00	KLV	SM 2540D
General Chemistry - PIA								
Oil & Grease - total	< 2.7	mg/L		2.7	5.8	10/09/18 12:34	CJP	EPA 1664
Total Nitrogen	1.2	mg/L		0.75	1.0	10/10/18 14:36	ARL	varies
Microbiology - CHI								
Fecal coliform bacteria	2600	CFU/100 ml			10	10/02/18 16:35	LER	SM 9222D*
Nutrients - PIA								
Ammonia-N	0.21	mg/L		0.026	0.10	10/05/18 15:40	TTH	EPA 350.1
Nitrate/Nitrite-N	0.23	mg/L		0.0039	0.020	10/10/18 14:36	ALS	EPA 353.2 - SM 4500-NO3 F - QC 10-107-04-1-C*
Phosphorus - total as P	0.094	mg/L	J	0.018	0.10	10/10/18 12:23	TTH	SM 4500-P F*
Total Kjeldahl Nitrogen (TKN)	0.94	mg/L	J	0.75	1.0	10/10/18 14:00	ARL	OIA/PAI-DK03 & EPA 351.2

Sample: 8100517-04
Name: BC2
Matrix: Surface Water - Grab

Sampled: 10/02/18 11:30
Received: 10/02/18 15:55

Parameter	Result	Unit	Qualifier	MDL	RDL	Analyzed	Analyst	Method
General Chemistry - CHI								
BOD - carbonaceous	3.5	mg/L		0.90	2.0	10/03/18 08:42	LER	SM 5210B
Chloride	130	mg/L		4.6	10	10/04/18 15:54	PLJ/LER	10-117-07-1-A
Solids - total suspended solids (TSS)	58	mg/L		0.90	2.0	10/03/18 11:00	KLV	SM 2540D
General Chemistry - PIA								
Oil & Grease - total	< 2.8	mg/L		2.8	6.0	10/09/18 12:35	CJP	EPA 1664
Total Nitrogen	1.0	mg/L		0.75	1.0	10/10/18 14:37	ARL	varies
Microbiology - CHI								
Fecal coliform bacteria	4200	CFU/100 ml			10	10/02/18 16:35	LER	SM 9222D*
Nutrients - PIA								
Ammonia-N	0.22	mg/L		0.026	0.10	10/05/18 15:41	TTH	EPA 350.1
Nitrate/Nitrite-N	0.24	mg/L		0.0039	0.020	10/10/18 14:37	ALS	EPA 353.2 - SM 4500-NO3 F - QC 10-107-04-1-C*
Phosphorus - total as P	0.091	mg/L	J	0.018	0.10	10/10/18 12:23	TTH	SM 4500-P F*
Total Kjeldahl Nitrogen (TKN)	0.78	mg/L	J	0.75	1.0	10/10/18 14:01	ARL	OIA/PAI-DK03 & EPA 351.2



ANALYTICAL RESULTS

Sample: 8100517-05
Name: IC1
Matrix: Surface Water - Grab

Sampled: 10/02/18 13:10
Received: 10/02/18 15:55

Parameter	Result	Unit	Qualifier	MDL	RDL	Analyzed	Analyst	Method
General Chemistry - CHI								
BOD - carbonaceous	3.7	mg/L		0.90	2.0	10/03/18 08:42	LER	SM 5210B
Chloride	78	mg/L		0.46	1.0	10/04/18 15:55	PLJ/LER	10-117-07-1-A
Solids - total suspended solids (TSS)	27	mg/L		0.90	2.0	10/03/18 11:00	KLV	SM 2540D
General Chemistry - PIA								
Oil & Grease - total	< 2.7	mg/L		2.7	5.7	10/09/18 13:39	CJP	EPA 1664
Total Nitrogen	< 1.0	mg/L		0.75	1.0	10/10/18 14:38	ARL	varies
Microbiology - CHI								
Fecal coliform bacteria	1000	CFU/100 ml			10	10/02/18 16:35	LER	SM 9222D*
Nutrients - PIA								
Ammonia-N	< 0.026	mg/L		0.026	0.10	10/05/18 15:42	TTH	EPA 350.1
Nitrate/Nitrite-N	0.24	mg/L		0.0039	0.020	10/10/18 14:38	ALS	EPA 353.2 - SM 4500-NO3 F - QC 10-107-04-1-C*
Phosphorus - total as P	0.089	mg/L	J	0.018	0.10	10/10/18 12:30	TTH	SM 4500-P F*
Total Kjeldahl Nitrogen (TKN)	< 0.75	mg/L		0.75	1.0	10/10/18 14:03	ARL	OIA/PAI-DK03 & EPA 351.2

Sample: 8100517-06
Name: IC2
Matrix: Surface Water - Grab

Sampled: 10/02/18 12:40
Received: 10/02/18 15:55

Parameter	Result	Unit	Qualifier	MDL	RDL	Analyzed	Analyst	Method
General Chemistry - CHI								
BOD - carbonaceous	3.6	mg/L		0.90	2.0	10/03/18 08:42	LER	SM 5210B
Chloride	74	mg/L		0.46	1.0	10/04/18 15:57	PLJ/LER	10-117-07-1-A
Solids - total suspended solids (TSS)	22	mg/L		0.90	2.0	10/03/18 11:00	KLV	SM 2540D
General Chemistry - PIA								
Oil & Grease - total	< 2.7	mg/L		2.7	5.8	10/09/18 13:39	CJP	EPA 1664
Total Nitrogen	< 1.0	mg/L		0.75	1.0	10/10/18 14:39	ARL	varies
Microbiology - CHI								
Fecal coliform bacteria	1800	CFU/100 ml			10	10/02/18 16:35	LER	SM 9222D*
Nutrients - PIA								
Ammonia-N	0.049	mg/L	J	0.026	0.10	10/05/18 15:44	TTH	EPA 350.1
Nitrate/Nitrite-N	0.22	mg/L		0.0039	0.020	10/10/18 14:39	ALS	EPA 353.2 - SM 4500-NO3 F - QC 10-107-04-1-C*
Phosphorus - total as P	0.077	mg/L	J	0.018	0.10	10/10/18 12:32	TTH	SM 4500-P F*
Total Kjeldahl Nitrogen (TKN)	< 0.75	mg/L		0.75	1.0	10/10/18 14:07	ARL	OIA/PAI-DK03 & EPA 351.2



ANALYTICAL RESULTS

Sample: 8100517-07
Name: KCT1
Matrix: Surface Water - Grab

Sampled: 10/02/18 13:50
Received: 10/02/18 15:55

Parameter	Result	Unit	Qualifier	MDL	RDL	Analyzed	Analyst	Method
General Chemistry - CHI								
Chloride	90	mg/L		0.46	1.0	10/04/18 15:59	PLJ/LER	10-117-07-1-A
Solids - total suspended solids (TSS)	53	mg/L		0.90	2.0	10/03/18 11:00	KLV	SM 2540D
General Chemistry - PIA								
Oil & Grease - total	< 2.7	mg/L		2.7	5.9	10/09/18 13:39	CJP	EPA 1664
Total Nitrogen	< 1.0	mg/L		0.75	1.0	10/10/18 14:41	ARL	varies
Microbiology - CHI								
Fecal coliform bacteria	3800	CFU/100 ml			10	10/02/18 16:35	LER	SM 9222D*
Nutrients - PIA								
Nitrate/Nitrite-N	0.11	mg/L		0.0039	0.020	10/10/18 14:41	ALS	EPA 353.2 - SM 4500-NO3 F - QC 10-107-04-1-C*
Phosphorus - total as P	0.098	mg/L	J	0.018	0.10	10/10/18 12:21	TTH	SM 4500-P F*
Total Kjeldahl Nitrogen (TKN)	0.76	mg/L	J	0.75	1.0	10/10/18 14:09	ARL	OIA/PAI-DK03 & EPA 351.2

Sample: 8100517-08
Name: KCT2
Matrix: Surface Water - Grab

Sampled: 10/02/18 13:30
Received: 10/02/18 15:55

Parameter	Result	Unit	Qualifier	MDL	RDL	Analyzed	Analyst	Method
General Chemistry - CHI								
Chloride	87	mg/L	Q1	0.46	1.0	10/04/18 16:08	PLJ/LER	10-117-07-1-A
Solids - total suspended solids (TSS)	53	mg/L		0.90	2.0	10/03/18 11:00	KLV	SM 2540D
General Chemistry - PIA								
Oil & Grease - total	< 2.8	mg/L		2.8	6.0	10/09/18 13:39	CJP	EPA 1664
Total Nitrogen	1.0	mg/L		0.75	1.0	10/10/18 14:42	ARL	varies
Microbiology - CHI								
Fecal coliform bacteria	2300	CFU/100 ml			10	10/02/18 16:35	LER	SM 9222D*
Nutrients - PIA								
Nitrate/Nitrite-N	0.15	mg/L		0.0039	0.020	10/10/18 14:42	ALS	EPA 353.2 - SM 4500-NO3 F - QC 10-107-04-1-C*
Phosphorus - total as P	0.083	mg/L	J	0.018	0.10	10/10/18 12:22	TTH	SM 4500-P F*
Total Kjeldahl Nitrogen (TKN)	0.86	mg/L	J	0.75	1.0	10/10/18 14:10	ARL	OIA/PAI-DK03 & EPA 351.2



QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>Batch B820087 - No Prep - CHIC WC - SM 5210B</u>									
Blank (B820087-BLK1)	Prepared & Analyzed: 10/03/18								
BOD - carbonaceous	< 0.90	mg/L							
Duplicate (B820087-DUP1)	Sample: 8100290-02 Prepared & Analyzed: 10/03/18								
BOD - carbonaceous	< 0.90	mg/L			ND				200
Duplicate (B820087-DUP2)	Sample: 8100792-02 Prepared & Analyzed: 10/03/18								
BOD - carbonaceous	< 0.90	mg/L			ND				200
<u>Batch B820159 - No Prep - CHIC WC - SM 2540D</u>									
Blank (B820159-BLK1)	Prepared & Analyzed: 10/03/18								
Solids - total suspended solids (TSS)	< 0.90	mg/L							
Duplicate (B820159-DUP1)	Sample: 8100517-01 Prepared & Analyzed: 10/03/18								
Solids - total suspended solids (TSS)	19.5	mg/L			20.0			3	5
Duplicate (B820159-DUP2)	Sample: 8100013-02 Prepared & Analyzed: 10/03/18								
Solids - total suspended solids (TSS)	5.50	mg/L	M		5.00			10	5
<u>Batch B820291 - No Prep - CHIC WC Instr - 10-117-07-1-A</u>									
Blank (B820291-BLK1)	Prepared & Analyzed: 10/04/18								
Chloride	< 0.46	mg/L							
LCS (B820291-BS1)	Prepared & Analyzed: 10/04/18								
Chloride	4.85	mg/L			5.000	97	0-200		
LCS (B820291-BS2)	Prepared & Analyzed: 10/04/18								
Chloride	4.69	mg/L			5.000	94	0-200		
LCS (B820291-BS3)	Prepared & Analyzed: 10/04/18								
Chloride	4.74	mg/L			5.000	95	0-200		
Calibration Check (B820291-CCV1)	Prepared & Analyzed: 10/04/18								
Chloride	50.2	mg/L			50.00	100	90-110		
Duplicate (B820291-DUP1)	Sample: 8093813-01 Prepared & Analyzed: 10/04/18								
Chloride	< 0.46	mg/L			ND				200
Duplicate (B820291-DUP2)	Sample: 8095504-05 Prepared & Analyzed: 10/04/18								
Chloride	26.9	mg/L			26.6			1	200
Duplicate (B820291-DUP3)	Sample: 8100499-01 Prepared & Analyzed: 10/04/18								
Chloride	84.1	mg/L			84.6			0.6	200
MRL Check (B820291-MRL1)	Prepared & Analyzed: 10/04/18								
Chloride	0.924	mg/L	J		1.000	92	0-200		
MRL Check (B820291-MRL2)	Prepared & Analyzed: 10/04/18								
Chloride	1.05	mg/L			1.000	105	0-200		
Matrix Spike (B820291-MS1)	Sample: 8093813-01 Prepared & Analyzed: 10/04/18								
Chloride	4.90	mg/L			5.000	ND	98	80-120	
Matrix Spike (B820291-MS2)	Sample: 8095504-05 Prepared & Analyzed: 10/04/18								
Chloride	32.1	mg/L			5.000	26.6	110	80-120	
Matrix Spike (B820291-MS3)	Sample: 8100499-01 Prepared & Analyzed: 10/04/18								
Chloride	88.1	mg/L	Q3		5.000	84.6	70	80-120	
Matrix Spike (B820291-MS4)	Sample: 8094717-03 Prepared & Analyzed: 10/04/18								
Chloride	31.5	mg/L			5.000	26.4	102	80-120	
Matrix Spike (B820291-MS5)	Sample: 8095901-05 Prepared & Analyzed: 10/04/18								
Chloride	39.9	mg/L			5.000	34.8	102	80-120	



QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>Batch B820291 - No Prep - CHIC WC Instr - 10-117-07-1-A</u>									
Matrix Spike (B820291-MS6)	Sample: 8100517-08			Prepared & Analyzed: 10/04/18					
Chloride	90.4	mg/L	Q1	5.000	87.2	64	80-120		
Matrix Spike Dup (B820291-MSD1)	Sample: 8093813-01			Prepared & Analyzed: 10/04/18					
Chloride	4.87	mg/L		5.000	ND	97	80-120	0.6	20
Matrix Spike Dup (B820291-MSD2)	Sample: 8095504-05			Prepared & Analyzed: 10/04/18					
Chloride	31.6	mg/L		5.000	26.6	100	80-120	2	20
Matrix Spike Dup (B820291-MSD3)	Sample: 8100499-01			Prepared & Analyzed: 10/04/18					
Chloride	87.7	mg/L	Q3	5.000	84.6	62	80-120	0.5	20
<u>Batch B820394 - No Prep - EPA 350.1</u>									
Calibration Blank (B820394-CCB1)				Prepared & Analyzed: 10/05/18					
Ammonia-N	-0.0737	mg/L							
Calibration Check (B820394-CCV1)				Prepared & Analyzed: 10/05/18					
Ammonia-N	15.9	mg/L		15.00		106	90-110		
Matrix Spike (B820394-MS1)	Sample: 8101242-01			Prepared & Analyzed: 10/05/18					
Ammonia-N	8.28	mg/L		2.000	6.13	108	90-110		
Matrix Spike (B820394-MS2)	Sample: 8100586-02			Prepared & Analyzed: 10/05/18					
Ammonia-N	6.53	mg/L		2.000	4.67	93	90-110		
Matrix Spike (B820394-MS3)	Sample: 8100774-01			Prepared & Analyzed: 10/05/18					
Ammonia-N	19.6	mg/L	Q1	2.000	19.7	NR	90-110		
Matrix Spike (B820394-MS4)	Sample: 8100998-01			Prepared & Analyzed: 10/05/18					
Ammonia-N	2.05	mg/L		2.000	ND	102	90-110		
Matrix Spike (B820394-MS5)	Sample: 8101177-01			Prepared & Analyzed: 10/05/18					
Ammonia-N	2.10	mg/L		2.000	ND	105	90-110		
Matrix Spike Dup (B820394-MSD1)	Sample: 8101242-01			Prepared & Analyzed: 10/05/18					
Ammonia-N	8.15	mg/L		2.000	6.13	101	90-110	2	20
Matrix Spike Dup (B820394-MSD2)	Sample: 8100586-02			Prepared & Analyzed: 10/05/18					
Ammonia-N	6.53	mg/L		2.000	4.67	93	90-110	0	20
Matrix Spike Dup (B820394-MSD3)	Sample: 8100774-01			Prepared & Analyzed: 10/05/18					
Ammonia-N	19.4	mg/L	Q2	2.000	19.7	NR	90-110	1	20
Matrix Spike Dup (B820394-MSD4)	Sample: 8100998-01			Prepared & Analyzed: 10/05/18					
Ammonia-N	2.08	mg/L		2.000	ND	104	90-110	1	20
Matrix Spike Dup (B820394-MSD5)	Sample: 8101177-01			Prepared & Analyzed: 10/05/18					
Ammonia-N	2.18	mg/L		2.000	ND	109	90-110	4	20
<u>Batch B820419 - No Prep - OIA/PAI-DK03 & EPA 351.2</u>									
Blank (B820419-BLK1)				Prepared: 10/05/18 Analyzed: 10/10/18					
Total Kjeldahl Nitrogen (TKN)	< 0.75	mg/L							
LCS (B820419-BS1)				Prepared: 10/05/18 Analyzed: 10/10/18					
Total Kjeldahl Nitrogen (TKN)	51.9	mg/L		50.00		104	90-110		
Matrix Spike (B820419-MS1)	Sample: 8100517-02			Prepared: 10/05/18 Analyzed: 10/10/18					
Total Kjeldahl Nitrogen (TKN)	50.6	mg/L		50.00	ND	101	90-110		
Matrix Spike (B820419-MS2)	Sample: 8100517-05			Prepared: 10/05/18 Analyzed: 10/10/18					
Total Kjeldahl Nitrogen (TKN)	48.6	mg/L		50.00	ND	97	90-110		
Matrix Spike Dup (B820419-MSD1)	Sample: 8100517-02			Prepared: 10/05/18 Analyzed: 10/10/18					
Total Kjeldahl Nitrogen (TKN)	50.4	mg/L		50.00	ND	101	90-110	0.3	20



QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>Batch B820419 - No Prep - OIA/PAI-DK03 & EPA 351.2</u>									
Matrix Spike Dup (B820419-MSD2)	Sample: 8100517-05			Prepared: 10/05/18 Analyzed: 10/10/18					
Total Kjeldahl Nitrogen (TKN)	49.2	mg/L		50.00	ND	98	90-110	1	20
<u>Batch B820592 - No Prep - SM 4500-P F</u>									
Blank (B820592-BLK1)				Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	< 0.018	mg/L							
Blank (B820592-BLK2)				Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	< 0.018	mg/L							
Blank (B820592-BLK3)				Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	< 0.018	mg/L							
Blank (B820592-BLK4)				Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	< 0.018	mg/L							
Blank (B820592-BLK5)				Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	< 0.018	mg/L							
LCS (B820592-BS1)				Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	2.13	mg/L		2.000		106	80-120		
LCS (B820592-BS2)				Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	2.07	mg/L		2.000		104	80-120		
LCS (B820592-BS3)				Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	2.05	mg/L		2.000		102	80-120		
LCS (B820592-BS4)				Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	2.05	mg/L		2.000		102	80-120		
LCS (B820592-BS5)				Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	2.06	mg/L		2.000		103	80-120		
Matrix Spike (B820592-MS1)	Sample: 8100653-03			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	1.15	mg/L		1.000	0.0764	107	80-120		
Matrix Spike (B820592-MS2)	Sample: 8101075-01			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	4.53	mg/L		1.000	3.47	106	80-120		
Matrix Spike (B820592-MS3)	Sample: 8100653-04			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	1.08	mg/L		1.000	0.0652	101	80-120		
Matrix Spike (B820592-MS4)	Sample: 8100660-03			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	1.12	mg/L		1.000	0.0897	103	80-120		
Matrix Spike (B820592-MS5)	Sample: 8100660-04			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	1.02	mg/L		1.000	0.0336	99	80-120		
Matrix Spike (B820592-MS6)	Sample: 8100705-02			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	6.14	mg/L		1.000	5.11	103	80-120		
Matrix Spike (B820592-MS7)	Sample: 8100677-01			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	5.43	mg/L		1.000	4.54	89	80-120		
Matrix Spike (B820592-MS8)	Sample: 8100517-05			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	1.13	mg/L		1.000	0.0889	104	80-120		
Matrix Spike (B820592-MS9)	Sample: 8100252-04			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	1.03	mg/L		1.000	0.0280	100	80-120		
Matrix Spike (B820592-MSA)	Sample: 8101293-03			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	1.13	mg/L		1.000	0.0619	107	80-120		
Matrix Spike Dup (B820592-MSD1)	Sample: 8100653-03			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	1.15	mg/L		1.000	0.0764	107	80-120	0	20



QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<u>Batch B820592 - No Prep - SM 4500-P F</u>									
Matrix Spike Dup (B820592-MSD2)	Sample: 8101075-01			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	4.73	mg/L	Q2	1.000	3.47	126	80-120	4	20
Matrix Spike Dup (B820592-MSD3)	Sample: 8100653-04			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	1.05	mg/L		1.000	0.0652	98	80-120	3	20
Matrix Spike Dup (B820592-MSD4)	Sample: 8100660-03			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	1.14	mg/L		1.000	0.0897	105	80-120	2	20
Matrix Spike Dup (B820592-MSD5)	Sample: 8100660-04			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	1.03	mg/L		1.000	0.0336	100	80-120	1	20
Matrix Spike Dup (B820592-MSD6)	Sample: 8100705-02			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	6.15	mg/L		1.000	5.11	104	80-120	0.2	20
Matrix Spike Dup (B820592-MSD7)	Sample: 8100677-01			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	5.51	mg/L		1.000	4.54	97	80-120	1	20
Matrix Spike Dup (B820592-MSD8)	Sample: 8100517-05			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	1.11	mg/L		1.000	0.0889	102	80-120	2	20
Matrix Spike Dup (B820592-MSD9)	Sample: 8100252-04			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	1.02	mg/L		1.000	0.0280	99	80-120	1	20
Matrix Spike Dup (B820592-MSDA)	Sample: 8101293-03			Prepared: 10/09/18 Analyzed: 10/10/18					
Phosphorus - total as P	1.12	mg/L		1.000	0.0619	106	80-120	0.9	20
<u>Batch B820597 - No Prep - EPA 1664</u>									
Blank (B820597-BLK1)				Prepared & Analyzed: 10/09/18					
Oil & Grease - total	< 2.3	mg/L							
Blank (B820597-BLK2)				Prepared & Analyzed: 10/09/18					
Oil & Grease - total	< 2.3	mg/L							
Blank (B820597-BLK3)				Prepared & Analyzed: 10/09/18					
Oil & Grease - total	< 2.3	mg/L							
LCS (B820597-BS1)				Prepared & Analyzed: 10/09/18					
Oil & Grease - total	38.5	mg/L		40.00		96	78-114		
LCS (B820597-BS2)				Prepared & Analyzed: 10/09/18					
Oil & Grease - total	35.9	mg/L		40.00		90	78-114		
LCS (B820597-BS3)				Prepared & Analyzed: 10/09/18					
Oil & Grease - total	37.6	mg/L		40.00		94	78-114		
LCS (B820597-BS4)				Prepared & Analyzed: 10/09/18					
Oil & Grease - total	37.4	mg/L		40.00		94	78-114		
LCS (B820597-BS5)				Prepared & Analyzed: 10/09/18					
Oil & Grease - total	39.5	mg/L		40.00		99	78-114		
LCS (B820597-BS6)				Prepared & Analyzed: 10/09/18					
Oil & Grease - total	35.1	mg/L		40.00		88	78-114		
<u>Batch B820773 - No Prep - EPA 353.2 - SM 4500-NO3 F - QC 10-107-04-1-C</u>									
Blank (B820773-BLK1)				Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	< 0.0039	mg/L							
Blank (B820773-BLK2)				Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	< 0.0039	mg/L							
Blank (B820773-BLK3)				Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	< 0.0039	mg/L							



QC SAMPLE RESULTS

Parameter	Result	Unit	Qual	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B820773 - No Prep - EPA 353.2 - SM 4500-NO3 F - QC 10-107-04-1-C									
LCS (B820773-BS1)				Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	0.963	mg/L		1.000		96	90-110		
LCS (B820773-BS2)				Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	0.963	mg/L		1.000		96	90-110		
LCS (B820773-BS3)				Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	1.00	mg/L		1.000		100	90-110		
Matrix Spike (B820773-MS1)				Sample: 8100461-01 Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	0.953	mg/L		1.000	ND	95	90-110		
Matrix Spike (B820773-MS2)				Sample: 8100461-02 Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	7.57	mg/L	Q1	1.000	6.77	80	90-110		
Matrix Spike (B820773-MS3)				Sample: 8100461-03 Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	0.932	mg/L		1.000	ND	93	90-110		
Matrix Spike (B820773-MS4)				Sample: 8100461-04 Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	2.28	mg/L	Q1	1.000	0.126	215	90-110		
Matrix Spike (B820773-MS5)				Sample: 8100461-05 Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	1.04	mg/L		1.000	0.0498	99	90-110		
Matrix Spike (B820773-MS6)				Sample: 8100461-06 Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	1.02	mg/L		1.000	0.0674	95	90-110		
Matrix Spike Dup (B820773-MSD1)				Sample: 8100461-01 Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	0.910	mg/L		1.000	ND	91	90-110	5	20
Matrix Spike Dup (B820773-MSD2)				Sample: 8100461-02 Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	7.56	mg/L	Q2	1.000	6.77	79	90-110	0.1	20
Matrix Spike Dup (B820773-MSD3)				Sample: 8100461-03 Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	0.924	mg/L		1.000	ND	92	90-110	0.9	20
Matrix Spike Dup (B820773-MSD4)				Sample: 8100461-04 Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	2.32	mg/L	Q2	1.000	0.126	219	90-110	2	20
Matrix Spike Dup (B820773-MSD5)				Sample: 8100461-05 Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	1.00	mg/L		1.000	0.0498	95	90-110	4	20
Matrix Spike Dup (B820773-MSD6)				Sample: 8100461-06 Prepared & Analyzed: 10/10/18					
Nitrate/Nitrite-N	1.02	mg/L		1.000	0.0674	95	90-110	0	20



NOTES

Specific method revisions used for analysis are available upon request.

Certifications

CHI - McHenry, IL

TNI Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100279
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17556

PIA - Peoria, IL

TNI Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553
Missouri Department of Natural Resources Certificate of Approval for Microbiological Laboratory Service No. 870
Drinking Water Certifications: Iowa (240); Kansas (E-10338); Missouri (870)
Wastewater Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)
Hazardous/Solid Waste Certifications: Arkansas (88-0677); Iowa (240); Kansas (E-10338)

SPIL - Springfield, IL

NELAP/NELAC accreditation through the Illinois EPA, Lab No. 100323

SPMO - Springfield, MO

USEPA DMR-QA Program

STL - St. Louis, MO

TNI Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS Lab No. E-10389
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 171050
Drinking Water Certifications: Missouri (1050)
Missouri Department of Natural Resources

* Not a TNI accredited analyte

Qualifiers

- J Estimated value; value between the Method Detection Limit and Method Reporting Limit.
- M Analyte failed to meet the required acceptance criteria for duplicate analysis.
- Q1 Matrix Spike failed % Recovery
- Q2 Matrix Spike Duplicate failed % Recovery
- Q3 Matrix Spike/Matrix Spike Duplicate both failed % Recovery

Certified by: Penny Janus, Wastewater Project Manager



SUBCONTRACT ORDER
Transfer Chain of Custody

PDC Laboratories, Inc.

8100517



SENDING LABORATORY

PDC Laboratories, Inc.
4314-A Crystal Lake Road
McHenry, IL 60050
(815)344-4044

RECEIVING LABORATORY

PDC Laboratories, Inc.
2231 W Altorfer Dr
Peoria, IL 61615
(309) 692-9688

Sample: 8100517-01
Name: AC1

Sampled: 10/02/18 14:20
Matrix: Surface Water
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
NO3 + NO2	10/12/18 16:00	10/30/18 14:20	
O&G SPE	10/12/18 16:00	10/30/18 14:20	
PO4 total- P	10/12/18 16:00	10/30/18 14:20	
TKN GD	10/12/18 16:00	10/30/18 14:20	

Sample: 8100517-02
Name: AC2

Sampled: 10/02/18 12:10
Matrix: Surface Water
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
NO3 + NO2	10/12/18 16:00	10/30/18 12:10	
O&G SPE	10/12/18 16:00	10/30/18 12:10	
PO4 total- P	10/12/18 16:00	10/30/18 12:10	
TKN GD	10/12/18 16:00	10/30/18 12:10	

Sample: 8100517-03
Name: BC1

Sampled: 10/02/18 14:50
Matrix: Surface Water
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
Ammonia-N	10/12/18 16:00	10/30/18 14:50	
NO3 + NO2	10/12/18 16:00	10/30/18 14:50	
O&G SPE	10/12/18 16:00	10/30/18 14:50	
PO4 total- P	10/12/18 16:00	10/30/18 14:50	
TKN GD	10/12/18 16:00	10/30/18 14:50	

SUBCONTRACT ORDER
Transfer Chain of Custody

PDC Laboratories, Inc.

8100517

SENDING LABORATORY

PDC Laboratories, Inc.
 4314-A Crystal Lake Road
 McHenry, IL 60050
 (815)344-4044

RECEIVING LABORATORY

PDC Laboratories, Inc.
 2231 W Altorfer Dr
 Peoria, IL 61615
 (309) 692-9688

Sample: 8100517-04
Name: BC2

Sampled: 10/02/18 11:30
Matrix: Surface Water
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
Ammonia-N	10/12/18 16:00	10/30/18 11:30	
NO3 + NO2	10/12/18 16:00	10/30/18 11:30	
O&G SPE	10/12/18 16:00	10/30/18 11:30	
PO4 total- P	10/12/18 16:00	10/30/18 11:30	
TKN GD	10/12/18 16:00	10/30/18 11:30	

Sample: 8100517-05
Name: IC1

Sampled: 10/02/18 11:30
Matrix: Surface Water
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
Ammonia-N	10/12/18 16:00	10/30/18 11:30	
NO3 + NO2	10/12/18 16:00	10/30/18 11:30	
O&G SPE	10/12/18 16:00	10/30/18 11:30	
PO4 total- P	10/12/18 16:00	10/30/18 11:30	
TKN GD	10/12/18 16:00	10/30/18 11:30	

Sample: 8100517-06
Name: IC2

Sampled: 10/02/18 12:40
Matrix: Surface Water
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
Ammonia-N	10/12/18 16:00	10/30/18 12:40	
NO3 + NO2	10/12/18 16:00	10/30/18 12:40	
O&G SPE	10/12/18 16:00	10/30/18 12:40	
PO4 total- P	10/12/18 16:00	10/30/18 12:40	
TKN GD	10/12/18 16:00	10/30/18 12:40	

SUBCONTRACT ORDER
Transfer Chain of Custody

PDC Laboratories, Inc.
8100517

SENDING LABORATORY

PDC Laboratories, Inc.
 4314-A Crystal Lake Road
 McHenry, IL 60050
 (815)344-4044

RECEIVING LABORATORY

PDC Laboratories, Inc.
 2231 W Altorfer Dr
 Peoria, IL 61615
 (309) 692-9688

Sample: 8100517-07
Name: KCT1

Sampled: 10/02/18 13:50
Matrix: Surface Water
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
NO3 + NO2	10/12/18 16:00	10/30/18 13:50	
O&G SPE	10/12/18 16:00	10/30/18 13:50	
PO4 total- P	10/12/18 16:00	10/30/18 13:50	
TKN GD	10/12/18 16:00	10/30/18 13:50	

Sample: 8100517-08
Name: KCT2

Sampled: 10/02/18 13:30
Matrix: Surface Water
Preservative: H2SO4, cool <6

Analysis	Due	Expires	Comments
NO3 + NO2	10/12/18 16:00	10/30/18 13:30	
O&G SPE	10/12/18 16:00	10/30/18 13:30	
PO4 total- P	10/12/18 16:00	10/30/18 13:30	
TKN GD	10/12/18 16:00	10/30/18 13:30	

Please email results to Christina Pierce at cpierce@pdclab.com

Date Shipped: 10-3-18 Total # of Containers: 16 Sample Origin (State): IL PO #: _____

Turn-Around Time Requested NORMAL RUSH Date Results Needed: 10/12/18

<u>BK 10-3-18</u>	<u>9:00</u>	<u>[Signature]</u>	<u>10-3-18</u>	Sample Temperature Upon Receipt	<u>3</u> °C
Relinquished By	Date/Time	Received By	Date/Time	Sample(s) Received on Ice	<u>Y</u> or N
<u>[Signature]</u>	<u>10/3/18</u>	<u>[Signature]</u>	<u>12:20</u>	Proper Bottles Received in Good Condition	<u>Y</u> or N
Relinquished By	Date/Time	Received By	Date/Time	Bottles Filled with Adequate Volume	<u>Y</u> or N
<u>[Signature]</u>	<u>10/3/18</u>	<u>[Signature]</u>	<u>17:15</u>	Samples Received Within Hold Time	<u>Y</u> or N
Relinquished By	Date/Time	Received By	Date/Time	Date/Time Taken From Sample Bottle	<u>Y</u> or <u>N</u>

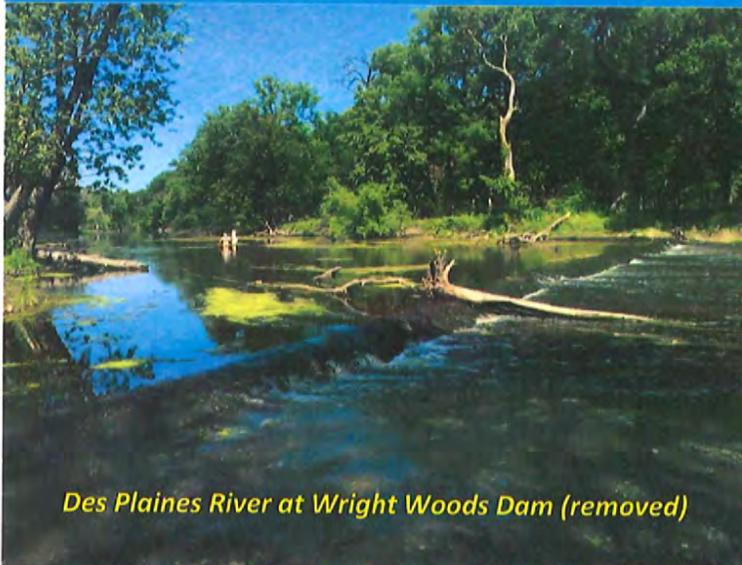
State where samples collected IL

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT) - (SAMPLE ACCEPTANCE POLICY ON REVERSE)

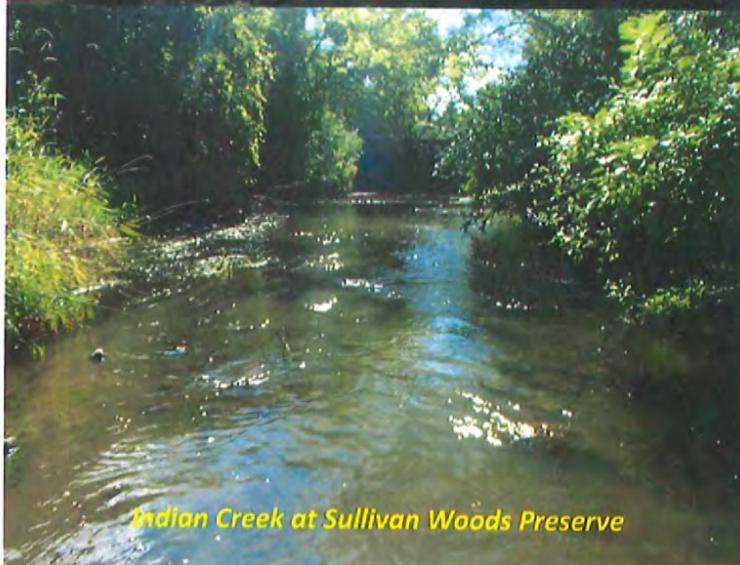
1 CLIENT Christopher B Burke Engr ADDRESS: 9575 W. Higgins Rd Ste 600 CITY STATE ZIP: Rosemont IL 60018 CONTACT PERSON: Eric Japsen		PROJECT NUMBER: 180259 P.O. NUMBER: MEANS SHIPPED: PHONE NUMBER: 847-823-0500 FAX NUMBER: DATE SHIPPED:	3 ANALYSIS REQUESTED See Quote Bottle Group CBOD, NH3	4 (FOR LAB USE ONLY) LOGIN #: 8100517 LOGGED BY: LN LAB PROJ. #: TEMPLATE: PROJ. MGR.:
2 SAMPLE DESCRIPTION AS YOU WANT ON REPORT AC1 AC2 * BC1 * BC2 * IC1 * IC2 KCT1 KCT2		DATE COLLECTED: 10/2/18 TIME COLLECTED: 1420 SAMPLE TYPE: GRAB X COMP X MATRIX TYPE: BOTTLE COUNT: OTHER:	REMARKS: X X X X	
5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) (RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE) RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE E-MAIL	NORMAL RUSH DATE RESULTS NEEDED	6 The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of its sample temperature.		
7 RELINQUISHED BY: (SIGNATURE) DATE: 10/2/18 TIME: 1503 RECEIVED BY: (SIGNATURE) DATE: 10/2/18 TIME: 1535 RECEIVED AT LAB BY: (SIGNATURE) DATE: 10/2/18 TIME: 1535	RELINQUISHED BY: (SIGNATURE) DATE: 10/2/18 TIME: 1503 RECEIVED BY: (SIGNATURE) DATE: 10/2/18 TIME: 1503	RELINQUISHED BY: (SIGNATURE) DATE: 10/2/18 TIME: 1503 RECEIVED BY: (SIGNATURE) DATE: 10/2/18 TIME: 1535	8 COMMENTS: (FOR LAB USE ONLY) 9.7 °C SAMPLE TEMPERATURE UPON RECEIPT CHILL PROCESS STARTED PRIOR TO RECEIPT SAMPLE(S) RECEIVED ON ICE PROPER BOTTLES RECEIVED IN GOOD CONDITION BOTTLES FILLED WITH ADEQUATE VOLUME SAMPLES RECEIVED WITHIN HOLD TIME(S) (EXCLUDES TYPICAL FIELD PARAMETERS) DATE AND TIME TAKEN FROM SAMPLE BOTTLE	



Biological and Water Quality Assessment of the Upper Des Plaines River and Tributaries 2016



Des Plaines River at Wright Woods Dam (removed)



Indian Creek at Sullivan Woods Preserve

Peter A. Precario, MBI Executive Director
James Lane, MBI Board President

Table 7. Concentrations of nutrient parameters including ammonia-N, total nitrate -N, TKN, and total phosphorus in the Upper Des Plaines River watershed study area in 2016. Shading represents different levels of exceedance of various criteria or thresholds for each parameter (see footnotes). Only sites with one or more nutrient parameters are included.

Site ID	Basin code	Stream Code	RM	Drain. Area (mi. ²)	Ammonia ¹ (mg/L)	Nitrate-N ^{2,3,4} (mg/L)	TKN ⁵ (mg/L)	Total Phosphorus ^{6,7,8,9} (mg/L)
Des Plaines River								
13-6	95	656	109.30	123.7	0.1	1.2	1.4	0.16
13-5	95	656	106.60	137.3	0.1	0.7	1.1	0.22
13-4	95	656	102.90	145.6	0.1	0.5	0.9	0.15
13-3	95	656	98.70	220.3	0.1	0.5	0.7	0.14
13-2	95	656	96.82	225.4	0.1	1.6	1.04	0.20
13-1	95	656	94.20	232.0	0.1	3.6	1.2	0.79
16-6	95	656	87.10	261.4	0.1	3.0	1.01	0.56
16-7	95	656	84.60	266.5	-	-	-	-
16-5	95	656	83.60	268.1	0.1	4.8	1.02	0.48
16-8	95	656	82.90	268.9	-	-	-	-
16-4	95	656	80.00	273.2	0.1	4.5	0.9	0.64
16-3	95	656	76.7	314.7	-	3.3	-	0.61
16-2	95	656	75.40	324.0	0.1	3.9	0.9	0.53
16-1	95	656	71.7	358.7	0.1	4.2	0.5	0.63
Newport Drainage Ditch								
12-1	95	708	0.70	7.4	-	0.4	-	0.08
Slocum Corners Creek								
13-11	95	711	1.36	2.4	-	0.2	-	0.08
North Mill Creek								
10-3	95	996	10.20	20.8	0.1	1.0	1.2	0.12
10-2	95	996	8.10	29.4	-	2.6	-	0.43
10-1	95	996	1.10	32.0	-	2.5	-	0.36
Hastings Creek								
10-5	95	702	3.12	3.9	-	0.1	-	0.07
10-4	95	702	1.68	5.6	0.1	5.1	1.5	0.69
Mill Creek								
11-6	95	995	17.20	4.5	-	1.0	-	0.07
11-5	95	995	13.80	10.4	-	0.6	-	0.08
11-4	95	995	10.10	18.3	-	0.1	-	0.05
11-3	95	995	7.20	21.4	-	0.2	1.2	0.05
11-2	95	995	1.71	62.3	0.1	0.7	1.1	0.19
11-1	95	995	0.70	63.8	0.1	1.4	1.6	0.15
Suburban Country Club Tributary								
13-10	95	710	2.00	4.0	-	0.1	-	0.05

Site ID	Basin code	Stream Code	RM	Drain. Area (mi. ²)	Ammonia ¹ (mg/L)	Nitrate-N ^{2,3,4} (mg/L)	TKN ⁵ (mg/L)	Total Phosphorus ^{6,7,8,9} (mg/L)
Stoneroller Creek								
13-9	95	709	0.42	4.1	-	0.2	-	0.05
West Fork Belvidere Rd. Tributary								
13-8	95	720	0.15	3.8	-	0.3	-	0.06
Bull's Brook								
13-7	95	704	0.25	2.7	-	0.5	-	0.05
Bull Creek								
14-2	95	051	1.00	8.4	-	0.2	-	0.05
14-1	95	051	0.5	11.69	0.1	0.3	0.8	0.05
Indian Creek								
15-6	95	706	9.83	3.7	-	0.1	-	0.12
15-5	95	706	5.40	17.3	-	0.2	-	0.08
15-2	95	706	2.41	35.0	0.1	0.2	0.8	0.05
15-1	95	706	0.17	36.4	0.1	0.2	0.8	0.05
Killdeer Creek								
15-7	95	707	4.6	2.9	-	0.1	-	0.11
15-4	95	707	0.01	6.8	-	0.1	-	0.13
Seavey Drainage Ditch								
15-3	95	390	3.66	5.05	-	0.3	-	0.05
Aptakisic Creek								
18-2	95	701	0.8	4.9	-	0.2	-	0.07
18-1	95	701	0.50	5.5	0.1	17.4	0.5	2.42
Buffalo Creek								
17-3	95	703	7.7	9.61	-	0.2	-	0.10
17-2	95	703	6.10	22.1	-	0.1	-	0.05
17-1	95	703	0.75	29.1	0.1	0.3	0.8	0.06
Buffalo Creek Tributary								
17-4	95	713	0.68	8.6	0.1	0.3	0.99	0.07

■ ¹IPS ammonia-N aquatic life threshold (0.15 mg/L).
■ ²U.S. EPA Ecoregion 54 reference target for nitrate (1.798 mg/L).
■ ³Non-standards based numeric criteria for total nitrate (7.8 mg/L) based on the 85th %ile values determined from a statewide dataset from the Ambient Water Quality Monitoring Network, for water years 1978-1996 (Illinois EPA 2011).
■ ⁴Illinois water quality criterion for nitrate-N (10.0 mg/L).
■ ⁵IPS TKN aquatic life threshold (1.0 mg/L).
■ ⁶U.S. EPA Ecoregion 54 reference target for total phosphorus (0.072 mg/L).
■ ⁷Non-standards based numeric criteria for total phosphorus (0.61 mg/L) in water based on the 85th percentile values determined from a statewide set of observations from the Ambient Water Quality Monitoring Network, for water years 1978-1996 (Illinois EPA 2011).
■ ⁸Suggested effluent limit for total phosphorus (1.0 mg/L).
■ ⁹Eutrophication Criteria, Southern Minnesota (0.15 mg/L; Heiskary and Bouchard 2015).

Table 8. Urban parameter results (medians) in the Upper Des Plaines River study area, 2016. Values that exceed the DRSCWG IPS effects-based thresholds are yellow highlighted and values below the effects threshold, but above reference concentrations are rose highlighted. Only sites with chemical data for any one of the parameters are included.

Site ID	Basin code	Stream Code	RM	Chlorides (mg/L) ¹	Conductivity (µS/cm)	Specific Conductivity (µmhos/cm) ²	Sodium (mg/L) ³	Sulfate (mg/L) ⁴	TSS (mg/L) ⁵	Volatile Susp. Solids (mg/L)
Des Plaines River										
13-6	95	656	109.30	150.0	1061	1050	118.7	55.9	4.8	2.0
13-5	95	656	106.60	145.0	1034	1010	-	-	5.0	1.3
13-4	95	656	102.90	119.0	1027	1000	-	-	5.0	2.0
13-3	95	656	98.70	141.0	1022	991	95.3	52.4	16.4	2.8
13-2	95	656	96.82	149.5	1045	1018	99.8	57.0	14.9	2.8
13-1	95	656	94.20	154.0	1063	1110	121.0	62.9	9.2	2.4
16-6	95	656	87.10	161.0	1040	1125	128.0	64.8	10.2	1.8
16-5	95	656	83.60	164.0	1070	1095	131.0	58.6	8.0	2.3
16-4	95	656	80.00	167.0	1026	1075	123.5	61.3	12.2	2.6
16-3	95	656	76.7	160.0	999	1060	-	-	-	-
16-2	95	656	75.40	176.0	1030	1075	124.5	61.1	11.2	2.6
16-1	95	656	71.7	171.0	1007	989	121.5	59.7	10.2	1.8
Newport Drainage Ditch										
12-1	95	708	0.70	130.0	1079	1045	-	-	12.6	2.2
Slocum Corners Creek										
13-11	95	711	1.36	147.0	1011	1300	-	-	-	-
North Mill Creek										
10-3	95	996	10.20	55.2	924	856	-	-	15.6	3.4
10-2	95	996	8.10	97.9	1078	1033	-	-	88.0	11.0
10-1	95	996	1.10	98.0	1053	997	-	-	86.0	12.0

Site ID	Basin code	Stream Code	RM	Chlorides (mg/L) ¹	Conductivity (µS/cm)	Specific Conductivity (µmhos/cm) ²	Sodium (mg/L) ³	Sulfate (mg/L) ⁴	TSS (mg/L) ⁵	Volatile Susp. Solids (mg/L)
Hastings Creek										
10-5	95	702	3.12	199.5	1019	1005	-	-	3.6	1.2
10-4	95	702	1.68	182.0	1078	1230	-	-	20.2	3.2
Mill Creek										
11-6	95	995	17.20	136.0	967	1027	-	-	11.4	1.8
11-5	95	995	13.80	190.0	1059	1125	-	-	24.0	6.4
11-4	95	995	10.10	215.5	1068	1115	-	-	15.2	4.6
11-3	95	995	7.20	206.0	1070	1075	-	48.3	9.4	3.0
11-2	95	995	1.71	156.0	1060	1030	-	-	25.7	5.9
11-1	95	995	0.70	155.0	1015	1070	106.2	52.2	24.4	7.0
Suburban Country Club Tributary										
13-10	95	710	2.00	169.0	1074	1180	-	-	-	-
Stoneroller Creek										
13-9	95	709	0.42	296.0	1100	1385	-	-	-	-
West Fork Belvidere Rd. Tributary										
13-8	95	720	0.15	278.0	1175	1520	-	-	-	-
Bull's Brook										
13-7	95	704	0.25	104.5	952	985	-	-	-	-
Bull Creek										
14-2	95	051	1.00	208.0	1066	1140	-	-	-	-
14-1	95	051	0.5	218.0	999	1050	-	-	5.8	1.8
Indian Creek										
15-6	95	706	9.83	127.0	968	907	-	-	-	-
15-5	95	706	5.40	164.5	1091	1105	-	-	-	-

2014 Water Quality Report

Buffalo Creek Watershed
Lake and Cook Counties, Illinois



Document Information

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The Buffalo Creek Clean Water Partnership would like to acknowledge the support of the following agencies:

- The eight Villages in the Buffalo Creek Watershed for their sponsorship of the Coordinated Pollutant Monitoring Program
- Lake County Health Department – Population Health Environmental Services, for winter chloride monitoring, lake sediment testing and autosampler support
- Lake County Stormwater Management Commission and the Watershed Management Board for a grant to conduct stream water quality testing
- The Illinois Environmental Protection Agency for lake water quality testing under the Voluntary Lake Monitoring Program
- The National Great Rivers Research and Education Center, sponsor of the RiverWatch macro-invertebrate monitoring program
- The Metropolitan Water Reclamation District of Greater Chicago, for their long term water quality monitoring program at Buffalo Creek

Table 4-4 Fecal Coliform Concentration Chart

Site	May-13	Oct-13	May-14	Oct-14
BC1	70	1100	52	420
BC2	>860	440	14	>300
BC3	>1200	540	16	>200
BC4	150	760	100	440
BC5	130	>120	>130	>250
BC6	<10	960	<2	600
BC7	30	460	48	>190
BC8	260	>1500	48	>240
BC9	100	>3000	58	400
BC10	<10	>1300	4	92
BC11	60	>1900	20	>160
BC12	60	>2400	32	>200
BC13	10	360	8	700
Checker Rd	70	840	38	420
Creekside	30	>1800	24	>270

Similar to phosphorus, the highest levels of fecal coliform were found in the “flush” samples captured during the storm event of June 26. Fecal coliform levels of >6,300 cfu/100 ml at Checker and >12,000 cfu/100 ml at Creekside on that occasion exceeded the 400 cfu/100 ml WQS maximum by more than 3000% and 1500%, respectively. The sources of fecal coliform are not known. The following chart shows fecal coliform levels on June 26 compared to the next highest level recorded samples collected during monthly grab samples. The June 26 samples also had the highest levels of total phosphorus and total suspended solids recorded in 2013.

Figure 4-7 E. coli from June 26, 2013 versus next highest sample in 2013

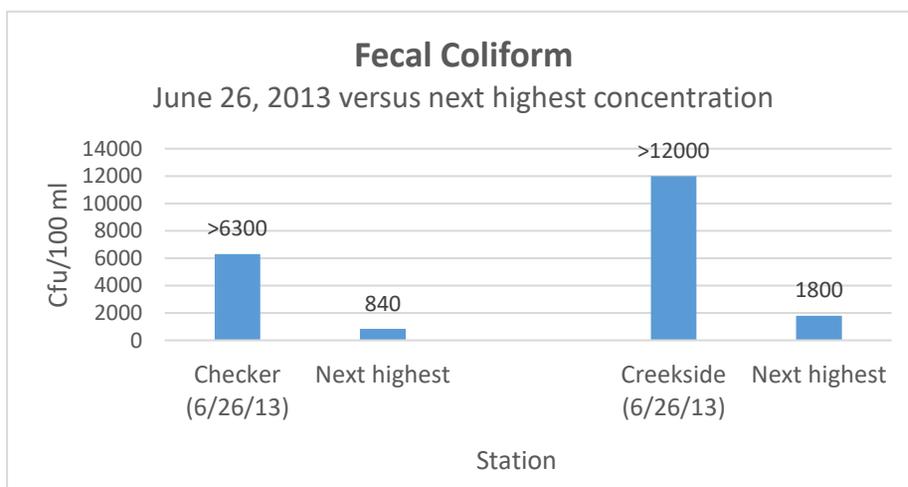
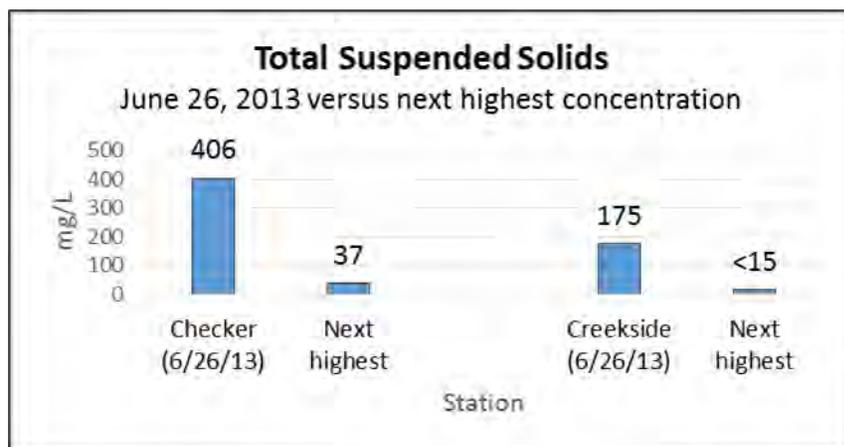


Table 4-5 Total Suspended Solids Concentration Chart (sites highlighted >15mg.L)

Site	May-13	Oct-13	May-14	Oct-14
BC1	12	22	<15	14
BC2	3	<15	<15	10
BC3	4	16	<15	<3.1
BC4	39	76	22	99
BC5	<10	18	<15	20
BC6	9	31	43	97
BC7	63	<15	<15	4
BC8	15	<15	<15	8
BC9	21	<15	21	13
BC10	29	24	20	5
BC11	12	19	18	4
BC12	10	<15	<15	5
BC13	45	30	28	11
Checker Rd	18	19	<15	11
Creekside	<10	<15	15	10
MWRD	12	18	12	<4

Like phosphorus and fecal coliform, the flush samples taken during the storm event of June 25th registered the highest levels of TSS. With readings of 406 mg/L and 175 mg/L, levels were 1300% and nearly 600% higher than WQS. The TSS in the streams are probably dominated by eroded sediments and streambanks while those in the lakes were probably algae and other microorganisms.

Figure 4-8 Total Suspended Solids June 26, 2013 versus next highest 2013 value



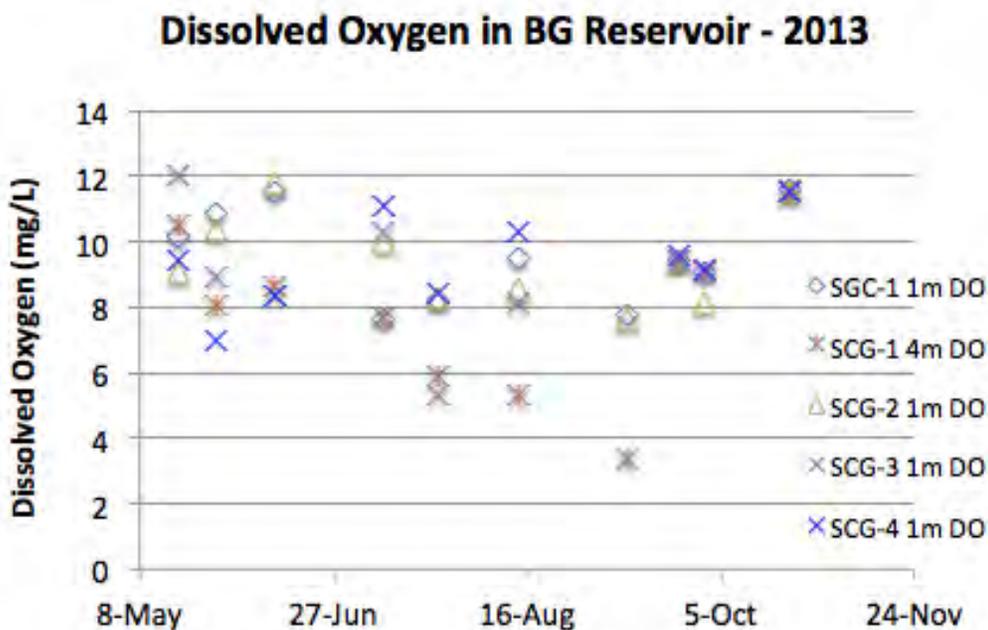
The TMDL does not provide Implementation Actions and Management Measures for Total Suspended Solids. However, actions that would reduce soil erosion would improve water clarity and reducing phosphorus would suppress algae blooms and improve water clarity in the lakes.

Table 4-6 Dissolved Oxygen Concentration Chart (sites highlighted with March-July DO < 5 mg/L or September-February <6.5 mg/L)

Site	May-13	Oct-13	May-14	Oct-14
BC1	13.1	8.9	10.9	10.0
BC2	13.9	9.2	13.9	10.8
BC3	9.1	3.3	8.6	7.9
BC4	9.5	no value	11.4	10.8
BC5	13.2	7.9	9.6	10.1
BC6	10.5	3.3	13.5	9.0
BC7	9.3	11.2	16.2	10.9
BC8	10.3	7.5	10.9	11.5
BC9	13.8	5.2	12	10.2
BC10	11.1	11.2	9.6	10.0
BC11	14.4	8.8	15.8	10.1
BC12	14.3	9.2	15.5	10.5
BC13	11.1	6.7	11.6	13.1
Checker Rd	10.8	9.1	17.8	11.4
Creekside	11	8	15.4	8.5
MWRD	5.3	7.2	10.5	9.3

Implementation Actions and Management Measures for low Dissolved Oxygen are described in Section 8.4 of the TMDL, which can be accessed from the BCCWP web site.

Figure 4-9 Dissolved oxygen levels in the Buffalo Creek Basins



4.3.8 Biochemical Oxygen Demand (BOD)

BOD is listed as a TMDL pollutant for Buffalo Creek in the TMDL Report. Load allocations for BOD are specified in Table 8.5 of the TMDL.

Six instances of BOD in excess of the WQS for effluents (8 mg/L) were observed in the MS4 data. In May, 2013 at BC9 (Arlington Heights), BC10 (Buffalo Grove) and BC11 (Buffalo Grove) all recorded elevated levels of BOD. However, it is interesting to note that the MWRD sampling station located midway between BC10 and BC11 recorded low levels on the same date. The exact time of the MWRD sample collection on that day is not known. Elevated levels of BOD were also recorded at BC6 in October, 2013 and May, 2014, and at BC4 in May 2014.

Table 4-7 Biological Oxygen Demand Concentration Chart (sites highlighted >8.0 mg/L)

Site	May-13	Oct-13	May-14	Oct-14
BC1	5.8	3	<4.0	3
BC2	5	<3.0	8	3
BC3	5.7	4	<5.	6
BC4	7.2	4	10	5
BC5	6	3	<3	4
BC6	5.2	12.3	10	6
BC7	7.9	4	<3	4
BC8	7	3.1	6	5
BC9	12.5	4	<4	6
BC10	9.1	5.8	<5	5
BC11	23.7	4.5	<4	6
BC12	6.2	4.9	<5	3
BC13	2	4.2	6	4
Checker Rd.	7.5	3.2	<4	4
Creekside	5.8	4.2	6	3
MWRD	3	3.0	3	<2

Actions to reduce BOD are described in Section 8.4.2 of the TMDL, which can be accessed from the BCCWP web site.

4.3.9 Conductivity

Conductivity was measured in the field with a water quality meter concurrently with the grab samples. BCCWP used conductivity primarily as a proxy to measure winter chloride levels and to correlate with chloride and TDS as a check against test results for possible erroneous data (refer to TDS chart below). The only non-winter conductivity values over 2,000 $\mu\text{s}/\text{cm}$ corresponded with the May, 2013 and 2014 results for BC-6 (Deer Park/Kildeer), which also showed elevated chloride values that exceeded the WQS on those dates.

MEMORANDUM

APPENDIX 3

2013 Decision Document with TMDLs and WLAs for Buffalo Creek IL-GST



CHRISTOPHER B. BURKE ENGINEERING, LTD.

9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520

TMDL: Des Plaines River/Higgins Creek Watershed, Illinois
Date: AUG 26 2013

DECISION DOCUMENT FOR THE APPROVAL OF THE DES PLAINES RIVER/HIGGINS CREEK WATERSHED, IL, TMDL

Section 303(d) of the Clean Water Act (CWA) and EPA's implementing regulations at 40 C.F.R. Part 130 describe the statutory and regulatory requirements for approvable TMDLs. Additional information is generally necessary for EPA to determine if a submitted TMDL fulfills the legal requirements for approval under Section 303(d) and EPA regulations, and should be included in the submittal package. Use of the verb "must" below denotes information that is required to be submitted because it relates to elements of the TMDL required by the CWA and by regulation. Use of the term "should" below denotes information that is generally necessary for EPA to determine if a submitted TMDL is approvable. These TMDL review guidelines are not themselves regulations. They are an attempt to summarize and provide guidance regarding currently effective statutory and regulatory requirements relating to TMDLs. Any differences between these guidelines and EPA's TMDL regulations should be resolved in favor of the regulations themselves.

1. Identification of Waterbody, Pollutant of Concern, Pollutant Sources, and Priority Ranking

The TMDL submittal should identify the waterbody as it appears on the State's/Tribe's 303(d) list. The waterbody should be identified/georeferenced using the National Hydrography Dataset (NHD), and the TMDL should clearly identify the pollutant for which the TMDL is being established. In addition, the TMDL should identify the priority ranking of the waterbody and specify the link between the pollutant of concern and the water quality standard (see section 2 below).

The TMDL submittal should include an identification of the point and nonpoint sources of the pollutant of concern, including location of the source(s) and the quantity of the loading, e.g., lbs/per day. The TMDL should provide the identification numbers of the NPDES permits within the waterbody. Where it is possible to separate natural background from nonpoint sources, the TMDL should include a description of the natural background. This information is necessary for EPA's review of the load and wasteload allocations, which are required by regulation.

The TMDL submittal should also contain a description of any important assumptions made in developing the TMDL, such as:

- (1) the spatial extent of the watershed in which the impaired waterbody is located;
 - (2) the assumed distribution of land use in the watershed (e.g., urban, forested, agriculture);
 - (3) population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources;
 - (4) present and future growth trends, if taken into consideration in preparing the TMDL (e.g., the TMDL could include the design capacity of a wastewater treatment facility);
- and

EPA finds that the TMDL document submitted by IEPA satisfies all requirements concerning this eleventh element.

12. Submittal Letter

A submittal letter should be included with the TMDL submittal, and should specify whether the TMDL is being submitted for a *technical review* or *final review and approval*. Each final TMDL submitted to EPA should be accompanied by a submittal letter that explicitly states that the submittal is a final TMDL submitted under Section 303(d) of the Clean Water Act for EPA review and approval. This clearly establishes the State's/Tribe's intent to submit, and EPA's duty to review, the TMDL under the statute. The submittal letter, whether for technical review or final review and approval, should contain such identifying information as the name and location of the waterbody, and the pollutant(s) of concern.

Comment:

On May 30, 2013, EPA received the Des Plaines River Higgins Creek watershed TMDL, and a submittal letter. In the submittal letter, IEPA stated "Please find enclosed Illinois EPA's submittal of the Des Plaines River Higgins Creek Watershed TMDL report for USEPA final approval". The submittal letter included the names and locations of the waterbodies and the pollutants of concern.

EPA finds that the TMDL document submitted by IEPA satisfies all requirements concerning this twelfth element.

Conclusion

After a full and complete review, EPA finds that the TMDLs for the Des Plaines River Higgins Creek watershed satisfy all of the elements of approvable TMDLs. This approval is for **24** TMDLs, in 18 waterbody segments.

EPA's approval of this TMDL does not extend to those waters that are within Indian Country, as defined in 18 U.S.C. Section 1151. EPA is taking no action to approve or disapprove TMDLs for those waters at this time. EPA, or eligible Indian Tribes, as appropriate, will retain responsibilities under the CWA Section 303(d) for those waters.

Table 3 TMDL Summary for fecal coliform for Buffalo Creek (IL GST) (org/day)

	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Current load	1.98E+12	7.93E+11	5.53E+10	1.23E+11	2.06E+10
Reduction	77%	85%	12%	85%	80%
WLA – MS4	2.85E+11	7.74E+10	3.09E+10	0	0
WLA - WWTP	3.56E+08	1.44E+08	1.44E+08	1.44E+08	1.44E+08
LA	9.74E+10	2.65E+10	1.06E+10	1.52E+10	3.35E+09
Reserve Capacity	2.25E+10	6.12E+09	2.45E+09	9.05E+08	2.06E+08
MOS	4.50E+10	1.22E+10	4.89E+09	1.81E+09	4.11E+08
TMDL	4.50E+11	1.22E+11	4.89E+10	1.81E+10	4.11E+09

Table 4 TMDL Summary for chloride for Buffalo Creek (IL GST)(lbs/day)

	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Current load	190,807	124,227	21,546	11,215	796
Reduction	0	46%	0	11%	0
WLA – MS4	166,286	45,186	18,075	0	0
WLA - WWTP	0	0	0	0	0
LA	56,857	15,450	6,180	8,974	2,037
MOS	24,794	6,737	2,695	997	226
TMDL	247,936	67,374	26,950	9,971	2,264

Table 5 TMDL Summary for fecal coliform for Higgins Creek (IL GOA-01) (org/day)

	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Current load	9.49E+11	3.89E+11	1.24E+12	1.09E+11	3.05E+11
Reduction	0	0	50%	0	0
WLA – MS4	9.09E+10	2.10E+10	8.93E+09	0	0
WLA - WWTP	8.34E+11	6.06E+11	6.06E+11	6.06E+11	6.06E+11
LA	3.50E+10	8.10E+09	3.44E+09	5.67E+09	2.06E+09
MOS	implicit	implicit	implicit	implicit	implicit
TMDL	9.60E+11	6.35E+11	6.19E+11	6.12E+11	6.08E+11

Table 6 TMDL Summary for chloride for Higgins Creek (IL GOA-01) (lbs/day)

	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Current load	441,567	591,224	338,885	254,302	409,771
Reduction	0	57%	33%	13%	47%
WLA – MS4	575,438	159,007	140,547	0	0
WLA - WWTP	0	0	0	0	0
LA	258,530	71,438	63,144	199,750	196,515
MOS	92,663	25,605	22,632	22,194	21,835
TMDL	926,631	256,050	226,323	221,945	218,350

Table 7 TMDL Summary for fecal coliform for Higgins Creek (IL GOA-02) (org/day)

	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Current load	1.90E+12	2.00E+11	1.19E+12	4.60E+10	5.59E+10
Reduction	94%	75%	97%	31%	95%
WLA – MS4	7.41E+10	3.02E+10	2.26E+10	0	0
WLA - WWTP	0	0	0	0	0
LA	2.85E+10	1.16E+10	8.70E+09	2.71E+10	2.48E+10
MOS	1.21E+10	4.92E+09	3.68E+09	3.19E+09	2.92E+09
Reserve Capacity	6.03E+09	2.46E+09	1.84E+09	1.59E+09	1.46E+09
TMDL	1.21E+11	4.92E+10	3.68E+10	3.19E+10	2.92E+10

Table 8 TMDL Summary for chloride for Higgins Creek (IL GOA-02) (lbs/day)

	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Current load	112,793	107,977	27,665	76,327	39,380
Reduction	41%	75%	26%	77%	59%
WLA – MS4	41,208	16,903	12,676	0	0
WLA - WWTP	0	0	0	0	0
LA	18,514	7,594	5,695	15,768	14,443
MOS	6,636	2,722	2,041	1,752	1,605
TMDL	66,358	27,220	20,413	17,520	16,048

Table 9 TMDL summary for Sylvan Lake (IL RGZF) (MM org/day)

	Fecal Coliform Load
Current Load	2,960,887
Reduction	80%
Hawthorn Woods MS4	100,670
Long Grove MS4	592
Load Allocation	402,088
Reserve Capacity	29,609
MOS	59,218
TMDL	592,177

Table 10 TMDL Summary for TP TMDLs for Lakes (lbs/day)

Lake	Current Load	% reduction	WLA	MOS	LA	TMDL
Albert Lake	13.07	89	1.32	0.15	0.01	1.48
Beck Lake	0.45	10	0.12	0.04	0.25	0.40
Big Bear Lake	3.19	33	1.85	0.21	0.07	2.13
Big Bend Lake	6.51	74	1.40*	0.17	0.10	1.66
Bresen Lake	0.84	59	0.20	0.03	0.11	0.35
Buffalo Creek Lake	25.96	65	5.89	0.91	2.26	9.06
Countryside Lake	4.17	51	0.44	0.20	1.38	2.03
Diamond Lake	1.93	9	0.66	0.18	0.92	1.75
Forest Lake	1.52	63	0.34	0.06	0.17	0.57
Half Day Pit	11.73	80	0.55**	0.23	1.56	2.34
Lake Charles	2.36	13	1.75	.021	0.09	2.05
Little Bear Lake	2.23	7	1.81	.021	0.06	2.08
Pond-A-Rudy	0.42	67	0.07	0.01	0.05	0.14
Salem Reed Lake	0.70	69	0.19	0.02	0.001	0.22
Sylvan Lake	0.80	35	0.17	0.05	0.29	0.51

* includes 1.376 lb/day from the Des Plaines River

** includes 0.340 lbs/day from the Des Plaines River

Table 11 TMDL Summary for CBOD and NH3 for Buffalo Creek (IL GST)(lb/day)

	CBOD	NH3
Current Load	158.96	8.92
Reduction	39%	30%
LA	8.59	0.24
MS4	65.04	4.18
WLA	13.7	1.2
MOS	9.70	0.62
TMDL	97.03	6.24

Table 12 WLAs for fecal coliform for Buffalo Creek (IL GST) (MM org/day)

	NPDES permit #	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Alden Long Grove Rehab	IL0051934	281	114	114	114	114
Camp Reinberg STP	IL0048542	75	30	30	30	30
Arlington Heights MS4	ILR400282	60,637	16,447	6,574	0	0
Barrington MS4	ILR400285	17,910	4,858	1,941	0	0
Buffalo Grove MS4	ILR400303	34,551	9,372	3,746	0	0
Deer Park MS4	ILR400359	13,551	3,675	1,469	0	0
Inverness MS4	ILR400359	25,321	6,868	2,745	0	0
Kildeer MS4	ILR400215	13,813	3,747	1,498	0	0
Lake Zurich MS4	ILR400370	25,834	7,007	2,801	0	0
Long Grove MS4	ILR400219	46,658	12,656	5,059	0	0
Palatine MS4	ILR400416	48,280	13,096	5,235	0	0

Table 13 WLAs for fecal coliform for Higgins Creek (IL GOA-01) (MM org/day)

	NPDES Permit #	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Des Plaines MHP	IL0054160	1,340	522	522	522	522
MWRDGC Kirie WRP	IL0047741	832,841	605,702	605	702	605
Arlington Hts MS4	ILR400282	8,172	1,890	803	0	0
Chicago MS4	ILR400173	442	102	43	0	0
Des Plaines MS4	ILR400325	15,160	3,507	1,489	0	0
Elk Grove MS4	ILR400334	32,567	7,534	3,199	0	0
Mt Prospect MS4	ILR400393	9,143	2,115	898	0	0
Rolling Meadows MS4	ILR400435	174	40	17	0	0

Table 14 WLAs for fecal coliform for Higgins Creek (IL GOA-02) (MM org/day)

	NPDES Permit #	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Arlington Hts MS4	ILR400282	12,530	5,107	3,822	0	0
Des Plaines MS4	ILR400325	1,835	748	560	0	0
Elk Grove MS4	ILR400334	45,540	18,564	13,892	0	0
Mt Prospect MS4	ILR400393	13,989	5,702	4,267	0	0
Rolling Meadows MS4	ILR400435	272	111	83	0	0

Table 15 WLAs for chloride for Buffalo Creek (IL GST) (lbs/day)

	NPDES Permit #	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Arlington Heights MS4	ILR400282	35,187	9,562	3,825	0	0
Barrington MS4	ILR400285	10,393	2,824	1,130	0	0
Buffalo Grove MS4	ILR400303	20,050	5,448	2,179	0	0
Deer Park MS4	ILR400359	7,864	2,137	855	0	0
Inverness MS4	ILR400359	14,693	3,993	1,597	0	0
Kildeer MS4	ILR400215	8,015	2,178	871	0	0
Lake Zurich MS4	ILR400370	14,991	4,074	1,629	0	0
Long Grove MS4	ILR400219	27,075	7,357	2,943	0	0
Palatine MS4	ILR400416	28,017	7,613	3,045	0	0

Table 16 WLAs for chloride for Higgins Creek (IL GOA-01) (lbs/day)

	NPDES Permit #	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Arlington Hts MS4	ILR400282	71,402	19,731	17,440	0	0
Chicago MS4	ILR400173	3,866	1,069	944	0	0
Des Plaines MS4	ILR400325	132,461	36,602	32,353	0	0
Elk Grove MS4	ILR400334	284,461	78,633	69,504	0	0
Illinois Tollway MS4	ILR400494	1,727	477	421	0	0
Mt Prospect MS4	ILR400393	79,894	22,077	19,513	0	0
Rolling Meadows MS4	ILR400435	1,502	420	372	0	0

Table 17 WLAs for chloride for Higgins Creek (IL GOA-02) (lbs/day)

	NPDES Permit #	High Flows (0-10)	Moist Flows (10-40)	Mid-Range Flows (40-60)	Dry Flows (60-90)	Low Flows (90-100)
Arlington Hts MS4	ILR400282	6,950	2,850	2,138	0	0
Des Plaines MS4	ILR400325	1,018	418	313	0	0
Elk Grove MS4	ILR400334	25,207	10,340	7,755	0	0
Illinois Tollway MS4	ILR400494	124	51	38	0	0
Mt Prospect MS4	ILR400393	7,760	3,182	2,387	0	0
Rolling Meadows MS4	ILR400435	150	61.8	45.8	0	0

Table 18 WLAs for CBOD and NH3 for Buffalo Creek (IL GST)(lb/day)

	NPDES Permit #	CBOD	NH3
Alden Long Grove Rehab	IL0051934	12.0	0
Camp Reinberg	IL0048542	1.7	1.2
Arlington Heights MS4	ILR400282	3.18	0.25
Barrington MS4	ILR400285	0.05	0.004
Buffalo Grove MS4	ILR400303	9.05	0.70
Deer Park MS4	ILR400359	6.67	0.51
Inverness MS4	ILR400359	0.004	0.0003
Kildeer MS4	ILR400215	9.74	0.75
Lake Zurich MS4	ILR400370	5.40	0.42
Long Grove MS4	ILR400219	14.72	1.14
Palatine MS4	ILR400416	7.70	0.59

Table 19 WLAs for TP for Lakes (lbs/day)

Lake	MS4/Facility	NPDES ID #	% Area of Watershed	WLA (lb/day)
Albert Lake	Lake Zurich	ILR400370	47	0.620
	Long Grove	ILR400219	17	0.226
	Kildeer	ILR400215	36	0.475
Beck Lake	Glenview	ILR400343	32	0.117
Big Bear Lake	Libertyville	ILR400374	14	0.260
	Mundelein	ILR400395	54	1.030
	Vernon Hills	ILR400252	29	0.559
Big Bend Lake	Glenview	ILR400343	8	0.009
	Des Plaines	ILR400325	13	0.015
Bresen Lake	Hawthorn Woods	ILR400209	64	0.199
Buffalo Creek Lake	Alden Long Grove Rehab	IL0051934	Non-MS4	0.448
	Camp Reinberg STP	IL0048542	Non-MS4	0.117
	Arlington Heights	ILR400282	5	0.357
	Barrington	ILR400285	0.1	0.003
	Buffalo Grove	ILR400303	1	0.075
	Deer Park	ILR400359	10	0.745
	Inverness	ILR400359	<0.1	0.0005
	Kildeer	ILR400215	14	1.090
	Lake Zurich	ILR400370	8	0.602
	Long Grove	ILR400219	21	1.600
	Palatine	ILR400416	11	0.864
Countryside Lake	Hawthorn Woods	ILR400209	14	0.261
	Long Grove	ILR400219	<0.1	0.0005
	Mundelein	ILR400395	18	0.183
Diamond Lake	Mundelein	ILR400395	35	0.556
	Long Grove	ILR400219	7	0.108
Forest Lake	Hawthorn Woods	ILR400209	37	0.189
	Lake Zurich	ILR400370	29	0.150
Half Day Pit	Lincolnshire	ILR400375	12	0.205
Lake Charles	Libertyville	ILR400374	16	0.300
	Mundelein	ILR400395	63	1.171
	Vernon Hills	ILR400252	15	0.282
Little Bear Lake	Libertyville	ILR400374	12	0.231
	Mundelein	ILR400395	49	0.915
	Vernon Hills	ILR400252	35	0.661
Pond-A-Rudy	Hawthorn Woods	ILR400209	58	0.072
Salem Reed Lake	Long Grove	ILR400219	99	0.193
Sylvan Lake	Hawthorn Woods	ILR400209	17	0.172
	Long Grove	ILR400219	0.1	0.0004

Help Preserve Buffalo Grove's Water Environment

In accordance with state and federal storm sewer regulations, residents are reminded that it is unlawful to dump chemicals, paints, solvents or any other pollutants in inlets, creeks, or on Buffalo Grove streets.

The Clean Water Act authorizes the Environmental Protection Agency (EPA) to regulate point sources that discharge pollutants into waters of the United States through the National Pollutant Discharge Elimination System (NPDES) permit program.

Point sources are generated from a variety of municipal, construction and industrial operations, including treated wastewater, processed water, cooling water and stormwater runoff from drainage systems. In place since 1990, the NPDES Stormwater Program regulates discharges from municipal



separate storm sewer systems (MS4s), construction activities, industrial activities and those designated by EPA due to water quality impacts.

If residents observe activities that are believed to be adding pollutants into inlets, creeks or on streets, or have questions about pollution reports or stormwater quality concerns, they are asked to contact the Public Works Department at 847-459-2547.

For more information on Buffalo Grove's NPDES program visit vbh.org/588/NPDES-Annual-Report

Buffalo Grove Public Works Employee of the Year: Jeff Wells



We congratulate Water Section employee Jeff Wells on his selection as the Employee of the Year in Public Works. In order to be eligible for Employee of the Year, an employee has received an Employee of the Month award and showed sustained excellence in their work throughout the year. Each month, employees nominate their peers and the Employee Recognition Committee reviews those nominations and awards a finalist.

As a water employee in our distribution section, residents would most likely see Jeff on the street operating heavy equipment for water main and hydrant repairs. On a day to day basis, Jeff brings his energy and enthusiasm to all work assigned. He is known for his high standards of performance and is always willing to share his vast knowledge across many trades, allowing him to be a mentor to other employees. He continues to seek out knowledge in

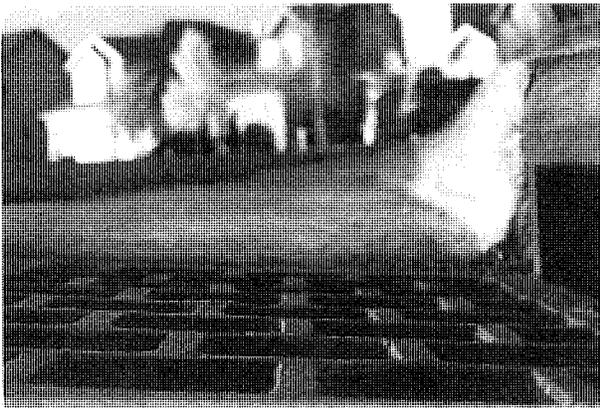
the water industry as well, having attended multiple trainings outside of his normally assigned schedule.

You'll also see Jeff involved in community events such as the Public Works Open House each spring and as a key member of the Buffalo Grove Days set-up team each summer. He is one of the best the Public Works Department has to offer the community - congratulations Jeff!

Only Rain Down the Drain

Storm drains and roadside ditches lead to inland lakes, streams, rivers and to Lake Michigan. Any motor oil, pet waste, leaves, grass clippings or dirty water from washing a car that enters a storm drain gets into the water without being treated.

Residents are reminded not to dump these substances, or anything else down the storm drain or into a ditch. Pollutants that get into storm drains can poison fish, birds and other wildlife, and can find their way into drinking water supplies. Dirt, litter, branches and grass clippings can also clog storm drains and cause flooding. Be sure to report anyone dumping materials into a storm drain or ditch to Buffalo Grove officials by calling 847-459-2525.



How Residents Can Prevent Water Pollution:

1. Sweep up driveways and sidewalks instead of hosing them down with water or blowing debris into the street.
2. Never dump anything down a storm drain or into a ditch.
3. Plant bare spots in your yard.
4. Compost yard waste.
5. Use fertilizers sparingly and avoid pesticides.
6. Direct downspouts away from paved surfaces.
7. Take your car to a car wash instead of washing it in the driveway.
8. Check cars for leaks and recycle motor oil. Just four quarts of oil can form an eight-acre oil slick if spilled or dumped down a storm drain.
9. Pick up after your pet.
10. If you are on a septic system, have it inspected and pumped regularly.

Buffalo Grove Named Tree City USA for 30th Year

This year, Buffalo Grove was named a 2017 Tree City USA by the Arbor Day Foundation, in honor of its commitment to effective urban forest management. This is the 30th consecutive year Buffalo Grove has been awarded the honor of being named a Tree City USA.

Buffalo Grove achieved this recognition by meeting the program's four requirements, which include having a tree board or department, a tree care ordinance, an annual community forestry budget of at least \$2 per capita and an Arbor Day observance and proclamation.

The Forestry Section, along with the Village, had many successes in 2017 pertaining to tree planting and growth.

- Buffalo Grove celebrated Arbor Day by handing out 903 sapling trees to all the third-grade classrooms in the Village.
- Forestry staff trimmed 5,370 trees, focusing efforts to achieve a five-year cycle trimming program.
- There were 153 trees planted in 2017. Buffalo Grove remains focused on species diversity as trees are planted throughout the Village.
- Forestry staff removed an acre of buckthorn (an invasive shrub or tall tree) undergrowth from a woodland area and began a habitat restoration project with the help of grant funding.
- Five of Buffalo Grove's ISA-certified arborists became credentialed as municipal specialists. For this credential, arborists were tested on the areas of public relations, administration, risk management, and policy and planning as they pertain to municipal arboriculture.

For more information about the Tree City USA program, visit arborday.org/TreeCityUSA. For more information about Buffalo Grove's Forestry Section, visit vbg.org/310/Public-Works-Operations.



TREE CITY USA®



BG TRAFFIC COR

PUBLIC WORKS DEPARTMENT FORESTRY DIVISION

VILLAGE OF Buffalo

473

Stormwater and the Construction Industry

Maintain your BvPe



Stormwater and the Construction Industry

Protect Natural Features



- Minimize clearing
- Maximize the amount of exposed soil
- Exposed and protect areas where existing vegetation, such as trees, will not be disturbed by construction activity
- Protect streams, wetlands, riparian areas, wetlands, or other sensitive areas from any disturbance or construction activity by fencing or otherwise clearly marking these areas

Construction Phasing



- Organize construction to limit the area that will be exposed for long periods of time
- Schedule or time grading to avoid rain
- Detail any sediment control practices before site grading begins
- Schedule any stabilization activities, such as hydroseeding, to be completed prior to when the soil has been graded for its final location

Vegetative Buffers



- Protect and install vegetative buffers along riparian areas, ditches and other sensitive areas
- Manage buffers by mowing or replanting periodically to ensure their effectiveness

Silt Fencing



- Inspect and maintain all fences after each rainstorm
- Make sure the bottom of the silt fence is buried in the ground
- Securely attach the material to the stakes
- Don't place silt fences in the middle of a roadway or use them as a back dam
- Make sure wastewater is not flowing around the silt fence

Site Stabilization



- Vegetate newly disturbed areas as soon as all allowed areas to work and other uses have been completed

Maintain your BMPs!

www.epa.gov/npdes/menuofbmps

Construction Entrances



- Position and seal dirt mats over doors of construction vehicles before they enter a paved roadway
- Properly align entrance BMPs for all assigned vehicles
- Make sure that the construction entrance does not become blocked or full

Slopes



- Rough grade or terrace slopes
- Finish up long slopes with sediment basins, or check basins, or other treatment near these slopes

Dirt Stockpiles



- Cover or seal all dirt stockpiles

Storm Drain Inlet Protection



- Use rock or other appropriate material to cover the mouth of a storm drain or ditch and other
- Make sure the rock size is appropriate to handle 3 to 5 inches of diameter
- If you use silt fence, maintain them regularly





Des Plaines River Watershed Workgroup (DRWW)

Certificate of Completion

is hereby granted to

Michael Reynolds

*to certify that he/she has completed to satisfaction 1 Professional Development Hour
at the*

DRWW General Membership Meeting

November 15, 2018





**Meeting of the Village of Buffalo Grove
Village Board
Committee of the Whole
August 6, 2018 at 7:30 PM**

Fifty Raupp Blvd
Buffalo Grove, IL 60089-2100
Phone: 847-459-2500

1. Call to Order

- A. Pledge of Allegiance

2. Special Business

1. Recognizing Lauren Stein (President Sussman) (Staff Contact: Dane Bragg)
2. Introduction of New Police Officers (Trustee Ottenheimer) (Staff Contact: Arthur Malinowski)
3. 2017 Audit and Management Letter (Trustee Stein) (Staff Contact: Brett Robinson)
4. Six Month Financial Report (Trustee Stein) (Staff Contact: Scott Anderson)
5. Updates to the Fee and Fine Ordinance (Trustee Stein) (Staff Contact: Scott Anderson)
6. Review of Sunset Provision on Home Rule and Utility Use Taxes (Trustee Stein) (Staff Contact: Scott Anderson)
7. Wage Pool Recommendation (Trustee Berman) (Staff Contact: Arthur Malinowski)
8. Review of 2019 Capital Improvement Plan Requests (Trustee Johnson) (Staff Contact: Michael Skibbe)
9. Discussion of Preliminary 2018 Property Tax Levy (Trustee Stein) (Staff Contact: Scott Anderson)
10. Stormwater Proforma (Trustee Johnson) (Staff Contact: Michael Reynolds)
11. Prairie View Metra Station Area Plan Update (Trustee Smith) (Staff Contact: Chris Stilling)
12. Buffalo Grove Resident Survey Next Steps Workshop Focus Areas and Strategies (Trustee Weidenfeld, Trustee Johnson) (Staff Contact: Jenny Maltas)
13. Regulation of Sale of Pets (President Sussman) (Staff Contact: Dane Bragg)

3. Questions From the Audience

Questions from the audience are limited to items that are not on the regular agenda. In accordance with Section 2.02.070 of the Municipal Code, discussion on questions from the audience will be limited to 10 minutes and should be limited to concerns or comments regarding issues that are relevant to Village business. All members of the public addressing the Village Board shall maintain proper decorum and refrain from making disrespectful remarks or comments relating to individuals. Speakers shall use every attempt to not be repetitive of points that have been made by others. The Village Board may refer any matter of public comment to the Village Manager, Village staff or an appropriate agency for review.

4. Adjournment

The Village Board will make every effort to accommodate all items on the agenda by 10:30 p.m. The Board, does, however, reserve the right to defer consideration of matters to another meeting should the discussion run past 10:30 p.m.

The Village of Buffalo Grove, in compliance with the Americans with Disabilities Act, requests that persons with disabilities, who require certain accommodations to allow them to observe and/or

participate in this meeting or have questions about the accessibility of the meeting or facilities, contact the ADA Coordinator at 459-2525 to allow the Village to make reasonable accommodations for those persons.

**VILLAGE OF
BUFFALO GROVE**



TO: Jenny Maltas, Deputy Village Manager

FROM: Mike Reynolds, Director of Public Works

DATE: July 25, 2018

RE: FY 2018 – Stormwater Fund 20 Year Pro Forma Annual Update

Background

As part of the 2012 strategic planning process, the Village Board directed staff to investigate the feasibility of implementing a Storm Water Utility Fee in Buffalo Grove. Presentations were made at the March 3, 2014, July 20, 2015 and September 24, 2015 Committee of the Whole meetings. The Village Board ratified staff's recommendation to enact a Storm Water Utility Fee on October 19, 2015 and the new fee became effective on January 1, 2016.

Rate and Revenue Discussion

Base Fee Calculation: Staff proposed a tiered approach based upon a base fee per parcel square footage value. Using the impervious data provided by GIS, the base fee was determined based upon the total parcel square footage of all parcels within the Village that contain impervious surface such as buildings, driveways and parking lots, and the funds required in 2015 to maintain and update the stormwater system. This resulted in a base fee of \$0.006950 per square foot which is the fee currently in place.

Tiered Fee Structure: The fee is applied to all parcels within the village that have impervious surface using a tiered approach. The tiers are as follows:

Tier 1 - Single Family Residence Attached & Detached (fixed fee)

$\$0.006950 \times \text{Median Lot size (8,771.66 square footage)} = \text{Annual Fee (\$60.96)}$

Tier 2 - Multi-Family & Commercial / Industrial / Government/Non-Profit (calculated fee)

$\$0.006950 \times \text{Property Square Footage} = \text{Annual Fee (varies as calculated)}$

Fiscal year 2017 closed with revenues at \$1.15 million. It is estimated that the current fiscal year will close with the same revenue amount. This revenue will only increase with new properties or a rate increase as it is not consumption based. The analysis uses a revenue estimate of 1.2 million dollars through 2037.

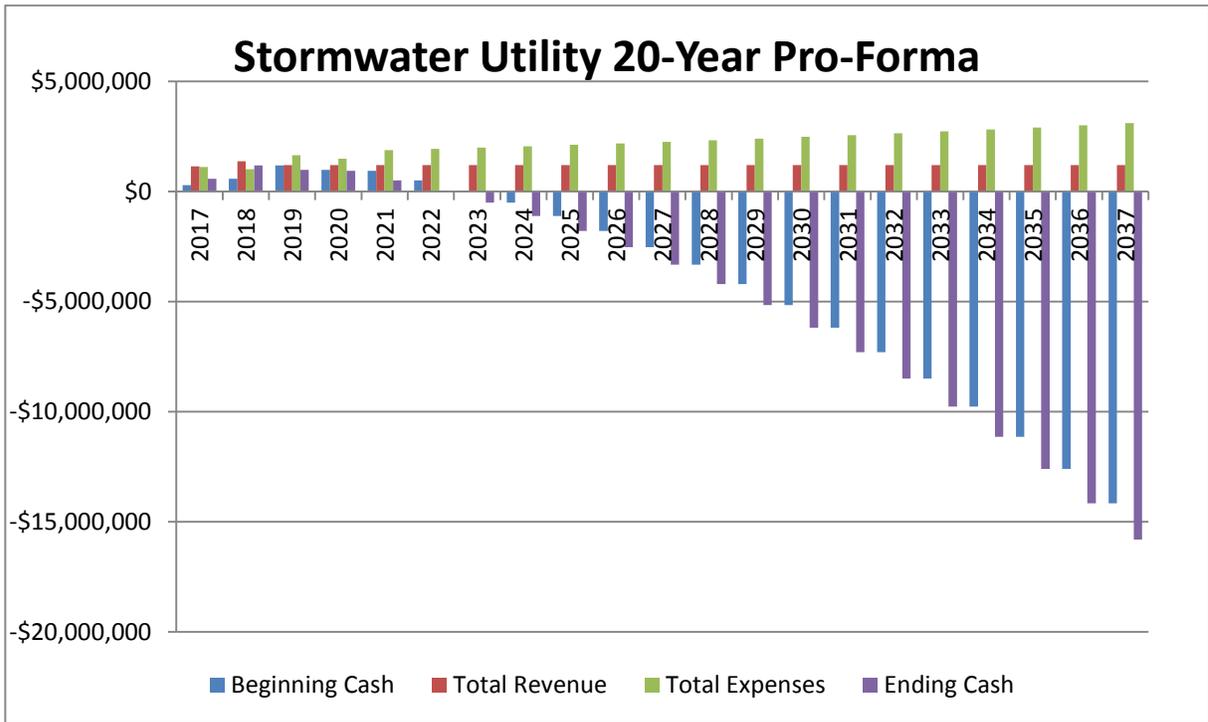
Initial Program Goal:

The initial program goal was to generate enough revenue to fund the annual operating expenses of the Public Works Drainage Section, annual capital expenses and provide a level of contribution to the fund for future projects.

What was not included at the time were operating expenses of the Public Works Engineering Division and Forestry Section related to stormwater management. These expenses include, but are no limited to, drainage reviews and complaint investigation, stormwater project management, mowing detention basins, natural area maintenance and management and stream clearing. With the implementation of Cartegraph Asset Management System, the Engineering Division and Forestry Section efforts have been accurately tracked. In 2017 approximately \$42,000 in Engineering costs and \$133,000 in Forestry Section expenses have been incurred for stormwater management related activities. To date in 2018, the Forestry Section has expended \$134,691 for these efforts and Engineering has expended \$35,000. Accordingly, these expenses have been incorporated into the pro-forma calculations.

Stormwater Fund Financials

In the attached financial analysis (Attachment A), staff has presented an estimate of revenues, operating expenses, capital expenses and operating transfers through 2038 (20 years). Revenues include stormwater grant funding (where applicable) and revenue amounts for the Stormwater fee. Operating expenses are those expenses related to the day to day activities such as labor, equipment, materials, and other costs associated with system operations. Capital expenses are those amounts spent to repair or improve capital assets and infrastructure. Operating transfers are amounts received from, or paid to the General Fund for expenditures related to Stormwater Fund activities. Ending cash represents the fund balance available for capital projects. At the end of FY 2018, ending cash is anticipated to be \$1.1 million. Those funds are intended to support an enterprise system valued at \$251 million. A summary of the 20-year fund performance is provided below.



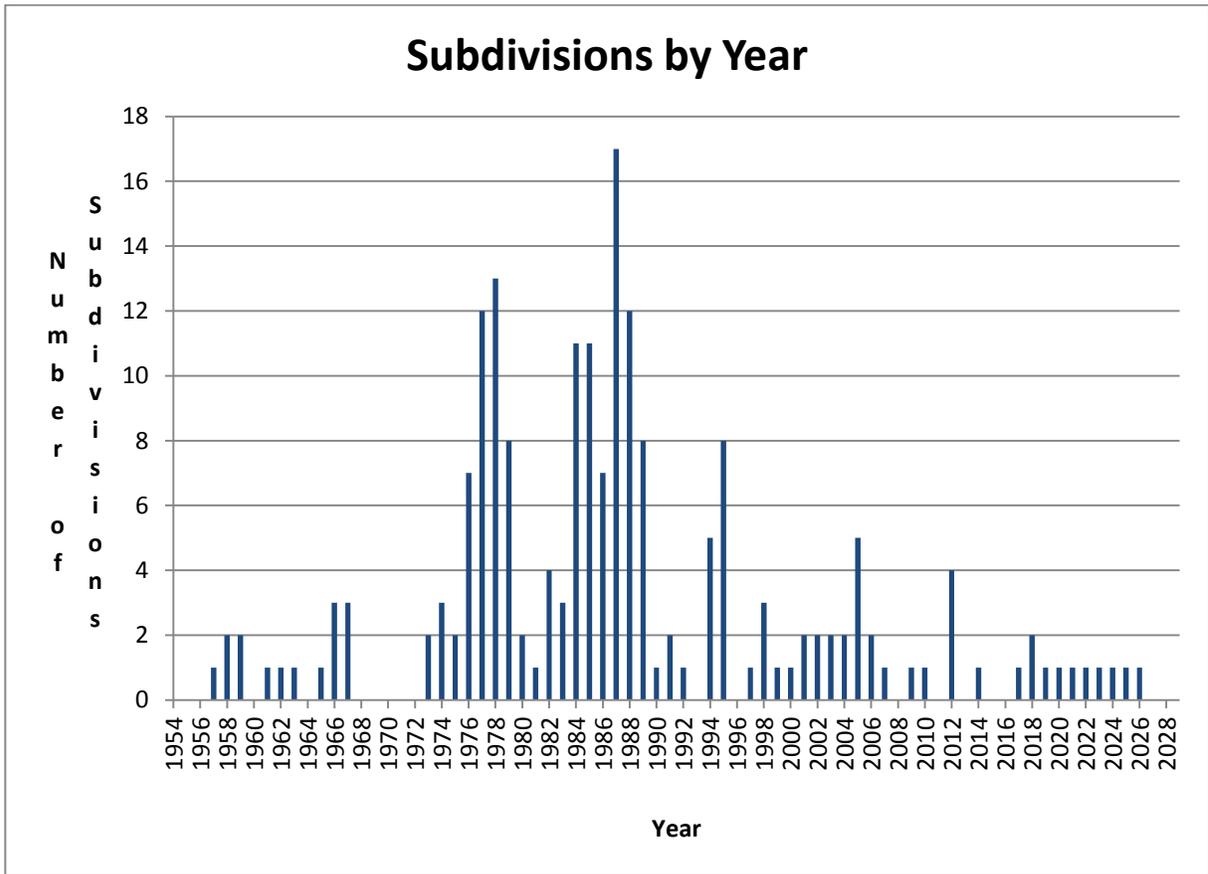
Operating costs include 3% annual increases. In order to maintain the “Reserve for Infrastructure” line item at \$250,000 annually, capital replacement costs include 4% increases each year to address storm sewer system repairs. While the Stormwater Fund appears to be solvent through 2022, any significant unanticipated repairs will deplete the working cash and reserve balances. The Board should consider a rate increase beginning in 2020 and beyond to keep the fund solvent.

Stormwater System Assets

The stormwater system consists of 189 linear miles of stormwater pipe, 11.3 miles of ditches, streams and creeks, 39 detention/retention basins (81 acres), 1 lift station and thousands of structures. Public Works and GIS staff continue to refine the program and inventory the stormwater system assets. Once the inventory is complete and the GIS system has been updated, staff will have a much clearer picture of the system and the expected capital replacement requirements.

The value of the stormwater utility in today’s dollars is approximately \$251 million. The service life of the infrastructure can range from 50 years to 100 years. The replacement cost of the entire system at the end of the 20 year study, inflated at 3% per year, is \$453 million. The original assumption used for future stormwater replacements is that the system will have an 80 year life and capital replacement would consist of 25% of the amortized value in any given year. However, staff found that the 25% replacement value is not entirely accurate, particularly when trying to combine this work with road and/or watermain projects in any given area. Based upon this, consideration must be given to raising the replacement criteria to 50% of the amortized value. The cost estimate compensates for the improbability that entire sections of the system will be replaced. Estimating the actual asset life at times is more abstract than qualitative. Pipe that is ensconced in stable soil and subjected to consistent stormwater impacts may have a service life that may double an engineering estimate, and conversely, weak soils, capacity limitations, development, traffic or other external factors may reduce the life by many years.

Most of the storm sewer systems were installed as part of subdivision development. Most recently, the second phase of the Apple Hill subdivision was accepted in 2014, Easthaven in 2016 and Easton Station and Prairie Landing expected in 2018. Based upon information provided by Community Development, staff can expect an average of one development each year over the next five years. The following chart shows the pattern of subdivision construction in the Village since 1957.



Regulatory Compliance

Since 2003, the Village has been required to comply with the provisions as enumerated in the National Pollutant Discharge Elimination System (NPDES) permitting process. These regulations address “point source” and “non-point source” pollution exposures and governs both sanitary and stormwater activities. This program is monitored and enforced by the Illinois Environmental Protection Agency (IEPA). The Village has been and is currently in compliance with these regulations. However, with the new permit requirements issued in 2016 and their impact on stormwater management in particular, discussion at this time as warranted. Among the major changes are additional stormwater water quality monitoring, better filtering and control of dewatering activities for water main breaks, outdoor storage inspection and enforcement activities and stronger code requirements for private detention/retention pond inspections and compliance.

The permit period is five years and generally consists of the following required activities:

1. Filing of the Notice of Intent (NOI) prior to the expiration of the current permit.
2. Implementation of a Storm Water Management program that addresses the six minimum control measures listed below.
 1. Public Education and Outreach on Storm Water Impacts
 2. Public Involvement/Participation

3. Illicit Discharge Detection and Elimination (IDDE) Activities
4. Construction Site Runoff Control
5. Post-Construction Storm Water Management in New Development and Redevelopment
6. Pollution Prevention/Good Housekeeping for Municipal Operations

3. Annual Monitoring, Record Keeping and Reporting

The NPDES program is intended, among other things, to improve the water quality of lakes and streams within a particular area. The Village has been active in several watershed groups including the Buffalo Creek Clean Water Partnership (BCCWP) and the Des Plaines River Watershed Workgroup (DRWW). The impact of this program and the activities of the various workgroups will have an impact on stormwater management for many years to come.

Program Modifications in 2018

- An emerging issue for the Village is the existence of small, rear-yard storm sewer systems that were installed with the various developments. In many cases these systems were not per code, but were accepted by the Village with the developments and are part of the Village's overall system. In 2018, this program was included in the Capital Improvement Plan (CIP) budget to address these issues.
- There is an 820' segment of Corrugated Metal Pipe (CMP) where the bottom has completely eroded away in several locations. The pipe runs between St. Mary's Parkway and Buffalo Creek and is located in the rear yards between the residences on Crestview and the Apartments on Buffalo Grove Rd. Staff plan to include a request in the 2019 capital budget to address this issue.

Future Program Considerations

- Included in this 2018 Pro-Forma are expenses of other PW operating Sections as well as the Engineering Division related to drainage and flooding issues, detention/retention basin maintenance and other stormwater related items into the plan.
- Additionally, staff continues to work with GIS to determine what parcels outside the Village contribute to and benefit from our system and if the fee could possibly be applied to those parcels.
- Staff has programmed a stormwater system study to be completed over the next two years with \$170,000 budgeted in 2019 and \$160,000 budgeted in 2020. Much like the water system study, this study will inventory and evaluate system assets and determine an appropriate capital replacement schedule.

Stormwater Rate Recommendations

Each year staff will review the financial condition of the fund to determine the adequacy of current rates. The rate is set by ordinance with no pre-determined increases and there are no changes recommended with this update.

The goal of this discussion is to stress the importance of staying ahead of the curve with regard to fund management. It is vitally important that the Village make prudent decisions during the infancy of the stormwater fee program. A proper rate structure is a vital step to ensuring that the fund will have the resources available to maintain the integrity of the system over the long-term, thus reducing the need to issue debt or spend down General Fund reserves to complete needed projects.

In the future, as the system inventory becomes solidified and other projects become clearer, a rate increase will be required. It appears that the fund will remain stable until 2022. However, the Board should consider rate increases beginning in 2020.

The impact of infrastructure maintenance costs and the related challenges with the Stormwater Fund is not unique to the Village of Buffalo Grove. All communities to varying degrees are challenged on how to maintain and protect their system assets. A proper rate structure is the first step to ensuring that the fund will have the resources available to maintain the integrity of the system.

Stormwater Utility Fund - Implemented January 1, 2016																					
BUDGET YEAR	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Beginning Cash	297,040	576,651	1,179,382	982,245	935,693	512,145	30,521	(511,297)	(1,115,504)	(1,784,377)	(2,520,278)	(3,325,656)	(4,203,052)	(5,155,099)	(6,184,532)	(7,294,184)	(8,486,995)	(9,766,015)	(11,134,408)	(12,595,454)	(14,152,557)
Revenues																					
Stormwater Fee **	1,150,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
Grants	-	170,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operating Transfers - In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Revenue	1,150,000	1,370,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
Expenses																					
Drainage Operating ##	468,150	417,609	430,137	443,041	456,333	470,023	484,123	498,647	513,606	529,015	544,885	561,232	578,069	595,411	613,273	631,671	650,621	670,140	690,244	710,951	732,280
Forestry Operating ##	-	-	175,000	180,250	185,658	191,227	196,964	202,873	208,959	215,228	221,685	228,335	235,185	242,241	249,508	256,993	264,703	272,644	280,824	289,248	297,926
Engineering Operating ##	-	-	42,000	43,260	44,558	45,895	47,271	48,690	50,150	51,655	53,204	54,800	56,444	58,138	59,882	61,678	63,529	65,435	67,398	69,420	71,502
Reserve for Infrastructure	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000
Capital Expenses (25% Funding Rationale) \$\$	402,239	349,660	750,000	580,000	937,000	974,480	1,013,459	1,053,998	1,096,157	1,140,004	1,185,604	1,233,028	1,282,349	1,333,643	1,386,989	1,442,468	1,500,167	1,560,174	1,622,581	1,687,484	1,754,983
Operating Transfers - Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Expenses	1,120,389	1,017,269	1,647,137	1,496,551	1,873,548	1,931,624	1,991,818	2,054,207	2,118,873	2,185,901	2,255,378	2,327,395	2,402,048	2,479,432	2,559,652	2,642,811	2,729,020	2,818,393	2,911,046	3,007,103	3,106,691
Revenues over / (under) Expenses	29,611	352,731	(47,137)	(296,551)	(673,548)	(731,624)	(791,818)	(854,207)	(918,873)	(985,901)	(1,055,378)	(1,127,395)	(1,202,048)	(1,279,432)	(1,359,652)	(1,442,811)	(1,529,020)	(1,618,393)	(1,711,046)	(1,807,103)	(1,906,691)
Operating Reserve	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000
Ending Cash for Capital Investment	576,651	1,179,382	982,245	935,693	512,145	30,521	(511,297)	(1,115,504)	(1,784,377)	(2,520,278)	(3,325,656)	(4,203,052)	(5,155,099)	(6,184,532)	(7,294,184)	(8,486,995)	(9,766,015)	(11,134,408)	(12,595,454)	(14,152,557)	(15,809,249)

** Assumes 0% Increase in fees annually.
 ## Assumes 3% Increase in Operating expenses annually.
 \$\$ Assumes 4% Increase in Capital Expenses annually.

Attachment: 2018 Attachment A (Stormwater Pro-Forma)



Press Release

Allison Fore
Public and Intergovernmental Affairs Officer
312.751.6626
allison.fore@mwrdr.org
100 East Erie Street, Chicago, Illinois 60611

For immediate release
April 26, 2018

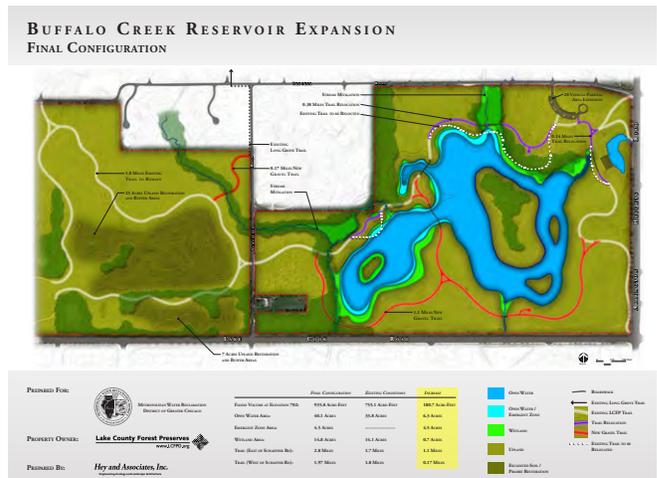
Groundbreaking on Buffalo Creek Reservoir expansion will provide stormwater protection for Buffalo Grove and downstream communities

- WHO:** The Metropolitan Water Reclamation District of Greater Chicago (MWRD), village of Buffalo Grove and Lake County Forest Preserve District (LCFPD)
- WHAT:** Officials will mark the beginning of construction on the Buffalo Creek Reservoir expansion project to alleviate flooding for Buffalo Creek and downstream from the reservoir
- WHERE:** Buffalo Creek Reservoir at the Forest Preserve entrance off Checker Road, just west of North Arlington Heights Road.
- WHEN:** Wednesday, May 2, 2018, 10 a.m.

Officials with the Metropolitan Water Reclamation District of Greater Chicago (MWRD), village of Buffalo Grove, and Lake County Forest Preserve District (LCFPD) and local leaders will formally break ground on a project that will alleviate flooding while improving public recreation spaces at Buffalo Creek Forest Preserve.

The Buffalo Creek project will include public access improvements, enhance the preserve’s natural features and expand the reservoir’s volume to mitigate area flooding. The Buffalo Creek Reservoir will be expanded to store an additional 58.6 million gallons and relieve area flooding; wetlands will be created and restored; more than 1,000 trees and shrubs will be planted; upland prairie will be restored; grade control structures will be constructed; and public access improvements include seven pedestrian boardwalks, parking lot expansion and more than two miles of new and improved trails.

As part of the reservoir expansion, an estimated 107 structures will be removed from the floodplain, while more than 2,000 structures along Buffalo Creek and the main stem of the Des Plaines River will receive some form of flood reduction benefit.



tion benefit. Through a collaborative process with the LCFPD and Buffalo Grove, the project design incorporated LCFPD’s planned improvements while offering increased stormwater protection for Buffalo Grove and surrounding communities. The MWRD will expand the reservoir by excavating over 300,000 cubic yards of material.

Recovering Resources, Transforming Water

Established in 1889, the MWRD (www.mwrdr.org) is an award winning, special purpose government agency responsible for used water treatment and stormwater management in Cook County, Illinois.



**Meeting of the Village of Buffalo Grove
Village Board
Regular Meeting
July 16, 2018 at 7:30 PM**

Fifty Raupp Blvd
Buffalo Grove, IL 60089-2100
Phone: 847-459-2500

1. Call to Order

- A. Pledge of Allegiance

2. Approval of Minutes

- A. Village Board - Regular Meeting - Jun 18, 2018 7:30 PM

3. Approval of Warrant

- A. Approval of Warrant #1291 (Trustee Stein) (Staff Contact: Scott Anderson)

4. Village President's Report

5. Village Manager's Report

- A. Bill Reid Award Recipient Presentation (President Sussman) (Staff Contact: Dane Bragg)
- B. New Firefighter/Paramedic Badge Presentation (Trustee Ottenheimer) (Staff Contact: Mike Baker)

6. Special Business

7. Reports from Trustees

8. Consent Agenda

All items listed on the Consent Agenda, which are available in this room this evening, are considered to be routine by the Village Board and will be enacted by one motion. There will be no separate discussion of these items unless a Board member or citizen so requests, in which event, the item will be removed from the General Order of Business and considered after all other items of business on the Regular Agenda under New Business. (Attached).

- A. O-2018-34 Ordinance Amending Chapter 5.20, Liquor Controls (President Sussman) (Staff Contact: Julie Kamka)
- B. O-2018-35 Ordinance Adding Bodywork Establishment, Chapter 5.45 (Trustee Ottenheimer) (Staff Contact: Steven Casstevens)
- C. Approval of an Agreement with Call One (Trustee Smith) (Staff Contact: Brett Robinson)
- D. Port Clinton Water Main Replacement (Trustee Johnson) (Staff Contact: Darren Monico)

9. Ordinances and Resolutions

- A. O-2018-36 Ordinance Approving Amendments to Chapter 1, Chapter 12 and Chapter 17 of the Buffalo Grove Municipal Code Regarding Small Wireless Facilities (Trustee Ottenheimer) (Staff Contact: Chris Stilling)

- B. O-2018-37 Ordinance Approving an Amendment to the Plaza Verde East PUD with Variations to the Sign Code for the Property at 1205-1349 Dundee Road (Trustee Stein) (Staff Contact: Chris Stilling)

10. Unfinished Business

11. New Business

- A. Buffalo Creek Nature Preserve Stream Bank Stabilization Award of Contract (Trustee Smith) (Staff Contact: Darren Monico)

12. Questions From the Audience

Questions from the audience are limited to items that are not on the regular agenda. In accordance with Section 2.02.070 of the Municipal Code, discussion on questions from the audience will be limited to 10 minutes and should be limited to concerns or comments regarding issues that are relevant to Village business. All members of the public addressing the Village Board shall maintain proper decorum and refrain from making disrespectful remarks or comments relating to individuals. Speakers shall use every attempt to not be repetitive of points that have been made by others. The Village Board may refer any matter of public comment to the Village Manager, Village staff or an appropriate agency for review.

13. Adjournment

The Village Board will make every effort to accommodate all items on the agenda by 10:30 p.m. The Board, does, however, reserve the right to defer consideration of matters to another meeting should the discussion run past 10:30 p.m.

The Village of Buffalo Grove, in compliance with the Americans with Disabilities Act, requests that persons with disabilities, who require certain accommodations to allow them to observe and/or participate in this meeting or have questions about the accessibility of the meeting or facilities, contact the ADA Coordinator at 459-2525 to allow the Village to make reasonable accommodations for those persons.

VILLAGE OF BUFFALO GROVE



MEMORANDUM

DATE: July 9, 2018

TO: Dane Bragg, Village Manager

FROM: Darren Monico, Village Engineer

SUBJECT: Buffalo Creek Nature Preserve Award of Contract

The Village has received an Illinois Environmental Agency 319 Grant for stream bank stabilization within the Buffalo Creek Nature Preserve in the amount of \$170,000. This stabilization project has been designated the highest priority by the Buffalo Creek Clean Watershed Partnership. Village staff has contributed to the local portion of the matching requirements through in-kind services by utilizing forestry crews to remove trees, brush, and vegetation in the Buffalo Creek Nature Preserve adjacent to the creek in preparation for the stream bank stabilization.

The project was designed and five bids were returned on July 9, 2018. The low bid was Copenhaver Construction, Inc. in the amount of \$279,179. The Village would be responsible for \$109,179 of this contract after reimbursement of the grant funds.

The project costs are approximately \$50,000 higher than anticipated and approximately \$30,000 over the budgeted amount. The bidders identified the lack of good site access and the unknowns of working within the creek as the cause of the additional cost. Despite increased cost staff recommends approval of the contract with Copenhaver Construction, Inc. in the not to exceed amount of \$279,179.00. The additional expenditure will likely require a budget amendment that will be presented to the Village Board later in the year.

Tabulation

Bid Opening: July 9, 2018

	Copenhaver Construction, Inc. 75 Koppie Drive Gilberts, IL 60136 copenhaverinc@yahoo.com	ENCAP 2585 Wagner Ct Dekalb, IL 60115 Jkoepeke@encapinc.net	Integrated Lakes Management 110 Le Baron St Waukegan, IL 60085 kgray@ilmenvironments.com	V3 7325 Janes Ave Woodridge, IL 60517 tfoster@v3co.com	Semper FI Land Services, Inc. 1275 Golfview St. Aurora, IL 60506 shawn@semperfi.land		
Bid Bond:	Yes	Yes	Yes	Yes	Yes		
Signed Proposal Form:	Yes	Yes	Yes	Yes	Yes		
Signed Public Contract Statements:	Yes	Yes	Yes	Yes	Yes		
Contract Modifications Requested	No	No	No	No	No		
Signed Addendums 1&2	Yes	Yes	Yes	Yes	No		
Mobilizing and Staging	\$49,000.00	\$8,000.00	\$85,762.50	\$23,000.00	\$40,785.00		
Lump Sum							
Stabilized Construction Entrance	\$3,100.00	\$6,800.00	\$6,205.25	\$7,150.00	\$23,300.00		
Lump Sum							
Stone Toe	\$31,855.00	\$19,390.00	\$37,428.24	\$23,448.05	\$27,700.00		
277 feet	\$115.00	\$70.00	\$135.12	\$84.65	\$100.00		
Vegetated Geolift	\$27,744.00	\$132,940.00	\$75,348.08	\$124,270.00	\$161,840.00		
1156 feet	\$24.00	\$115.00	\$65.18	\$107.50	\$140.00		
Reshape Slope	\$42,000.00	\$140,000.00	\$36,750.00	\$37,100.00	\$65,100.00		
3500 feet	\$12.00	\$40.00	\$10.50	\$10.60	\$18.60		
Root Wads	\$14,000.00	\$10,000.00	\$15,724.00	\$10,600.00	\$12,000.00		
4 each	\$3,500.00	\$2,500.00	\$3,931.00	\$2,650.00	\$3,000.00		
Excavation and Haul off	\$1,500.00	\$7,500.00	\$3,333.50	\$3,725.00	\$2,150.00		
50 Cubic YD	\$30.00	\$150.00	\$66.67	\$74.50	\$43.00		
Erosion Control Blanket NAG S150 BN	\$11,680.00	\$9,490.00	\$2,073.20	\$6,570.00	\$10,220.00		
2920 SQ YD	\$4.00	\$3.25	\$0.71	\$2.25	\$3.50		
Erosion Control Blanket NAG DS 75	\$14,520.00	\$18,150.00	\$5,154.60	\$11,325.60	\$23,595.00		
7260 SQ YD	\$2.00	\$2.50	\$0.71	\$1.56	\$3.25		
Cross Vane	\$9,500.00	\$5,500.00	\$11,807.50	\$5,000.00	\$7,000.00		
1 LS	\$9,500.00	\$5,500.00	\$11,807.50	\$5,000.00	\$7,000.00		
J-Hook	\$17,700.00	\$7,500.00	\$20,692.50	\$8,955.00	\$12,900.00		
3 each	\$5,900.00	\$2,500.00	\$6,897.50	\$2,985.00	\$4,300.00		
10" wattle	\$21,000.00	\$42,000.00	\$20,685.00	\$14,700.00	\$35,000.00		
3500 feet	\$6.00	\$12.00	\$5.91	\$4.20	\$10.00		
Seeding Native Prarie	\$12,480.00	\$3,360.00	\$4,065.28	\$7,832.00	\$8,640.00		
1.6 acre	\$7,800.00	\$2,100.00	\$2,540.80	\$4,895.00	\$5,400.00		
Seeding Native Streambank	\$5,100.00	\$1,590.00	\$1,267.59	\$3,990.00	\$4,320.00		
0.6 acre	\$8,500.00	\$2,650.00	\$2,112.65	\$6,650.00	\$7,200.00		
Restoration	\$18,000.00	\$35,000.00	\$9,065.00	\$6,950.35	\$24,450.00		
Lump Sum							
TOTAL COST	\$279,179.00	\$447,220.00	\$335,362.24	\$294,616.00	\$459,000.00		

Attachment: BIDTAB Buffalo Creek 2018 (Award of Bid Stream Bank Stabilization)



Civil Engineering
 Surveying
 Water Resources Management
 Construction Management
 Landscape Architecture
 Land Planning

MEMO

To: Darren Monico, Village Engineer

From: Marcy Knysz, Manhard Consulting

Date: July 10, 2018

Re: Bid Results: Buffalo Creek Streambank Restoration Project
 (VoBG_2018-19)

Issue: A public request for bids was held for the Buffalo Creek Streambank Restoration Project. The bid opening occurred on July 9, 2018 in accordance with the Project Manual and Bid Documents.

Background: Manhard Consulting prepared plans and specifications and completed the permit submittals necessary to bid and construct the proposed project. The project scope consists of implementing best management practices (BMP's) to reduce non-point source pollution along both sides of Buffalo Creek in Buffalo Grove. Approximately 3,500 linear feet of eroding streambank will be stabilized utilizing: 1) slope regrading; 2) three J-hook riffle structures; 3) one cross vane; 4) stone toe protection and vegetated geogrids; and 5) a twenty (20) foot wide native vegetation buffer along with erosion control matting adjacent to the stream.

Analysis: The results of the three lowest bids were as follows (detailed bid tab attached):

<u>Bidder</u>	<u>Total Bid Amount</u>
Copenhaver Construction, Inc.	\$279,179.00
Semper Fi Land Services, Inc.	\$294,616.00
Integrated Lakes Management	\$335,607.66

The lowest responsible bid was received from Copenhaver Construction, Inc. of Gilberts, Illinois at \$279,179.00. Manhard Consulting staff have worked with Copenhaver in the past and deemed them to be a competent and reputable company.

Recommendation: If the Village Board chooses to proceed with the project, staff recommends awarding the unit price contract to Copenhaver Construction, Inc. for a not-to-exceed amount of \$279,179.00.



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

BRUCE RAUNER, GOVERNOR

LISA BONNETT, DIRECTOR

*L-
Copy to file
original to
Mc-
M.R.*

847/294-4000
847/294-4018 (Fax)

Village of Buffalo Grove

May ²³ 11, 2016

JUN - 1 2016

Village of Buffalo Grove
Mr. Micheal Reynolds
51 Raupp Boulevard
Buffalo Grove, IL 60089-2198

PW Admin

RE: Village of Buffalo Grove
NPDES Number: ILR400303

Dear Mr. Reynolds:

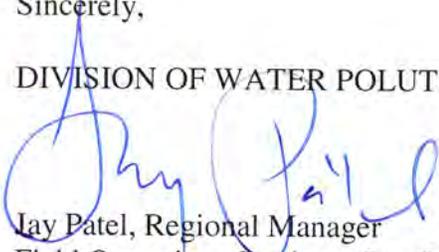
On February 5, 2016, an inspection of Village of Buffalo Grove was conducted by Chris Kallis representing the Illinois Environmental Protection Agency. The purpose of the visit was to review facility operations with regard to applicable state and federal water pollution control laws and regulations.

A copy of the inspection report is enclosed for your information.

Please contact Chris Kallis at 847/294-4000 if you have any questions regarding this inspection.

Sincerely,

DIVISION OF WATER POLLUTION CONTROL


Jay Patel, Regional Manager
Field Operations Section – Des Plaines

JP:CK:dfab:VillageofBuffaloGrove.ltr.5-5-16

Enclosure

bc: Record Unit
Regional File



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

BRUCE RAUNER, GOVERNOR

LISA BONNETT, DIRECTOR

MEMORANDUM

DATE: May 4, 2016

TO: File

FROM: Chris Kallis CK

SUBJECT: Village of Buffalo Grove
NPDES Permit Number ILR400303

Attached is a copy of a Municipal Separate Storm Sewer System Inspection Report for the Village of Buffalo Grove. The inspection was conducted on February 5, 2016. It was found that the Village is in substantial compliance with the MS4 NPDES Permit requirements. It is recommended that the Village review the added requirements of the general storm water NPDES Permit issued since the inspection on February 10, 2016. All permittees must comply with the new provisions by September 2016. The Village has been proactive in their monitoring program which will meet many of the new requirements. The Village has been proactive in their monitoring program which will meet many of the new requirements. However, major additions and improvements to the Storm Water Management Plan including ordinance modifications may be required.

CC: DWPC/FOS/RU
CK



EPA

United States Environmental Protection Agency
Water Compliance Inspection Report

Section A: National Data System Coding (i.e., PCS)

Transaction Code 1|N| 2|5| 3|I|L|R|4|0|0|3|0|3| 11 12|1|6|0|2|0|5| 17 18|>| Inspector 19|S| Fac Type 20|1|
Remarks
21
Inspection Work Days 67|0|0|1| 69 Facility Self-Monitoring Evaluation Rating 70|N| BI 71|N| QA 72|N| 73| | 74 75| | | | | 80

Section B: Facility Data

Name and Location of Facility Inspected (For industrial users discharging to POTW, also include POTW name and NPDES permit number)
Village of Buffalo Grove
51 Raupp Blvd.
Buffalo Grove, Illinois 60089
Entry Time/Date 9:00a.m.-Feb 5
Permit Effective Date
Exit Time/Date 3:00p.m.- Feb 5
Permit Expiration Date
Name(s) of On-Site Representative(s)/Title(s)/ Phone and Fax Number(s)
Micheal Reynolds- Director of Public Works
Darin Monico- Village Engineer
Other Facility Data
Name, Address of Responsible Official/Title/Phone and Fax Number
Micheal Reynolds- 847/459-2547
Contacted
[X] Yes [] No

Section C: Areas Evaluated During Inspection (Check only those areas evaluated)

Permit
Records/Reports
Facility Site Review
Effluent/Receiving Waters
Flow Measurement
Self-Monitoring Program
Compliance Schedules
Laboratory
Operation & Maintenance
Sludge Handling/Disposal
Pretreatment
Pollution Prevention
Storm Water
Combined Sewer Overflow
Sanitary Sewer Overflow
MS4
[X]

Section D: Summary of Findings/Comments

(Attach additional sheets of narrative and checklists, including Single Event Violation Codes, as necessary)

SEV Codes
SEV Description

Name(s) and Signature(s) of Inspector(s)
Agency/Office/Phone and Fax Numbers
Date
Signature of Management/QA Reviewer
Agency/Office/Phone and Fax Numbers
Date

cc:



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

BRUCE RAUNER, GOVERNOR

LISA BONNETT, DIRECTOR

FIELD REPORT

Facility Name: Village of Buffalo Grove

NPDES Permit No: ILR400303

Inspection Date: February 5, 2016

Inspected By: Chris Kallis

Interviewed: Michael Reynolds
Director of Public Works

Darren Monico
Village Engineer

Travis Perry
Christopher Burke Engineering

GENERAL INFORMATION

This Village is located in both Lake and Cook Counties. At last census, the population was 41,500. With an area of 9.53 square miles (3% of which is water), the population density is approximately 4,368 per square mile. The tributaries are divided into four sub-basins of the Des Plaines River watershed. These are Aptakistic Creek, Kildeer Creek, Indian Creek and Buffalo Creek.

PROGRAM MANAGEMENT

The Village does have a completed Stormwater Management Plan with milestones. The coordination of the plan included Public Works, the Village Enjoiner and stakeholders. The plan includes specific milestones and quantities for each program Best Management Practice (BMP). Two of the sub-basins are listed as impaired on the Illinois 303d list. Contaminants of concern listed in the SWMP are Fecal Coliform, Chloride, Ammonia Nitrogen and Dissolved Oxygen. Monitoring is a significant part of the program. Evaluating success of the program is determined by reviewing monitoring results.

PUBLIC EDUCATION AND PARTICIPATION

The Villages newsletter is used for decimating public outreach concerning water pollution. The website is also used. However, information is most easily accrued by using the search tool. The SWMP and annual report are on the site. Several pollution prevention related brochures were available in the reception area. The Village in the past year was actively involved in the Buffalo Creek Clean Water Partnership, the Buffalo Grove Environmental Action Team and the Center for Watershed Protection.

ILLICIT DISCHARGE DETECTION AND ELIMINATION

The Village has completed a concise storm sewer map which includes catch basins, outfalls, ditches and receiving streams. This includes areas the areas where streams enter an exit the Village. Inspections are documented and maps are used to track illicit discharges. The Village Ordinance addresses illicit discharges under chapter 13 (waterworks and sewage system) which indicates when sanitary sewers are required. The statute covers prohibited disposal and unlawful discharges. Sanitary sewer overflow prevention is addressed by inflow and infiltration smoke testing. Training of staff includes a power point covering all Ms4 compliance requirements including inspecting outfalls for illicit discharges. In addition, a Spill Prevention and Control Plan were developed by Stantec for the Village. The Village includes industrial parks. A review of the data base shows that there are no industries covered under the NPDES Permit for Storm Water Associated with Industrial Activity. There are several industries within the Village limits which have the applicable sic codes. However, they neither have NPDES coverage or a No Exposure Cortication. A site inspection was made of the receiving streams entering and leaving the Village. No major problems were noted.

CONSTRUCTION ACTIVITIES AND POST-CONSTRUCTION CONTROLS

The Village has its own Soil Erosion and Sediment Control Ordinance. It does include a plan review and permit requirement as a control mechanism with legal authority to enforce. The Village Engineer reviews and approves all plans and specifications. There are inspection procures with two DECI's on staff. A review of inspections showed that permit requirements are being met. The ordinance and plan review is also used to insure post construction BMPs. More than 90% of the ponds in the Village are owned and operated byte Village. The remaining 10% are owned by the developer or the Homeowners Association. New ordinance is being developed for private pond operation and maintenance requirements.

POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

The SWMP does include an operation and maintenance program that addresses the main NPDES requirements. The staff training includes building grounds, parking /storage area maintenance, landscape maintenance, waste handling and disposal outdoor activities such as container storage and process equipment. It also includes vehicular activities such as fueling, washing, maintenance and repair. Routine catch basin cleaning and storm sewer maintenance is ongoing and adequate records are kept. Salt application is controlled and beet juice is used to minimize chloride concentrations in runoff. Catch basin inspection and cleaning as well as storm sewer maintenance is a continuing activity and documented adequately. An inspection of the maintenance yard showed it to be clean and well maintained.

MONITORING, RECORDKEEPING AND REPORTING

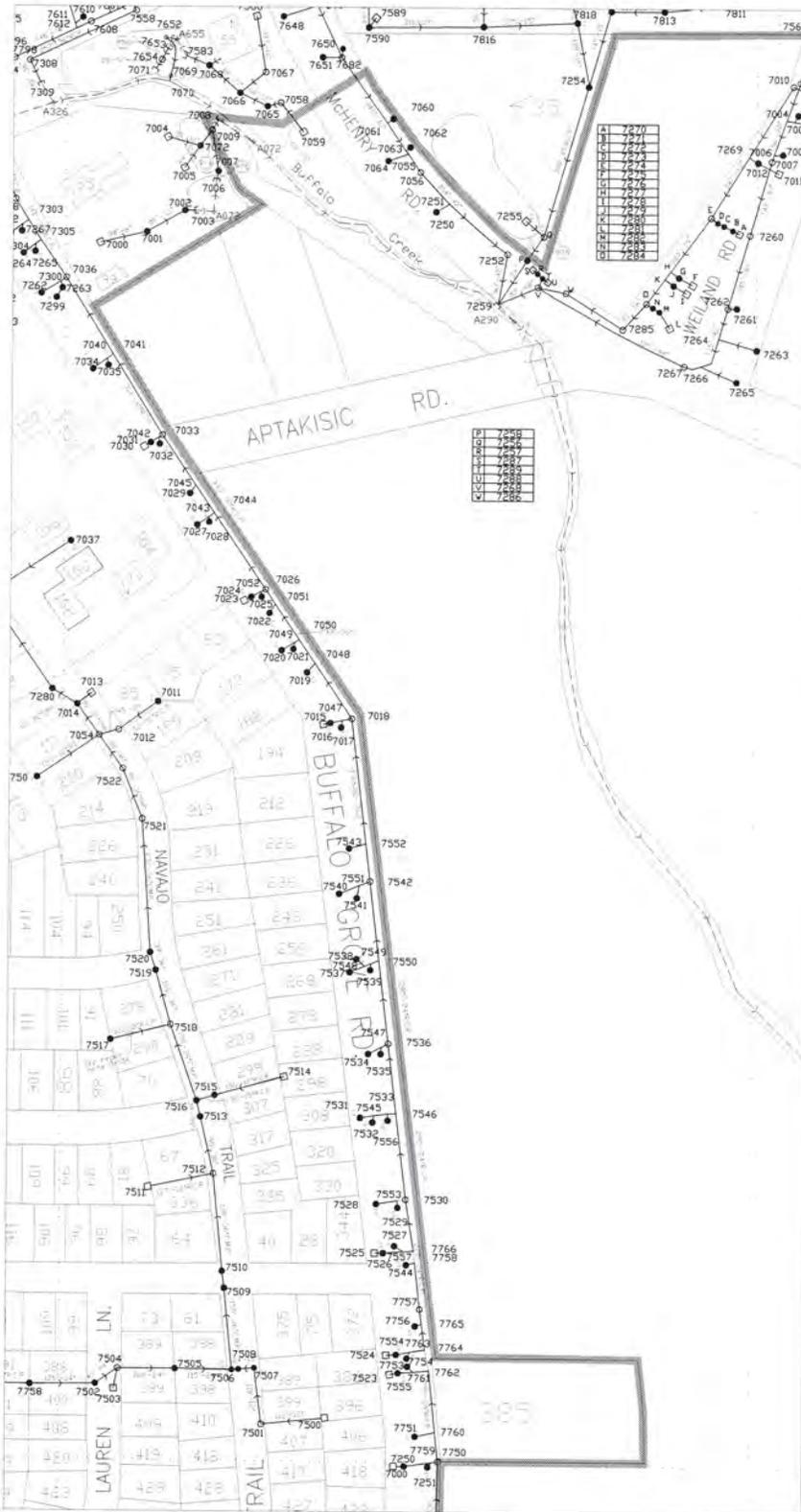
Records confirm that the Annual Facility Inspection Reports have been submitted in accordance with the NPDES Permit. The most recent report reviewed was dated March 2015 and signed by Michael Reynolds. At the time of the inspection, the sections covering the six control measures appeared to be meeting the NPDES requirements. The reports do include qualitative sampling in the for contaminants of concern in the receiving stream.

SUMMARY OF FINDINGS

It was found that the Village is in substantial compliance with the MS4 NPDES Permit requirements. It is recommended that the Village review the added requirements of the general storm water NPDES Permit issued since the inspection on February 10, 2016. All permittees must comply with the new provisions by September 2016. The Village has been proactive in their monitoring program which will meet many of the new requirements. However, major additions and improvements to the Storm Water Management Plan including ordinance modifications may be required.

Attached to this report are storm sewer maps with receiving streams entering and exiting the Village, storm sewer maintenance and repair documentation, list of no exposure certifications, 2015-2016 construction projects, community briefs and herbicide control documentation.

E 1/2 of the NW 1/4 of SEC 4
 TOWNSHIP 42 N RANGE 11 E OF THE 3RD PM
 Wheeling Township - Cook County IL



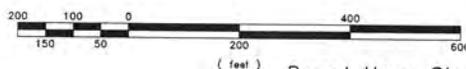
D-13 DETAILS

STORM SEWER RESTRICTOR DETAILS

- RS6 - 11 1/2" dia and 3/25" dia orifices
- orifices in steel plates; steel plates are bolted to flanges of 8" D.I.F. outlet pipe; Balf. Or. America
- RT4 - 2L.F. of 4" pipe mortared inside of 8" outlet pipe; Mazon's Pipe
- RT5 - 2L.F. of 3" pipe mortared inside of 15" outlet pipe; Mazon's Pipe
- RT6 - 2L.F. of 4" pipe mortared inside of 10" outlet pipe; Ambulatory Care Center

STORM SEWER REPAIR NOTE

D-13A; Reinst. repair of 12" PVC installed in 2004



Storm Atlas
 (with I.D. numbers)

Last Revised: 07/24/12 By: KJH

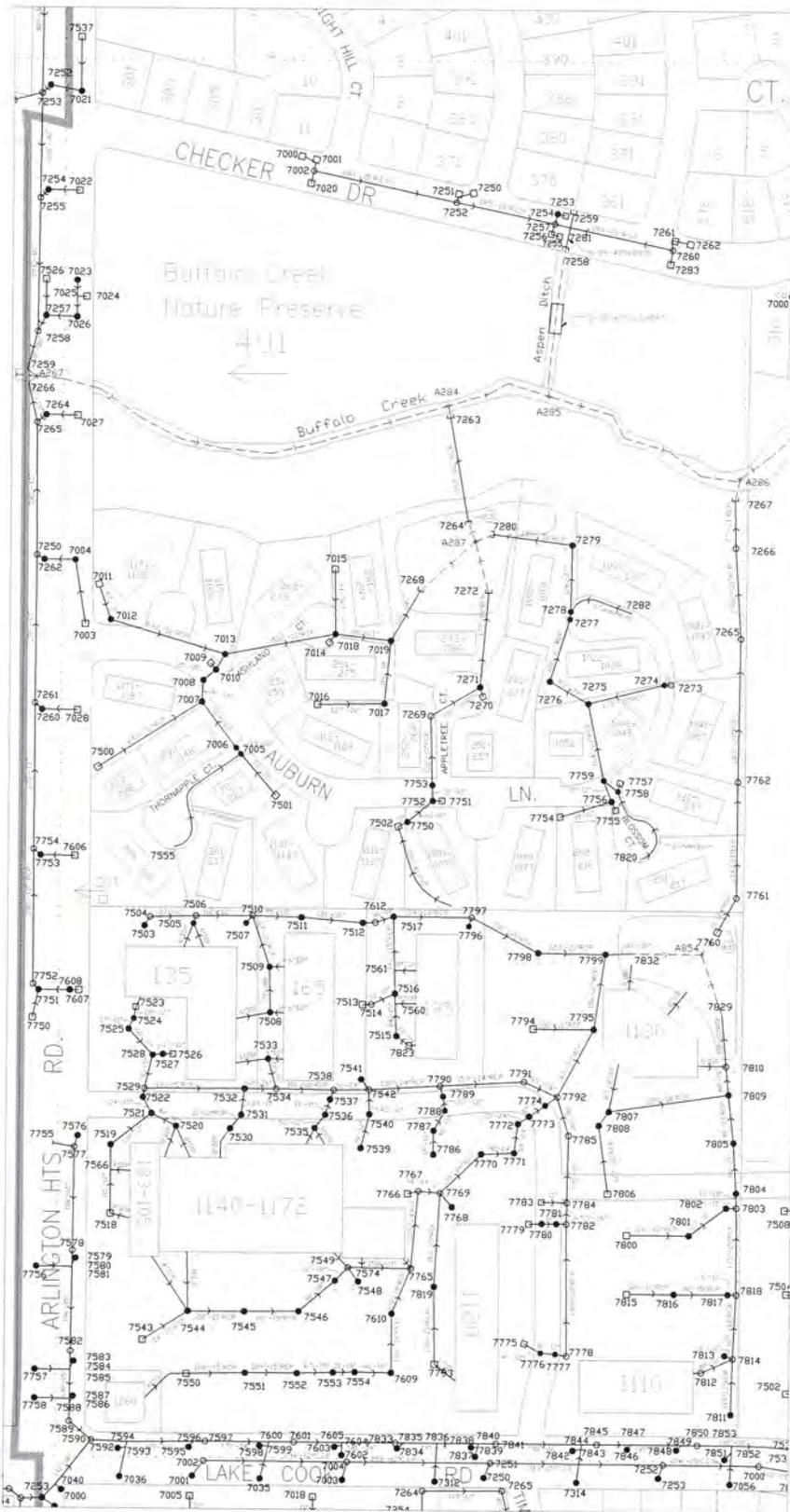
D-13

Based Upon Storm and Light Sheet Last Revised: 02/15/12 By: MAB

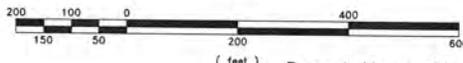
W 1/2 of the SW 1/4 of SEC 32
 TOWNSHIP 43 N RANGE 11 E OF THE 3RD PM
 Vernon Township - Lake County, IL



E-8 DETAILS



STORM SEWER RESTRICTIONS
 120" = 12" x 12" concrete pipe
 150" = 15" x 15" concrete pipe
 180" = 18" x 18" concrete pipe
 24" = 24" x 24" concrete pipe
 30" = 30" x 30" concrete pipe
 36" = 36" x 36" concrete pipe
 42" = 42" x 42" concrete pipe
 48" = 48" x 48" concrete pipe
 54" = 54" x 54" concrete pipe
 60" = 60" x 60" concrete pipe
 66" = 66" x 66" concrete pipe
 72" = 72" x 72" concrete pipe
 78" = 78" x 78" concrete pipe
 84" = 84" x 84" concrete pipe
 90" = 90" x 90" concrete pipe
 96" = 96" x 96" concrete pipe
 102" = 102" x 102" concrete pipe
 108" = 108" x 108" concrete pipe
 114" = 114" x 114" concrete pipe
 120" = 120" x 120" concrete pipe
 126" = 126" x 126" concrete pipe
 132" = 132" x 132" concrete pipe
 138" = 138" x 138" concrete pipe
 144" = 144" x 144" concrete pipe
 150" = 150" x 150" concrete pipe
 156" = 156" x 156" concrete pipe
 162" = 162" x 162" concrete pipe
 168" = 168" x 168" concrete pipe
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 186" = 186" x 186" concrete pipe
 192" = 192" x 192" concrete pipe
 198" = 198" x 198" concrete pipe
 204" = 204" x 204" concrete pipe
 210" = 210" x 210" concrete pipe
 216" = 216" x 216" concrete pipe
 222" = 222" x 222" concrete pipe
 228" = 228" x 228" concrete pipe
 234" = 234" x 234" concrete pipe
 240" = 240" x 240" concrete pipe
 246" = 246" x 246" concrete pipe
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 276" = 276" x 276" concrete pipe
 282" = 282" x 282" concrete pipe
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 660" = 660" x 660" concrete pipe
 666" = 666" x 666" concrete pipe
 672" = 672" x 672" concrete pipe
 678" = 678" x 678" concrete pipe
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 690" = 690" x 690" concrete pipe
 696" = 696" x 696" concrete pipe
 702" = 702" x 702" concrete pipe
 708" = 708" x 708" concrete pipe
 714" = 714" x 714" concrete pipe
 720" = 720" x 720" concrete pipe
 726" = 726" x 726" concrete pipe
 732" = 732" x 732" concrete pipe
 738" = 738" x 738" concrete pipe
 744" = 744" x 744" concrete pipe
 750" = 750" x 750" concrete pipe
 756" = 756" x 756" concrete pipe
 762" = 762" x 762" concrete pipe
 768" = 768" x 768" concrete pipe
 774" = 774" x 774" concrete pipe
 780" = 780" x 780" concrete pipe
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 804" = 804" x 804" concrete pipe
 810" = 810" x 810" concrete pipe
 816" = 816" x 816" concrete pipe
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 828" = 828" x 828" concrete pipe
 834" = 834" x 834" concrete pipe
 840" = 840" x 840" concrete pipe
 846" = 846" x 846" concrete pipe
 852" = 852" x 852" concrete pipe
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 864" = 864" x 864" concrete pipe
 870" = 870" x 870" concrete pipe
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 882" = 882" x 882" concrete pipe
 888" = 888" x 888" concrete pipe
 894" = 894" x 894" concrete pipe
 900" = 900" x 900" concrete pipe
 906" = 906" x 906" concrete pipe
 912" = 912" x 912" concrete pipe
 918" = 918" x 918" concrete pipe
 924" = 924" x 924" concrete pipe
 930" = 930" x 930" concrete pipe
 936" = 936" x 936" concrete pipe
 942" = 942" x 942" concrete pipe
 948" = 948" x 948" concrete pipe
 954" = 954" x 954" concrete pipe
 960" = 960" x 960" concrete pipe
 966" = 966" x 966" concrete pipe
 972" = 972" x 972" concrete pipe
 978" = 978" x 978" concrete pipe
 984" = 984" x 984" concrete pipe
 990" = 990" x 990" concrete pipe
 996" = 996" x 996" concrete pipe
 1000" = 1000" x 1000" concrete pipe



Storm Atlas
 (with I.D. numbers)
 Last Revised: 07/24/12 By: KJH

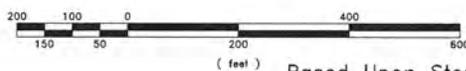
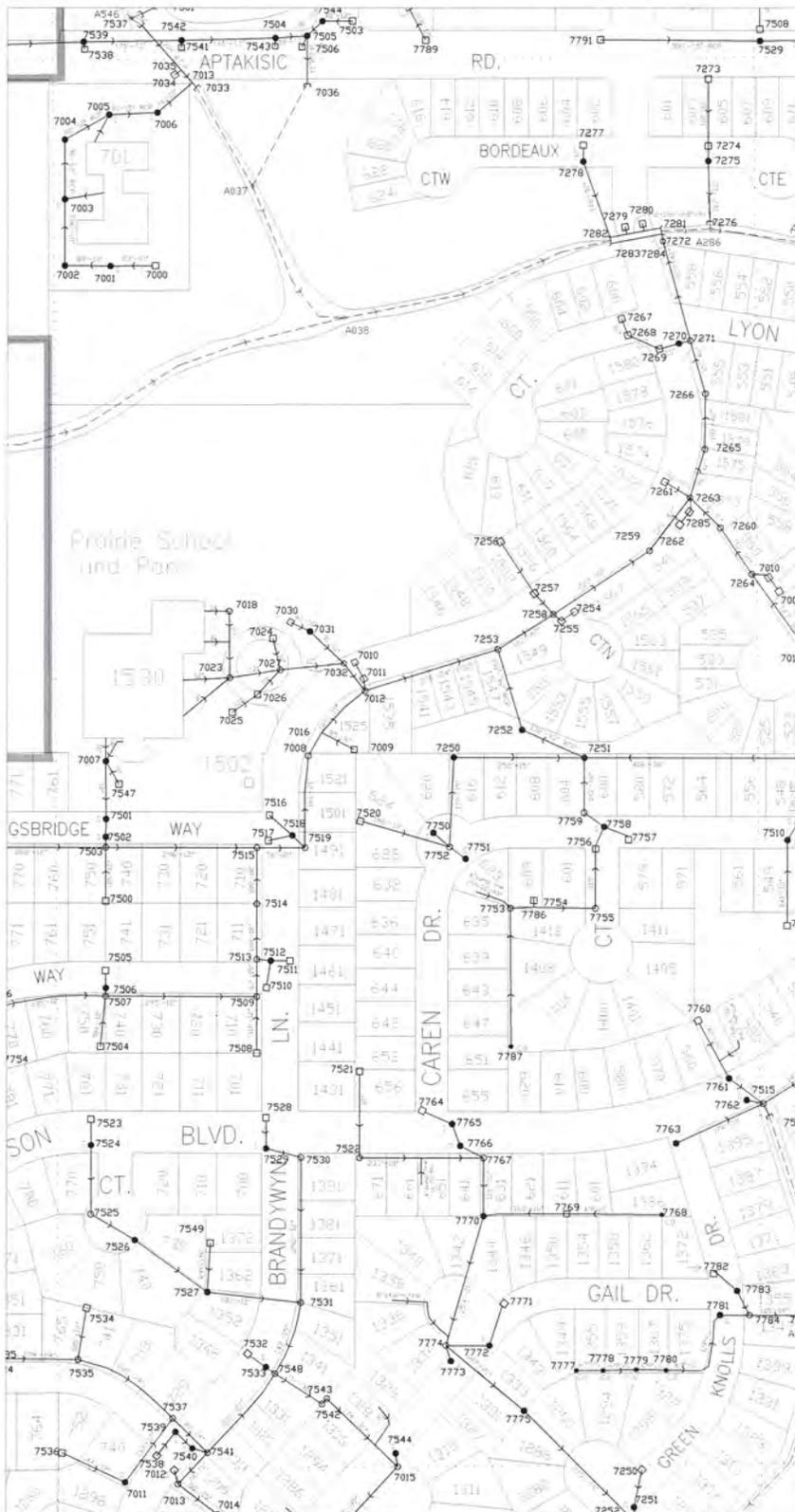
E-8

Based Upon Storm and Light Sheet Last Revised: 02/15/12 By: MAB

W 1/2 of the NE 1/4 of SEC 29
 TOWNSHIP 43 N RANGE 11 E OF THE 3RD PM
 Vernon Township – Lake County, IL



H-10 DETAILS



Storm Atlas
 (with I.D. numbers)
 Last Revised: 07/24/12 By: KJH

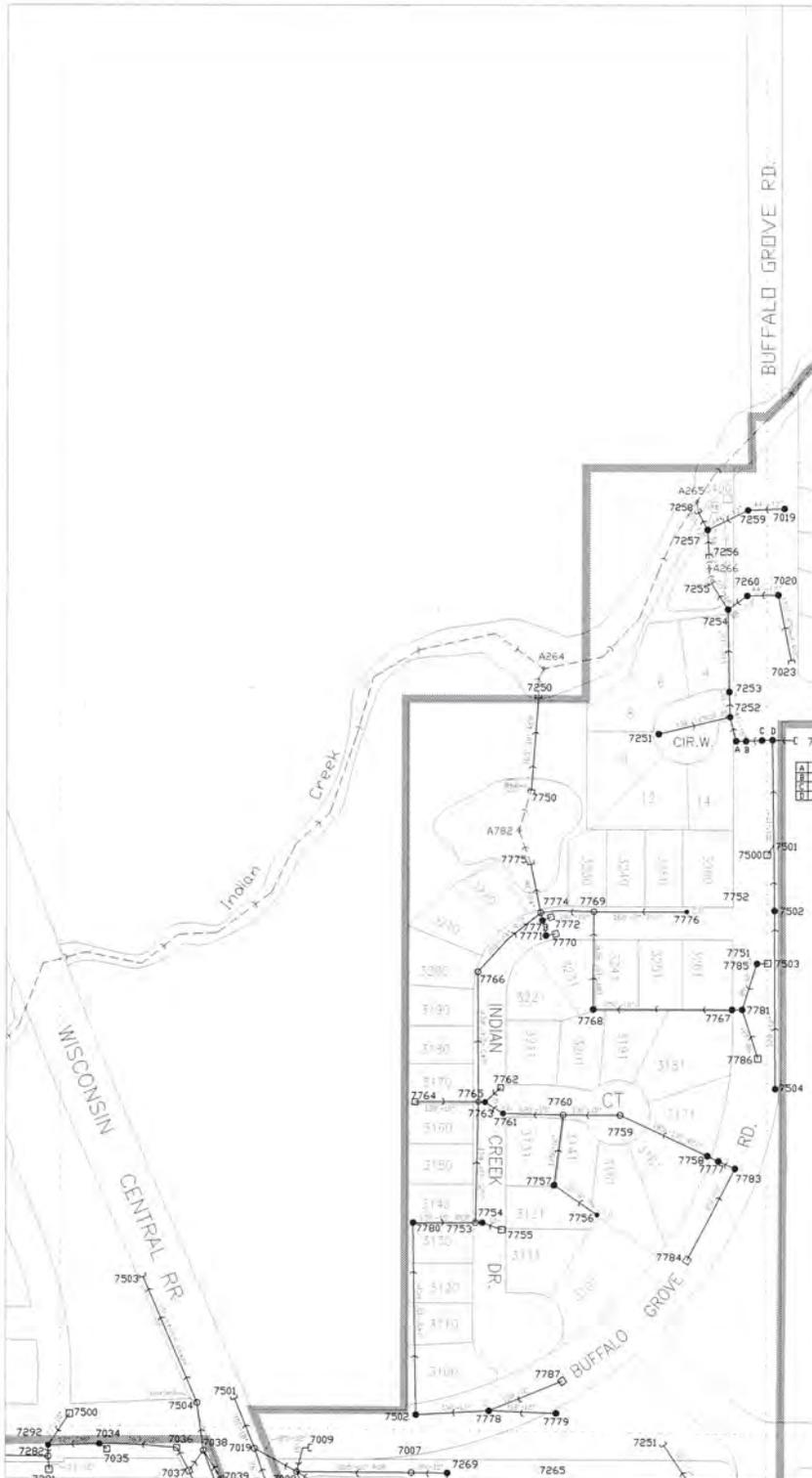
H-10

Based Upon Storm and Light Sheet Last Revised: 02/15/12 By: MAB

E 1/2 of the NW 1/4 of SEC 16
 TOWNSHIP 43 N RANGE 11 E OF THE 3RD PM
 Vernon Township – Lake County, IL



L-13 DETAILS

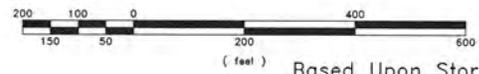


30"MM SEWER RESPIRATOR DETAILS:
 RB — 24" dia. 4" PVC hooded inlet
 of 12" RCP outlet pipe, River Falls
 RA — 4" dia. PVC pipe manhole inside of
 10" outlet pipe, Indian Creek Subdivision

Storm Atlas
 (with I.D. numbers)

Last Revised: 07/24/12 By: KJH

L-13

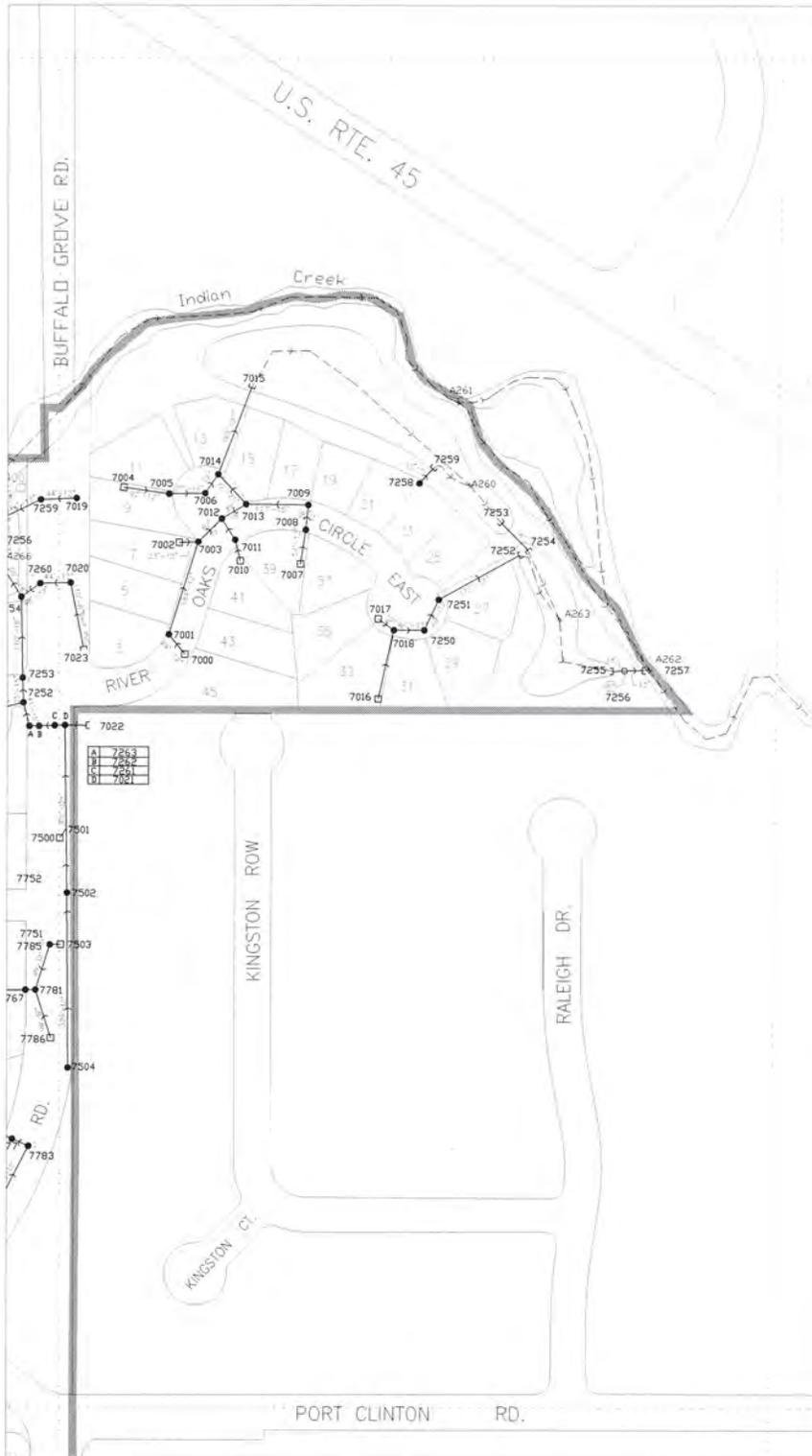


Based Upon Storm and Light Sheet Last Revised: 02/15/12 By: MAB

W 1/2 of the NE 1/4 of SEC 16
 TOWNSHIP 43 N RANGE 11 E OF THE 3RD PM
 Vernon Township - Lake County, IL



L-14 DETAILS



Storm Atlas
 (with I.D. numbers)
 Last Revised: 07/24/12 By: KJH

L-14

Sewer*Mailed***Location of Work:** 960 BUFFALO GROVE RD**Department:** PWOps-Water & Sewer**Contact:** Nino's
960 BUFFALO GROVE RD
Buffalo Grove, IL 60089 Email when Completed**Assigned To:** Benjamin M Kruse**Date Submitted:** 05/06/2015**Date Assigned:** 05/06/2015**Date Completed:** 05/06/2015**Sewer Type:** Sanitary Sewer Storm Sewer**Work Requested**

The sewer out front is draining slowly; please check for clog.

Action Taken

cleared restrictor, water went down

Attached Files:

Sewer*Mailed*

Location of Work:	1679 JOSEPH CT	
Department:	PWOps-Street	
Contact:	DAVID SMOLLER 1679 JOSEPH CT Buffalo Grove, IL 60089	(847) 520-8080
<input type="checkbox"/> Email when Completed		
Assigned To:	Mike Marquardt	
Date Submitted:	03/10/2015	
Date Assigned:	03/10/2015	
Date Completed:	05/22/2015	

Sewer Type: Sanitary Sewer Storm Sewer**Work Requested**

Sewer in front of driveway is sinking; black top around it is cracking; resident is concerned that it will fall in. Please check. Per Scott, please check sewer and repair as needed, then make new work order to repair road.

Action Taken

Checked Inlet H14-7058. Structure inside grate looks solid. Curb to the left facing inlet has dropped about 3 inches. Asphalt is cracked in front of inlet. Structure is good. Storm line runs south, not by the apron.

Attached Files:

Sewer
Mailed

Location of Work:	4 BRUCEWOOD CT	
Department:	PWOps-Water & Sewer	
Contact:	Jan Tupy 4 BRUCEWOOD CT Buffalo Grove, IL 60089	(847) 899-7523
<input type="checkbox"/> Email when Completed		
Assigned To:	Mike Marquardt	
Date Submitted:	05/20/2015	
Date Assigned:	05/20/2015	
Date Completed:	05/29/2015	

Sewer Type: Sanitary Sewer Storm Sewer

Work Requested

Please check the sewer drain in the far east corner of the backyard. Resident questions if there is a problem with the sewer since it is very dry. Please call resident.

Action Taken

Checked Inlet D12-7283. Inlet is clear and wet, not holding water, but is damp. Left message for homeowner what I found. 5/20/2015.

Attached Files:

Sewer
Mailed

Location of Work: 515 BUCKTHORN TER

Department: PWOps-Admin

Contact: M Holm (847) 537-9297
515 BUCKTHORN TER
Buffalo Grove, IL 60089

Email when Completed

Assigned To: Steve Fritz

Date Submitted: 06/15/2015

Date Assigned: 06/15/2015

Date Completed: 06/15/2015

Sewer Type: Sanitary Sewer Storm Sewer

Work Requested

Drain in the neighbor's yard is blocked. Drain is about 20 ft. from the sidewalk. Mr. Holm said that about 10 homes all drain to this sewer.

Action Taken

Cleared Inlet E15-7264. Drained.

Attached Files:

Sewer*Mailed*

Location of Work:	Marvins Way spillway
Department:	PWOps-Admin
Contact:	Steve Fritz
	Buffalo Grove, IL 60089

 Email when Completed

Assigned To:	Steve Fritz Matt Berkowitz
---------------------	-------------------------------

Date Submitted:	06/12/2015
------------------------	------------

Date Assigned:	06/12/2015
-----------------------	------------

Date Completed:	06/12/2015
------------------------	------------

Sewer Type:	<input type="radio"/> Sanitary Sewer <input checked="" type="radio"/> Storm Sewer
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Work Requested

Remove beaver dam/clear pipe

Action Taken

Removed beaver dam from spillway, two other locations, and cleared pipe. Also walked creek to Deerfield removing debris.

Attached Files:

Sewer
Mailed

Location of Work:	Marvins Way Spillway
Department:	PWOps-Water & Sewer
Contact:	Steve Fritz Buffalo Grove, IL 60089
<input type="checkbox"/> Email when Completed	
Assigned To:	Steve Fritz
Date Submitted:	06/12/2015
Date Assigned:	06/12/2015
Date Completed:	06/12/2015

Sewer Type: Sanitary Sewer Storm Sewer

Work Requested
Remove beaver dam and clear inlet.

Action Taken
Removed beaver dam from spillway;
unclogged pipe.

Attached Files:

Storm Sewer Maintenance Activities														
Date	Activity	Sheet Number and Line Segment Number	From Man Hole Number	To Man Hole Number	Length of Line Segment (feet)	Crew Leader	Equipment Used	Water Usage (gals)	basin diameter	top of ring to invert depth (inches) outflow pipe	top of ring to basin floor (inches)	top of ring to debris height (inches)	structure type (pre-cast,block,ect)	inspection and condition coments
8/6/2015	Sump pump connection	B13-8518			13'	JR	Fel2,453,436						4"sdr26	Cord a 4" hole in 12"RCP Installed 1 stick of 4"sdr26 & saddle for sump pump. 127 University Dr.
8/12/2015	Sump pump connection	D08-8306			20'	JR	Fel2,453,436						4"sdr26	Cord a 4" hole in 15"RCP Installed 1.5 sticks of 4"sdr26 & saddle for sump pump. 951 Country Ln.
8/13/2015	Inlet Repair	B10-7524				AP	Th1,456,453, E06						Block	Rebuilt inlet. 1 bag mortar,2 bags concrete,2cblock,2brick,4"3"2" rings. 1248 Milcreek Dr.

Storm Sewer Maintenance Activities														
Date	Activity	Sheet Number and Line Segment Number	From Man Hole Number	To Man Hole Number	Length of Line Segment (feet)	Crew Leader	Equipment Used	Water Usage (gals)	basin diameter	top of ring to invert depth (inches) outflow pipe	top of ring to basin floor (inches)	top of ring to debris height (inches)	structure type (pre-cast,block,etc)	inspection and condition comments
7/1/2015	Sump pump connection	F09-7760			26'	JR	Th1,tr29,453 .456				3'		4" sdr26	Cord in MH F09-7760 connected to home owners 4" pipe for sump pump 760 Twisted Oak Ln.
7/2/2015	Catch Basin Repair	H10-7781				Ap	Th1,456,453 .435						Pre-cast	Rebuilt structure, bricks,mortar.concrete, and C-block. 1375 Gail Dr.
7/8/2015	Storm Sewer Pipe Replacement	F12-8774		F12-7774	3'	JR	Th1,456,453 .435						8" sdr26	Replaced 3" of sagging pipe that was an old repair by contractor. Televising 2012 report. 170 Toulon Dr.
7/9/2015	Catch Basin Repair	G10-8250		G10-7250		AP	Fel2,453,436						Pre-cast	Rebuilt structure around pipe. 1298 Green Knolls Dr.

Sewer*Mailed*

Location of Work:	East pond at Tenerife	
Department:	PWOps-Water & Sewer	
Contact:	Susan M Slupik Public Works Administration, Public Works Center Buffalo Grove, IL 60089	(847) 459-2587
<input type="checkbox"/> Email when Completed		
Assigned To:	Jeffrey L Rogers	
Date Submitted:	04/15/2015	
Date Assigned:	04/17/2015	
Date Completed:	04/17/2015	

Sewer Type: Sanitary Sewer Storm Sewer**Work Requested**

Two residents have reported that the water in the east pond has not gone down yet after the rain. Please check.

Action Taken

Cleared sea weed from restricter plate. Pound is draining.

Attached Files:

f_name	f_street	sic
PLEXUS CORPORATION BIL	2400 MILLBROOK ST	3679
VAPOR BUS INTERNATIONAL	1010 JOHNSON DR	3499
BAXTER GLOBAL TECHNICAL SERV	900 CORPORATE GROVE DR	3841
✓ ASSEMBLED PRODUCTS	300 HASTINGS DR	3469
FISHER CONTAINER CORP	1111 BUSCH PARKWAY	2673

ILR10W798	2016 Street Improvement Project - Phase 2	Buffalo Grove	Golfview Terrace, Park View Terrace, Covington Terrace, Brentwood Circle, Plum Grove Circle	Village of Buffalo Grove	847-459-2547	LAKE	04-19-2016	More Info.	
ILR10W487	RIDGELINE	BUFFALO GROVE	850 ASBURY DR	RIDGELINE PROPERTY GROUP LLC	630-561-6600	COOK	02-24-2016	More Info.	
ILR10W363	LAND & LAKES DEVELOPMENT	BUFFALO GROVE	21488 N MILWAUKEE AVE	PRAIRIE RECREATIONAL DEVELOPMENTS INC	847-825-5000	LAKE	02-04-2016	More Info.	View Files
ILR10W278	Willow Grove Elementary School Site Improvements	Buffalo Grove	777 Checker Drive	Kildeer School District #96	847-459-4260	LAKE	01-22-2016	More Info.	View Files
ILR10V832	23020 N EASTON AVE	BUFFALO GROVE	23020 N EASTON AVE	WEEKLEY HOMES LLC	847-241-4308	LAKE	09-03-2015	More Info.	View Files
ILR10U987	BUILDING	BUFFALO GROVE	1050 JOHNSON DR	HAMILTON PARTNERS	630-250-9700	LAKE	04-06-2015	More Info.	View Files
ILR10U677	Site Improvements - Twin Grove Middle School	Buffalo Grove	2600 N. Buffalo Grove Road	Buffalo Grove Park District	847-850-2122	LAKE	02-24-2015	More Info.	View Files
ILR10U501	Des Plaines River WRF Phases 2B & 3	Buffalo Grove	800 Krause Drive	Lake County Department of Public Works	847-377-7140	LAKE	01-14-2015	More Info.	View Files
ILR									

Pollution Prevention and Good Housekeeping

Municipal Activity	Potential Pollutants								
	Sediment	Nutrients	Trash	Metals	Bacteria	Oil & Grease	Organics	Pesticides	Oxygen Demanding Substances
Building and Grounds Maintenance and Repair	X	X	X	X	X	X	X	X	X
Parking/Storage Area Maintenance	X	X	X	X	X	X	X		X
Waste Handling and Disposal	X	X	X	X	X	X	X	X	X
Vehicle and Equipment Fueling			X	X		X	X		
Vehicle and Equipment Maintenance and Repair				X		X	X		
Vehicle and Equipment Washing and Steam Cleaning	X	X	X	X		X	X		
Outdoor Loading and Unloading of Materials	X	X	X	X		X	X	X	X
Outdoor Container Storage of Liquids		X		X		X	X	X	X
Outdoor Storage of Raw Materials	X	X	X			X	X	X	X
Outdoor Process Equipment	X		X	X		X	X		
Overwater Activities			X	X	X	X	X	X	X
Landscape Maintenance	X	X	X		X			X	X

Community Briefs

Automated Water Meters Coming to Buffalo Grove

The Village of Buffalo Grove is embarking on a program that will replace about 11,916 water meters with new automated meters. The new meters will replace older, out of date units with new technology that will identify high water usage and potential leaks. The new meters will result in smarter water use for customers.

The meters automatically transmit data wirelessly and eliminate the need to manually read each meter. This allows the Village to be more efficient and save money by preventing recording errors, eliminating time consuming manual meter reading and wear and tear on Village vehicles.

Every water customer will receive a new water meter at no additional cost. It will take about one year to replace all of the meters in the Village. The Village has contracted Siemens to perform this meter upgrade. The subcontracted installer will need to access your home to replace the meter. Siemens will work with you to arrange a convenient appointment time to complete this task.

Stay tuned for more information regarding the water meter upgrade.

Help Preserve Buffalo Grove's Water Environment

In accordance with State and Federal storm sewer regulations, residents are encouraged to report the unlawful dumping of chemicals, paints, solvents or any other pollutants in inlets, creeks or streets. Questions about pollution reports, stormwater quality concerns or any other related issues should be directed to the Public Works Department at (847) 459-2545. More information regarding stormwater management can be found on the Village's web site at vbg.org and connecting to the Public Works link or by visiting <http://www.lakecountyl.gov/Stormwater/Pages/default.aspx>.



**VILLAGE OF
BUFFALO GROVE**



Department of Public Works

Fifty One Raupp Blvd.
Buffalo Grove, IL 60089-2198
Fax 847-537-5845

Michael J. Reynolds

Director of Public Works
Phone 847-459-2547
mreynolds@vbg.org

November 7, 2014

Illinois Department of Agriculture
State Fairgrounds
P.O. Box 19281
Springfield, IL 62794-9281
ATTN: Mr. Warren D. Goetsch
Chief, Bureau of Environmental Programs

Dear Mr. Goetsch:

In accordance with the Lawn Care Products Application and Notice Act (415 ICLS 65/1 et Seq.), please see the attached agreement with the Buffalo Grove Golf Course and the Arboretum Golf Club with respect to our department's use of their facilities as it relates to Section 5 of the Act.

If you have any questions, please feel free to contact me.

Sincerely,

Enclosures

c: Mike Skibbe, Deputy Director of Public Works
Hans Marx, Forestry & Grounds Manager

*An Internationally Accredited
Public Works Agency
Since 2004*





The Arboretum Club

November 5, 2014

Illinois Department of Agriculture
State Fairgrounds
P.O. Box 19281
Springfield, IL 62794-9281
ATTN: Mr. Warren D. Goetsch
Chief, Bureau of Environmental Programs

Dear Mr. Goetsch:

In accordance with the Lawn Care Products Application and Notice Act (415 ICLS 65/1 et Seq.), this letter serves as evidence our agreement with the Village of Buffalo Grove Public Works Department for the use of the Golf Course Facilities listed below for the purposes of complying with section 5 of the Act.

Buffalo Grove Golf Course
454 Checker Rd.
Buffalo Grove, IL 60089
Facility ID: LC0970087000
Permit No.: LC02071120

Arboretum Golf Course
451 Half Day Rd.
Buffalo Grove, IL 60089
Facility ID: LC0970062000
Permit No.: LC02041079

This agreement shall be in effect from January 1, 2015 to December 31, 2015.

If you have any questions, please feel free to contact me.

Sincerely,

Geoff Tollefson
Head Professional
Buffalo Grove Golf Club
Arboretum Golf Club

AGENDA

- 7:30 – 8:00 AM **CHECK IN & BREAKFAST**
Breakfast sponsored by Applied Ecological Services (AES)
- 8:00 – 8:05 AM **INTRODUCTION**
Michael Talbett, Chief Village Officer, Village of Kildeer, and Maggie Soliz, AES
- 8:05 - 8:40 AM **NATURAL AREA MAINTENANCE - MS4 PERMIT REQUIREMENTS**
Jodi McCarthy and Caitlin Burke, GHA-Engineering
- 8:40 – 9:15 AM **IMPLEMENTING & FINANCING A NATURAL AREA MAINTENANCE PLAN**
Michele Zimmerman, Algonquin
- 9:15 – 9:50 AM **SPECIFICS OF A MAINTENANCE PLAN**
Jay Womack, Huff & Huff
- 9:50 – 10:05 AM **BREAK**
- 10:05 – 10:40 AM **NATURAL AREAS ASSURANCE PROGRAM (NAAP)** 
Dan Lobbes, The Conservation Foundation
- 10:40 – 11:15 AM **CASE STUDY – WINCHESTER GLEN, CARPENTERSVILLE**
Scott Marquardt, HR Green
- 11:15 – 11:50 AM **MUNICIPAL CERTIFICATION - TOP QUALITY NATURAL AREAS MAINTENANCE**
Steve Zimmerman, Applied Ecological Services
- 11:50 – NOON **WRAP UP**
Beth Adler, DRWW Technical Coordinator and Maggie Soliz, AES

Lake County Stormwater Management Commission

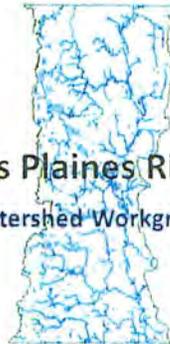
Certificate of Completion

is hereby granted to

Michael Reynolds

*to certify that he/she has completed to satisfaction four Professional Development Hours
at the*

**Des Plaines River Watershed Workgroup
Green Infrastructure Training Seminar**



**Des Plaines River
Watershed Workgroup**

A handwritten signature in black ink that reads "Michael D. Warner".

Michael D. Warner, P.E., CFM
Executive Director

Lake County Stormwater Management Commission

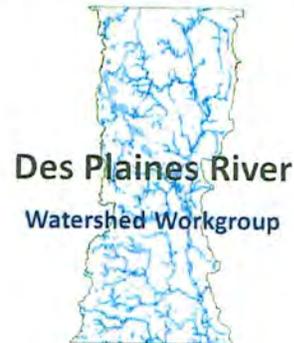
Certificate of Completion

is hereby granted to

Darren Monico

*to certify that he/she has completed to satisfaction four Professional Development Hours
at the*

**Des Plaines River Watershed Workgroup
Green Infrastructure Training Seminar**



A handwritten signature in black ink that reads "Michael D. Warner".

Michael D. Warner, P.E., CFM
Executive Director

Lake County Stormwater Management Commission

Certificate of Completion

is hereby granted to

Mark Biederwolf

*to certify that he/she has completed to satisfaction four Professional Development Hours
at the*

**Des Plaines River Watershed Workgroup
Green Infrastructure Training Seminar**



Michael D. Warner, P.E., CFM
Executive Director

Lake County Stormwater Management Commission

Certificate of Completion

is hereby granted to

Jeff Rogers

*to certify that he/she has completed to satisfaction four Professional Development Hours
at the*

**Des Plaines River Watershed Workgroup
Green Infrastructure Training Seminar**



Michael D. Warner, P.E., CFM
Executive Director

Lake County Stormwater Management Commission

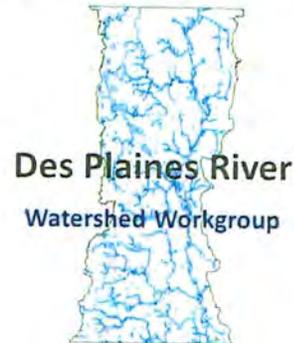
Certificate of Completion

is hereby granted to

Chris Krase

*to certify that he/she has completed to satisfaction four Professional Development Hours
at the*

**Des Plaines River Watershed Workgroup
Green Infrastructure Training Seminar**



Michael D. Warner, P.E., CFM
Executive Director

SIXTH ANNUAL SUSTAINABILITY SUMMIT 2018

CERTIFICATE OF PARTICIPATION

Michael Reynolds

has earned three (3) hours of participatory credit for attending the 6th annual Sustainability Summit to learn more about the MWRD's Strategic Business Plan and work towards becoming the utility of the future by recovering resources and transforming water.

Issued this 16th day of October, 2018



John P. Murray
Acting Executive Director



Metropolitan Water Reclamation District of Greater Chicago



Illinois Environmental Protection Agency

Bureau of Water • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Division of Water Pollution Control

NOTICE OF INTENT (NOI)

GENERAL PERMIT FOR PESTICIDE APPLICATION POINT SOURCE DISCHARGES

APPLICANT INFORMATION

Applicant Name: Village of Buffalo Grove - Department of Public Works

Operator Type: Commercial Applicator Local Government Federal Government
 County Government State Government
 Special District: _____
 Other: _____

Mailing Address: 51 Raupp Blvd.

City: Buffalo Grove State: IL Zip: 60089 County: Cook & Lake

Contact Person: Michael J. Reynolds Title: Director of Public Works

E-mail: mreynolds@vbg.org Phone: 847-459-2547 Fax: 847-537-5845

Billing Address (If different from mailing address): _____

City: _____ State: _____ Zip: _____

IRS Federal Employer Identification Number (FEIN) (If applicable): 36 - 2525051

New Permit Renewal for ILG87 0678 Change of information for ILG87

Pesticide Use Patterns (Check all that apply):

Mosquitoes and Other Insect Pest Control Weed and Algae Pest Control
 Animal Pest Control Forested Areas Pest Control
 Other Pest Control Activities: _____

Annual Treatment Area Thresholds (Check One):

- Total application area anticipated to be under the annual treatment area thresholds, as identified in the general NPDES permit.
 Total application area anticipated to exceed one or more of the annual treatment area thresholds, as identified in the general NPDES permit.

Are you a small entity as defined below? Yes No

Any (1) public entity that serves a population of 10,000 or less, (2) a person(s) applying pesticides on private property where they or any member of their immediate family reside or property that they own or lease, or (3) a private enterprise that does not exceed the Small Business Administration size standard as identified at:

<http://www.sba.gov/category/navigation-structure/contracting/contracting-officials/eligibility-size-standards>.

Are you conducting pesticide application activities pursuant to the Vector Control Act (410 ILCS 95) which are funded by, conducted in accordance with, or under the supervision of the Illinois Department of Public Health or an associated municipal, county or regional department of public health or public health district? Yes No

Are you applying pesticides on private property where you or any member of your immediate family reside or on property that you own or lease? This does not include commercial property which may be privately owned but used for commercial business purposes other than farming. Yes No

If required, has a copy of Pesticide Discharge Management Plan (PDMP) been submitted to the Agency? Submit PDMP electronically to: epa.ILG87pestpdmp@illinois.gov Yes No Not Applicable

Information required by this form must be provided to comply with 415 ILCS 5/39. Failure to do so may prevent this form from being processed and could result in your application being denied.

PEST MANAGEMENT AREA (Add additional pages if necessary)

For each use pattern checked on page 1, complete the following:

Use Pattern: Mosquitoes and Other Insect Pests Aquatic Nuisance Animals Weeds and Algae
 Forested Area Pests Other Pesticide Uses

Pest Management Area # 1 of 1

1. Pest Management Area Name: _____

Check One

- Map provided of location of pesticide application for this use (attach map).
- Pest Management Area description: _____
- Seeking coverage for the entire State.
- List counties where pesticide application will occur: Cook & Lake

2. Receiving Waters (Check One):

- Coverage requested for all waters of the State within the Pest Management Area identified above
- Coverage requested for all waters of the State within the Pest Management Area identified above except for: _____
- Coverage requested specifically for the following waters of the State within the Pest Management Area identified above: _____

ENDANGERED SPECIES COMPLIANCE

Have the treatment areas been submitted to the Illinois Department of Natural Resources (IDNR) to satisfy applicable requirements for compliance with the Illinois Endangered Species Protection Act, for listed species and protected natural areas:

Yes No Not Applicable (Application is an exempt activity)

Exempt Activities (Check all that apply):

- Annual, routine cultivation of existing agricultural lands; and maintenance of existing lawns, yards and ornamental plantings.
- Microbial larvicides applied to catch basins and storm sewers.
- Pesticides applied to artificial impoundments under 10 acres.
- Pesticide applications within maintained road rights-of-way that adjoin land used for agricultural or urban purposes, **except** those portions of the right-of-way adjacent to borrow pits, railroads, streams, wetlands, lakes, or other natural areas or open space. Right-of-way's adjacent to a designated Nature Preserve or registered Land and Water Reserve are **not** exempt from review.

WATER QUALITY IMPAIRED WATERS

Operators are not eligible under this permit for any discharges from a pesticide application to waters of the State if the waters are identified as impaired by a substance which is either an active ingredient in the pesticide designated for use or is a degradate of such an active ingredient. See Part 1.1.2.1 of the Permit.

Check One

- Waters are NOT impaired by any substance which is either an active ingredient in the pesticide to be discharged or a degradate of such an active ingredient.
- Waters are on a current state list as being impaired by a substance which is either an active ingredient in the pesticide to be discharged or a degradate of such an active ingredient; however, evidence is attached documenting that the waters are no longer impaired.

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. On the basis of my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I certify that the provisions of the permit will be complied with.

Signature of Responsible Official: 

Date: June 1, 2016

Title: Director of Public Works

Printed Name: Michael J. Reynolds

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Submit completed form to: epa.ILG87pestNOI-NOT@illinois.gov

Or mail completed form to: Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Permit Section
P.O. Box 19276
Springfield, Illinois 62794-9276

INSTRUCTIONS FOR COMPLETION OF THE NOTICE OF INTENT FORM

Electronic copies should be followed-up with submission of an original signature copy as soon as possible. Please write "copy" in the lower left hand corner of page 1. This fillable form may be completed online, a copy saved locally, printed, and signed before it is submitted to:

Submit completed form electronically to: epa.ILG87pestNOI-NOT@illinois.gov

Or mail completed form to: Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Permit Section
P.O. Box 19276
Springfield, Illinois 62794-9276

NOIs must be typed or printed legibly and signed. Original signature must be submitted to the Agency.

Any operator who is not presently covered by the General NPDES Permit for Pesticide Application Point Source Discharges is considered a new operator.

If this is a change in your application information or renewal, etc., please fill in your NPDES permit number on the appropriate line. When selecting a change in information, fill out all of the fields on the NOI that need to be modified. Changes of information or permit renewal notifications do not require an application fee.

Note: If the operator mailing address is not where the permit records will be located, the application should note where records will be located.

For all pesticide application use patterns checked on page 1, please fill out a separate page 2 for each pesticide application use pattern.

Documentation is not required to be submitted for Endangered Species Compliance. These records should be kept in accordance with Section 7.1 of the permit. The Endangered Species Consultation does not have to be completed prior to submitting your NOI, but consultation with IDNR must be completed prior to pesticide application.

The location of the treatment areas must be submitted to the IDNR EcoCAT website to determine if protected natural resources are in the vicinity, www.dnrecocat.state.il.us/ecopublic/. Consultation with the Department is required under the Illinois Endangered Species Protection Act, 520 ILCS 10/11(b) and the Illinois Natural Areas Preservation Act, 525 ILCS 30/17, for all permittees unless exempted per IDNR regulations or the Memorandum of Understanding between IDNR and IEPA.

Instructions on how to use EcoCAT are located on the home page of the IDNR website, at <http://www.dnrecocat.state.il.us/ecopublic/>. You should submit a treatment area location at least 30 days before pesticide application. If no protected resources are in the vicinity, EcoCAT will terminate the consultation immediately. If resources are identified by EcoCAT, IDNR staff will review the location and either terminate consultation as unlikely to have an adverse impact, or recommend measures to avoid or minimize potential adverse impact. Note: In the project description entered into EcoCAT, include the type of pesticide being used and the method of application.

An EcoCAT report that terminates consultation for this project or a letter from IDNR that terminates consultation for this project must be available upon request. If protective measures for listed species or natural areas are recommended by IDNR, documentation that you have incorporated those measures into your treatment process should also be available upon request.

Currently there is no annual fee associated with this NPDES permit. If at a later date an annual fee is instituted, submission of the initial fee is required prior to the Notice of Intent being considered complete for coverage by the ILG87 General Permit. Please make checks payable to: Illinois EPA at the address above.

For the first year of the permit, the PDMP must be submitted 90-days after coverage under the General Permit. After October 31, 2012, the PDMP must be submitted with the NOI for the application to be considered complete r coverage under the General Permit. The PDMP should be submitted electronically to: epa.ILG87pestpdmp@illinois.gov. The PDMP must be submitted in a PDF format.

NPDES Permit No. ILG87

Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
www.epa.illinois.gov

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

**General NPDES Permit
For
Pesticide Application Point Source Discharges**

Expiration Date: October 31, 2021

Issue Date: October 14, 2016

Effective Date: November 1, 2016

In compliance with the provisions of the Illinois Environmental Protection Act, the Illinois Pollution Control Board and Rules and Regulations (35 Ill. Adm. Code, Subtitle C, Chapter 1), and the Clean Water Act, and the regulations thereunder the following discharges are authorized by this permit in accordance with the conditions and attachments herein.

This permit is available to operators who discharge to waters of the State from the application of biological pesticides or chemical pesticides that leave a residue, when the pesticide application is for one of the following pesticide use patterns:

1. Mosquito and Other Insect Pest Control
2. Weed and Algae Pest Control
3. Animal Pest Control
4. Forested Areas Pest Control
5. Other Pest Control Activities

Discharges may be authorized to any surface water of the State excluding waters identified as impaired by that pesticide or its degradates. This permit does not authorize discharges, to any waters of the State which are designated as a outstanding resource water by the Agency in accordance with 35 Ill. Adm. Code 302.105(b).

To receive authorization to discharge under this general permit, an operator must submit the proper application form to the Illinois Environmental Protection Agency. Authorization, if granted, will be by letter and include a copy of this permit.



Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

NPDES Permit ILG87

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1.0 Coverage under this Permit

This permit covers any operator that meets the eligibility requirements identified in Part 1.1 and if so required, submits a Notice of Intent (NOI) in accordance with Part 1.2.

For the purpose of this permit, all operators are defined in Appendix A to be:

- a. The person(s) with control over the hiring of a contract applicator, or making the decision to perform pesticide applications, including the ability to modify those decisions, that results in a discharge to waters of the State, and/or
- b. The person(s) who performs the application of pesticides or who has day-to-day control of the pesticide application, that results in a discharge to waters of the State.

If the operator under part "a" of the definition is different than the operator actually performing the application of pesticides, only one of the two is required to obtain coverage under this permit.

This permit is not applicable for general use or restricted use pesticides that under Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), are not registered for application to or use in waters of the State.

Pursuant to section 12(f) of the Illinois Environmental Protection Act, no permit shall be required for any discharge for which a permit is not required under the Federal Water Pollution Control Act.

1.1 Eligibility

1.1.1 Activities Covered

This permit is available to operators who discharge to waters of the State from the application of (1) biological pesticides or (2) chemical pesticides that leave a residue (collectively called pesticides), when the pesticide application is for one of the following pesticide use patterns:

1. **Mosquito and Other Insect Pest Control** – to control public health/nuisance and other insect pests that develop or are present during a portion of their life cycle in or above standing or flowing water. Public health/nuisance and other insect pests in this use category include but are not limited to mosquitoes and black flies.
2. **Weed and Algae Pest Control** – to control weeds, algae, and pathogens that are pests in water and at water's edge, include but are not limited to ditches and/or canals.
3. **Animal Pest Control** – to control animal pests in water and at water's edge. Animal pests in this use category include, but are not limited to fish, lampreys, insects, mollusks, and pathogens.
4. **Forested Areas Pest Control** – application of a pesticide to a forested area to control the population of a pest species, (e.g., insect or pathogen) where, to target the pests effectively, a portion of the pesticide unavoidably will be applied over and deposited to water.
5. **Other Pest Control Activities** – any application of pesticides not identified above, which leave a residue, to waters of the State or at the water's edge.

A portion of every application of a pesticide over a water of the State will fall directly into the water of the State thereby requiring coverage under an NPDES permit. Any person who wishes to contest this determination must submit scientific data to prove that no quantity of the pesticide falls into a water of the State. A permit may not be necessary if IEPA receives scientific information which convinces the Agency that no portion of a chemical pesticide applied over a water of the State will fall into the water of the State.

A portion of every application of a pesticide into a water of the State will leave a residue in the water of the State thereby requiring coverage under an NPDES permit. Any person who wishes to dispute this determination must submit scientific data to prove that no quantity of the pesticide will remain as a residue in a water of the State. This information should include data to show what level of the pesticide can be detected in water, and at what level in

water the pesticide provides a pesticidal benefit. Such data should address the properties of the chemical pesticide under different water conditions (e.g., different pH, organic content, temperature, depth, etc.) that might affect the pesticide's properties. A permit may not be necessary if IEPA receives scientific information that convinces the Agency that a chemical pesticide applied into a water of the State will not remain as a residue in the water of the State.

1.1.2 Limitations on Coverage

1.1.2.1 Discharges to Water Quality Impaired Waters

Operators are not eligible for coverage under this permit for any discharges from a pesticide application to waters of the State if the water is identified as impaired by a substance which either is an active ingredient in that pesticide or is a degradate of such an active ingredient. For purposes of this permit, impaired waters are those that have been identified by the State pursuant to Section 303(d) of the Clean Water Act (CWA) as not meeting applicable State water quality standards or not meeting the intended use of the water body. Impaired waters for the purposes of this permit may include both waters with USEPA-approved or USEPA-established Total Maximum Daily Loads (TMDLs) and waters for which USEPA has not yet approved or established a TMDL. A list of the 303(d) waters is available on the Internet at www.epa.illinois.gov/topics/forms/water-permits/pesticide/303d-list/index. If a discharge from a pesticide application would not be eligible under this permit because the water is listed as impaired for that specific pesticide, but there is evidence that shows the water is no longer impaired, operators may submit this information to IEPA and request that coverage be allowed under this permit.

1.1.2.2 Discharges to Waters Designated as Outstanding Resource Waters for Antidegradation Purposes

Operators are not eligible for coverage under this permit for discharges from a pesticide application to waters designated by the State as Outstanding Resource Waters for anti-degradation purposes under 35 Ill. Adm. Code 302.105(b).

1.1.2.3 Discharges Currently or Previously Covered by another Permit

Pesticide discharges are not eligible for coverage under this permit if any of the following circumstances apply:

- a. The discharge is covered by another NPDES permit, or
- b. The discharge was included in a permit that in the past 5 years has been or is in the process of being denied, terminated, or revoked by IEPA (this does not apply to the routine reissuance of permits every 5 years).

1.2 Authorization to Discharge under This Permit

1.2.1 How to Obtain Authorization

To obtain authorization under this permit, an operator must:

- a. Meet the eligibility requirements identified in Part 1.1, and
- b. Submit a complete and accurate Notice of Intent (NOI) consistent with the requirements of Parts 1.2.2 and 1.2.3.

1.2.2 Operators Required to Submit a Notice of Intent

The following operators are required to submit a Notice of Intent to obtain coverage under this general permit for discharges to waters of the State resulting from the application of pesticides:

- a. Person(s), group, or entity with control over the hiring of a contract applicator, or making the decision to per pesticide application, that will result in a discharge to waters of the State; or
- b. Person(s), group, or entity performing the application of pesticides, that will result in a discharge to waters of the State.

NPDES Permit ILG87

Operators must submit an NOI to IEPA electronically. Operators should refer to www.epa.illinois.gov/topics/forms/water-permits/pesticide/index for instruction on submitting the NOI. IEPA will post on the Internet, at www.epa.illinois.gov/topics/forms/water-permits/pesticide/notices/index, all NOIs received. Late NOIs will be accepted, but authorization to discharge will not be retroactive. NOI submissions must be in accordance with the deadlines in Part 1.2.3.

Coverage will be available for the duration of the permit for operators who file an NOI, including the operator's employees, contractors, subcontractors, and other agents, for all activities identified on the NOI unless coverage is terminated pursuant to Parts 1.2.5 or 1.3. If a submitted NOI is not timely, accurate, or complete, then any employee, contractor, subcontractor or other entity that discharges without the required NOI is not covered by this permit.

The NOI form is available on the Internet at www.epa.illinois.gov/Assets/iepa/forms/water-quality/wastewater/pesticide/noi.pdf.

1.2.3 Discharge Authorization Date

Unless modified, exempted, or stayed by legislative action or court order, discharges to waters of the State as a result of pesticide applications must be authorized under an NPDES permit. Operators that are eligible for coverage under Part 1.1 are authorized to discharge under this permit consistent with the NOI submission and the Table 1 below.

Table 1. Original NOI Submittal Deadlines and Discharge Authorization Date		
Category	NOI Submittal Deadline	Discharge Authorization Date
Operators are required to submit an NOI prior to commencement of discharge.	At least 14 days prior to commencement of discharge.	No earlier than 14 days after IEPA posts on the Internet the receipt of the complete and accurate NOI.
Operators commencing discharge in response to a <u>declared pest emergency situation</u> as defined in Appendix A.	No later than 30 days after commencement of discharge. ¹	Immediately, for activities conducted in response to declared pest emergency situation.

To remain authorized, all operators must submit NOI changes, as necessary, consistent with Table 2 below.

Table 2. NOI Change of Information Submittal Deadlines and Discharge Authorization Date		
Category	NOI Submittal Deadline	Discharge Authorization Date
Operators requiring permit coverage for a new use pattern or for a treatment area not within the pest management area, previously identified on a NOI submitted to IEPA.	At least 14 days prior to commencement of discharge in that newly identified treatment area.	No earlier than 14 days after IEPA posts on the Internet the receipt of the complete and accurate NOI.
Operators requiring permit coverage for a new use pattern or for a treatment area in response to a <u>declared pest emergency situation</u> not within the pest management area, previously identified on a NOI submitted to IEPA.	No later than 30 days after commencement of discharge. ¹	Immediately, for activities conducted in response to declared pest emergency situation.

¹ In the event that a discharge occurs prior to submitting an NOI, the operator must comply with all other requirements of this permit immediately.

Based on a review of the NOI or other information, IEPA may determine that additional technology-based and/or water quality-based effluent limitations are necessary, or deny coverage under this permit and require submission of an application for an individual NPDES permit, as detailed in Part 1.3.

Unless notified by the Agency to submit additional information, operators who submit an NOI in accordance with the requirements of this permit are authorized to discharge under the terms and conditions of this permit 30 days after the date the NOI is received by the Agency.

1.2.4 Continuation of this Permit

If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with 40 CFR 122.6 and 35 Ill. Adm. Code, Subtitle C, Chapter I and remain in force and effect. If a permittee was authorized to discharge under this permit prior to the expiration date, any discharges authorized under this permit will automatically remain covered by this permit until the earliest of the following:

- a. A permittee is authorized for coverage under a reissued permit or a replacement of this permit, following the timely and appropriate submittal of a complete NOI requesting authorization to discharge under the new permit and in compliance with the requirements of the NOI;
- b. The permittee submits a Notice of Termination (NOT) and that notice is processed consistent with Part 1.2.5.1;
- c. An individual NPDES permit for a discharge resulting from application of a pesticide that would otherwise be covered under this permit is issued or denied;
- d. IEPA issues a formal permit decision not to reissue this general permit, at which time IEPA will identify a reasonable time period for covered dischargers to seek coverage under an alternative general permit or an individual permit. Coverage under this permit will cease when coverage under another permit is granted/authorized; or
- e. IEPA has informed the permittee that the discharge is no longer covered under this permit.

1.2.5 Terminating Coverage

1.2.5.1 Submitting a Notice of Termination

To terminate permit coverage, a permittee must submit a complete and accurate Notice of Termination. Permittees must submit the Notice of Termination electronically. The authorization to discharge under this permit is terminated the day that a complete Notice of Termination is processed. If a permittee submits a Notice of Termination without meeting one or more of the conditions identified in Part 1.2.5.2, the Notice of Termination is not valid. Permittees are responsible for complying with the terms of this permit until authorization is terminated. If required to submit annual reports pursuant to Part 7, the permittee must file an annual report for the portion of the year up through the date of termination. The annual report shall be submitted with the completed Notice of Termination.

Permittees may not terminate coverage under this permit and reapply in order to remain below the annual treatment area thresholds.

The NOT form is available on the Internet at www.epa.state.il.us/water/permits/pesticide/forms/not.pdf.

1.2.5.2 When to Submit a Notice of Termination

A permittee must submit a Notice of Termination within 30 days after one or more of the following conditions have been met:

- a. The permittee has ceased all discharges from the application of pesticides for which permit coverage was obtained and the permittee does not expect to discharge during the remainder of the permit term for any of the use patterns as identified in Part 1.1.1; or
- b. The permittee has obtained coverage under an individual NPDES permit or an alternative NPDES general permit for all discharges required to be covered by an NPDES permit, unless the permittee obtained coverage consistent with Part 1.3, in which case coverage under this permit will terminate automatically.

1.2.6 Transfer of Permit Coverage

If a new operator takes over responsibility of pest control activities covered under an existing NOI, the new operator must submit the following:

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- a. A new NOI for the new operator; and
- b. A letter from the existing permittee referencing the existing NPDES permit number, date of coverage, and requesting transfer of the permit.

1.3 Alternative Permits

1.3.1 Requiring Coverage under an Alternative Permit

In accordance with 40 CFR 122.64, 40 CFR 124.5, and 35 Ill. Adm. Code, Subtitle C, Chapter I, IEPA may require operators to apply for and/or obtain authorization to discharge under either an individual NPDES permit or an alternative NPDES general permit.

If IEPA requires an operator to apply for an individual NPDES permit, IEPA will notify the operator in writing that a permit application is required. This notification will include a brief statement of the reasons for the decision and will provide application information. In addition, for permittees whose discharges are authorized under this permit, any notice will set a deadline to file the permit application and will include a statement that on the effective date of the individual NPDES permit, coverage under this general permit will terminate. IEPA may grant additional time to submit the application if the operator submits a request setting forth reasonable grounds for additional time. If covered under this permit and the permittee fails to submit an individual NPDES permit application as required by IEPA, the applicability of this permit to such permittee is terminated at the end of the day specified by IEPA as the deadline for application submittal. IEPA may take enforcement action for any unpermitted discharge or violation of any permit requirement.

1.3.2 Operator Requesting Coverage under an Alternative Permit

If an operator does not want to be covered by this general permit, but needs permit coverage, the operator can apply for an individual NPDES permit. In such a case, the operator must submit an individual permit application in accordance with the requirements of 40 CFR 122.26(c)(1)(ii), with reasons supporting the request, to IEPA. The request may be granted by issuance of an individual NPDES permit or authorization of coverage under an alternative NPDES general permit.

When an individual NPDES permit is issued, or the operator is authorized under an alternative NPDES general permit to discharge a pollutant to waters of the State as a result of a pesticide application, authorization to discharge under this permit is terminated on the effective date of the individual NPDES permit or the date of authorization of coverage under the alternative NPDES general permit.

1.4 Severability

Invalidation of a portion of this permit does not render the whole permit invalid. IEPA's intent is that the permit will remain in effect to the extent possible; if any part of this permit is invalidated, the remaining parts of the permit will remain in effect unless IEPA issues a written statement stating otherwise.

1.5 Other Federal and State Laws

Permittees must comply with all other applicable federal and state laws and regulations that pertain to application of pesticides. For example, this permit does not relieve the permittee of the responsibility of complying with the requirements or provisions of the Federal Insecticide, Fungicide, and Rodenticide Act and its implementing regulations to use registered pesticides consistent with the product's labeling. In fact, applications in violation of certain FIFRA requirements could also be a violation of this permit and therefore a violation of the CWA (e.g. exceeding label application rates). Additionally, other laws and regulations might apply to certain activities that are also covered under this permit (e.g., United States Coast Guard regulations).

1.6 Endangered Species Compliance

The location of the treatment areas must be submitted to the Illinois Department of Natural Resources (IDNR) EcoCAT website to determine if protected natural resources are in the vicinity, www.dnr.illinois.gov/ecopublic/. Consultation with the Department is required under the Illinois Endangered Species Protection Act, 520 ILCS

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10/11(b) and the Illinois Natural Areas Preservation Act, 525 ILCS 30/17, for all permittees covered by this permit unless exempted below.

The following applications are exempt from consultation unless there will be an adverse impact to a listed species or its essential habitat or to a Natural Area:

1. Per consultation regulations (17 Ill. Adm. Code, Part 1075) – annual, routine cultivation of existing agricultural lands; and maintenance of existing lawns, yards and ornamental plantings.
2. Per a Memorandum of Understanding between IEPA and IDNR – microbial larvicide applied to catch basins and storm sewers.

1.7 Reopener Clause

If there is evidence indicating potential or realized adverse impacts on water quality due to any pesticide discharge covered by this permit, the permittee may be required to obtain an individual permit or an alternative general permit in accordance with Section 1.3.1 of this permit or the permit may be modified to include different limitations and/or requirements.

Permit modification or revocation will be conducted according to provisions of 35 Ill. Adm. Code, Subtitle C, Chapter I and the provisions of 40 CFR 122.62, 122.63, 122.64, and 124.5 and any other applicable public participation procedures.

The Agency will reopen and modify this permit under the following circumstances:

- a. The USEPA amends its regulations concerning public participation;
- b. A court of competent jurisdiction binding in the State of Illinois or the 7th Circuit issues an order necessitating modification of public participation for general permits; or
- c. To incorporate federally required modifications to the substantive requirements of this permit.

2.0 Technology-Based Effluent Limitations

This part includes technology-based effluent limitations applicable to all permittees for any discharge authorized under this permit, with compliance required upon beginning such discharge. If the permittee is not the applicator, the technology-based effluent limitations are also applicable to the contract applicator.

If a permittee's discharge of pollutants results from the application of pesticides that is being used solely for the purpose of "pesticide research and development," as defined in Appendix A, the permittee must use such pesticide consistent with any applicable research plan and experimental use permit.

As stated in Part 1.5, this permit required all permittees to comply with other applicable federal or state laws and regulations that pertain to application of pesticides by the permittee.

2.1 Level 1: Technology- Based Effluent Limitations

All permittees must meet Level 1 of the technology-based effluent limitations in Part 2.1 to minimize the discharge of pesticides to waters of the State from the application of pesticides, through the use of Pest Management Measures, as defined in Appendix A. If the permittee is not the applicator, the Level 1 technology-based effluent limitations are also applicable to the contract applicator.

- 2.1.1 Use only the amount of pesticide and frequency of pesticide application necessary to control the target pest, using equipment and application procedures appropriate for this task.
- 2.1.2 Maintain pesticide application equipment in proper operating condition, including the requirement to calibrate, clean, and repair such equipment and prevent leaks, spills, or other unintended discharges.

- 2.1.3** Assess weather conditions (e.g. temperature, precipitation and wind speed) in the treatment area to ensure application is consistent with all applicable federal and state requirements.

2.2 Level 2: Technology-Based Effluent Limitations

Level 2 of the technology-based effluent limitations applies to permittees which exceed one or more of the annual (i.e. calendar year) treatment area threshold(s) listed in Table 3 below, as defined in Appendix A. If the permittee is not the applicator, the Level 2 technology-based effluent limitations are also applicable to the contract applicator.

Section	Pesticide Use	Annual Threshold
2.2.1	Mosquito and Other Insect Pest Control	
	- Adult Mosquitoes and Other Insect Pests	6,400 acres of treatment area
	- Mosquito and Other Insect Aquatic Larviciding	80 acres of treatment area (i.e. surface area)
2.2.2	Weed and Algae Pest Control	
	- In Water	80 acres of treatment area (i.e. surface area)
	- At Water's Edge	20 linear miles of treatment area
2.2.3	Animal Pest Control	
	- In Water	80 acres of treatment area (i.e. surface area)
	- At Water's Edge	20 linear miles of treatment area
2.2.4	Forested Areas Pest Control	6,400 acres of treatment area
2.2.5	Other Pest Control Activities	
	- Ground or Aerial	6,400 acres of treatment area
	- In Water	80 acres of treatment area (i.e. surface area)
	- At Water's Edge	20 linear miles of treatment area

For calculating the annual treatment area, count each treatment area only once, regardless of the number of pesticide application activities when applying with the same pesticide product. For example, applying pesticides 3 times a year to the same 3,000 acre site using the same pesticide product, the annual treatment area should be counted as 3,000 acres. If a different pesticide product is applied to the same treatment area, these activities would be counted as separate treatment areas for each different pesticide product. For example, applying pesticides 3 times a year to the same 3,000 acre site using a different pesticide product each time the annual treatment area should be counted as 9,000 acres.

For linear features (e.g., a canal or ditch) use the length of the linear feature whether treating in or adjacent to the feature. For example, when treating the bank on one side of a 10 mile long ditch, banks on both sides of the ditch, and/or water in the ditch, the total treatment area is 10 miles.

2.2.1 Mosquito and Other Insect Pest Control

This part applies to discharges from the application of pesticides for mosquito and other insect pest control as defined in Part 1.1.1.

a. Identify the Problem

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the permittee must do the following for each pest management area, as defined in Appendix A:

1. Establish densities for larval and adult mosquitoes or other insect pest populations or identify environmental condition(s), either current or based on historical data, to serve as action threshold(s) for implementing Pest Management Measures;
2. Identify target pest(s) to develop Pest Management Measures based on developmental and behavioral considerations for each pest;
3. Identify known breeding sites for source reduction, larval control program, and habitat management;

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4. Analyze existing surveillance data to identify new or unidentified sources of mosquito or other insect pest problems as well as sites that have recurring pest problems; and
5. In the event there is no data for the pest management area in the past calendar year, use other available data as appropriate to meet the permit conditions of Part 2.2.1.a.

b. Pest Management Options

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the permittee must select and implement efficient and effective means of Pest Management Measures that minimize discharges resulting from application of pesticides to control mosquitoes or other insect pests. In developing the Pest Management Measures for each pest management area, the permittee must evaluate the following management options, including a combination of these management options, considering impacts to water quality, impacts to non-target organisms, feasibility, and cost effectiveness:

1. No action
2. Prevention
3. Mechanical or physical methods
4. Cultural methods
5. Biological control agents
6. Pesticides

c. Pesticide Use

If a pesticide is selected to manage mosquitoes or other insect pests and application of the pesticide will result in a discharge to waters of the State, the permittee must:

1. Conduct larval and/or adult surveillance in an area that is representative of the pest problem or evaluate existing larval surveillance data, environmental conditions, or data from adjacent areas prior to each pesticide application to assess the pest management area and to determine when action threshold(s) is met;
2. Reduce the impact on the environment and on non-target organisms by applying the pesticide only when the action threshold(s) has been met;
3. In situations or locations where practicable and feasible for effective control, use larvicides as a preferred pesticide for mosquito or other insect pest control when the larval action threshold(s) has been met; and
4. In situations or locations where larvicide use is not practicable or feasible for efficacious control, use adulticides for mosquito or other insect pest control when the adult action threshold(s) has been met.

2.2.2 Weed and Algae Pest Control

This part applies to discharges from the application of pesticides for weed, algae, and pathogens as defined in Part 1.1.1.

a. Identify the Problem

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the permittee must do the following for each pest management area, as defined in Appendix A:

1. Identify areas with pest problems and characterize the extent of the problems, including, for example, water use goals not attained (e.g. wildlife habitat, fisheries, vegetation, and recreation);
2. Identify target pest(s);
3. Identify possible factors causing or contributing to pest problem (e.g., nutrients, invasive species, etc);

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4. Establish any pest-specific and site-specific action threshold(s), as defined in Appendix A , for implementing Part 2.2.2.b; and
5. In the event there is no data for the pest management area in the past calendar year, use other available data as appropriate to meet the permit conditions of Part 2.2.2.a.

b. Pest Management Options

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the permittee must select and implement efficient and effective means of Pest Management Measures that minimize discharges resulting from application of pesticides to control pests. In developing the Pest Management Measures for each pest management area, the permittee must evaluate the following management options, including a combination of these management options, considering impacts to water quality, impacts to non-target organisms, feasibility, and cost effectiveness:

1. No action
2. Prevention
3. Mechanical or physical methods
4. Cultural methods
5. Biological control agents
6. Pesticides

c. Pesticide Use

If a pesticide is selected to manage pests and application of the pesticide will result in a discharge to waters of the State, the permittee must:

1. Conduct surveillance in an area that is representative of the pest problem prior to each pesticide application to assess the pest management area and to determine when the action threshold(s) is met; and
2. Reduce the impact on the environment and non-target organisms by applying the pesticide only when the action threshold(s) has been met.

2.2.3 Animal Pest Control

This part applies to discharges from the application of pesticides for control of animal pests as defined in Part 1.1.1.

a. Identify the Problem

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the permittee must do the following for each pest management area, as defined in Appendix A:

1. Identify areas with pest problems and characterize the extent of the problems, including, for example, water use goals not attained (e.g. wildlife habitat, fisheries, vegetation, and recreation);
2. Identify target pest(s);
3. Identify possible factors causing or contributing to the problem (e.g., nutrients, invasive species);
4. Establish any pest-specific and site-specific action threshold(s), as defined in Appendix A, for implementing Part 2.2.3.b; and
5. In the event there is no data for the pest management area in the past calendar year, use other available data as appropriate to meet the permit conditions of Part 2.2.3.a.

b. Pest Management Options

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each year thereafter prior to the first pesticide application during that calendar year, the permittee must select and implement efficient and effective means of Pest Management Measures that minimize discharges resulting from application of pesticides to control pests. In developing the Pest Management Measures for each pest management area, the permittee must evaluate the following management options, including a combination of these management options, considering impacts to water quality, impacts to non-target organisms, feasibility, and cost effectiveness:

1. No action
2. Prevention
3. Mechanical or physical methods
4. Biological control agents
5. Pesticides

c. Pesticide Use

If a pesticide is selected to manage pests and application of the pesticide will result in a discharge to waters of the State, the permittee must:

1. Conduct surveillance in an area that is representative of pest problem prior to each application to assess the pest management area and to determine when the action threshold(s) is met;; and
2. Reduce the impact on the environment and non-target organisms by evaluating site restrictions, application timing, and application method in addition to applying the pesticide only when the action threshold(s) has been met.

2.2.4 Forested Area Pest Control

This part applies to discharges from the application of pesticides for forested area pest control as defined in Part 1.1.1.

a. Identify the Problem

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application in that calendar year, the permittee must do the following for each pest management area, as defined in Appendix A:

1. Establish any pest-specific and site-specific action threshold(s), as defined in Appendix A, for implementing Part 2.2.4.b;
2. Identify target pest(s) to develop a Pest Management Measures based on developmental and behavioral considerations for each pest;
3. Identify current distribution of the target pest and assess potential distribution in the absence of Pest Management Measures; and
4. In the event there is no data for the pest management area in the past calendar year, use other available data as appropriate to meet the permit conditions of Part 2.2.4.a.

b. Pest Management Options

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the permittee must select and implement efficient and effective means of Pest Management Measures that minimize discharges resulting from application of pesticides to control pests. In developing the Pest Management Measures for each pest management area, the permittee must evaluate the following management options, including a

combination of these management options, considering impacts to water quality, impacts to non-target organisms, feasibility, and cost effectiveness:

1. No action
2. Prevention
3. Mechanical/physical methods
4. Cultural methods
5. Biological control agents
6. Pesticides

c. Pesticide Use

If a pesticide is selected to manage forestry pests and application of the pesticide will result in a discharge to waters of the State, the permittee must:

1. Conduct surveillance in an area that is representative of the pest problem prior to each application to assess the pest management area and to determine when the pest action threshold(s) is met;
2. Reduce the impact on the environment and non-target organisms by evaluating the restrictions, application timing, and application methods in addition to applying the pesticide only when the action threshold(s) have been met; and
3. Evaluate using pesticides against the most susceptible developmental stage.

2.2.5 Other Pest Control Activities

This part applies to discharges from the application of pesticides not identified in Parts 2.2.1, 2.2.2, 2.2.3, or 2.2.4.

a. Identify the Problem

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application in that calendar year, the permittee must do the following for each pest management area, as defined in Appendix A:

1. Establish any pest-specific and site-specific action threshold(s), as defined in Appendix A, for implementing Part 2.2.5.b;
2. Identify target pest(s) to develop Pest Management Measures based on developmental and behavioral considerations for each pest;
3. Identify current distribution of the target pest and assess potential distribution in the absence of Pest Management Measures; and
4. In the event there is no data for the pest management area in the past calendar year, use other available data as appropriate to meet the permit conditions of Part 2.2.5.a.

b. Pest Management Options

Prior to the first pesticide application covered under this permit that will result in a discharge to waters of the State, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the permittee must select and implement efficient and effective means of Pest Management Measures that minimize discharges resulting from application of pesticides to control pests. In developing the Pest Management Measures for each pest management area, the permittee must evaluate the following management options, including a combination of these management options, considering impacts to water quality, impacts to non-target organisms, feasibility, and cost effectiveness:

1. No action
2. Prevention
3. Mechanical/physical methods

4. Cultural methods
5. Biological control agents
6. Pesticides

c. Pesticide Use

If a pesticide is selected to manage other activities not covered under the other four use patterns and application of the pesticide will result in a discharge to waters of the State, the permittee must:

1. Conduct surveillance in an area that is representative of the pest problem prior to each application to assess the pest management area and to determine when the pest action threshold(s) is met;
2. Reduce the impact on the environment and non-target organisms by evaluating the restrictions, application timing, and application methods in addition to applying the pesticide only when the action threshold(s) have been met; and
3. Evaluate using pesticides against the most susceptible developmental stage.

3.0 Water Quality-Based Effluent Limitations

All permittees must control discharges as necessary to meet applicable numeric and narrative State water quality standards, for any discharge authorized under this permit, with compliance required upon the beginning of such discharge. Discharges covered by this permit, alone or in combination with other sources, shall not cause a violation of any applicable water quality standards outlined in 35 Ill. Adm. Code 302, in light of the provisions of 35 Ill. Adm. Code 302.210(g).

If at any time a permittee becomes aware (e.g., through self-monitoring or by notification from the State), or IE determines, that the discharge causes or contributes to an excursion of applicable water quality standards, the permittee must take corrective action as required in Part 6, up to and including the ceasing of the discharge, if necessary.

4.0 Monitoring

4.1 Visual Monitoring Requirements

During any pesticide application or post-application surveillance of any pesticide application with discharges authorized under this permit, all permittees must, when considerations for safety and feasibility allow and while observing reentry periods for pesticides application, visually assess the area to and around where pesticides are applied for possible and observable adverse incidents, as defined in Appendix A, caused by application of pesticides, including the unanticipated death or distress of non-target organisms and disruption of wildlife habitat, recreational or municipal water use.

If the permittee is not the applicator, this section is also applicable to the contract applicator.

5.0 Pesticide Discharge Management Plan

Permittees which exceed one or more of the annual treatment area thresholds listed in Table 3 must prepare and submit a Pesticide Discharge Management Plan (PDMP). This section does not apply to the following:

1. Any application made in response to a declared pest emergency situation, as defined in Appendix A.
2. Permittees who meet the definition of a small entity, as defined in Appendix A.
3. Permittees conducting pesticide application activities pursuant to the Vector Control Act (410 ILCS 95) which are funded by, conducted in accordance with, or under the supervision of the Illinois Department of Public Health or an associated municipal, county or regional department of public health or public health district.

The PDMP and all supporting documents must be submitted with the NOI. The PDMP must be submitted electronically in Adobe Acrobat format to epa.ILG87pestPDMP@illinois.gov.

The plan must be kept up-to-date thereafter for the duration of coverage under this general permit, even if the discharges subsequently fall below the applicable treatment area thresholds listed in Table 3.

The PDMP does not contain effluent limitations as the effluent limitations are specified in Parts 2 and 3 of the permit. The PDMP documents how the permittee will implement the effluent limitations in Parts 2 and 3 of the permit, including the evaluation and selection of Pest Management Measures to meet those effluent limitations in order to minimize discharges. In the PDMP, the permittee may incorporate by reference any procedures or plans in other documents that meet the requirements of this permit. If the permittee relies upon other documents to comply with the effluent limitations in this permit, such as a pre-existing pest management plan, the permittee must attach to the PDMP a copy of any portions of any documents that are used to document the implementation of the effluent limitations.

5.1 Contents of the Pesticide Discharge Management Plan

The PDMP must include the following elements:

- a. Pesticide Discharge Management Plan Team
- b. Problem Identification
- c. Pest Management Options Evaluation
- d. Response Procedures
 1. Spill Response Procedures
 2. Adverse Incident Response Procedures
- e. Signature Requirements

5.1.1 PDMP Team

Permittees must identify all persons (by name and contact information) that compose the team as well as each person's individual responsibilities, including:

- a. Person(s) responsible for managing pests in relation to the pest management area;
- b. Person(s) responsible for developing and revising the PDMP; and
- c. Person(s) responsible for developing, revising, and implementing corrective actions and other effluent limitation requirements.

5.1.2 Problem Identification

Permittees must document the following:

- a. Pest problem description. Document a description of the pest problem at the pest management area, including identification of the target pest(s), source(s) of the pest problem, and source of data used to identify the problem in Parts 2.2.1, 2.2.2, 2.2.3, 2.2.4, and 2.2.5.
- b. Action Threshold(s). Describe the action threshold(s) for the pest management area, including the data used in developing the action threshold(s) and method(s) to determine when the action threshold(s) has been met.
- c. General location map. In the plan, include a general location map (e.g., USGS quadrangle map, a portion of a city or county map, or other map) that identifies the geographic boundaries of the area to which the plan applies and location of the waters of the State.
- d. Water quality standards. Document any water(s) identified as impaired by a substance which either is an active ingredient or a degradate of such an active ingredient.

5.1.3 Pest Management Options Evaluation

Permittees must document the evaluation of the pest management options, including combination of the pest management options, to control the target pest(s). Pest management options include the following: No action, prevention, mechanical/physical methods, cultural methods, biological control agent, and pesticides. In the

evaluation, permittees must consider the impact to water quality, impact to non-target organisms, feasibility, cost, effectiveness, and any relevant previous Pest Management Measures.

5.1.4 Response Procedures

Permittees must document the following procedures in the PDMP:

- a. Spill Response Procedures – At a minimum, the permittees must have:
 1. Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases to waters of the State. Employees who may cause, detect, or respond to a spill or leak must be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of the PDMP team.
 2. Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies.
- b. Adverse Incident Response Procedures – At a minimum, the permittees must have:
 1. Procedures for responding to any adverse incident resulting from pesticide applications.
 2. Procedures for notification of the adverse incident, both internal to the permittee agency/organization and external. Contact information for State permitting agency, nearest emergency medical facility, and nearest hazardous chemical responder must be in locations that are readily accessible and available.

5.1.5 Signature Requirements

Permittees must sign, date and certify the PDMP in accordance with Appendix B.

5.2 Pesticide Discharge Management Plan Modifications

Permittees must modify the PDMP whenever necessary to address any of the conditions for corrective action in Part 6.1 or when a change in pest control activities significantly changes the type or quantity of pollutants discharged. Changes to the PDMP must be made before the next pesticide application that results in a discharge, if practicable, or if not, no later than 90 days after any change in pesticide application activities. The revised PDMP must be signed and dated in accordance with Appendix B. Permittees must submit the modified PDMP electronically to epa.ILG87pestPDMP@illinois.gov.

5.3 Pesticide Discharge Management Plan Availability

Permittees must retain a copy of the current PDMP, along with all supporting maps and documents, at the address provided on the NOI. The PDMP and all supporting documents must be readily available and copies of any of these documents provided, upon request, to IEPA or to any local agency governing discharges or pesticide applications within their respective jurisdictions; and to representatives of any federal or state agencies. IEPA may provide copies of the PDMP or other information related to this permit that is in its possession to members of the public. Any Confidential Business Information (CBI), as defined in 40 CFR Part 2, may be withheld from the public provided that a claim of confidentiality is properly asserted and documented in accordance with 40 CFR Part 2; however, CBI must be submitted to IEPA, if requested, and may not be withheld from those staff within IEPA, or any other state or federal agency cleared for CBI review.

6.0 Corrective Action

All permittees must comply with the provisions of Part 6 for any discharges authorized under this permit, with compliance required upon the beginning of such discharge. If the permittee is not the applicator, this section is applicable to the contract applicator.

6.1 Situations Requiring Revision of Pest Management Measures

Permittees must review and, as necessary, revise the evaluation and selection of Pest Management Measures consistent with Parts 2.1 and 2.2 for the following situations:

- a. An unauthorized release or discharge associated with the application of pesticides (e.g., spill, leak, or discharge not authorized by this or another NPDES permit) occurs.
- b. Permittee becomes aware, or IEPA concludes, that Pest Management Measures are not adequate/sufficient for the discharge to meet applicable State water quality standards;
- c. Any monitoring activities indicate failure to meet applicable technology-based effluent limitations in Part 2.
- d. An inspection or evaluation of activities by IEPA reveals that modifications to the Pest Management Measures are necessary to meet the effluent limitations in this permit.
- e. Any permittee observes or is otherwise made aware of an adverse incident, as defined in Appendix A.

6.2 Corrective Action Deadlines

If a permittee determines that changes to the Pest Management Measures are necessary to eliminate any situation identified in Part 6.1, such changes must be made before or, if not practicable, as soon as possible after the next pesticide application that results in a discharge.

6.3 Effect of Corrective Action

The occurrence of a situation identified in Part 6.1 may constitute a violation of the permit. Correcting any situation identified in Part 6.1 does not absolve permittees of liability for any original violation. However, failure to comply with Part 6.2 constitutes an additional permit violation. IEPA will consider the appropriateness and promptness of corrective action in determining enforcement responses to permit violations.

IEPA may impose additional requirements and schedules of compliance, including requirements to submit additional information concerning the condition(s) requiring corrective action or schedules and requirements more stringent than specified in this permit. Those requirements and schedules will supersede those of Parts 6.1 and 6.2 if such requirements conflict.

6.4 Adverse Incident Documentation and Reporting

6.4.1 Twenty-Four Hour Adverse Incident Notification

6.4.1.1 Adverse Incident Notification Required

If a permittee observes or is otherwise made aware of an adverse incident, as defined in Appendix A, which may have resulted from a discharge from a pesticide application, made by the permittee or a contract applicator, the permittee must immediately notify the Illinois Emergency Management Agency (IEMA) and USEPA, Region 5, Pesticide Program. This notification must be made by telephone within 24 hours of the permittee becoming aware of the adverse incident and must include at least the following information:

- a. The caller's name and telephone number;
- b. Permittees name and mailing address;
- c. NPDES permit number;
- d. The name and telephone number of a contact person, if different than the person providing the 24-hour notice;
- e. How and when the permittee became aware of the adverse incident;
- f. Description of the location of the adverse incident;

- g. Description of the adverse incident identified and the pesticide product, including USEPA pesticide registration number, for each product applied in the area of the adverse incident; and
- h. Description of any steps the permittee has taken or will take to correct, repair, remedy, clean-up, or otherwise address any adverse effects.

If a permittee is unable to notify IEMA within 24 hours, the permittee must do so as soon as possible and also provide an appropriate rationale why the permittee was unable to provide such notification within 24 hours.

The adverse incident notification and reporting requirements are in addition to what the registrant is required to submit under FIFRA section 6(a)(2) and its implementing regulations at 40 CFR Part 159.

6.4.1.2 Adverse Incident Notification Not Required

Reporting of adverse incidents is not required under this permit in the following situations:

- a. A permittee is aware of facts that indicate that the adverse incident was not related to toxic effects or exposure from the pesticide application;
- b. A permittee has been notified by IEMA and retains such notification, that the reporting requirement has been waived for this incident or category of incidents;
- c. A permittee receives information of an adverse incident, but that information is clearly erroneous; or
- d. An adverse incident occurs to pests that are similar in kind to potential target pests identified on the FIFRA label.

6.4.2 Fifteen Day Adverse Incident Written Report

Within fifteen (15) business days of a reportable adverse incident pursuant to Part 6.4.1, permittees must provide a written report of the adverse incident to the IEPA Compliance Assurance Section. Permittees must submit the 15-day adverse incident report electronically to epa.ILG87pest5day@illinois.gov. The adverse incident report must include at least the following information:

- a. Information required to be provided in Part 6.4.1;
- b. Date and time the permittee contacted IEMA notifying the Agency of the adverse incident, who the permittee spoke with at IEMA, and any instructions received from IEMA;
- c. Location of incident, including the names of any waters affected and appearance of those waters (sheen, color, clarity, etc);
- d. A description of the circumstances of the adverse incident including species affected, estimated number of individual and approximate size of dead or distressed organisms;
- e. Magnitude and scope of the affected area (e.g. estimate aquatic surface area or total stream distance affected);
- f. Pesticide application rate; intended use site (e.g., on the bank, above waters, or directly to water), method of application; and name of pesticide product and USEPA pesticide registration number;
- g. Description of the habitat and the circumstances under which the adverse incident occurred (including any available ambient water data for pesticides applied);
- h. If laboratory tests were performed, an indication of what test(s) were performed, and when; additionally, a summary of the test results within 5 days after they become available if not available at the time of submission of the 15-day adverse incident report;
- i. Description of actions to be taken to prevent recurrence of adverse incidents; and
- j. Signature, date, and certification in accordance with Appendix B.

The Adverse Incident Report form is available on the Internet at www.epa.state.il.us/water/permits/pesticide/forms/adverse-incident.pdf.

6.4.3 Adverse Incident to Federally Threatened or Endangered Species or Critical Habitat

Notwithstanding any of the other adverse incident notification requirements of this section, if a permittee or contract applicator becomes aware of an adverse incident affecting a federally listed threatened or endangered species or its federally designated critical habitat which may have resulted from a discharge from the permittee's pesticide application, the permittee must immediately notify the United States Fish and Wildlife Service (FWS). This information must be made by telephone, to the contacts listed on USFWS's website at www.fws.gov/offices, immediately upon the permittee becoming aware of the adverse incident, and must include at least the following information:

- a. The caller's name and telephone number;
- b. Permittee name and mailing address;
- c. The name of the affected species;
- d. How and when the permittee became aware of the adverse incident;
- e. Description of the location of the adverse incident;
- f. Description of the adverse incident and the pesticide product, including the USEPA pesticide registration number, for each product applied in the area of the adverse incident, and;
- g. Description of any steps the permittee has taken or will take to alleviate the adverse impact to the species.

Additional information on federally listed threatened or endangered species and federally designated critical habitat is available from FWS (www.fws.gov) for terrestrial or freshwater species.

6.5 Reportable Spills and Leaks

6.5.1 Spill, Leak, or Other Unpermitted Discharge Notification

Where a leak, spill, or other release into waters of the State containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs in any 24-hour period, the permittee or contract applicator must notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR Part 110, 40 CFR Part 117, and 40 CFR Part 302. The permittee must also notify IEMA at (800) 782-7860. Both of these Agencies shall be notified immediately and as soon as the permittee has knowledge of the release. Contact information must be in locations that are readily accessible and available in the area where the spill, leak, or other unpermitted discharge may occur.

Local requirements may necessitate also reporting spills or leaks to local emergency response, public health, or drinking water supply agencies.

6.5.2 Fifteen-Day Spill, Leak, or Other Unpermitted Discharge Documentation

If a permittee becomes aware of a spill, leak, or other unpermitted discharge which initiates the notification requirements in Part 6.5.1 and results in an adverse incident, then the permittee must report the incident per the requirements in Parts 6.4.1 and 6.4.2. If the spill, leak, or other unpermitted discharges initiates the notification requirements in Part 6.5.1, but does not result in an adverse incident, then permittee must document and retain the following information within 15 business days of becoming aware of the situation:

- a. Information required to be provided in Part 6.5.1
- b. Summary of corrective action taken or to be taken including date initiated and date completed or expected to be completed; and

- c. Any measures to prevent recurrence of such a spill or leak or other discharge, including notice of whether PDMP modifications are required as a result of the spill or leak.

6.6 Other Corrective Action Documentation

For situations identified in Part 6.1, other than for adverse incidents (addressed in Part 6.4), or reportable spills or leaks (addressed in Part 6.5), permittees must document the situation requiring corrective action and the planned corrective action within fifteen (15) business days of becoming aware of that situation and retain a copy of this documentation. This documentation must include the following information:

- a. Identification of the condition requiring the need for corrective action review, including any ambient water quality monitoring that assisted in determining that discharges did not meet water quality standards;
- b. Brief description of the situation;
- c. Date the problem was identified.
- d. Brief description of how the problem was identified, how the permittee learned of the situation, and date the permittee learned of the situation;
- e. Summary of corrective action taken or to be taken, including date initiated and date completed or expected to be completed; and
- f. Any measures to prevent reoccurrence of such an incident, including notice of whether PDMP modifications are required as a result of the incident.

7.0 Recordkeeping and Annual Reporting

The recordkeeping and annual reporting requirements vary depending on whether a permittee meets the definition of a small entity, as defined in Appendix A, and/or exceeds one or more of the annual treatment area thresholds listed in Table 3.

Permittees must keep written records as required in this permit for all discharges covered under this permit. These records must be accurate and complete to demonstrate the permittees compliance with the conditions of this permit. Permittees may rely on records and documents developed for other obligations, such as requirements under FIFRA, and state or local pesticide programs, provided all requirements of this permit are satisfied.

IEPA recommends that all permittees covered under this permit keep records of acres or linear miles treated for all applicable use patterns covered under this general permit. The records shall be kept up-to-date to help the permittee determine if the annual treatment area thresholds, as identified in Part 2.2, are met during any calendar year.

7.1 Level 1: Recordkeeping

Level 1 recordkeeping applied to all permittees which must keep the following records:

- a. A copy of the NOI submitted to IEPA, any correspondence exchanged between the permittee and IEPA specific to coverage under this permit, and a copy of the IEPA acknowledgment letter assigning the permit number;
- b. A copy of this permit;
- c. A copy of any Adverse Incident Reports (Part 6.4.2);
- d. Rationale for any determination that reporting of an identified adverse incident is not required consistent with allowances identified in Part 6.4.1.2;
- e. A copy of any corrective action documentation (Part 6.6);
- f. A copy of any spill, leak, or other unpermitted discharge documentation (Part 6.5.2); and

g. Endangered Species Compliance Documentation

Permittees conducting pesticide application activities pursuant to the Vector Control Act (410 ILCS 95) which are funded by, conducted in accordance with, or under the supervision of the Illinois Department of Public Health or an associated municipal, county or regional department of public health or public health district are only required to perform Level 1 recordkeeping.

7.2 Level 2: Recordkeeping

Level 2 recordkeeping applies to permittees which exceed one or more of the annual treatment area thresholds listed in Table 3 and meet the definition of a small entity, as defined in Appendix A, must retain the following records at the address provided on the NOI. If the permittee is not the applicator, some of the records listed below shall be kept by the contract applicator.

- a. Documentation of equipment calibration; and
- b. Information on each treatment area to which pesticides are discharged, including:
 1. Description of treatment area, by name and/or location including the size (acres or linear feet) of treatment area, as well as the closest named waters of the State to which pesticide(s) discharged are tributary;
 2. Pesticide use pattern(s) (i.e., mosquito or other insect pest control, etc.)
 3. Target pest(s) and explanation of need for pest control;
 4. Description of pest management measures(s) implemented prior to the first pesticide application;
 5. If different from the permittee, company name and contact information for contract applicator;
 6. Name of each pesticide product used including the USEPA pesticide registration number;
 7. Quantity of each pesticide product applied to each treatment area;
 8. Pesticide application start and end date(s);
 9. Whether or not visual monitoring was conducted during pesticide application and/or post-application and if not; why not and whether monitoring identified any possible or observable adverse incidents caused by application of pesticides; and
 10. Name of any waters of the State in the treatment area currently listed as impaired for pesticides on the 303(d) list. This should include the name of the pesticide for which it is impaired.

An evaluation worksheet for documenting this information for each treatment area is available on the Internet at www.epa.state.il.us/water/permits/pesticide/forms/discharge-evaluation.pdf.

7.3. Level 3: Recordkeeping

Level 3 recordkeeping applies to permittees which exceed one or more of the annual treatment area thresholds listed in Table 3 and do not meet the definition of a small entity, as defined in Appendix A, must retain the following records at the address provided on the NOI. If the permittee is not the applicator, some of the records listed below shall be kept by the contract applicator.

- a. A copy of the PDMP, including any modifications made to the PDMP during the term of this permit;
- b. A copy of the annual reports submitted to IEPA;
- c. Documentation of equipment calibration; and
- d. Information on each treatment area to which pesticides are discharged, including:

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1. Description of treatment area, by name and/or location including the size (acres or linear feet) of treatment area, as well as the closest named waters of the State to which pesticide(s) discharged are tributary;
2. Pesticide use pattern(s) (i.e., mosquito or other insect pest control, etc.)
3. Target pest(s) and explanation of need for pest control;
4. Action threshold(s);
5. Method and/or data used to determine that action threshold(s) has been met;
6. Description of pest management measures(s) implemented prior to the first pesticide application;
7. If different from the permittee, company name and contact information for contract applicator;
8. Name of each pesticide product used including the USEPA pesticide registration number;
9. Quantity of each pesticide product applied to each treatment area;
10. Pesticide application start and end date(s);
11. Whether or not visual monitoring was conducted during pesticide application and/or post-application and if not; why not and whether monitoring identified any possible or observable adverse incidents caused by application of pesticides; and
12. Name of any waters of the State in the treatment area currently listed as impaired for pesticides on the 303(d) list. This should include the name of the pesticide for which it is impaired.

7.4 Additional Recordkeeping Requirements for All Permittees

All required records must be documented as soon as possible but no later than 15 business days following completion each pesticide application. Permittees must retain any records required under this permit for at least 3 years from the date that coverage under this permit expires or is terminated. Permittees must make available to IEPA, including an authorized representative of IEPA, all records kept under this permit upon request and provide copies of such records, upon request.

7.5 Annual Reporting

Permittees which exceed one or more of the annual treatment area thresholds listed in Table 3 and do not meet the definition of a small entity, as defined in Appendix A, must submit an annual report to IEPA. Once the permittee meets the obligation to submit an annual report, the permittee must submit an annual report each calendar year thereafter for the duration of coverage under this general permit, whether or not the permittee has discharges from the application of pesticides in any subsequent calendar year. Permittees must submit the annual report electronically to epa.ILG87pestAnnRep@illinois.gov. The annual report must be submitted to IEPA no later than February 15th of the following year for all pesticide activities covered under this permit occurring during the previous calendar year.

Permittees conducting pesticide application activities pursuant to the Vector Control Act (410 ILCS 95) which are funded by, conducted in accordance with, or under the supervision of the Illinois Department of Public Health or an associated municipal, county or regional department of public health or public health district are not required to submit an annual report.

The annual report must include information for the calendar year, with the first annual report required to include activities for the portion of the calendar year after the effective date of the NOI. If the effective date is after December 1, the permittee is not required to submit an annual report for that first partial year but must submit annual reports thereafter, with the first annual report submitted also including information from the first partial year.

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When permittees terminate permit coverage, as specified in Part 1.2.5, an annual report must be submitted for the portion of the year up through the date of termination. The annual report is due no later than 45-days after the termination date, or February 15th of the following year, whichever is earlier.

The annual report must contain the following information:

- a. Permittee's name and contact information;
- b. NPDES permit number;
- c. Contact person name, title, e-mail address (if any), and phone number; and
- d. For each treatment area, report the following information:
 1. Description of treatment area, by name and/or location including the size (acres or linear feet) of treatment area, as well as the closest named waters of the State to which pesticide(s) discharge are tributary;
 2. Pesticide use pattern(s) (i.e., mosquito and other insects, etc.) and target pest(s);
 3. Company name(s) and contact information for the pesticide applicator(s), if different from the permittee;
 4. Total amount of each pesticide product applied for the reporting year by the USEPA pesticide registration number(s) and by application method (e.g., aerially by fixed-wing or rotary aircraft, broadcast spray, etc.);
 5. Whether this pest control activity was addressed in the PDMP prior to pesticide application;
 6. If applicable, an annual report of any adverse incidents as a result of these treatment(s), for incidents, as described in Part 6.4.1; and
 7. If applicable, description of any corrective action(s), including spill responses, resulting from pesticide application activities and the rationale for such action(s).

The Annual Report form is available on the Internet at www.epa.state.il.us/water/permits/pesticide/forms/annual-report.pdf.

8.0 Contact Information and Mailing Addresses

Permittees must submit the following documents to the email addresses listed below.

- a. PDMP to epa.ILG87pestPDMP@illinois.gov
- b. Annual Reports to epa.ILG87pestAnnRep@illinois.gov
- c. Within 15 business days of becoming aware of an adverse incident, permittees must send all incident reports under Part 6.4 to epa.ILG87pest5day@illinois.gov

All other written correspondence concerning discharges covered under this permit and directed to the IEPA, including individual NPDES permit applications, must be sent to the IEPA Headquarters address listed below.

Note: If IEPA notifies dischargers (either directly, by public notice, or by making information available on the Internet) of other reporting options that become available at a later date (e.g., electronic submission), permittees may take advantage of those options, in accordance with the instructions provided by IEPA, to satisfy the reporting requirements of this permit.

8.1 IEPA Headquarters Address

Illinois Environmental Protection Agency
Division of Water Pollution Control, Mail Code #15
Attention: Permit Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
www.epa.illinois.gov/topics/forms/water-permits/pesticide/index

8.2 USEPA, Region 5 Address

United States Environmental Protection Agency
Region 5
Attention: Pesticide Program
77 W. Jackson Blvd.
Chicago, IL 60604

Appendix A Definitions, Abbreviations, and Acronyms

A.1. DEFINITIONS

Action Threshold – the point at which pest populations or environmental conditions cannot be tolerated necessitating that pest control action be taken based on economic, human health, aesthetic, or other effects. An action threshold may be based on current and/or past environmental factors that are or have been demonstrated to be conducive to pest emergence and/or growth, as well as past and/or current pest presence. Action thresholds are those conditions that indicate both the need for control actions and the proper timing of such actions.

Active Ingredient – any substance (or group of structurally similar substances if specified by the Agency) that will prevent, destroy, repel or mitigate any pest, or that functions as a plant regulator, desiccant, or defoliant within the meaning of FIFRA sec. 2(a). [40 CFR 152.3] Active ingredient also means a pesticidal substance that is intended to be produced and used in a living plant, or in the produce thereof, and the genetic material necessary for the production of such a pesticidal substance. [40 CFR 174.3]

Adverse Incident – means an unusual or unexpected incident that a permittee or contract applicator has observed upon inspection or of which the permittee otherwise become aware, in which:

1. There is evidence that a person or non-target organism has likely been exposed to a pesticide residue, and
2. The person or non-target organism suffered a toxic or adverse effect.

The phrase toxic or adverse effects includes effects that occur within waters of the State on non-target plants, fish or wildlife that are unusual or unexpected (e.g., effects are to organisms not otherwise described on the pesticide product label or otherwise not expected to be present) as a result of exposure to a pesticide residue, and may include:

- Distressed or dead juvenile and small fishes
- Washed up or floating fish
- Fish swimming abnormally or erratically
- Fish lying lethargically at water surface or in shallow water
- Fish that are listless or nonresponsive to disturbance
- Stunting, wilting, or desiccation of non-target submerged or emergent aquatic plants
- Other dead or visibly distressed non-target aquatic organisms (amphibians, turtles, invertebrates, etc.)

The phrase, toxic or adverse effects, also includes any adverse effects to humans (e.g., skin rashes) or domesticated animals that occur either from direct contact with or as a secondary effect from a discharge (e.g., sickness from consumption of plants or animals containing pesticides) to waters of the State that are temporally and spatially related to exposure to a pesticide residue (e.g., vomiting, lethargy).

Annual Treatment Area Threshold – an area (in acres) or in linear distance (in miles) in a calendar year to which a permittee is authorizing and/or performing pesticide applications in that area for activities covered under this permit.

Applicator – any person(s) who performs the application of a pesticide or who has day-to-day control of the application (i.e., they are authorized to direct workers to carry out those activities) that results in a discharge to waters of the State.

Biological Control Agents – these agents are organisms that can be introduced to operator sites, such as herbivores, predators, parasites, and hyperparasites. [Source: USFWS IPM Guidance, 2004]

Biological Pesticides (also called biopesticides) – include microbial pesticides, biochemical pesticides and plant-incorporated protectants (PIP). Microbial pesticide means a microbial agent intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, that (1) is a eucaryotic microorganism including, but not limited to, protozoa, algae, and fungi; (2) is a procaryotic microorganism, including, but not limited to, Eubacteria and Archaeobacteria; or (3) is a parasitically replicating microscopic element, including but not limited to, viruses. [40 CFR 158.2100(b)] Biochemical pesticide mean a pesticide that (1) is a naturally-occurring substance or structurally-similar and functionally identical to a naturally-occurring substance; (2) has a history of exposure to humans and the environment demonstrating minimal toxicity, or in the case of a synthetically-derived biochemical pesticides, is equivalent to a naturally-occurring substance that has such a history; and (3) has a non-toxic mode of action to the target

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pest(s). [40 CFR 158.2000(a)(1)] Plant-incorporated protectant means a pesticidal substance that is intended to be produced and used in a living plant, or in the produce thereof, and the genetic material necessary for production of such a pesticidal substance. It also includes any inert ingredient contained in the plant, or produce thereof. [40 CFR 174.3]

Chemical Pesticides – all pesticides not otherwise classified as biological pesticides.

Contract Applicator – any person(s) who make contractual pesticide applications for which they or their employer receives compensation (e.g., pest control companies).

Cultural Methods – manipulation of the habitat to increase pest mortality by making the habitat less suitable to the pest.

Declared Pest Emergency Situation – an event defined by a public declaration by a federal, state, or local governmental body or agency of a pest problem determined to require control through application of a pesticide beginning less than ten days after identification of the need for pest control. This public declaration may be based on:

1. Significant risk to human health;
2. Significant economic loss; or
3. Significant risk to:
 - i. Endangered species,
 - ii. Threatened species,
 - iii. Beneficial organisms, or
 - iv. The environment.

Director – means the Director of the Illinois Environmental Protection Agency or an authorized representative.

Discharge – when used without qualification, means the "discharge of a pollutant." [40 CFR 122.2]

Discharge of a pollutant – any addition of any "pollutant" or combination of pollutants to "waters of the State" from any "point source," or any addition of any pollutant or combination of pollutants to the water of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft that is being used as a means of transportation. This includes additions of pollutants into waters of the State from: surface runoff that is collected or channeled by man; discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. [Excerpted from 40 CFR 122.2]

USEPA Approved or Established Total Maximum Daily Loads (TMDLs) – "USEPA Approved TMDLs" are those that are developed by the State and approved by USEPA. "USEPA Established TMDLs" are those that are issued by USEPA.

Facility or Activity – any NPDES "point source" (including land or appurtenances thereto) that is subject to regulation under the NPDES program. [40 CFR 122.2]

Impaired Water (or "Water Quality Impaired Water" or "Water Quality Limited Segment") – a water is impaired for purposes of this permit if it has been identified by the State pursuant to Section 303(d) of the Clean Water Act as not meeting applicable State water quality standards (these waters are called "water quality limited segments" under 40 CFR 130.2(j)). Impaired waters include both waters with approved or established TMDLs, and those for which a TMDL has not yet been approved or established.

Inert Ingredient – any substance (or group of structurally similar substances if designated by the Agency), other than an active ingredient, that is intentionally included in a pesticide product. [40 CFR 152.3] Inert ingredient also means any substance, such as a selectable marker, other than the active ingredient, where the substance is used to confirm or ensure the presence of the active ingredient, and includes the genetic material necessary for the production of the substance, provided that genetic material is intentionally introduced into a living plant in addition to the active ingredient. [40 CFR 174.3]

Mechanical/Physical Methods – mechanical tools or physical alterations of the environment, for pest prevention or removal.

Minimize – to reduce and/or eliminate pesticide discharges to waters of the State through the use of Pest Management Measures to the extent technologically available and economically practicable and achievable.

Non-target Organisms – includes the plant and animal hosts of the target species, the natural enemies of the target species living in the community, and other plants and animals, including vertebrates, living in or near the community that are not the target of the pesticide.

Operator – for the purpose of this permit, means any person(s) associated with the application of a pesticide that results in a discharge to waters of the State that meets either or both of the following two criteria:

- a. The person(s) with control over the hiring of a contract applicator, or making the decision to perform pesticide applications, including the ability to modify those decisions, that results in a discharge to waters of the State, or
- b. The person(s) who performs the application of pesticides or who has day-to-day control of the pesticide application, that results in a discharge to waters of the State.

Outstanding Resource Water – is a surface water body or water body segment that is of exceptional ecological or recreational significance and must be designated by the Illinois Pollution Control Board pursuant to 35 Ill. Adm. Code 102.Subpart H.

Permittee – an operator that has obtained coverage under this general permit.

Person – any individual, partnership, co-partnership, firm, company, limited liability company, corporation, association, joint stock company, trust, estate, political subdivision, state agency, or any other legal entity, or their legal representative, agent or assigns.

Pest – consistent with 40 CFR 152.5, any organism under circumstances that make it deleterious to man or the environment, if it is:

- a. Any vertebrate animal other than man;
- b. Any invertebrate animal, including but not limited to, any insect, other arthropod, nematode, or mollusk such as a slug and snail, but excluding any internal parasite of living man or other living animals;
- c. Any plant growing where not wanted, including any moss, alga, liverwort, or other plant of any higher order, and any plant part such as a root; or
- d. Any fungus, bacterium, virus, or other microorganism, except for those on or in living man or other living animals and those on or in processed food or processed animal feed, beverages, drugs (as defined in FFDCA sec. 201(g)(1)) and cosmetics (as defined in FFDCA sec. 201(i)).

Pest Management Area – the area of land, including any water, for which the permittee has responsibility for and is authorized to conduct pest management activities as covered by this permit (e.g., for a permittee who is a mosquito control district, the pest management area is the total area of the district).

Pest Management Measure – any practice used to meet the effluent limitations that comply with manufacturer specifications, industry standards and recommended industry practices related to the application of pesticides, relevant legal requirements and other provisions that a prudent permittee would implement to reduce and/or eliminate pesticide discharges to waters of the State.

Pesticide – means (1) any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, (2) any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant, and (3) any nitrogen stabilizer, except that the term "pesticide" shall not include any article that is a "new animal drug" within the meaning of section 201(w) of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321(w)), that has been determined by the Secretary of Health and Human Services not to be a new animal drug by a regulation establishing conditions of use for the article, or that is an animal feed within the meaning of section 201(x) of such Act (21 U.S.C. 321(x)) bearing or containing a new animal drug. The term "pesticide" does not include liquid chemical sterilant products (including any sterilant or subordinate disinfectant claims on such products) for use on a critical or semi-critical device, as defined in section 201 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321). For purposes of the preceding sentence, the term "critical device" includes any device that introduced directly into the human body, either into or in contact with the bloodstream or normally sterile areas of the body and the term "semi-critical device" includes any device that contacts intact mucous membranes but

which does not ordinarily penetrate the blood barrier or otherwise enter normally sterile areas of the body. [FIFRA Section 2(u)]

The term "pesticide" applies to insecticides, herbicides, fungicides, rodenticides, and various other substances used to control pests. The definition encompasses all uses of pesticides authorized under FIFRA including uses authorized under sections 3 (registration), 5 (experimental use permits), 18 (emergency exemptions), 24(c) (special local needs registrations), and 25(b) (exemptions from FIFRA).

Note: Drugs used to control diseases of humans or animals (such as livestock and pets) are not considered pesticides; such drugs are regulated by the Food and Drug Administration. Fertilizers, nutrients, and other substances used to promote plant survival and health are not considered plant growth regulators and thus are not pesticides. Biological control agents, except for certain microorganisms, are exempted from regulation under FIFRA. (Biological control agents include beneficial predators such as birds or ladybugs that eat insect pests, parasitic wasps, fish, etc).

This permit uses the term "pesticide" when referring to the "pesticide, as applied." When referring to the chemical in the pesticide product with pesticidal qualities, the permit uses the term "active ingredient."

Pesticide Product – a pesticide in the particular form (including composition, packaging, and labeling) in which the pesticide is, or is intended to be, distributed or sold. The term includes any physical apparatus used to deliver or apply the pesticide if distributed or sold with the pesticide.

Pesticide Research and Development – activities undertaken on a systematic basis to gain new knowledge (research) and/or the application of research findings or other scientific knowledge for the creation of new or significantly improved products or processes (experimental development).

Pesticide Residue – includes that portion of a pesticide application that is discharged from a point source to waters of the State and no longer provides pesticidal benefits. It also includes any degradates of the pesticide.

Point Source – any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff. [40 CFR 122.2]

Pollutant – dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water. [Excerpted from 35 Ill. Adm. Code 301.340] For purposes of this definition, a "biological pesticide" is considered a "biological material," and any "pesticide residue" resulting from use of a "chemical pesticide" is considered a "chemical waste." [Excerpted from 40 CFR 122.2]

Small Entity – any (1) public entity that serves a population of 10,000 or less, (2) a person(s) applying pesticides on private property where they or any member of their immediate family reside or property that they own or lease, or (3) a private enterprise that does not exceed the Small Business Administration size standard as identified at 13 CFR 121.201.

Target Pest – the organism(s) toward which pest management measures are being directed.

Total Maximum Daily Loads (TMDLs) – a TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount of the pollutant's sources. A TMDL includes wasteload allocations (WLAs) for point source discharges, load allocations (LAs) for nonpoint sources and/or natural background, and must include a margin of safety (MOS) and account for seasonal variations. [See section 303(d) of the Clean Water Act and 40 CFR 130.2 and 130.7]

Treatment Area – the entire area, whether over land or water, where a pesticide application is intended to provide pesticidal benefits within the pest management area. In some instances, the treatment area will be larger than the area where pesticides are actually applied. For example, the treatment area for a stationary drip treatment into a canal includes the entire width and length of the canal over which the pesticide is intended to control weeds. Similarly, the treatment area for a lake or marine area is the water surface area where the application is intended to provide pesticidal benefits.

Waters – all accumulations of water, surface and underground, natural, and artificial, public and private, or parts thereof, which are wholly or partially within, flow through, or border upon this state.

Water Quality Impaired – see 'Impaired Water'.

Water Quality Standards – a water quality standard defines the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses. Water quality standards also include an antidegradation policy and implementation procedures. See 35 Ill. Adm. Code 302.

Wetlands - means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. [40 CFR 122.2]

A.2. ABBREVIATIONS AND ACRONYMS

CFR	Code of Federal Regulations
CWA	Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 <i>et seq</i>)
FFDCA	Federal Food, Drug, and Cosmetic Act
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. §136 <i>et seq</i>
FWS	United States Fish and Wildlife Service
IDNR	Illinois Department of Natural Resources
IEPA	Illinois Environmental Protection Agency
IEMA	Illinois Emergency Management Agency
IPM	Integrated Pest Management
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NRC	National Response Center
ORW	Outstanding Resource Water
PDMP	Pesticide Discharge Management Plan
TMDL	Total Maximum Daily Load
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
WQS	Water Quality Standard

Appendix B
Standard Permit Conditions – Attachment H

Definitions

Act means the Illinois Environmental Protection Act, 415 ILCS 5 as Amended.

Agency means the Illinois Environmental Protection Agency.

Board means the Illinois Pollution Control Board.

Clean Water Act (formerly referred to as the Federal Water Pollution Control Act) means Pub. L 92-500, as amended. 33 U.S.C. 1251 et seq.

NPDES (National Pollutant Discharge Elimination System) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the Clean Water Act.

USEPA means the United States Environmental Protection Agency.

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Maximum Daily Discharge Limitation (daily maximum) means the highest allowable daily discharge.

Average Monthly Discharge Limitation (30 day average) means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Discharge Limitation (7 day average) means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Aliquot means a sample of specified volume used to make up a total composite sample.

Grab Sample means an individual sample of at least 100 milliliters collected at a randomly-selected time over a period not exceeding 15 minutes.

24-Hour Composite Sample means a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic

intervals during the operating hours of a facility over a 24-hour period.

8-Hour Composite Sample means a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over an 8-hour period.

Flow Proportional Composite Sample means a combination of sample aliquots of at least 100 milliliters collected at periodic intervals such that either the time interval between each aliquot or the volume of each aliquot is proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot.

- (1) **Duty to comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirements.
- (2) **Duty to reapply.** If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. If the permittee submits a proper application as required by the Agency no later than 180 days prior to the expiration date, this permit shall continue in full force and effect until the final Agency decision on the application has been made.
- (3) **Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (4) **Duty to mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- (5) **Proper operation and maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up, or auxiliary facilities, or similar systems only when necessary to achieve compliance with the conditions of the permit.
- (6) **Permit actions.** This permit may be modified, revoked and reissued, or terminated for cause by the Agency pursuant to 40 CFR 122.62 and 40 CFR 122.63. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

- (7) **Property rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.
- (8) **Duty to provide information.** The permittee shall furnish to the Agency within a reasonable time, any information which the Agency may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also furnish to the Agency upon request, copies of records required to be kept by this permit.
- (9) **Inspection and entry.** The permittee shall allow an authorized representative of the Agency or USEPA (including an authorized contractor acting as a representative of the Agency or USEPA), upon the presentation of credentials and other documents as may be required by law, to:
- Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
 - Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 - Sample or monitor at reasonable times, for the purpose of assuring permit compliance, or as otherwise authorized by the Act, any substances or parameters at any location.
- (10) **Monitoring and records.**
- Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - The permittee shall retain records of all monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of this permit, measurement, report or application. Records related to the permittee's sewage sludge use and disposal activities shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503). This period may be extended by request of the Agency or USEPA at any time.
 - Records of monitoring information shall include:
 - The date, exact place, and time of sampling or measurements;
 - The individual(s) who performed the sampling or measurements;
 - The date(s) analyses were performed;
 - The individual(s) who performed the analyses;
 - The analytical techniques or methods used; and
 - The results of such analyses.
 - Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. Where no test procedure under 40 CFR Part 136 has been approved, the permittee must submit to the Agency a test method for approval. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.
- (11) **Signatory requirement.** All applications, reports or information submitted to the Agency shall be signed and certified.
- follows:
- For a corporation: by a principal executive officer of at least the level of vice president or a person or position having overall responsibility for environmental matters for the corporation;
 - For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.
- (b) **Reports.** All reports required by permits, or other information requested by the Agency shall be signed by a person described in paragraph (a) or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- The authorization is made in writing by a person described in paragraph (a); and
 - The authorization specifies either an individual or a position responsible for the overall operation of the facility, from which the discharge originates, such as a plant manager, superintendent or person of equivalent responsibility; and
 - The written authorization is submitted to the Agency.
- (c) **Changes of Authorization.** If an authorization under (b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of (b) must be submitted to the Agency prior to or together with any reports, information, or applications to be signed by an authorized representative.
- (d) **Certification.** Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:
- I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.
- (12) **Reporting requirements.**
- Planned changes.** The permittee shall give notice to the Agency as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required when:
 - The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source pursuant to 40 CFR 122.29 (b); or
 - The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitation under the permit, nor to notification requirements pursuant to 40 CFR 122.42 (a)(1).
 - The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit including notification of additional use or disposal

- sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- (b) **Anticipated noncompliance.** The permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (c) **Transfers.** This permit is not transferable to any person except after notice to the Agency.
- (d) **Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
- (e) **Monitoring reports.** Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (1) Monitoring results must be reported on a Discharge Monitoring Report (DMR).
- (2) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.
- (3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Agency in the permit.
- (f) **Twenty-four hour reporting.** The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24-hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and time; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The following shall be included as information which must be reported within 24-hours:
- (1) Any unanticipated bypass which exceeds any effluent limitation in the permit.
- (2) Any upset which exceeds any effluent limitation in the permit.
- (3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Agency in the permit or any pollutant which may endanger health or the environment.
- The Agency may waive the written report on a case-by-case basis if the oral report has been received within 24-hours.
- (g) **Other noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs (12) (d), (e), or (f), at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (12) (f).
- (h) **Other information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Agency, it shall promptly submit such facts or information.
- (13) **Bypass.**
- (a) **Definitions.**
- (1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
- (2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- (b) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (13)(c) and (13)(d).
- (c) **Notice.**
- (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
- (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (12)(f) (24-hour notice).
- (d) **Prohibition of bypass.**
- (1) Bypass is prohibited, and the Agency may take enforcement action against a permittee for bypass, unless:
- (i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- (ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
- (iii) The permittee submitted notices as required under paragraph (13)(c).
- (2) The Agency may approve an anticipated bypass, after considering its adverse effects, if the Agency determines that it will meet the three conditions listed above in paragraph (13)(d)(1).
- (14) **Upset.**
- (a) **Definition.** Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- (b) **Effect of an upset.** An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (14)(c) are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- (c) **Conditions necessary for a demonstration of upset.** A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant

evidence that:

- (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
 - (2) The permitted facility was at the time being properly operated; and
 - (3) The permittee submitted notice of the upset as required in paragraph (12)(f)(2) (24-hour notice).
 - (4) The permittee complied with any remedial measures required under paragraph (4).
- (d) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.
- (15) **Transfer of permits.** Permits may be transferred by modification or automatic transfer as described below:
- (a) Transfers by modification. Except as provided in paragraph (b), a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued pursuant to 40 CFR 122.62 (b) (2), or a minor modification made pursuant to 40 CFR 122.63 (d), to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act.
 - (b) Automatic transfers. As an alternative to transfers under paragraph (a), any NPDES permit may be automatically transferred to a new permittee if:
 - (1) The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date;
 - (2) The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage and liability between the existing and new permittees; and
 - (3) The Agency does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement.
- (16) All manufacturing, commercial, mining, and silvicultural dischargers must notify the Agency as soon as they know or have reason to believe:
- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant identified under Section 307 of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
 - (1) One hundred micrograms per liter (100 ug/l);
 - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6 dinitrophenol; and one milligram per liter (1 mg/l) for antimony.
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the NPDES permit application; or
 - (4) The level established by the Agency in this permit.
 - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the NPDES permit application.
- (17) All Publicly Owned Treatment Works (POTWs) must provide adequate notice to the Agency of the following:
- (a) Any new introduction of pollutants into that POTW from an indirect discharge which would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and
- pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- (c) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
- (18) If the permit is issued to a publicly owned or publicly regulated treatment works, the permittee shall require any industrial user of such treatment works to comply with federal requirements concerning:
- (a) User charges pursuant to Section 204 (b) of the Clean Water Act, and applicable regulations appearing in 40 CFR 35;
 - (b) Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the Clean Water Act; and
 - (c) Inspection, monitoring and entry pursuant to Section 308 of the Clean Water Act.
- (19) If an applicable standard or limitation is promulgated under Section 301(b)(2)(C) and (D), 304(b)(2), or 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked, and reissued to conform to that effluent standard or limitation.
- (20) Any authorization to construct issued to the permittee pursuant to 35 Ill. Adm. Code 309.154 is hereby incorporated by reference as a condition of this permit.
- (21) The permittee shall not make any false statement, representation or certification in any application, record, report, plan or other document submitted to the Agency or the USEPA, or required to be maintained under this permit.
- (22) The Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$25,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both. Additional penalties for violating these sections of the Clean Water Act are identified in 40 CFR 122.41 (a)(2) and (3).
- (23) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph punishment is a fine of not more than \$20,000 per violation, or by imprisonment of not more than 4 years, or both.
- (17) All Publicly Owned Treatment Works (POTWs) must provide adequate notice to the Agency of the following:
- (a) Any new introduction of pollutants into that POTW from an indirect discharge which would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and
- pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- (c) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
- (18) If the permit is issued to a publicly owned or publicly regulated treatment works, the permittee shall require any industrial user of such treatment works to comply with federal requirements concerning:
- (a) User charges pursuant to Section 204 (b) of the Clean Water Act, and applicable regulations appearing in 40 CFR 35;
 - (b) Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the Clean Water Act; and
 - (c) Inspection, monitoring and entry pursuant to Section 308 of the Clean Water Act.
- (19) If an applicable standard or limitation is promulgated under Section 301(b)(2)(C) and (D), 304(b)(2), or 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked, and reissued to conform to that effluent standard or limitation.
- (20) Any authorization to construct issued to the permittee pursuant to 35 Ill. Adm. Code 309.154 is hereby incorporated by reference as a condition of this permit.
- (21) The permittee shall not make any false statement, representation or certification in any application, record, report, plan or other document submitted to the Agency or the USEPA, or required to be maintained under this permit.
- (22) The Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$25,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both. Additional penalties for violating these sections of the Clean Water Act are identified in 40 CFR 122.41 (a)(2) and (3).
- (23) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph punishment is a fine of not more than \$20,000 per violation, or by imprisonment of not more than 4 years, or both.

- (24) The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
- (25) Collected screening, slurries, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes (or runoff from the wastes) into waters of the State. The proper authorization for such disposal shall be obtained from the Agency and is incorporated as part hereof by reference.
- (26) In case of conflict between these standard conditions and any other condition(s) included in this permit, the other condition(s) shall govern.
- (27) The permittee shall comply with, in addition to the requirements of the permit, all applicable provisions of 35 Ill. Adm. Code, Subtitle C, Subtitle D, Subtitle E, and all applicable orders of the Board or any court with jurisdiction.
- (28) The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit is held invalid, the remaining provisions of this permit shall continue in full force and effect.

(Rev. 7-9-2010 bah)

Part D. Summary of Year 17 Stormwater Activities

(Present a summary of the storm water activities you plan to undertake during the next reporting cycle, including an implementation schedule in the sections following the table.)

The table shown below summarizes the BMPs committed to for Year 17. Specific BMPs and measurable goals for Year 17 program development activities are presented in the sections following the table.

Note: X indicates BMPs committed to for Year 17.

Year 17	
MS4	
A. Public Education and Outreach	
X	A.1 Distributed Paper Material
X	A.2 Speaking Engagement
X	A.3 Public Service Announcement
X	A.4 Community Event
	A.5 Classroom Education Material
X	A.6 Other Public Education
B. Public Participation/Involvement	
	B.1 Public Panel
X	B.2 Educational Volunteer
X	B.3 Stakeholder Meeting
	B.4 Public Hearing
	B.5 Volunteer Monitoring
X	B.6 Program Coordination
X	B.7 Other Public Involvement
C. Illicit Discharge Detection and Elimination	
X	C.1 Storm Sewer Map Preparation
X	C.2 Regulatory Control Program
X	C.3 Detection/Elimination Prioritization Plan
X	C.4 Illicit Discharge Tracing Procedures
X	C.5 Illicit Source Removal Procedures
X	C.6 Program Evaluation and Assessment
X	C.7 Visual Dry Weather Screening
X	C.8 Pollutant Field Testing
	C.9 Public Notification
X	C.10 Other Illicit Discharge Controls

Year 17	
MS4	
D. Construction Site Runoff Control	
X	D.1 Regulatory Control Program
X	D.2 Erosion and Sediment Control BMPs
	D.3 Other Waste Control Program
X	D.4 Site Plan Review Procedures
X	D.5 Public Information Handling Procedures
X	D.6 Site Inspection/Enforcement Procedures
	D.7 Other Construction Site Runoff Controls
E. Post-Construction Runoff Control	
	E.1 Community Control Strategy
X	E.2 Regulatory Control Program
X	E.3 Long-Term O&M Procedures
X	E.4 Pre-Const Review of BMP Designs
X	E.5 Site Inspections During Construction
X	E.6 Post-Construction Inspections
	E.7 Other Post-Const Runoff Controls
F. Pollution Prevention/Good Housekeeping	
X	F.1 Employee Training Program
X	F.2 Inspection and Maintenance Program
X	F.3 Municipal Operations Storm Water Control
X	F.4 Municipal Operations Waste Disposal
X	F.5 Flood Management/Assess Guidelines
X	F.6 Other Municipal Operations Controls

1. Public Education and Outreach

The Village is committing to conduct Public Education and Outreach as part of its permit. Public Education and Outreach requires implementation of a program to distribute educational material to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants to stormwater runoff. BMPs will be implemented under A.1, A.2, A.3, A.4, and A.6 as described below.

BMP No. A.1

Brief Description of BMP:

The Village distributes a variety of paper materials from a number of sources informing the public about stormwater or water quality and why they are important.

Measurable Goal(s), including frequencies:

As in past years, the Village will distribute educational materials at the Public Works Open House. The materials chosen will be targeted toward residents, businesses, and other potential pollutant sources to create better awareness and knowledge of the issue.

Milestones: **Year 17:** The Village will continue to distribute the educational materials at the Public Works Open House.

BMP No. A.2

Brief Description of BMP:

The Village regularly participates in or provides presentations to local civic clubs, watershed groups or other interested parties on topics related to NPDES, stormwater quality, or other similar subjects. Speaking engagements provide the opportunity to inform concerned citizens or interested parties about stormwater quality, environmental impacts, and other NPDES-related issues and activities including ways to help.

Measurable Goal(s), including frequencies:

The Village will provide a speaking engagement to a local group regarding stormwater, water quality, or related issue.

Milestones: **Year 17:** The Village will provide a presentation or speaking engagement to the Lake County Stormwater Management Commission MAC or other interested party.

BMP No. A.3

Brief Description of BMP:

The Village publishes information about stormwater or water quality in the Village newsletter.

Measurable Goal(s), including frequencies:

The articles chosen will be selected to increase the residents’ knowledge and awareness regarding stormwater and water quality.

Milestones: **Year 17:** Publish information articles in the Village newsletter at least once a year.

BMP No. A.4

Brief Description of BMP:

The Village will also continue its presence at and support Village-sponsored public engagements and events. These activities provide opportunities to engage the public on stormwater and/or environmental-related issues and why they are important to all residents and businesses.

Measurable Goal(s), including frequencies:

The Mayor and Village have committed to the National Wildlife Federation’s Mayors’ Monarch Pledge. The goal of this program is help save the monarch butterfly through the action of local units of government and other interested parties. This goal of this program is similar to many aspects of the NPDES program through protecting the environment, increasing or improving open space with naturalized planting, and general environmental awareness and stewardship. This program allows the Village the opportunity engage the community through this and other similar events.

Milestones: **Year 17:** Maintain the existing program and seek additional partnerships or events as funding allows.

BMP No. A.6

Brief Description of BMP:

The Village will utilize other means such as the Village website as a conduit for reaching additional residents and will continue the Public Works Open House.

Measurable Goal(s), including frequencies:

The Village will provide specific information to the targeted residents on stormwater and water quality issues.

Milestones: **Year 17:** The Village will update and modify the information provided as needed to stay current and informative.

2. Public Participation/Involvement

The Village will perform activities and services related to the Public Participation/Involvement minimum control measure. BMPs will be implemented under BMP numbers B.2, B.3, B.6 and B.7 as described below.

BMP No. B.2

Brief Description of BMP:

Village staff regularly participates in volunteering activities that provide opportunities to interact with residents and educate them on the importance of stormwater and water quality. These include many local planning and watershed groups such as DRWW, the MAC of the Lake County Stormwater Management Commission, the Lower Des Plaines Watershed Planning Council, and the BCCWP.

Measurable Goal(s), including frequencies:

Village staff will continue to perform these activities and work to increase participation from its staff and attendance by residents.

Milestones: **Year 17:** The Village will participate in at least one volunteering activity each year.

BMP No. B.3

Brief Description of BMP:

The Village will work to conduct stakeholder meetings as needed to connect directly with impacted residents and to distribute information.

Measurable Goal(s), including frequencies:

Stakeholder meetings offer direct input on issues impacting residents and provide an opportunity to gather feedback as well as disseminate stormwater-related information.

Milestones: **Year 17:** The Village will continue to attend stakeholder meetings.

BMP No. B.6

Brief Description of BMP:

The Village will host an annual clean-up event around a stream or a detention basin. The Village will track the number of residents participating in the event and the amount of waste collected.

Measurable Goal(s), including frequencies:

The Village will host a community clean-up event around a stream or a detention basin. The Village will track the number of residents participating in the event and the amount of waste collected.

Milestones: **Year 17:** The Village will continue to host events.

BMP No. B.7

Brief Description of BMP:

The Village will annually inform residents of the existence of a telephone number for reporting stormwater related issues. The Village will document the number of resident reports received annually.

Measurable Goal(s), including frequencies:

The Village will document the number of resident reports received.

Milestones: **Year 17:** The Village will continue with the program.

3. Illicit Discharge Detection and Elimination

The Village commits to performing some activities related to the Illicit Discharge Detection and Elimination minimum control. BMPs will be implemented under BMP numbers C.1, C.2, C.3, C.4, C.5, C.6, C.7, C.8, and C.10 as described below.

BMP No. C.1

Brief Description of BMP:

The Village has a storm sewer mapping system of the receiving streams and outfalls.

Measurable Goal(s), including frequencies:

The Village will review the map and update as needed.

Milestones: **Year 17:** The Village will continue to update the map as necessary.

BMP No. C.2

Brief Description of BMP:

The Village has an ordinance for Illicit Discharge and Detection Ordinance.

Measurable Goal(s), including frequencies:

The Village will continue to enforce the existing ordinance that prevents non-stormwater discharges to reduce or eliminate pollutants from entering the MS4.

Milestones: **Year 17:** The Village will continue to enforce the existing ordinance.

BMP No. C.3

Brief Description of BMP:

The Village utilizes various tools to identify and report potential illicit discharges. The Village also investigates reports of illicit discharges.

Measurable Goal(s), including frequencies:

The Village will continue to identify and investigate potential illicit discharges to reduce or eliminate the impact on local stormwater systems and receiving streams.

Milestones: **Year 17:** The Village will continue to identify and investigate potential illicit discharges.

BMP No. C.4/C.5

Brief Description of BMP:

The Village will develop procedures to trace and remove detected illicit discharges. The Village will annually trace and remove all illicit discharges identified by resident reporting, visual dry weather screening, and public works maintenance activities.

Measurable Goal(s), including frequencies:

The Village will track, investigate, and eliminate illicit discharges as reported, observed, or identified.

Milestones: **Year 17:** The Village will trace and eliminate illicit discharges as needed.

BMP No. C.6

Brief Description of BMP:

The Village will evaluate the illicit discharge and detection program for effectiveness and possible improvements.

Measurable Goal(s), including frequencies:

The Village will perform regular evaluations of the program that can provide valuable input and opportunity for improvement.

Milestones: **Year 17:** The Village will evaluate the program at least once a year.

BMP No. C.7

Brief Description of BMP:

The Village will perform an annual screening of all outfalls to identify any illicit discharges. The Village will perform an annual screening of 20% of storm sewer structures (manholes, catch basins, and inlets), with a priority placed on storm sewer structures located in industrial areas.

Measurable Goal(s), including frequencies:

The Village will work to utilize inspection forms while performing the dry weather screening inspections.

Milestones: **Year 17:** The Village will evaluate its dry weather inspection form and procedures.

BMP No. C.8

Brief Description of BMP:

The Village regularly samples, test and documents the results of influent and effluent flow to various lakes and streams throughout the community.

Measurable Goal(s), including frequencies:

The Village analyzes the stormwater quality to determine acceptable levels of water quality of its lakes and streams.

Milestones: **Year 17:** The Village will continue the testing.

BMP No. C.10

Brief Description of BMP:

The Village performs annual monitoring of the receiving waters as required by the ILR40 permit conditions.

A segment of Buffalo Creek (GST) is in an approved TMDL water quality plan (Des Plaines River/Higgins Creek Watershed TMDL Report, dated May 2013).

A segment of the Des Plaines River (G-36) is identified on the IEPAs 303d list as impaired for primary recreational contact (fecal coliform), aquatic life (total phosphorus), and fish consumption (mercury and PCBs). No TMDL has been identified for the segment of the Des Plaines River in the Village.

A segment of Indian Creek (GU-02) is identified on the IEPAs 303d list as impaired for aquatic life (DO). No TMDL has been identified for this segment of Indian Creek in the Village.

The Village will monitor the progress of watershed work groups and the establishment of any applicable TMDLs or other Watershed Management Plans. The Village will continue the monitoring and evaluation program.

Measurable Goal(s), including frequencies:

The goal of this activity is to monitor receiving streams for potential changes due to the discharge of stormwater and ensure compliance with applicable TMDLs and Watershed Management Plans to reduce waste load allocations.

Milestones: **Year 17:** The Village will continue the monitoring and assessment program.

4. Construction Site Runoff Control

The Village will perform activities and services related to the Construction Site Runoff Control minimum control measure. BMPs will be implemented under BMP numbers D.1, D.2, D.4, D.5, and D.6 as described below.

BMP No. D.1

Brief Description of BMP:

The Village and County have ordinances in place to allow for review, inspection, and enforcement of construction site runoff controls.

Measurable Goal(s), including frequencies:

The Village will continue to review, inspect, and enforce the ordinance regulations to prevent or reduce the discharge of sediment or other pollutants from construction sites.

Milestones: **Year 17:** The Village will enforce the regulatory procedures.

BMP No. D.2

Brief Description of BMP:

The Village and County have ordinances in place to allow for review, inspection, and enforcement of construction site runoff control BMPs.

Measurable Goal(s), including frequencies:

The Village will continue to review, inspect, and enforce the ordinance regulations to prevent or reduce the discharge of sediment or other pollutants from construction sites as it relates to BMPs.

Milestones: **Year 17:** The Village will enforce the regulatory procedures.

BMP No. D.4

Brief Description of BMP:

The Village has procedures for proposed development plans to be reviewed for compliance.

Measurable Goal(s), including frequencies:

The Village will continue to require all developments to be reviewed for compliance with NPDES regulations and other Village ordinance standards.

Milestones: **Year 17:** The Village will enforce the review procedures.

BMP No. D.5

Brief Description of BMP:

The Village has procedures in place for receiving, logging, and addressing publicly-reported issues.

Measurable Goal(s), including frequencies:

The Village will continue to respond to publicly-reported issues in a timely manner and investigate as needed to address them.

Milestones: **Year 17:** The Village will respond accordingly.

BMP No. D.6

Brief Description of BMP:

The Village and County regulatory programs allow for inspection and enforcement procedures for construction site runoff control.

Measurable Goal(s), including frequencies:

The Village will continue to inspect all new developments for compliance with the Village and County ordinances.

Milestones: **Year 17:** The Village will enforce the ordinance.

5. Post-Construction Runoff Control

The Village will perform activities and services related to the Post-Construction Site Runoff Control minimum control measure. BMPs will be implemented under BMP number E.2, E.3, E.4, E.5, and E.6 as described below.

BMP No. E.2

Brief Description of BMP:

The Village and County have ordinances in place that allow for the review, inspection, and enforcement of post-construction runoff control measures.

Measurable Goal(s), including frequencies:

The Village will continue to enforce the ordinances for compliance with post-construction runoff controls to prevent or reduce the discharge of contaminants from construction sites.

Milestones: **Year 17:** The Village will enforce the ordinances.

BMP No. E.3

Brief Description of BMP:

The Village and County have procedures in place for assisting and evaluating the long-term maintenance of stormwater BMPs.

Measurable Goal(s), including frequencies:

The Village will continue long-term maintenance programs to assist developers and residents.

Milestones: **Year 17:** The Village will continue the long-term maintenance program as indicated in ordinance.

BMP No. E.4

Brief Description of BMP:

The Village and County have procedures in place for the pre-construction review of BMP designs. These procedures include pre-application meetings for large scale developments.

Measurable Goal(s), including frequencies:

The Village will continue the review procedures and modify or evaluate as needed to maintain compliance.

Milestones: **Year 17:** The Village will continue the BMP review procedures.

BMP No. E.5

Brief Description of BMP:

The Village has procedures in place to perform site inspections during construction by qualified personnel.

Measurable Goal(s), including frequencies:

The Village will continue with the site inspection procedures to verify compliance of BMPs in reducing and/or preventing the discharge of contaminants to local waterways and storm sewers.

Milestones: **Year 17:** The Village will continue with the site inspection procedures.

BMP No. E.6

Brief Description of BMP:

The Village has procedures in place to perform site inspections post-construction by qualified personnel.

Measurable Goal(s), including frequencies:

The Village will continue with the site inspection procedures to verify compliance of BMPs in reducing and/or preventing the discharge of contaminants to local waterways and storm sewers.

Milestones: **Year 17:** The Village will continue with the site inspection procedures.

6. Pollution Prevention/Good Housekeeping

This minimum control measure involves the development and implementation of an operation and maintenance program to reduce the discharge of pollutants from municipal operations. This program must include a training program for municipal employees. BMPs will be implemented under BMP numbers F.1, F.2, F.3, F.4, F.5, and F.6 as described below.

BMP No. F.1

Brief Description of BMP:

The Village will conduct annual formal stormwater pollution prevention training for Village employees on topics such as dry weather observation of outfalls using the outfall reconnaissance inventory, illicit discharge tracing and source removal procedures, maintenance of green infrastructure (dry wells), and implementing the SPCC Plan for the Public Works Facility. The Village will document the date, topic, and attendees for employee stormwater pollution prevention training.

Measurable Goal(s), including frequencies:

The Village will continue with the training program aimed at educating Village staff on ways to reduce or prevent stormwater pollution from Village activities.

Milestones: **Year 17:** The Village will continue with the training program.

BMP No. F.2

Brief Description of BMP:

The Village will annually clean the Village storm sewers and storm sewer structures. The Village will annually document the weight of debris removed from the Village storm sewer system.

Measurable Goal(s), including frequencies:

The Village will continue the inspection and maintenance program of stormwater facilities to reduce the amount of debris and pollutants that enter the stormwater system.

Milestones: **Year 17:** The Village will continue the maintenance program.

BMP No. F.3

Brief Description of BMP:

The Village has procedures in place to reduce or prevent the discharge of contaminants to the stormwater system from municipal operations.

Measurable Goal(s), including frequencies:

The Village will continue to be proactive in evaluating municipal activities that could potentially introduce pollutants to the stormwater system and develop methods to reduce or prevent them.

Milestones: **Year 17:** The Village will continue with the municipal control measures and evaluate additional methods as needed.

BMP No. F.4

Brief Description of BMP:

The Village has procedures that require appropriate disposal of all wastes generated during municipal operations.

Measurable Goal(s), including frequencies:

The Village will continue with the disposal program and requirements to reduce or eliminate the release of pollutants from municipal operations.

Milestones: **Year 17:** The Village will continue with the municipal operations disposal program.

BMP No. F.5

Brief Description of BMP:

The Village, County, and State have strict development regulations related to floodplain management and the evaluation of potential development in these areas.

Measurable Goal(s), including frequencies:

The Village will continue to enforce the requirements for potential development in special flood hazard areas.

Milestones: **Year 17:** The Village will continue to enforce the flood management requirements.

BMP No. F.6

Brief Description of BMP:

The Village regularly evaluates their municipal activities for additional ways to reduce or eliminate pollutants from entering the stormwater system including salt reduction, additional de-icing alternatives, and other actions.

Measurable Goal(s), including frequencies:

The Village will continue to evaluate and develop methods or changes to existing practices that can reduce or eliminate pollutants from entering the stormwater system from municipal activities.

Milestones: **Year 17:** The Village will continue the evaluation and monitoring program.

Part E. Notice of Qualifying Local Program

The Village of Buffalo Grove enforces both the Lake County Watershed Development Ordinance and the MWRDGC Watershed Management Ordinance, as well as Village Ordinances. The Village has the authority to enforce the County Ordinances within Village limits, including the Construction Site and Post-Construction Stormwater Runoff Control requirements. As the Village takes on this responsibility, it will assure that construction sites are meeting the ILR10 permit requirements as well as the Counties' Ordinance requirements. The Village will also evaluate its policy toward long-term maintenance of BMPs. The Village also partners with the Lake County Stormwater Management Commission on a variety of activities related to their program. A summary of the Lake County Stormwater Management Commission's activities is attached.

1. Public Education and Outreach:

The Village developed a comprehensive program during the previous 10-year NOI permit period that provides Public Education and Outreach resources to its residents through printed materials and the Village website. The Village will continue this program and the associated activities.

These programs relate to BMP numbers A.1, A.2, A.3, A.4, and A.6.

2. Public Participation/Involvement:

The Village has developed a comprehensive program to address the Public Participation/Involvement requirement developed during the initial 10 years of the NPDES Phase II permit.

These programs relate to BMP numbers B.2, B.3, B.6, and B.7.

3. Illicit Discharge Detection and Elimination:

The Village enforces a comprehensive program to address the Illicit Discharge Detection and Elimination requirements of the NPDES Phase II program. The applicable program details are outlined in the previous sections of this report.

These programs relate to BMP numbers C.1, C.2, C.3, C.4, C.5, C.6, C.7, C.8, and C.10.

4. Construction Site Runoff Control:

The Village enforces the County Ordinance within the Village limits, including the Construction Site and Post-Construction Stormwater Runoff Control requirements.

These programs relate to BMP numbers D.1, D.2, D.4, D.5, and D.6.

5. Post-Construction Runoff Control:

The Village enforces the County Ordinance within the Village limits, including the Construction

Site and Post-Construction Stormwater Runoff Control requirements.

These programs relate to BMP numbers E.2, E.3, E.4, E.5, and E.6.

6. Pollution Prevention/Good Housekeeping:

The goal of this BMP is to identify current practices that contribute to stormwater pollution and implement programs and procedures for municipal activities that curtail the discharge of pollutants to storm sewer systems. The applicable program details are outlined in the previous sections of this report.

These programs relate to BMP numbers F.1, F.2, F.3, F.4, F.5, and F.6.

Part E. Notice of Qualifying Local Program

The Lake County Stormwater Management Commission (SMC) serves as a Qualifying Local Program (QLP) for MS4s in Lake County. In accordance with IEPA's General NPDES Permit No. ILR40, as a QLP, SMC performs activities related to each of the six minimum control measures. This part of the Annual Report, which summarizes the stormwater management activities performed by SMC as a QLP, consists of the following five sections:

- **Part E1** identifies changes to Best Management Practices (BMPs) that occurred during Year 16 and includes information about how these changes affected the QLP's stormwater management program.
- **Part E2** describes the stormwater management activities that the QLP performed during Year 16.
- **Part E3** summarizes the information and data collected by the QLP during Year 16.
- **Part E4** describes the stormwater management activities that the QLP plans to undertake during Year 17.
- **Part E5** lists the construction projects conducted by the QLP during Year 16.

Part E1. QLP Changes to Best Management Practices, Year 16

Note: “X” indicates BMPs that were implemented as planned
✓ indicates BMPs that were changed during Year 16

Year 16	
QLP	
A. Public Education and Outreach	
X	A.1 Distributed Paper Material
	A.2 Speaking Engagement
X	A.3 Public Service Announcement
X	A.4 Community Event
X	A.5 Classroom Education Material
X	A.6 Other Public Education
B. Public Participation/Involvement	
X	B.1 Public Panel
	B.2 Educational Volunteer
X	B.3 Stakeholder Meeting
	B.4 Public Hearing
	B.5 Volunteer Monitoring
X	B.6 Program Coordination
	B.7 Other Public Involvement
C. Illicit Discharge Detection and Elimination	
	C.1 Storm Sewer Map Preparation
X	C.2 Regulatory Control Program
	C.3 Detection/Elimination Prioritization Plan
	C.4 Illicit Discharge Tracing Procedures
	C.5 Illicit Source Removal Procedures
	C.6 Program Evaluation and Assessment
	C.7 Visual Dry Weather Screening
	C.8 Pollutant Field Testing
	C.9 Public Notification
X	C.10 Other Illicit Discharge Controls

Year 16	
QLP	
D. Construction Site Runoff Control	
X	D.1 Regulatory Control Program
X	D.2 Erosion and Sediment Control BMPs
X	D.3 Other Waste Control Program
X	D.4 Site Plan Review Procedures
X	D.5 Public Information Handling Procedures
X	D.6 Site Inspection/Enforcement Procedures
	D.7 Other Construction Site Runoff Controls
E. Post-Construction Runoff Control	
	E.1 Community Control Strategy
X	E.2 Regulatory Control Program
X	E.3 Long Term O&M Procedures
X	E.4 Pre-Const Review of BMP Designs
X	E.5 Site Inspections During Construction
X	E.6 Post-Construction Inspections
X	E.7 Other Post-Const Runoff Controls
F. Pollution Prevention/Good Housekeeping	
X	F.1 Employee Training Program
	F.2 Inspection and Maintenance Program
	F.3 Municipal Operations Storm Water Control
	F.4 Municipal Operations Waste Disposal
X	F.5 Flood Management/Assess Guidelines
X	F.6 Other Municipal Operations Controls

Part E2. QLP Status of Compliance with Permit Conditions, Year 16

IEPA issued its General NPDES Permit No. ILR40 effective March 1, 2016 (the first day of Year 14). SMC has reviewed the new permit, compared it to the previous permit, summarized the changes, and evaluated what the changes appear to mean for Lake County MS4s. Based on these findings, SMC revised its SMPP template and provided it to communities in August 2016; the final draft was provided in November 2016.

The Lake County Stormwater Management Commission (SMC) serves as a Qualifying Local Program (QLP) for MS4s in Lake County. In accordance with IEPA's NPDES General Permit No. ILR40, as a QLP, SMC performs activities related to each of the six minimum control measures. The stormwater management activities that the QLP performed during Year 16 are described below.

A. Public Education and Outreach

A.1 Distributed Paper Material

Measurable Goal(s):

- Distribute informational materials from “take away” rack at SMC. Upon request, distribute materials directly to municipalities for local distribution.

Year 16 QLP activities:

- SMC distributes a variety of informational materials related to stormwater management through its “take away” rack and website.
- Upon request, informational materials are distributed directly to Lake County MS4s in PDF format for use on community websites, in community newsletters, and in community “take away” racks.
- Provided NPDES related information via Facebook.

A.3 Public Service Announcement

Measurable Goal(s):

- Include public service announcement highlighting community accomplishments related to IEPA's NPDES Stormwater Program in “Watershed E-News”;
- Post watershed identification signage with LCDOT;
- Upon request or download “The Big Picture: Water Quality, Regulations & NPDES” to Lake County MS4s.

Year 16 QLP activities:

- SMC includes announcements highlighting community accomplishments related to IEPA's NPDES Stormwater Program on its website, in its newsletter, and through other media outlets ([URL hyperlink](#)).
- Watershed identification signage is located throughout the county.
- SMC continues to make available “The Big Picture: Water Quality, Regulations & NPDES” presentation to Lake County MS4s, ([URL hyperlink](#)).

A.4 Community Event

Measurable Goal(s):

- Sponsor or co-sponsor workshop on a topic related to IEPA's NPDES Stormwater Program.

Year 16 QLP activities:

SMC sponsored or co-sponsored many workshops and events on stormwater-related topics between March 1, 2018 and February 28, 2019, including:

- SMC sponsored a Designated Erosion Control Inspector (DECI) Workshop held on April 5, 2018.
- SMC co-sponsored a river cleanup for Chicago River Day on May 12, 2018 throughout the watershed.
- SMC co-sponsored Parking Lots & Sidewalks De-Icing Workshop held in Libertyville, IL on October 1, 2018.
- SMC co-sponsored Roadway De-Icing Workshop held in Libertyville, IL on October 2 and 3, 2018.
- SMC co-sponsored a Project Tour for the Bull Creek Streambank Restoration Project in Beach Park, IL within the Dead River subwatershed on July 1, 2018.

A.5 Classroom Education

Measurable Goal(s):

- Develop and compile information for stormwater educational kit for distribution upon request.
- Provide materials and training on storm sewer inlet stenciling kits to teachers upon request.

Year 16 QLP activities:

Stormwater educational materials were compiled for use at several public education events that were held between March 1, 2018 and February 28, 2019, including:

- Loch Lomond Property Owners Association's Loch Fest held in Mundelein, IL on July 28, 2018.

A.6 Other Public Education

Measurable Goal(s):

- Maintain and update the portion of the SMC website dedicated to IEPA's NPDES Stormwater Program with resource materials such as model ordinances, case studies, brochures, and web links.
- Make "The Big Picture: Water Quality, Regulations & NPDES" presentation available to Lake County MS4s.

Year 16 QLP activities:

- As new information and resource materials become available, they are posted to the SMC website and/or distributed directly to Lake County MS4s, ([URL hyperlink](#)).
- SMC continues to make available "The Big Picture: Water Quality, Regulations & NPDES" presentation to Lake County MS4s, ([URL hyperlink](#)).
- SMC continues to update and maintain an ArcGIS geospatial web tool for Lake County MS4 programs that indicates TMDL statuses, 303(b), 305(d), HUC 12 watershed information and other information within an MS4 defined boundary, ([URL hyperlink](#)).
- SMC maintains an ArcGIS geospatial web tool for Lake County within the Des Plaines River watershed, allowing the public to see an Inventory of Stream and Detention Basin Information, ([URL hyperlink](#)).
- SMC maintains reference documents for stormwater best practices, BMPs and green infrastructure practices on its website, ([URL hyperlink](#)).
- SMC made available via the Lake County SMC website, Community Awareness Illicit Discharge Education and Elimination Videos.
 - The online videos are available in English and Spanish.
 - Illicit Discharge Education and Elimination (English), ([URL hyperlink](#)).
 - Illicit Discharge Education and Elimination (Spanish), ([URL hyperlink](#)).

B. Public Participation/Involvement

B.1 Public Panel

Measurable Goal(s):

- Provide notice of public meetings on SMC website. Track number of meetings conducted.

Year 16 QLP activities:

- Notice of all public meetings continues to be provided on the SMC website and through direct mailings and e-mailings to distribution lists.
- SMC tracked the number of Stormwater Management Committee Board (SMC) meetings, Technical Advisory Committee (TAC) meetings, Municipal Advisory Committee (MAC), and Watershed Management Board (WMB) meetings conducted during Year 16, between March 1, 2018 and February 28, 2019.
- Per records, there were 9 SMC meetings, Zero TAC meetings, 4 MAC meetings, and 1 WMB meeting conducted during this reporting period.
- According to records, between March 1, 2018 and February 28, 2019, 4 CIRS community inquiries were received and processed by SMC staff.

B.3 Stakeholder Meeting

Measurable Goal(s):

- Provide notice of stakeholder meetings on SMC website.
- Track number of watershed planning committee meetings conducted.
- Establish watershed planning committees for each new watershed planning effort.

Year 16 QLP activities:

- Notice of all stakeholder meetings continues to be provided on the SMC website and through direct mailings and e-mailings to stakeholder lists.
- SMC tracked the number of stakeholder meetings conducted for the various watershed planning committees during the reporting period. The list below summarizes the watershed planning committee meetings that were conducted during Year 16:
 - Des Plaines River Watershed Workgroup – 3 (excluding executive board meetings)
 - North Branch Chicago River Watershed Workgroup– 4 (excluding executive board meetings)
- SMC continues to establish and/or assist watershed planning committees for each new watershed planning effort.

B.6 Program Coordination

Measurable Goal(s):

- Track number of MAC meetings conducted during Year 16.
- Prepare annual report on Qualifying Local Program activities at end of Year 16.

Year 16 QLP activities:

- SMC tracked the number of Municipal Advisory Committee (MAC) meetings conducted during Year 16: According to records, there were 4 MAC meetings conducted during this reporting period. 4/8/18, 6/6/18, 9/5/18, and 12/5/18.
- The stormwater management activities that SMC performed as a QLP during Year 16 are described in the Annual Facility Inspection Report (i.e., Annual Report) template provided to Lake County MS4s.
- The stormwater management activities that SMC plans to perform as a QLP during Year 16 are described in Part E4 of the Annual Report template.

C. Illicit Discharge Detection and Elimination

C.2 Regulatory Control Program

Measurable Goal(s):

- Continue to enforce the countywide WDO.

Year 16 QLP activities:

- SMC continues to enforce the countywide WDO.
- Lake County continues to provide the Lake County Illicit Discharge Detection and Elimination (IDDE) Manual on the SMC website, ([URL hyperlink](#)).

C.10 Other Illicit Discharge Controls

Measurable Goal(s):

- Sponsor or co-sponsor and track the number of attendees at an Illicit Discharge Detection and Elimination workshop or other training workshop related to IEPA's NPDES Stormwater Program.

Year 16 QLP activities:

- SMC sponsored or co-sponsored many workshops and events on stormwater-related topics between March 1, 2018 and February 28, 2019. Such workshops and events are described above.
- SMC made available via the Lake County SMC website, Community Awareness Illicit Discharge Education and Elimination Videos.
 - The online videos are available in English and Spanish.
 - Illicit Discharge Education and Elimination (English), ([URL hyperlink](#)).
 - Illicit Discharge Education and Elimination (Spanish), ([URL hyperlink](#)).

D. Construction Site Runoff Control

D.1 Regulatory Control Program

Measurable Goal(s):

- Continue to enforce the countywide WDO.
- Administer the Designated Erosion Control Inspector (DECI) program outlined by the WDO.

Year 16 QLP activities:

- SMC continues to enforce the countywide WDO.
- SMC continues to administer the Designated Erosion Control Inspector (DECI) program as outlined by the WDO, ([URL hyperlink](#)).
 - Total DECI's who have passed the exam (to date): 741.
 - DECI's who have passed the exam between 03/01/2018 – 02/28/2019: 54.
 - Total listed DECI's (to date): 139 (DECI completed certification process).
 - DECI's have a recertification process every (3) years. Current cycle 2017-2020.

D.2 Erosion and Sediment Control BMPs

Measurable Goal(s):

- Continue to enforce the countywide WDO.
- Complete TRM update and work toward final approval and publication of the document.

Year 16 QLP activities:

- SMC continues to enforce the countywide WDO.
- SMC continues to provide technical guidance and reference materials to support the administration and enforcement of the countywide WDO.
- SMC staff distributed 112 precipitation weather notifications. The rainfall reports indicate county rain events with observed precipitation for guidance on construction site runoff SE/SC inspections.

D.3 Other Waste Control Program

Measurable Goal(s):

- Enforce WDO provisions regarding the control of waste and debris at construction sites.

Year 16 QLP activities:

- SMC continues to enforce the countywide WDO.

D.4 Site Plan Review Procedures

Measurable Goal(s):

- Track number of enforcement officers who have passed the exam.
- Track number of communities that undergo a performance review.
- Complete ordinance administration and enforcement chapter of TRM.

Year 16 QLP activities:

- SMC continues to track the number of enforcement officers (EOs) who have passed the EO exam and have become EOs. Per records, as of the end of Year 16, there are 91 EOs certified in Lake County.
- The list of EOs representing Certified Communities is continually updated and is maintained on the SMC website, ([URL hyperlink](#)).
- In accordance with the amended countywide WDO, the certification process is every 5 years, ([URL hyperlink](#)). The community re-certification process, which includes a performance review of all 53 certified and non-certified communities for permitted development compliance.
- The SMC website includes guidance information to supplement the TRM related to WDO interpretation as well as ordinance administration and enforcement.

D.5 Public Information Handling Procedures

Measurable Goal(s):

- Track number of complaints received and processed related to soil erosion and sediment control (SE/SC).

Year 16 QLP activities:

- SMC continues to track the number of complaints received and processed related to soil erosion and sediment control.
- According to records, between March 1, 2018 and February 28, 2019, 8 SE/SC complaints were received and processed by SMC staff.

D.6 Site Inspection/Enforcement Procedures

Measurable Goal(s):

- Track number of site inspections conducted by SMC.

Year 16 QLP activities:

- SMC continues to track the number of site inspections conducted by SMC staff.
- According to records, between March 1, 2018 and February 28, 2019, 655 site inspections were conducted by SMC staff.
- SMC staff distributed 113 rainfall weather notifications. The rainfall reports indicate county rain events with observed precipitation for construction site runoff SE/SC inspections.

E. Post-Construction Runoff Control

E.2 Regulatory Control Program

Measurable Goal(s):

- Continue to enforce the countywide WDO.

Year 16 QLP activities:

- SMC continues to enforce the countywide WDO.

E.3 Long Term O&M Procedures

Measurable Goal(s):

- Continue to enforce the countywide WDO.

Year 16 QLP activities:

- SMC continues to enforce the countywide WDO.

E.4 Pre-Construction Review of BMP Designs

Measurable Goal(s):

- Continue to enforce the countywide WDO.

Year 16 QLP activities:

- SMC continues to enforce the countywide WDO.

E.5 Site Inspections During Construction

Measurable Goal(s):

- Continue to enforce the countywide WDO.

Year 16 QLP activities:

- SMC continues to enforce the countywide WDO.

E.6 Post-Construction Inspections

Measurable Goal(s):

- Continue to enforce the countywide WDO.

Year 16 QLP activities:

- SMC continues to enforce the countywide WDO.

E.7 Other Post-Construction Runoff Controls

Measurable Goal(s):

- Conduct annual Watershed Management Board (WMB) meeting.
- Contribute funding to flood reduction and water quality improvement projects, including stormwater retrofits, through the WMB.

Year 16 QLP activities:

- The annual WMB meeting was held on Dec. 5, 2018.
- At the annual WMB meeting 6 Projects were selected to receive \$170,760 of funding through the SMC grant program. These projects including planning and in the ground project efforts that support flood reduction, water quality improvement, and stormwater retrofit projects.
 - 6 WMB project grants awarded.
 - 3 Stormwater Infrastructure Repair Fund (SIRF) project grant awarded.
 - 1 Watershed Management Assistance (WMAG) project grant awarded.
- SMC staff attended the Des Plaines River Watershed Workgroup green infrastructure training seminar on 11/7/18.
- SMC staff attended the Green Alleys: An Innovative Approach to Stormwater Manage webinar on 3/7/18 (Sustainable City Network).

F. Pollution Prevention/Good Housekeeping

F.1 Employee Training Program

Measurable Goal(s):

- Provide list of available resources to MS4s.
- Sponsor or co-sponsor employee training workshops or events.
- Make available the Excal Visual Municipal Storm Water Pollution Prevention Storm Watch Everyday Best Management Practices training video and testing.

Year 16 QLP activities:

- SMC continues to provide information on training opportunities and training resources to Lake County MS4s.

- SMC sponsored or co-sponsored a number of workshops and events on stormwater-related topics between March 1, 2018 and February 28, 2019. Such workshops and events are described above.
- SMC continues to make available the Excal Visual Storm Watch Municipal Stormwater Pollution Prevention software to Lake County MS4s. According to records, between March 1, 2018 and February 28, 2019, six (6) MS4s borrowed the Excal Visual software.
- SMC made available in 2018, the Excal Visual “IDDE - A Grate Concern” DVD. The 14¼ minute video focuses on the hazards of illicit discharges and shows and trains government employees and contractors on IDDE and how to spot them. Four (4) MS4s borrowed the Excal Visual software.

F.5 Flood Management/Assess Guidelines

Measurable Goal(s):

- Track number of projects that are reviewed for multi-objective opportunities.

Year 16 QLP activities:

- SMC continues to evaluate all SMC-sponsored projects for multi-objective opportunities, such as flood control and water quality.

F.6 Other Municipal Operations Controls

Winter Roadway Deicing

Measurable Goal(s):

- Advise MS4 communities of watershed groups addressing issues associated with the use of chlorides (i.e. road salt).

Year 16 QLP activities:

- SMC co-sponsored 3 de-icing workshops:
 - Deicing for Parking Lots and Sidewalks 10/01/2018.
 - Deicing Roads 10/02/2018 and 10/03/2018.
 - In total 171 attendees participated in these three workshops.
 - Since 2009 the deicing workshops have had a cumulative attendance of roughly 1,370 attendees.
- A de-icing certification process to promote trained vendors is offered
 - Preferred Providers that successfully completed a Lake County Deicing Training Workshop and passed the Course Exam can be referenced on a Preferred Provider List ([URL hyperlink](#)).
 - Certification is through a third-party vendor, Fortin Consulting, Inc.
 - In 2018, 149 preferred providers have been identified based on certification.
- SMC continues to make available chloride reduction documents
 - Too Much Salt in Our Winter Maintenance Recipe - Tips for Managing Snow and Ice at Home, ([URL hyperlink](#)).
 - Lake County Winter Parking Lot and Sidewalk Maintenance Manual, ([URL hyperlink](#)).
 - Less Salt Equals Less Money, Clean Water, Safe Conditions - Tips for Effective Road Salting, ([URL hyperlink](#)).

Part E3. QLP Information and Data Collection Results, Year 16

The QLP did not collect any monitoring data on behalf of Lake County’s MS4s during Year 16. However, SMC has reviewed information presented by the [Illinois EPA \(IEPA\) in the 2016 Illinois Integrated Water Quality Report and 303\(d\) List](#) and has developed the brief “State of Lake County’s Waters” report provided below.

State of Lake County’s Waters February 2019

This brief report is based on information contained in the Illinois EPA’s 2016 Illinois Integrated Water Quality Report (IIWQR) and Section 303(d) List, dated July 2016. Its purpose is to provide basic information to Lake County’s MS4 communities on the condition of surface waters within Lake County. More detailed information about the condition of surface waters in Lake County can be found in the Illinois EPA’s 2016 Illinois Integrated Water Quality Report and Section 303(d) List.

The Illinois EPA’s 2016 IIWQR and Section 303(d) List assesses the condition of surface water within streams, inland lakes, and Lake Michigan waters. The IEPA assessment of surface water conditions is based on a degree of support (attainment) of a designated use within a stream segment, inland lake or within Lake Michigan. Determination designation is through an analysis of various types of information: including biological, physicochemical, physical habitat, and toxicity data. Illinois waters are designated for various uses including aquatic life, wildlife, agricultural use, primary contact (e.g., swimming, water skiing), secondary contact (e.g., boating, fishing), industrial use, public and food-processing water supply, and aesthetic quality. When sufficient data is available the IEPA assesses each applicable designation as Fully Supporting (Good resource quality), Not Supporting (Fair or Poor resource quality), Not Assessed or Insufficient Information. Uses determined to be Not Supporting are called “impaired,” and waters that have at least one-use assessment as Not Supporting are also called impaired as designated within the 303(d) list.

Streams

An analysis of data accompanying the Illinois EPA’s 2016 IIWQR and Section 303(d) List shows that 179.68 stream miles in Lake County have been assessed by the Illinois EPA for attainment of at least one designated use per the IIWQR Appendix B-2. Specific Assessment Information for Streams, 2016.

An analysis of data accompanying the Illinois EPA’s 2016 Illinois Integrated Water Quality Report and Section 303(d) List shows that 157.84 stream miles (of the 179.68 stream miles that have been assessed) in Lake County are considered impaired by the Illinois EPA. These stream segments have been mapped and are shown in Figure E3.1.

An analysis of the 2014 impaired streams to the 2016 impaired streams, indicates 8 stream miles previously listed in the 2014 303(d) list have new data indicating aquatic life is now “Fully Supported” and applicable water quality standards have been attained; these waters are no longer included in the 2016 303(d) list. The IIWQR mentions there is no specified reason for the recovery.

Table E3.1 2014 303(d) streams removed from 2016 303(d) list					
Assessment ID	Name	Miles	Assessment ID	Name	Miles
IL_G-08	Des Plaines River	0.98	IL_QE-01	Dead Dog Creek	4.02
IL_GV-01	Bull Creek	2.33	IL_DTZS-01	Flint Creek	9.66
IL_RGZB	Hastings Lake	0.34	IL_RTJ	Long Lake	2.85
IL_DT-35	Fox River	5.03	IL_RHK	Eleanor Lake	0.36

IL_HCCB-05	West Fork North Branch	5.73		IL_GWA	North Mill Creek	6.62
IL_GST	Buffalo Creek	8.77		IL_RGZE	Slough Lake	0.42
IL_RGZA	Crooked Lake	1.00				

An analysis of the 2014 impaired streams to the 2016 impaired streams indicates 27 stream miles previously not listed in the 2014 303(d) list are now considered impaired in the 2016 303(d) list as new data indicates impairments.

Table E3.2 Stream Segments added to 2016 303(d) list not previously listed in 2014						
Assessment ID	Name	Miles		Assessment ID	Name	Miles
IL_HCCB-05	West Fork North Branch Chicago River	0.002		IL_QC-03	Waukegan River	1.47
IL_DTRA-W- CI	Fiddle Creek	0.003		IL_GU-02	Indian Creek	11.32
IL_GW-02	Mill Creek	12.96		IL_QA-C4	Pettibone Creek	1.24

Lakes

An analysis of data accompanying the Illinois EPA's 2016 IIWQR and Section 303(d) List shows that 170 inland lakes in Lake County have been assessed by the Illinois EPA for attainment of at least one designated use per the IIWQR Appendix B-3. Specific Assessment Information for Lakes, 2016.

An analysis of data accompanying the Illinois EPA's 2016 IIWQR and Section 303(d) List shows that 140 inland lakes, of the 170 assessed, in Lake County are considered impaired by the Illinois EPA. These lakes have been mapped and are shown in Figure E3.1.

An analysis of the 2014 impaired lakes to the 2016 impaired lakes indicates 5 lakes previously not listed in the 2014 303(d) list are now considered impaired in the 2016 303(d) list as new data indicates impairments.

Table E3.3 Inland Lakes added to 2016 303(d) list not previously listed in 2014						
Assessment ID	Name	Acres		Assessment ID	Name	Acres
IL_RGZD	Miltmore	83.1		IL_VGW	Rollins Savanna #1	8
IL_RGK	Grays	80		IL_VGX	Rollins Savanna #2	53
IL_SGZ	Briarcrest Pond	4				

Lake Michigan

Lake Michigan is monitored by the Illinois EPA through the Lake Michigan Monitoring Program. Bordering Cook and Lake Counties, the State of Illinois has jurisdiction over approximately 1,526 square miles of open water, 13 harbors, and 64 shoreline miles of Lake Michigan.

Located within Illinois is 196 square miles of open water of Lake Michigan, or about thirteen percent of the total open water located within Illinois. These waters were assessed for the 2016 IIWQR and Section 303(d) List, and all 196 assessed square miles were rated as Fully Supporting for the following uses: aquatic life use, primary contact use, secondary contact use, and public and food processing water supply use. However, fish consumption uses in all 196 assessed square miles of open water was rated as Not Supporting due to contamination from polychlorinated biphenyls (PCBs) and mercury. Additionally, aesthetic quality use in all 196 assessed square miles of open water was rated as Not Supporting due to exceedances of the Lake Michigan open water standard for total phosphorus. It should be noted that such

exceedances do not necessarily indicate that there are offensive conditions in Lake Michigan due to excessive algal or aquatic plant growth.

Along Illinois' Lake Michigan coastline, four of the 13 harbors are currently assessed in the 2016 IIWQR and Section 303(d) List, for several different designated uses. The Illinois EPA uses data collected from the Lake Michigan Monitoring Program harbor component to assess water quality for the following designated uses:

- Aesthetic Quality, a 0.18 sq. mi area was assessed, with 0.12 sq. mi fully supporting and 0.06 sq. mi Not Supporting (poor).
- Aquatic Life, a 3.88 sq. mi area was assessed, with 3.82 sq. mi fully supporting and 0.06 sq. mi Not Supporting (poor).
- Fish Consumption, a 2.62 sq. mi area was assessed, with 2.62 sq. mi Not Supporting (poor).
- Primary and Secondary Contact were not assessed.

Table C-10 of the IIWQR, lists potential causes of impairment in the harbors of Lake Michigan that can include Pesticides, Organic Pollutants, Metal Pollutants as well as polychlorinated biphenyls (PCBs), mercury, bottom deposits, lead, zinc, cadmium, arsenic, phosphorus, copper, and chromium.

Along Illinois' Lake Michigan coastline, a portion of all 64 shoreline miles of Lake Michigan located in Illinois were assessed for the Illinois EPA's 2016 IIWQR and Section 303(d) List for several different designated uses. Contamination sources for Not Supporting is due to polychlorinated biphenyls (PCBs) and mercury and bacterial contamination from *Escherichia coli* (*E. coli*) bacteria.

- Aesthetic Quality and Aquatic Life were not assessed.
- Fish Consumption, 64 mi area was assessed, with 64 mi Not Supporting (poor).
- Primary Contact, 64 mi area was assessed, with 5.5 mi fully supporting and 58.5 mi Not Supporting (poor).
- Secondary Contact, 5.5 mi area was assessed, with 5.5 mi fully supporting.

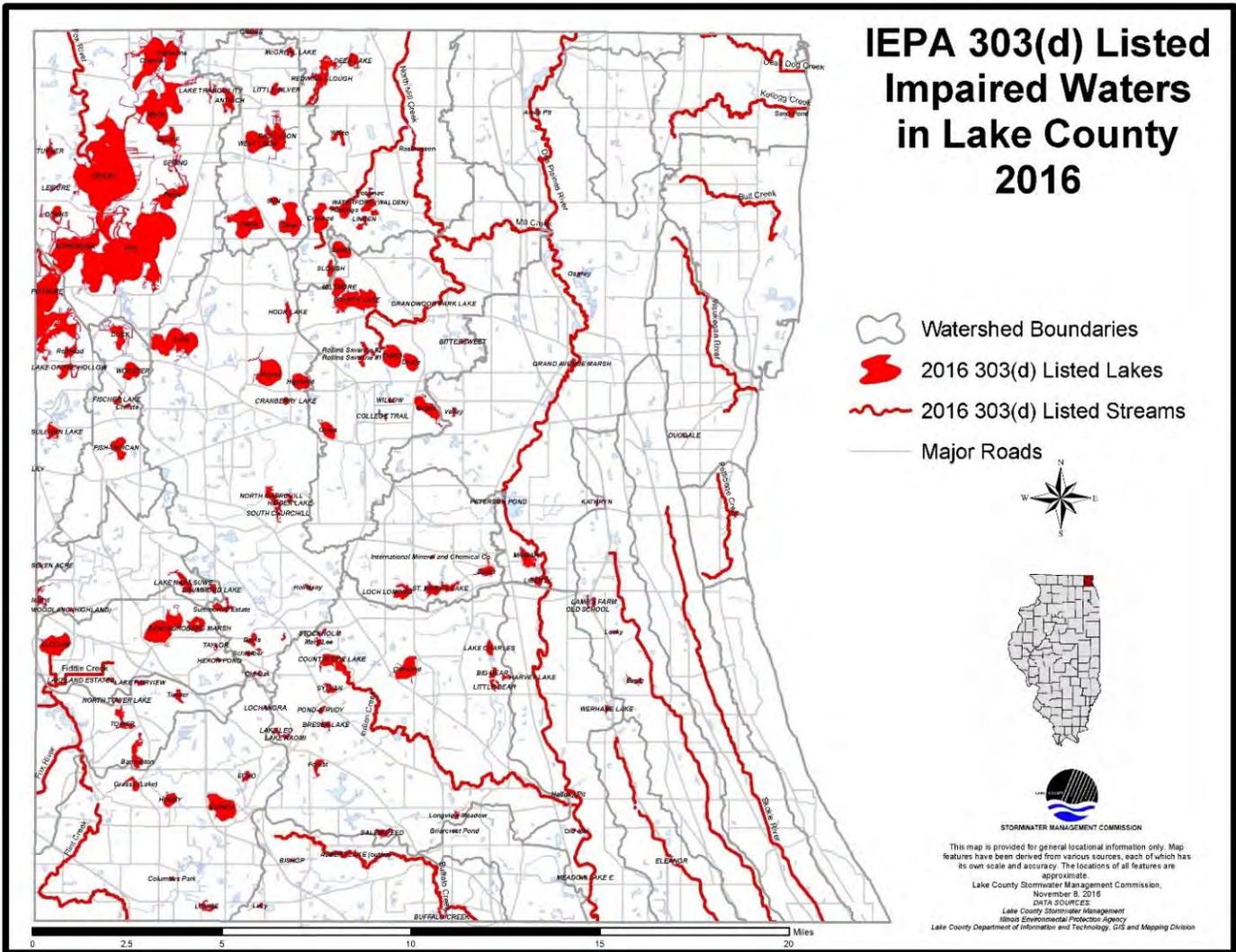


Figure E3.1

Monitoring

The Des Plaines River Watershed Workgroup (DRWW) monitors water quality in the Des Plaines River and tributaries to accurately identify the quality of the river ecosystems as well as stressors associated with non-attainment of water quality standards and designated uses. During the current YR16 reporting period, DRWW's monitoring program includes: Water/Sediment sampling and analysis at 71 Monitoring Locations for 2018; Bioassessment monitoring at 20 monitoring locations; Continuous water quality monitoring with data sondes and Chlorophyll a sampling and analysis at 14 Monitoring Locations; and Flow Monitoring data collection at 21 sites. An annual water chemistry monitoring report was submitted to Illinois EPA on behalf of DRWW members in March 2019, which covers the NPDES II monitoring requirements for MS4 communities that are DRWW members. The Des Plaines River Watershed Monitoring Strategy was also updated and submitted to Illinois EPA in March 2018. The MS4 is currently a DRWW member for the reporting year (URL: <http://www.drww.org/members>).

The North Branch Watershed Workgroup (NBWW) monitors water quality in the North Branch of the Chicago River and tributaries to accurately identify the quality of the river ecosystems as well as stressors associated with non-attainment of water quality standards and designated uses. Monitoring data will allow for a greater understanding of the water quality impairments, identify priority restoration activities, and track water quality improvements. The Workgroup is committed to an approach for attaining water quality standards that focuses on stakeholder involvement, monitoring, and locally led decision-making based on sound science. Comprehensive baseline monitoring has been completed at all 25 sites for water column chemistry and sampled 11 sites for fish, habitat, macroinvertebrate, and sediment chemistry. Data sondes were deployed at 7 sites in the Middle Fork and Skokie River for collection of dissolved oxygen (D.O), pH, temperature, and specific conductance. The NBWW will continue to support the North Branch Watershed Planning Committee and the North Branch Watershed Consortium through regular discussion at general meetings. MS4 communities that are currently NBWW members for the reporting year are located at (URL: www.nbwwil.org).

The LCHD Lakes Management Unit has been collecting water quality data on Lake County lakes since the late 1960s. Since 2000, 176 different lakes each year have been studied and data collected on temperature, dissolved oxygen, phosphorus, nitrogen, solids, pH, alkalinity, chloride, conductivity, water clarity, the plant community and shoreline characteristics. Lake summary reports can be found, ([URL hyperlink](#)). This data is used as part of ongoing watershed planning efforts throughout the county, which result in specific programmatic and site-specific recommendations throughout the county. SMC is currently developing an application to assist communities in identifying potential site-specific recommendations within their jurisdictional boundaries.

Part E4. QLP Summary of Year 17 Stormwater Activities

The table below indicates the stormwater management activities that the QLP plans to undertake during Year 17. Additional information about the BMPs and measurable goals that the QLP will implement during Year 17 is provided in the section following the table.

Note: “X” indicates BMPs that will be implemented during Year 17

Year 17		Year 17	
QLP		QLP	
A. Public Education and Outreach		D. Construction Site Runoff Control	
X	A.1 Distributed Paper Material	X	D.1 Regulatory Control Program
X	A.2 Speaking Engagement	X	D.2 Erosion and Sediment Control BMPs
X	A.3 Public Service Announcement	X	D.3 Other Waste Control Program
X	A.4 Community Event	X	D.4 Site Plan Review Procedures
X	A.5 Classroom Education Material	X	D.5 Public Information Handling Procedures
X	A.6 Other Public Education	X	D.6 Site Inspection/Enforcement Procedures
			D.7 Other Construction Site Runoff Controls
B. Public Participation/Involvement		E. Post-Construction Runoff Control	
X	B.1 Public Panel		E.1 Community Control Strategy
	B.2 Educational Volunteer	X	E.2 Regulatory Control Program
X	B.3 Stakeholder Meeting	X	E.3 Long Term O&M Procedures
	B.4 Public Hearing	X	E.4 Pre-Const Review of BMP Designs
	B.5 Volunteer Monitoring	X	E.5 Site Inspections During Construction
X	B.6 Program Coordination	X	E.6 Post-Construction Inspections
	B.7 Other Public Involvement	X	E.7 Other Post-Const Runoff Controls
C. Illicit Discharge Detection and Elimination		F. Pollution Prevention/Good Housekeeping	
	C.1 Storm Sewer Map Preparation	X	F.1 Employee Training Program
X	C.2 Regulatory Control Program		F.2 Inspection and Maintenance Program
	C.3 Detection/Elimination Prioritization Plan		F.3 Municipal Operations Storm Water Control
	C.4 Illicit Discharge Tracing Procedures		F.4 Municipal Operations Waste Disposal
	C.5 Illicit Source Removal Procedures	X	F.5 Flood Management/Assess Guidelines
	C.6 Program Evaluation and Assessment	X	F.6 Other Municipal Operations Controls
	C.7 Visual Dry Weather Screening		
	C.8 Pollutant Field Testing		
	C.9 Public Notification		
X	C.10 Other Illicit Discharge Controls		

The Lake County Stormwater Management Commission (SMC) is a Qualifying Local Program for MS4s in Lake County. SMC has been providing services under four of the six minimum control categories since it began implementing a comprehensive, countywide stormwater program in 1991. The revised SMPP template clarifies and emphasizes the significant efforts by SMC related to each of the six minimum control measures. These QLP commitments provide Lake County with a baseline Countywide stormwater management program that can be built upon by each of the individual MS4s.

During Year 17, SMC remains committed to performing a variety of stormwater management activities across the County, these commitments are now specifically outlined in the SMPP template. SMC program is continually evolving, to better assist Lake County MS4s in meeting the requirements of the 2016-2021 MS4 Permit.

A. Public Education and Outreach

SMC will continue to support Lake County MS4s in the development and implementation of their stormwater management programs by performing activities related to the Public Education and Outreach minimum control measure, as described below.

A.1 Distributed Paper Material

SMC compiles, develops, and distributes throughout Lake County a variety of materials related to stormwater management.

Measurable Goal(s):

- Develop and Distribute informational materials from “take away” rack at SMC.
- Upon request, distribute informational materials directly to Lake County MS4s for local distribution.

A.2 Speaking Engagement

SMC provides educational presentations related to IEPA’s NPDES Stormwater Program on a regular basis at Municipal Advisory Committee (MAC) meetings. Upon request, SMC will provide educational presentations related to IEPA’s NPDES Stormwater Program to Lake County MS4s.

Measurable Goal(s):

- Provide educational presentations related to IEPA’s NPDES Stormwater Program at MAC meetings.
- Upon request, provide educational presentations related to IEPA’s NPDES Stormwater Program to Lake County MS4s.

A.3 Public Service Announcement

SMC performs extensive Social Media Outreach & Announcement Activities. Public service announcement related to IEPA’s NPDES Stormwater Program or Stormwater BMPs are included in SMC’s watershed E-News. SMC also utilizes social media and coordinates with the Lake County Department of Transportation (LCDOT) to post watershed identification signage in watersheds where watershed planning activities have occurred or are occurring.

Measurable Goal(s):

- Include public service announcements related to IEPA’s NPDES Stormwater Program or stormwater BMPs in watershed E-News at least once each year.
- Post watershed identification signage in cooperation and collaboration with LCDOT.
- Provide information via social media (Facebook and Twitter).

A.4 Outreach Events

SMC sponsors and co-sponsors educational and technical training workshops on a variety of stormwater management-related topics. Each year, SMC will sponsor or co-sponsor at least one

workshop on a topic related to IEPA's NPDES Stormwater Program, such as soil erosion and sediment control, illicit discharge detection and elimination, or stormwater best management practices (BMPs) that can be used to protect and improve water quality.

Measurable Goal(s):

- Sponsor or co-sponsor workshop on stormwater-related topics.
- Track workshops and events.

A.5 Classroom Education Material

Upon request, SMC will contribute to the development and compilation of material for inclusion in a stormwater education kit that can be distributed to local students and teachers and/or other local stakeholders. Additionally, upon request, SMC will provide information, materials, and training to local students and teachers and/or other local stakeholders interested in conducting storm drain stenciling.

Measurable Goal(s):

- Upon request, develop and compile materials for inclusion in a stormwater education kit.
- Upon request, provide information, materials, and training to local students and teachers and/or stakeholders interested in conducting storm drain stenciling.

A.6 Other Public Education

SMC maintains a website that contains a variety of materials and resources related to stormwater management. The website provides information about IEPA's NPDES Stormwater Program, provide information about stormwater best management practices (BMPs), allow for download of stormwater management-related publications and documents, provide notices of upcoming meetings and ongoing projects, includes watershed plans and watershed workgroup information, and provide links to a number of other stormwater management-related resources

Measurable Goal(s):

- Maintain and update the portion of the SMC website dedicated to IEPA's NPDES Stormwater Program with resources such as model ordinances, case studies, brochures, and links including information related to climate change.
- Make "The Big Picture: Water Quality, Regulations & NPDES" presentation available to Lake County MS4s.
- Make available via the Lake County SMC website, Community Awareness Illicit Discharge Education and Elimination Videos. The online videos are available in English and Spanish; English version, ([URL hyperlink](#)); Spanish version ([URL hyperlink](#)).

B. Public Participation/Involvement

SMC will continue to support Lake County MS4s in the development and implementation of their stormwater management programs by performing activities related to the Public Participation/Involvement minimum control measure, as described below.

B.1 Public Panel

SMC provides procedural guidance and implements its Citizen Inquiry Response System (CIRS) for receiving and taking action on information provided by the public regarding post-construction stormwater runoff control. SMC coordinates and conducts public meetings as well as committee meetings that are open to the public.

Measurable Goal(s):

- Implement and provide guidance on existing CIRS procedures.
- Provide notice of public meetings on SMC website.
- Track number of meetings conducted.

B.3 Stakeholder Meeting

SMC is actively involved in watershed planning throughout Lake County. SMC believes that the watershed planning process cannot happen and will not be successful without the input, interest, and commitment of the watershed stakeholders. Watershed stakeholders may include municipalities, townships, drainage districts, homeowner associations, lakes management associations, developers, landowners, and local, county, state, and federal agencies.

Measurable Goal(s):

- Provide notice of stakeholder meetings on SMC website.
- Track number of watershed committee meetings conducted.
- Establish watershed planning committees for each new watershed planning effort.

B.6 Program Involvement

Consistent with Lake County's comprehensive, countywide approach to stormwater management, SMC serves as a Qualifying Local Program (QLP) for all Lake County MS4s. In this role, in 2002, SMC proactively formed the Municipal Advisory Committee (MAC) to provide a forum for representatives of local MS4s, which include municipalities, townships, and drainage districts, to discuss, among other topics, the implementation of IEPA's NPDES Stormwater Program. SMC will continue to facilitate MAC meetings and will continue to provide general support to Lake County MS4s as they continue to develop and implement their stormwater management programs. SMC will prepare an annual report on its stormwater management activities and will provide guidance to Lake County MS4s in preparing their own annual reports.

Measurable Goal(s):

- Track number of MAC meetings conducted.
- Prepare annual report template for use by Lake County MS4s including a description of the Qualifying Local Program stormwater management activities.
- Prepare/maintain SMPP template for use by Lake County MS4s in creating their own SMPP.

C. Illicit Discharge Detection and Elimination

SMC will continue to support Lake County MS4s in the development and implementation of their stormwater management programs by performing activities related to the Illicit Discharge Detection and Elimination minimum control measure, as described below. Note, however, that the primary responsibility for the implementation of the Illicit Discharge Detection and Elimination minimum control measure lies with the MS4.

Measurable Goal(s):

- Continue to make available information regarding prioritization of outfalls for illicit discharge screening activities.
- Continue to make available compiled GIS data related to the County's existing stormwater infrastructure (e.g. storm sewer atlases, stream inventories and detention basin inventories).

C.2 Regulatory Control Program

SMC provides local MS4s with model and example illicit discharge ordinances that prohibit all non-stormwater discharges, including illegal dumping, to the storm sewer system. Additionally, the WDO includes provisions that prohibit illicit discharges to the storm sewer system during construction (i.e., prior to final site stabilization) on development sites.

Measurable Goal(s):

- Provide model and example illicit discharge ordinances to Lake County MS4s.
- Continue to administer and enforce the WDO.

C.10 Other Illicit Discharge Controls

SMC regularly sponsors and co-sponsors educational and technical training workshops on a variety of stormwater management-related topics.

Measurable Goal(s):

- Sponsor or co-sponsor and track the number of attendees at an Illicit Discharge Detection and Elimination workshop or other training workshop related to IEPA's NPDES Stormwater Program.
- Distribute informational materials about the hazards of illicit discharges and illegal dumping from "take away" rack at SMC and SMC website.

D. Construction Site Runoff Control

Lake County has adopted a countywide Watershed Development Ordinance (WDO) that establishes the minimum stormwater management requirements for development in Lake County, including requirements for construction site runoff control.

D.1 Regulatory Control Program

The WDO is the regulatory mechanism that requires the use of soil erosion and sediment controls on development sites throughout Lake County. SMC has also created a Designated Erosion Control Inspector (DECI) program, a program designed to closely mirror the inspection requirements of IEPA's General NPDES Permit No. ILR10.

Measurable Goal(s):

- Continue to administer and enforce the WDO.
- Continue to administer the Designated Erosion Control Inspector (DECI) program outlined by the WDO.

D.2 Erosion and Sediment Control BMPs

§600 of the WDO specifies the soil erosion and sediment control measures that must be used in conjunction with any land disturbing activities conducted on a development site. SMC maintains technical guidance resources and documents to accompany the WDO.

Measurable Goal(s):

- Continue to administer and enforce the WDO.
- Continue to maintain technical guidance documents.

D.3 Other Waste Control Program

The WDO includes several provisions that address illicit discharges generated by construction sites. The applicant is required to prohibit the dumping, depositing, dropping, throwing, discarding, or leaving of litter and construction material and all other illicit discharges from entering the stormwater management system.

Measurable Goal(s):

- Continue to administer and enforce the provisions of the WDO related to the control of waste and debris during construction on development sites.

D.4 Site Plan Review Procedures

A community's designated enforcement officer is responsible for reviewing and permitting development plans and for administering and enforcing the provision of the WDO. Within certified communities the responsibility lies with the MS4; within non-certified communities the designated enforcement officer is SMC's chief engineer. SMC administers this enforcement officer program, providing training on an as-needed basis to all enforcement officers to assist them in passing the exam, and maintains an up-to-date list identifying each community's designated enforcement officer. In addition to administering the enforcement officer program, SMC periodically reviews each community's WDO administration and enforcement records,

using the results of such review to evaluate the performance of certified communities and designated enforcement officers.

Measurable Goal(s):

- Administer the Enforcement Officer (EO) program outlined by the WDO.
- Maintain an up-to-date list identifying each community's designated enforcement officer.
- Periodically review each community's WDO administration and enforcement records. Re-Certification Procedure.
- Continue to maintain technical guidance documents.

D.5 Public Information Handling Procedures

SMC provides a number of opportunities for the receipt and consideration of information submitted by the public.

Measurable Goal(s):

- Document and track the number of soil erosion and sediment control-related complaints received and processed by SMC.

D.6 Site Inspection/Enforcement Procedures

Article 11 of the WDO contains both recommended and minimum requirements for the inspection of development sites. Within certified communities, the community's designated enforcement officer is responsible for conducting these inspections; within certified communities, SMC's chief engineer is responsible for conducting these inspections. Article 12 of the WDO specifies the legal actions that may be taken and the penalties that may be imposed if the provisions of the WDO are violated.

Measurable Goal(s):

- Document and track the number of site inspections conducted by SMC.

E. Post-Construction Runoff Control

As described above, Lake County has adopted a countywide Watershed Development Ordinance (WDO) that establishes the minimum stormwater management requirements for development in Lake County, including requirements for post-construction runoff control.

E.2 Regulatory Control Program

Proposed stormwater management strategies must address the runoff volume reduction requirements described in §503 of the WDO and must include appropriate stormwater BMPs to address the other applicable post-construction runoff control requirements of the WDO.

Measurable Goal(s):

- Continue to administer and enforce the WDO.

E.3 Long Term O&M Procedures

§401 of the WDO requires that maintenance plans be developed for all stormwater management systems and, §500 further details deed or plat restriction requirements for all stormwater management systems.

Measurable Goal(s):

- Continue to administer and enforce the WDO.

E.4 Pre-Construction Review of BMP Designs

As described above, a community's designated enforcement officer is responsible for reviewing and permitting development plans and for administering and enforcing the provisions of the WDO. This includes a review of the stormwater BMPs that will be used to meet the post-construction runoff control requirements of the WDO and adherence to the Runoff Volume Reduction standards of §503.

Measurable Goal(s):

- Continue to administer and enforce the WDO.

E.5 Site Inspections During Construction

As described above in MCM D.6 Article 11 of the WDO contains both recommended and minimum requirements for the inspection of development sites.

Measurable Goal(s):

- Continue to administer and enforce the WDO.

E.6 Post-Construction Inspections

SMC has collaborated on a number of watershed-based plans throughout the County. These watershed plans included a stream and detention basin inventories. The plans also include a list of site-specific best management practices within various communities based on an assessment of these inventories and other data. SMC is currently developing an application to assist communities in identifying potential project sites, recommended in adopted watershed plans, within their jurisdictional boundaries.

Measurable Goal(s):

- Continue to administer and enforce the WDO.
- Develop an application, for use by MS4s, to identify adopted watershed plan recommendations within their communities.
- Watershed Planning Status Map, ([URL hyperlink](#)).
- Lake County Watershed Based Plans, ([URL hyperlink](#)).

E.7 Other Post-Construction Runoff Controls

Through the Watershed Management Board (WMB), SMC provides partial funding for flood damage reduction and surface water quality improvement projects. The WMB, which includes representatives from the Lake Michigan, North Branch of the Chicago River, Fox River, and Des Plaines River watersheds, meets annually to review potential projects and to make recommendations on stormwater BMP project funding. Members of the WMB include chief municipal elected officials, township supervisors, drainage district chairmen, and county board members from each district found within each of Lake County's four major watersheds. The goal of the WMB program is to maximize opportunities for local units of government and other groups to have input and influence on the solutions used to address local stormwater management problems. Previous WMB-funded projects have reduced flooding, improved surface water quality, and enhanced existing stormwater management facilities throughout Lake County.

Measurable Goal(s):

- Conduct annual WMB meeting.
- Contribute funding to flood damage reduction and water quality improvement projects through the WMB.

F. Pollution Prevention/Good Housekeeping

SMC will continue to support Lake County MS4s in the development and implementation of their stormwater management programs by performing activities related to the Pollution Prevention/Good Housekeeping minimum control measure, as described below. Note, however, that the primary responsibility for the implementation of the Pollution Prevention/Good Housekeeping minimum control measure lies with the MS4.

F.1 Employee Training Program

SMC will assist Lake County MS4s with the development and implementation of their employee training programs by maintaining a list of known employee training resources and opportunities,

making available a software-based employee training program, and providing technical assistance to local MS4s. In addition, each year, SMC will sponsor or co-sponsor training workshops.

Measurable Goal(s):

- Maintain a list of known employee training resources and opportunities.
- Make available the Excal Visual Storm Watch: Municipal Storm Water Pollution Prevention software-based employee training program.
- Make available the Excal Visual IDDE: A Grate Concern software-based employee training program.
- Sponsor or co-sponsor a training workshop related to pollution prevention/good housekeeping or other training workshop related to IEPA's NPDES Stormwater Program.

F.5 Flood Management/Assess Guidelines

In working toward meeting its primary goals of flood damage reduction and surface water quality improvement, SMC follows a set of stormwater management policies that were created to define its roles and responsibilities for stormwater management in Lake County. One of these policies is to integrate multi-objective opportunities (e.g., flood damage reduction, surface water quality improvement, environmental enhancement) into SMC-sponsored projects. In accordance with this policy, SMC will evaluate all SMC-sponsored projects for multi-objective opportunities.

Measurable Goal(s):

- Track number of SMC-sponsored projects that are reviewed for multi-objective opportunity.

F.6 Other Municipal Operations Controls

SMC develops and distributes chloride reduction documents and materials. Each year, SMC will sponsor or co-sponsor at least one workshop on a topic related to winter de-icing. Lake County also publishes a "Lake County Winter Maintenance Preferred Providers" list. Providers included on this list have successfully completed a Lake County Deicing Training Workshop and passes the associated course exam.

Measurable Goal(s):

- Advise MS4 communities of watershed groups addressing issues associated with the use of chlorides (i.e. road salt).
- Sponsor or co-sponsor at least one workshop on a topic related to winter de-icing.
- Make available chloride reduction documents on take-away racks and the website.

