

# Stormwater Management Plan Update



Village of Allouez, Wisconsin

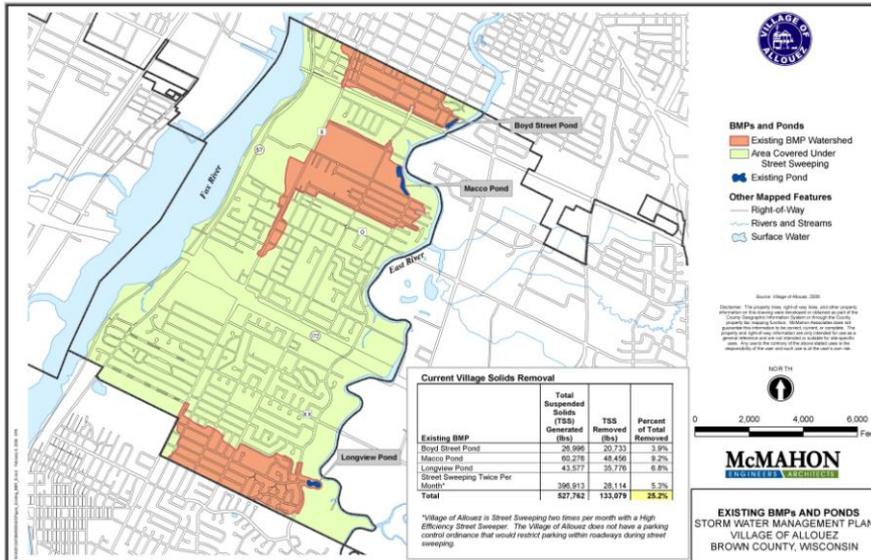
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February 11, 2009



## Current TSS Removal

STORMWATER MANAGEMENT PLAN UPDATE  
VILLAGE OF ALLOUEZ, WISCONSIN



# Pending New DNR Regulations

## TMDL or Total Maximum Daily Load

### Lower Fox River Total Maximum Daily Load Numeric Targets for Phosphorus and Total Suspended Solids

- The Lower Fox River Basin has 14 waterbodies that are polluted by phosphorus (a nutrient needed for plant growth) and total suspended solids (such as sediment). Excessive amounts of these pollutants cause poor water clarity and increased algal blooms and impact recreational activities, such as swimming and boating. Other impacts include: degraded habitat for fish and other aquatic organisms, poor aesthetics, loss of tourism, and lower property values.
- Wisconsin currently does not have statewide numeric water quality standards for total phosphorus (TP) or total suspended solids (TSS).
- Numeric targets, needed to restore water clarity and increase beneficial submerged aquatic vegetation in Lower Green Bay, were calculated using monitoring data collected by WDNR, GBMSD, USGS, UW-Sea Grant, UW-Green Bay and UW-Milwaukee (Great Lakes Water Institute).
- Targets or numeric goals (concentrations) for phosphorus and total suspended solids **have been proposed for the Lower Fox River and tributary streams to meet water quality standards:**

Tributary Streams in the Lower Fox River Basin	0.075 mg/L (TP)*	64 mg/L (TSS)
Lower Fox River (main stem from Lake Winnebago Outlet to the De Pere Dam	0.10mg/L (TP)*	24 mg/L (TSS)
Lower Fox River (downstream of the De Pere Dam to Lower Green Bay)	0.12 mg/L (TP)**	24 mg/L (TSS)

\*The 0.10 mg/L and 0.075 mg/L goals for TP are consistent with statewide criteria being proposed for phosphorus.

\*\*Site specific criteria for phosphorus may be proposed for downstream of the De Pere Dam in the Fox River to Lower Green Bay (from AuSable point across the bay to Longtail Point). This is supported by modeling that established a relationship between TSS, TP, light extinction, and Secchi depth in the River and Lower Green Bay.

## Lower Fox River Total Maximum Daily Load

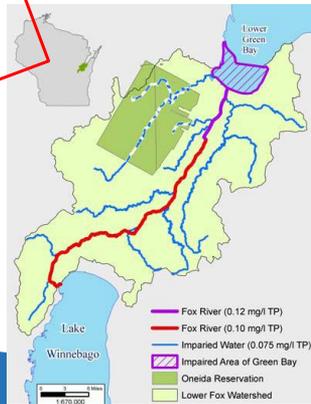
Numeric Targets for Phosphorus and Total Suspended Solids  
continued...

- Pollutant loads associated with a TMDL will be determined using the numeric target concentrations proposed above for each impaired waterbody in the Lower Fox River Basin. Pollutant loads are generally calculated with the following equation:  
 $\text{stream flow} \times \text{concentration} = \text{load}$ .

- Special thanks to Ad-hoc Science Team members contributing to setting numeric targets:

- Paul Baumgart – UWGB
- Kevin Fermanich – UWGB
- Bud Harris – UWGB
- Paul Sager – UWGB
- John Kennedy – GBMSD
- Val Klump – UW-Milwaukee Water Institute
- Tim Ehlinger – UW-Milwaukee
- Theresa Qualls – UW-Sea Grant
- Vicky Harris – UW-Sea Grant
- Nicole Richmond – WDNR
- Rob McLennan – WDNR

**DRAFT**



## How Could TMDLs Impact Allouez?

- Increased Sediment Removal Above the 40% Current Regulation
- Independent Reduction Goals for the Fox River and East River
- Need for Treatment of Stormwater on the Fox River
- Additional Treatment on the East River
- 40% Fox River and 60% East River Scenario

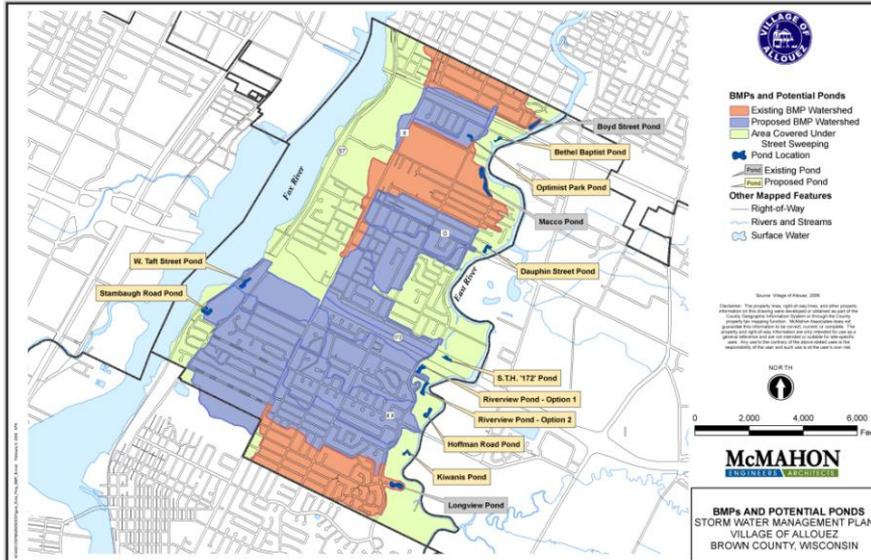
## Stormwater Modeling Update For 2013 Compliance

- 40% TSS Removal (211,104 pounds)
- Enhanced Sweeping Program
- Potential BMP Alternatives

## Enhanced Sweeping

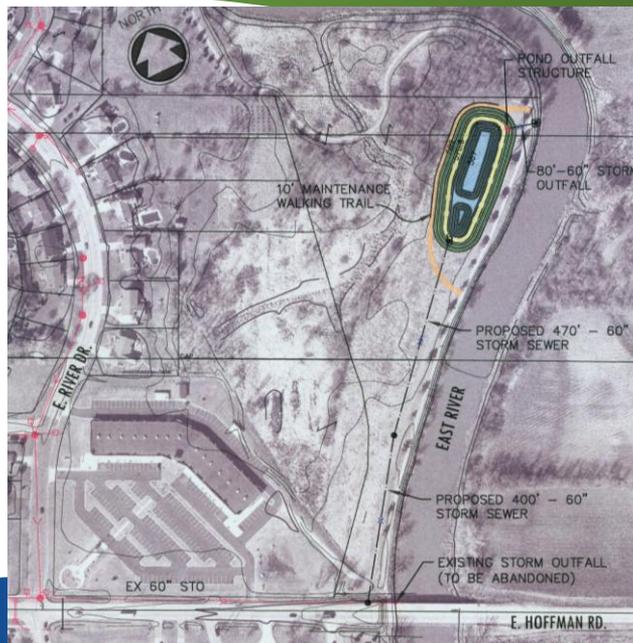
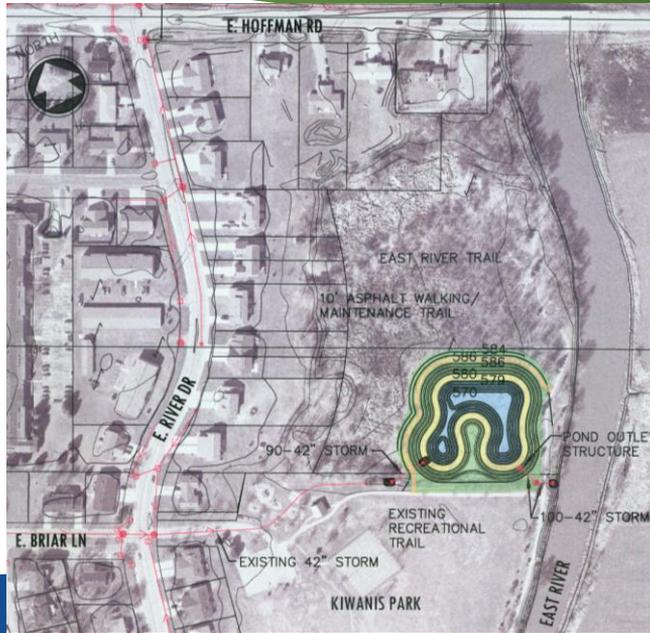
- Current Sweeping Practice
  - 2 times per month
  - TSS Removal = 28,114 pounds
  - Accounts for 13.32% of the 211,104 pounds required
- Proposed Sweeping Practice
  - 2 times per month with Parking Controls
  - TSS Removal = 56,909 pounds
  - Accounts for 26.96% of the 211,104 pounds required
  - Adopting a Parking Ordinance DOUBLES the Sweeping Impact without increasing frequency

## Potential BMPs to Achieve 40%



## Proposed BMPs to Remove 40% Required for 2013

	Total Suspended Solids (TSS) Generated (lbs)	TSS Removed (lbs)	Percent of Total Removed	
<b>Existing BMP</b>				
Boyd Street Pond	26,996	20,733	3.9%	
Macco Pond	60,276	48,456	9.2%	
Longview Pond	43,577	35,776	6.8%	
Street Sweeping twice per month*	396,913	28,114	5.3%	
<b>Sub Total:</b>	<b>527,761</b>	<b>133,078</b>	<b>25.2%</b>	
	Total Suspended Solids (TSS) Generated (lbs)	TSS Net Gain (lbs)	Percent of Total Removed	% of Total Removed (Relation to 78,026 lbs)*
<b>Future BMP Alternatives</b>				
Kiwanis Pond	28,068	19,009	3.6%	24.4%
Hoffman Road Pond	36,393	25,426	4.8%	32.6%
Riverview Option #1 Pond	39,313	27,030	5.1%	34.6%
HWY 172 Pond	18,981	16,144	3.1%	20.7%
Daughin Road Pond	45,733	29,846	5.7%	38.3%
Optimist Park Pond	21,250	15,645	3.0%	20.1%
Bethel Pond	16,869	11,759	2.2%	15.1%
Taft Street Pond	63,722	40,095	7.6%	51.4%
Stambaugh Road Pond	56,712	38,096	7.2%	48.8%
Total to achieve 40% - 2013			**	***
* Total Suspended Solids Required to be removed (via Net Gain) to obtain 40% TSS Reduction: 211,104 lbs-133,078 lbs = 78,026 lbs				
** Selected Ponds shall total 15% or more				
*** Selected Ponds shall total 100% or more				
Note: Optimist and Bethel Ponds are located within the same watershed. Likewise, Taft Street Pond and Stambaugh Road Pond are located within the same watershed. Only one pond within each watershed can be constructed to achieve the TSS Net Gain identified within the table.				



## Future BMPs with Regulatory Impacts

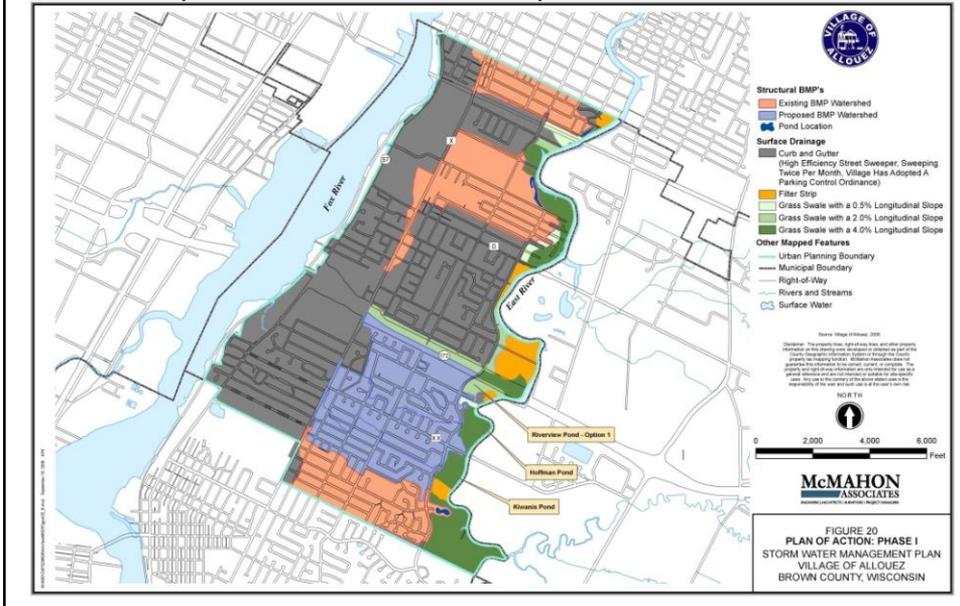
### ■ BMP Sites

- Riverview Pond Option #1
- Hwy 172 Pond
- Dauphin Road Pond
- Optimist Park Pond
- Taft Pond

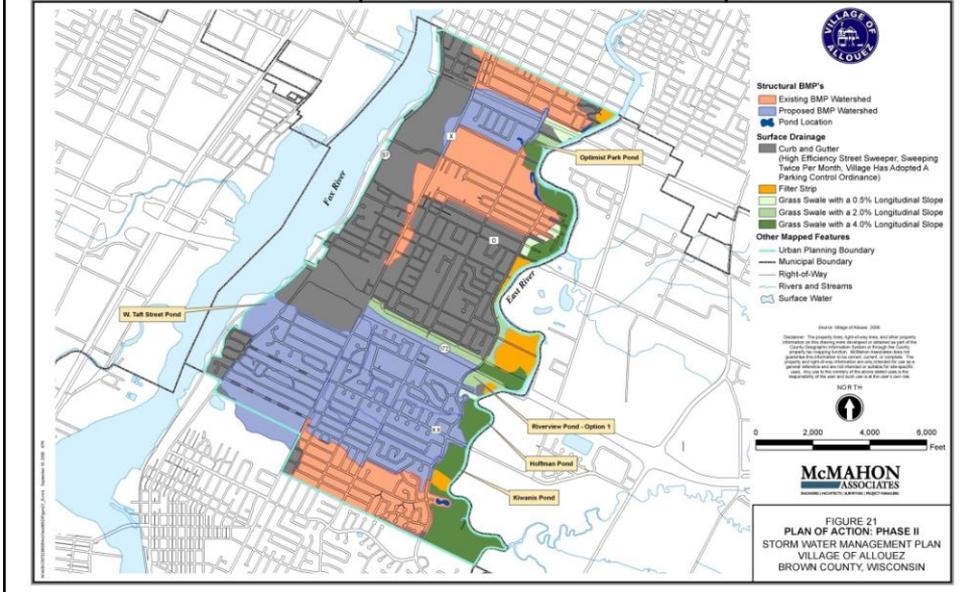
## Alternatives Analysis Document

- Prompted by Riverview Option #1
- Establishes Project Impacts
  - Environmental Impacts
  - TMDL Impacts
  - Public Sentiment/Support
  - Cost-Effectiveness
- Submittal to WDNR
- Approval by WDNR
- Path Forward is Determined
- Regulatory Permitting Can Move Forward

## 2013 Compliance Plan: Phase I Map



## Combined 2013 and Estimated TMDL Compliance Plan: Phase II Map



## Proposed Implementation Plan & Schedule

### ■ Phase 1 - April 2008

- The storm water compliance report, Kiwanis and Hoffman grant applications, and planning grant were completed. Planning grant program was cancelled by WDNR, but treatment pond grants will be awarded to Allouez (the 2 grants to Allouez are part of only 15 grants awarded statewide).

### ■ Phase 2 - April 2009

- Submit storm water compliance report to WDNR (in progress).
- Submit a planning grant funding application for Taft site permitting, illicit discharge program implementation, street sweeping program development, and TMDL planning.

Continued...

### ■ Phase 3 - April 2010

- Submit a Construction Grant Funding Application for the Bethel Detention Pond (or alternate Riverview Site #1 if permitting appears feasible).
- Submit a grant assistance application for a high efficiency street sweeper and other costs incurred in implementing the parking control program. This grant funding and trade-in of the old mechanical street sweeper should result in a very economical fleet addition. A second high efficiency sweeper is important for future increased sweeping frequency.
- Begin implementation of the high efficiency street sweeping plan with parking controls.

Continued...

■ Phase 4 - April 2012

- Submit a construction grant assistance application to the WDNR for construction of the Taft Street wet detention pond if site is obtained and permitted by WDNR.

■ Phase 5 - April 2014

- Submit a construction grant application for a Riverview Site and one additional treatment site on the East River.

## Final Implementation Plan & Schedule

- Approved Alternatives Analysis will establish the Path Forward

## Stormwater Meeting Recommendations

- Request committees to support the Kiwanis and Hoffman Road Projects by recommending to the Village Board that they accept the grants when offered and proceed with the projects.
- Request committees to support Stormwater Planning by recommending to the Village Board that the DPW submit a Planning Grant Application in April 2009 for additional planning work in 2010 for future storm water needs for the Village.
- Recommend to the Village Board that the DPW work with the Parks Committee with regard to multiple uses of the Kiwanis and Hoffman sites.

Continued...

- Recommend that a Public Informational Meeting be held to present the Stormwater Program to the general public. Following the public meeting, the Village Board would be asked to approve the Stormwater Management Program thru the 2010 year of the Plan.
- Request committees support the Street Sweeping Program with parking controls to the Village Board, and if approved, proceed with program planning and a grant application in 2010 for the parking controls and an additional sweeper (to include trading or selling the mechanical sweeper to defray the cost of a new sweeper).
- Request committees' support by recommending the Village Board conduct another stormwater meeting when the current permitting work at Taft and Riverview sites is complete and a grant application is to be prepared for submittal for project funding for one of these projects.

# Questions



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