

**MINNEHAHA CREEK WATERSHED DISTRICT**

**Technical Advisory Committee**

**August 28<sup>th</sup>, 2008**

**3:00 pm**

**City of Minnetonka Community Center**

14600 Minnetonka Blvd

Minnetonka, MN 55345

(952) 939-8390

Shady Oak Room

**AGENDA**

1. Discuss Task Force Recommendations: ~90 min
  1. Formula to Determine Wetland Buffer Widths

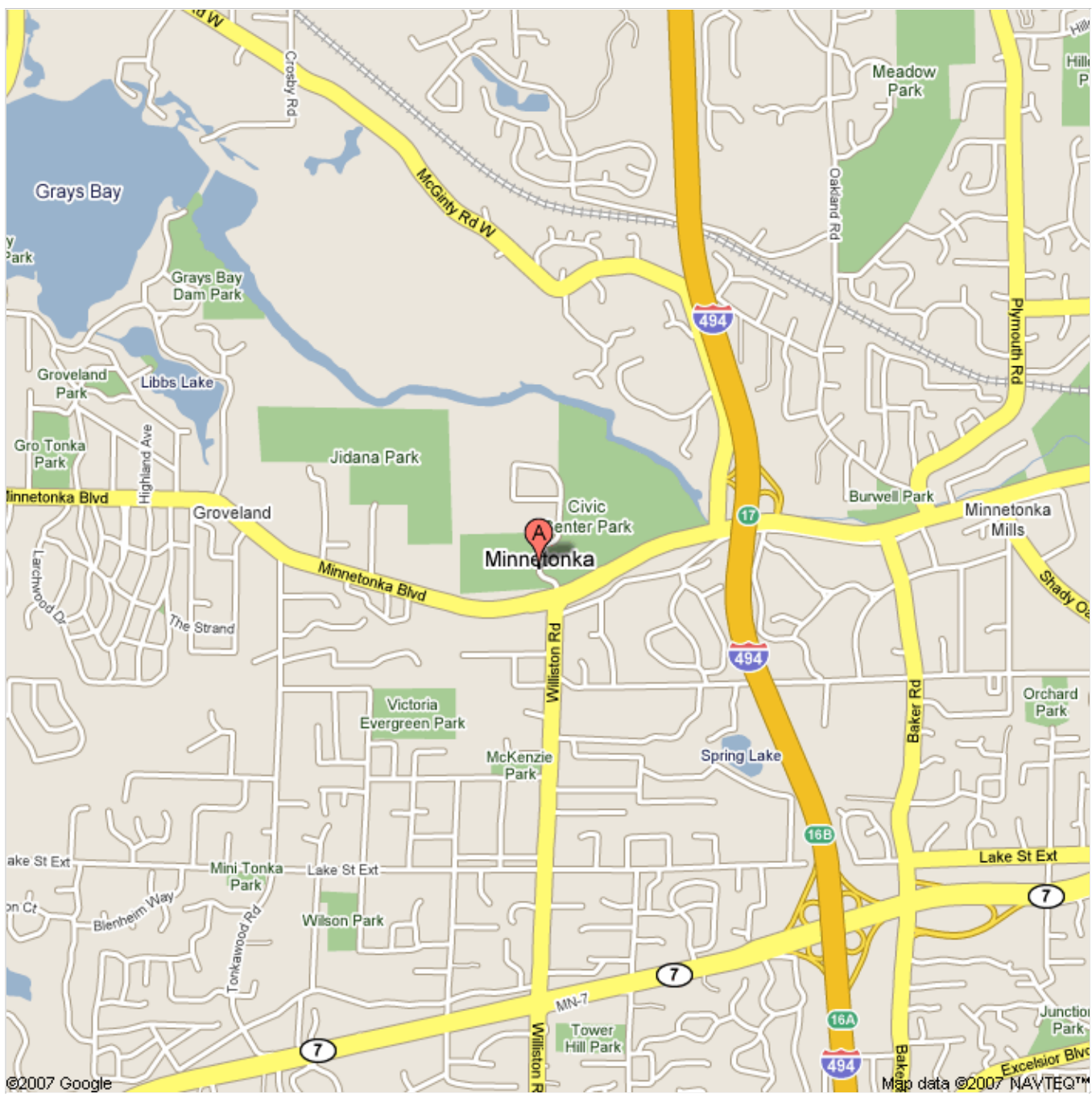
**MINNEHAHA CREEK WATERSHED DISTRICT**  
**8-28-08**  
**Technical Advisory Committee Meeting**

**TABLE OF CONTENTS**

1. Map
2. Memo to TAC
3. 7-23-08 Rulemaking Task Force Summary
4. 6-26-08 Technical Advisory Committee Summary



Results 1-1 of about 1 for community center near Minnetonka, MN



A. Minnetonka **Community Center**  
14600 Minnetonka Blvd, Minnetonka, MN  
(952) 939-8390

## Memorandum

DATE: August 25<sup>th</sup>, 2008  
TO: Rulemaking Technical Advisory Committee  
FROM: James Wisker  
RE: August 28<sup>th</sup>, Rulemaking Meeting

### **INTRODUCTION:**

During the June meeting of the Technical Advisory Committee, the TAC provided comments on the following policy items and associated recommendations from the Citizen Task Force:

1. Buffer Vegetation Performance Standards
2. Maintenance/Monitoring of Wetland Buffer Vegetation
3. Location of Required Wetland Mitigation
4. Location of Allowable Wetland Banks
5. Wetland Excavation not regulated by Wetland Conservation Act

The TAC provided both verbal and written comments regarding items #3 and #4 and the burden that such requirements may place on street improvement projects. There was also productive discussion surrounding the proposed standards for wetland buffer vegetation and the requirement for ongoing maintenance and monitoring. Many of these comments served to provide specific standards and procedures for accomplishing the stated objectives.

The summary of the TAC discussion surrounding these issues is enclosed in this document.

### **TASK FORCE SUMMARY:**

Following the June meeting, the Citizen Task Force met in July to continue discussion on Rule D: Wetland Protection.

These discussions included how to best determine the required width of a wetland buffer. A summary of discussion on this topic is provided below:

MCWD Staff presented to the Task Force the idea of using the District’s Functional Assessment of Wetlands (FAW) as a basis for determining wetland buffer width. The FAW categorizes wetlands based on their individual characteristics into: Preserve, Manage 1, Manage 2 and Manage 3. District staff proposed to use these classifications to determine how wide a particular buffer should be. This approach would result in larger buffers for the highest quality wetlands and smaller buffers for lower quality resources.

The Rulemaking Task Force voted against this approach on the basis that two wetlands may have identical management classifications but different baseline characteristics. For example, a wetland may be listed as Preserve due to its *exceptional* rating for vegetative diversity while another wetland may be Preserve because it is listed as *high* for shoreline protection.

The Rulemaking Task Force argued that any system to determine buffer width should take into account these differences and requested that MCWD staff develop a formulaic, performance based approach to calculating buffer widths.

Staff presented for review, a weighted criteria approach that allocates a specific buffer width and a weighting value to each of the characteristics measured in the FAW (Table 1).

Table 1.

Criteria	Buffer Benefit <sup>2</sup>	Criteria Rating	Recommended Buffer (ft)	Weighted Buffer <sup>3</sup>
Vegetative Diversity	0.3	Medium	16	4.8
Stormwater Susceptibility	0.2		0	0
Wetland Water Quality	0.3		0	0
Hydrologic Regime	0.2	High	20	4
Buffer Soil Type	0.3		0	0
Buffer Slope (%)	0.4		0	0
Downstream Water Quality Protection	0.3	Exceptional	24	7.2
Shoreline Protection	0.2	Low	8	1.6

TOTAL BUFFER  
WIDTH

17.6

The Rulemaking Task Force favored this approach and requested that the formula also take into account the following pieces of information that were determined to correlate to buffer width:

- **Restoration Potential of a Wetland**
  - Task Force Representatives wanted to ensure that degraded wetlands did not continue to be degraded due to lower quality wetlands being provided smaller buffers.
  
- **Buffer Vegetation Plan**
  - The Task Force felt that smaller buffers may be permitted by the District if an applicant provides a robust landscape/vegetation plan that includes a period of monitoring and maintenance. The rationale being that a higher quality buffer will outperform a lower quality buffer of the same width.
  
- **Wildlife/Amphibian Habitat**
  - Amphibian Habitat was a criteria originally removed from Table 1 as it was felt to overlap with other criteria. Subsequent meetings revealed further discussion on this topic and a desire to include it as a basis for determining appropriate buffer width.

Following the review of Table 1 as a basis for determining wetland buffer widths, the Rulemaking Task Force received additional literature on the performance of wetland buffers relative to their width.

This information included numerous published, peer reviewed journal articles on buffer width as it relates to nutrient removal, volume reduction, species richness and vegetative diversity.

The Rulemaking Task Force then proceeded to participate in a voting exercise to illustrate a preferred range of widths for wetland buffers. With only 10 members present, the results were:

- 20' - 4 minimums
- 25' - 2 minimums
- 30' - 2 minimums
- 50' - 4 maximums
- 70' - 1 maximum
- 75' - 2 maximums
- 100' - 1 maximum
- 300' - 1 maximum

**OBJECTIVE OF 8-28-08 TAC MEETING:**

The August 28<sup>th</sup> meeting of the TAC will be used to receive feedback and comments from the TAC on the Citizen Task Forces proposal for determining wetland buffer widths.

If the TAC feels this approach is valid, it will be asked to provide any feedback that may improve the methodology or implementation of this approach.

Conversely, if the TAC rejects this proposal, it will be asked to provide constructive criticism as well as support an alternative.

# MINNEHAHA CREEK WATERSHED DISTRICT

## Technical Advisory Committee

### Summary of June 26<sup>th</sup>, 2008

**Committee Members Present:** Jim Haertel, Rachael Crabb, Mark Perry, Holly Kreft, Jesse Struve, Liz Stout, Lois Eberhart, James Landini

**MCWD Managers Present:** None

**MCWD Staff Present:** James Wisker, Natalie White

James Wisker provided a brief update on the process to date including the status of draft rule language and the schedule for the remainder of the process.

### Discussion of Proposed Wetland Buffer Management Requirements

#### **1. Buffer Vegetation Performance Standards:**

Existing Rule: Under the existing rule, no ongoing monitoring or maintenance is required of applicants who establish native vegetation within required wetland buffers.

Problem: Recently graded/created wetland buffers require ongoing maintenance in order to achieve a level of well established native vegetation. If not properly maintained wetland buffers are subject to strong competition from invasive species which greatly reduces the function of a wetland buffer. Native vegetation promotes greater levels of suspended solids filtration as well as infiltration due to a larger biomass below the surface. The longer more aggressive tap roots of native species serve to de-compact soil and provide channels for the infiltration of runoff.

Solution: Similar to the requirements imposed under the Wetland Conservation Act, MCWD could require a post construction monitoring/maintenance period. During this time, vegetation is surveyed annually and maintained as needed to achieve a specified percentage of native species and biodiversity.

**The TAC agreed that the quality of created wetland buffers would be improved if MCWD were to adopt a post-construction maintenance/monitoring requirement of new wetland buffers**

## 2. Wetland Buffer Vegetation:

Existing Rule: Wetland buffers are frequently required on projects with existing vegetation adjacent to the wetland. Only in instances where that vegetation is impacted due to grading activities does the District require the establishment of a native plant community.

Problem: Areas of sod, Kentucky Bluegrass or invasive species offer reduced protection for the wetland, provide little to no habitat benefit and limit infiltration capacity within the buffer.

Solution: Vegetation surveys could be required for projects required to establish permanent wetland buffers. Poor existing vegetation would require the creation of a native buffer.

**The TAC agreed that in some situations it would be beneficial to require projects to improve existing ‘non-desirable’ vegetation in order to establish a functional wetland buffer. However, many TAC members disagreed that Kentucky Blue-Grass or other non-native grass species should be considered poor filterers of suspended solids**

Proposed Standards to Address Policies 1 & 2:

1. Acceptable wetland buffers shall have the following qualities:

- a. A continuous dense layer of native perennial grasses that have been uncultivated or unbroken for at least ten consecutive years, or
- b. At least eighty percent canopy closure of native trees and/or shrubs that have been uncultivated or unbroken for at least ten consecutive years
- c. A mixture of plant communities described in a. and b. which have been uncultivated or unbroken for at least ten consecutive years.

**The TAC agreed that the District would benefit from adopting a specific standard for acceptable ‘existing’ wetland buffer vegetation.**

2. Unacceptable wetland buffers have the following qualities, including but not limited to:

- a. Has vegetation composed of more than twenty five percent of undesirable plant species, including but not limited to reed canary grass, common buckthorn, purple loosestrife, bull thistle and other noxious weeds, or
- b. Topography which tends to channelize the flow of surface runoff, or
- c. Consists of more than ten percent bare soil or turf grass where not covered by tree or shrub canopy.

**The TAC agreed that the District should also identify standards for unacceptable ‘existing’ wetland buffer vegetation, if the District is to require buffer improvements on existing vegetation.**

3. Existing wetland buffer vegetation that is determined by the District to be unacceptable, must be restored to a condition consistent with ‘acceptable wetland buffers’ defined above. A restoration plan must be submitted to the District which meets the following criteria:
- a. Wetland buffers shall be planted with a seed mix containing one hundred percent perennial native plant species.
  - b. The proposed seed mix shall consist of at least twelve pounds pure live seed (PLS) per acre of native prairie grass seed and five pounds per acre of native forbs. Native prairie grass and native forb mixes shall contain no fewer than four and five species respectively. Native shrubs and or trees may be used in addition to accepted seed mixes.

**The Rulemaking Task Force recommended specifying the desired seed mix (BWSR or MNDOT) rather than a specific weight of pure live seed. The TAC expanded on this recommendation asking that the District simply specify the requirement of natives and require a seed mix or landscaping plan incorporated into the construction documents that the District could then approve.**

- c. All seeded areas shall receive appropriate erosion control ~~immediately~~ **within [timeframe]**. This can include erosion control blanket, disc anchored straw mulch or hydro-seed.

**The TAC recommended the changes indicated above:**

- d. All seeded buffer areas shall receive appropriate sediment control ~~immediately~~ **within [timeframe]** ~~in the form of silt fence~~ between exposed soils and the seeded buffer. Sediment controls shall remain in place until the buffer vegetation is established.

**The TAC recommended the changes indicated above:**

4. The District may allow the disturbance of an existing acceptable wetland buffer during the course of construction activity **upon plan approval**. This disturbance shall be kept to a minimum and will be permitted primarily in instances where wetland buffer disturbance is critical to completing the project. Following wetland buffer disturbance, the area must be de-compacted to a level that will accommodate root growth and the wetland buffer must be established as required in section 3.

**The TAC recommended that the District craft language which specifies where buffer disturbance is not preferable. In addition, the TAC recommended that the District approve buffer disturbance through ‘plan approval’. The TAC also favored the language which specifies the goal of de-compaction which allows applicants to determine the most appropriate method.**

5. The District may require a period of wetland buffer maintenance following the completion of the project **that includes a significant amount of native plant establishment as determined by MCWD**. Where required, the affected property owner or homeowners association that is responsible for the maintenance must:

**The TAC recommended that the maintenance/monitoring period be limited to three years following completion of construction. The TAC also indicated that one report should be sufficient where reports are required for both the Wetland Conservation Act and MCWD requirements. The TAC also recommended the changes shown above:**

- a. Submit an annual vegetation monitoring report which shall include:
  - i. A map of plant communities within the wetland buffer
  - ii. The relative dominance of native plant species to invasive undesirable species.
  - iii. A maintenance plan for the following year to achieve no greater than twenty five percent dominance of invasive or undesirable plant species.
- b. Maintain and repair damage to wetland buffer areas from such activities as mowing, cutting, grading or other prohibited activities.

**The TAC recommended that the District specify where mowing may be acceptable as a vegetation management technique.**

- c. Maintain the permitted native vegetation in the wetland buffer area.
- d. ~~Remove invasive and noxious plant species until~~
- e. Ensure that all soil surfaces within the wetland buffer are planted with native vegetation and that there is no open soil surface that may result in erosion.
- f. Once a wetland buffer has reached at least seventy five percent dominance of native plant species, the affected property owner or homeowners association may cease the submittal of annual monitoring reports upon written approval from the District.

#### **6. Location of Required Wetland Mitigation:**

Proposed Policy: The Minnehaha Creek Watershed District shall require that all wetland mitigation be located as close the wetland impact as possible with mitigation not to occur outside the same sub-watershed as the impact.

**Both the Rulemaking Task Force and TAC recommended that this requirement be structured in a manner that used sequencing of mitigation sites which would allow applicants to mitigate outside the subwatershed if no other viable options exist.**

## **7. Location of Allowable Wetland Banks to Meet Mitigation Requirements:**

Proposed Policy: The Minnehaha Creek Watershed District shall require that all wetland banking credits used to offset wetland impacts be located as close to the wetland impact as possible with banks to not extend outside the same sub-watershed as the impact.

**The Rulemaking Task Force recommended that the banking requirements be structured in a manner consistent with the sequencing recommendations for wetland mitigation. The TAC was generally opposed to this requirement on the basis that it would create an unnecessary burden on road projects undertaken by entities like the County or MNDOT who routinely use the State Road Bank operated by BWSR.**

## **8. Wetland Excavation not Regulated by the Wetland Conservation Act:**

Existing Rule: The Minnehaha Creek Watershed District currently regulates excavation in wetlands not subject to regulation under the State Wetland Conservation Act. In these instances the District requires that excavation area be mitigated for at a ratio of 1:1. Wetland excavation can be deemed self mitigating if the wetland in question is determined to be degraded and the proposed excavation would result in an increase in the function and values of the wetland.

Problem: The intent of this rule is to allow certain wetland excavation that would enhance or restore function and values of the wetland. Applications are received each year for excavation within seasonally saturated Type 1 or Type 2 wetlands with the intent to provide an open water system. Many of these applications are driven by the desire to have an open water wetland.

Using the MNRAM assessment tool, applicants are able to justify an increase in function and value based on the change in habitat type from shallow, seasonally saturated basins to open water systems. In addition, function and values are often not likely to be preserve in these instances because there are rarely comprehensive, post construction monitoring activities to ensure to continued function and value.

The District would like to limit these projects to those whose purpose is wetland conservation, restoration, enhancement, preservation or management of wetlands.

Proposed Policy/Standards: Excavation shall be deemed self replacing if an applicant demonstrates that the wetland to be excavated is degraded; the proposed activity is part of a restoration project that generally meets the following conditions, and the proposed activity would increase the function and value as determined using the current version of the Minnesota Routine Assessment Method or other approved method by the District, and the enhanced wetland function and value are likely to be preserved.

Wetland excavation for purposes of restoration will be generally subject to the following requirements:

- i. Site conditions exhibit impacts to topography, soils, native vegetation or hydrology that have degraded the wetland and are potentially reversible.

- ii. The project involves removing non desirable vegetation or post European settlement deposition, including shallow scrapes or interconnected open water areas.
- iii. A comprehensive post construction management and monitoring plan is submitted that details what efforts will be taken to preserve the function and value for at least 3 years following project completion.
- iv. A monitoring report shall be submitted to the District annually. The purpose of the annual report is to describe the wetland restoration activities completed in the past year, activities planned for the upcoming year and the information outlined below:
  - 1. A description of the project location, size and current wetland type and desired wetland type.
  - 2. A comparison of the as-built specifications versus the design specifications (first annual plan only) and a rationale for any significant changes.
  - 3. Hydrology measurements: seasonal water level elevations or areal coverage measurements during the period April through October.
  - 4. A map of plant communities within the boundaries of the restoration site, including hydrologic indicators observed; and
    - a. Color photographs of the project area taken during the growing seasons.

**The TAC generally accepted the additional standards for wetland excavation, but recommended that language be included that allow public entities to undertake projects that have regional water quality significance that require wetland excavation.**

## **MINNEHAHA CREEK WATERSHED DISTRICT**

### **RULEMAKING TASK FORCE**

#### **Summary of July 23, 2008 Meeting**

**Task Force Members Present:** Tom Cesare, Jim Johnston, Steve Mohn, Ethel Smith, James Vagle, Tim Smith, Tony Goldenstein, David Newman, Tom Casey, Bill Bushnell.

**MCWD Managers Present:** Jim Calkins, Jeff Casale.

**MCWD Staff Present:** James Wisker, Louis Smith.

#### **Update on Rulemaking Process**

James Wisker provided a status report on the rulemaking process. Draft rule amendments will be distributed in late August or early September after an initial review by the Board of Managers. Task Force members will have 30-60 days to review these amendments, and depending upon the nature of comments, additional meetings will be scheduled to consider them.

#### **Review of June 26, 2008 Meeting Summary**

The Task Force reviewed the summary of the June 26, 2008 meeting. Tom Casey stated that it is important to have more discussion of the wetland management classifications and policies to address degraded wetlands. James Wisker stated that this issue would be discussed further, with particular attention on the restorability of degraded wetlands. There being no further comments, the Meeting Summary was approved as distributed.

#### **Wetland Buffer Formulas**

Mr. Wisker reviewed the past discussion on wetland buffer frameworks, noting that the Task Force had selected a basic approach to determining widths based upon a scoring system that uses the underlying criteria for wetland management classifications. He presented a refined matrix that is based upon the previous input from the Task Force. Task Force members discussed the process for individual site review and function and value assessment of wetlands as it connects to the delineation process. Mr. Wisker also distributed articles that provided literature reviews on the benefits and functions of wetland buffers. The Task Force discussed these functions and values in terms of filtration, abstraction, wildlife habitat, and ecological integrity.

The Task Force discussed the development of incentives to diversify and restore buffer vegetation, with a possibility of reducing the size of buffer if a permit applicant improves buffer vegetation quality.

The Task Force members endorsed the general approach presented by Mr. Wisker, suggesting adding a factor for consideration of the restoration of wetland vegetation and reduction of buffer size as one possible incentive; Mr. Wisker stated he would also consider adding a factor to address wildlife amphibian habitat. Task Force members also discussed the critical importance of slope and soil types in terms of buffer function and success.

Tom Casey highlighted that buffers can provide property value amenities as one additional function.

Mr. Wisker then directed a balloting exercise for the Task Force members to express their preferences for minimum and maximum buffers, in light of all of the information presented and discussed to date. The results of this balloting were as follows:

- 20' - 4 minimums
- 25' - 2 minimums
- 30' - 2 minimums
- 50' - 4 maximums
- 70' - 1 maximum
- 75' - 2 maximums
- 100' - 1 maximum
- 300' - 1 maximum

Mr. Wisker agreed that he would continue to refine the formula and matrix in light of these recommendations from the Task Force.