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Project Name | Grand Marais Stormwater Management Plan

Date | 12/22/2017

To / Contact info | Mike Roth, City Administrator

Cc / Contact info | Ilena Hansel, Cook SWCD

From / Contact info | Camilla Correll, PE and Carl Almer

Regarding | Issues Identification Meetings

Introduction

In November of 2017 the City of Grand Marais initiated the development of its Stormwater Management Plan. On December 20, 2017 the City of Grand Marais, Cook SWCD and consultants hosted a “Water Conversation” to consult with stakeholders on the issues and concerns that should be addressed in the Stormwater Management Plan. The goals of this Water Conversation included:

- To describe the evolution of stormwater management and the purpose of a Stormwater Management Plan.
- To characterize the drainage area to the City of Grand Marais.
- To help identify concerns or vulnerabilities for consideration in the Grand Marais Stormwater Management Plan development process.
- To connect stakeholders with one another, and work together to become better stewards of the watershed.

The Water Conversation was based on a “World Café” format. This large-group discussion method uses a special café-like setting, and small-groups of four to six people. The groups are tasked with answering a set of questions; each question session lasted approximately 20 minutes. In answering the questions, each small-group recorded their ideas and discussions in a visual way, and presented the results to the other groups. For the Water Conversations the following questions were posed to participants:

1. What happens to stormwater when it leaves your property?
2. What are your observations or concerns related to stormwater management in Grand Marais?
3. What do you think is most important to first address?

The first question is intended to warm participants up to the conversation, notetaking format, and opens the ways for deeper contemplation of the issue. The second question challenges participants to identify observations or concerns related to stormwater management. Meeting participants were reminded that these observations or concerns could be either positive or negative. The responses to the first two questions were organized around major themes by each group and presented at the conclusion of each question period. The third question allowed stakeholders to voice their personal interests and guide the Plan’s priorities and structure.

Each small group included a Table Facilitator who helped to keep the conversation on track. Notes collected from the various conversations were transcribed, analyzed, and are summarized in the following narrative. This summary serves as an overview of the themes/issues that emerged from the conversations.

On December 21, 2017 the consultants conducted an abbreviated Water Conversation with City Staff to identify observations and concerns related to stormwater management. Since City Staff is familiar with the generation and impacts of stormwater runoff, goals for this meeting were focused on sharing local knowledge of the system and documenting where there are issues and concerns in the system.

Meeting Participants

As mentioned above the Water Conversation with members of the community was conducted on December 20, 2017. The meeting was held at the Cook County Courthouse. The meeting included 10 participants, and 4 staff from the Planning Work Group (City of Grand Marais and Cook SWCD) and the Consultant Team.

The meeting with City Staff took place on December 21, 2017 and included 7 participants and 3 staff from the Planning Work Group and Consultant Team. The following departments were represented at this meeting: Public Library, Parks and Trails, Property Maintenance and Public Utilities.

Response Summary

This section presents the questions that were asked during the World Café exercise and summarizes the general themes.

Question #1: What happens to stormwater when it leaves your property?

This question was posed to members of the community at the December 20, 2017 meeting. Participants identified a range of ways stormwater reaches Lake Superior from their property. A couple of participants living closer to Lake Superior noted that stormwater runoff from their property discharges directly to the Lake. Others living in the City noted that stormwater runoff is picked up by the stormsewer system before discharging to Lake Superior. Participants noted that in most cases, stormwater runoff is being discharged to the lake without treatment.

Question #2: What are your observations or concerns related to stormwater management in Grand Marais?

The following comments were made by participants at both meetings. Individual comments have been organized by the main issue categories developed during the meetings. Comments in black text were made at the Community Meeting and comments in red text were made at the meeting with Staff.

1. Natural Resource Health
 - a. Seems most streams aren't eroding much
 - b. Village ditch has streambank erosion
 - c. Village Ditch needs a management plan
 - d. Village Ditch channel erosion downstream of Gunflint Trails
2. Stormwater Practices
 - a. Underutilized stormwater management tools

- b. Lack of treatment in general
- c. Appreciate the raingardens. They need upkeep but if they work, can we do more?
- d. Sediment pond east of Food Co-op under-sized and doesn't allow for positive drainage due to hydraulic connection to Lake Superior
- e. Sediment pond on lake shore north of Ramada full of debris and garbage; water by-passes the system
- f. 8th Avenue/Hwy 61 Stormwater Pond (Lake Lavine) has no dead storage (what comes into the pond goes out of the pond)

Comment [CA1]: Potential partnership with MNDOT for expansion/improvements to maximize water quality treatment

3. Flooding

- a. Solve the parking lot flooding problem
- b. To the extent possible, intercept water headed for downtown
- c. Downtown is flat
- d. Flooding in downtown impacts tourism
- e. Village Ditch overflows onto the baseball field east of 5th avenue
- f. Concentrated amounts of impervious surfaces in the downtown area which is close to the waterfront
- g. Deep pond in parking lot during and after rain
- h. No breakwall
- i. Wave action erosion and failing bulkhead
- j. Perpetual puddle at Java Moose/Hwy 61
- k. Pond forms at intersection of 1st Avenue E and 1st Street
- l. Alley water runs off and floods small house; northeast of Hwy 61 and County Road 15
- m. Camp sites soggy
- n. Camp site flooding along the stream (same area where they created in-line sediment ponds)
- o. Broadway Street flooding north of Artists Point Parking Lot

4. Water Quality

- a. Unfiltered stormwater is flowing directly to Lake Superior
- b. Debris in sewer drains
- c. Connections to the sanitary system (infrastructure can't handle additional volume) – sump pumps discharging year-round
- d. Lack of stormwater quality treatment prior to discharging to Lake Superior (most of the system direct discharge)
- e. Gravel alleys, streets and parking lots and road shoulders contribute sediment load to the Lake
- f. Inflow and Infiltration
- g. Junk vehicles
- h. *E. coli* hits along downtown beach area in summer months
- i. Sediment from road sanding in stormwater infrastructure
- j. Bank stability of ditches creates landowner concerns
- k. Napa Auto Parts Source Control
- l. No treatment of stormwater runoff on cul-de-sac west of WWTF (extension of 2nd Street)
- m. Properties along Old Shore Road still on septic systems
- n. Impacts of former gas stations or Brownfield sites on location of stormwater retrofit projects

- o. Hill runoff drops gravel in storm sewer; property on northwest corner of 2nd Avenue West and 1st Street
 - p. Erosive parking lot at the boat launch off of 8th Avenue West
 - q. Highly unstable ravine north of 3rd Street to 2nd Street
 - r. 1st, 2nd and 3rd Avenue East, County Road 7 to 4th Street right shoulder sediment source
 - s. Humphrey Circle rural section erosion and sediment delivery to County Road 7
 - t. North-South alley ways city-wide sediment source
 - u. Water quality in harbor
 - v. Brownfield Site under Hwy 61/library area; number of monitoring wells installed by MPCA in the downtown area south and east of Brownfield; remediation planned for the area?
5. Public Safety
- a. Ponding of “dirty” water in downtown parking lot could be hazardous to kids who want to play in the water
 - b. Concerned about kids getting into stormwater ponds
 - c. Sump pump discharge to the street in winter
 - d. Source water protection plan
 - e. Ensuring quality of discharge in vicinity of Public Water Intake
 - f. Icy intersections due to drainage system
 - g. Heavy rainfall hazard from roof line of property on northeast corner of 2^{ns} Avenue West and 1^{sr} Street
 - h. No ditch on County Road 7 from high school east of Village Ditch ; water seeps from bank onto sidewalk and freezes
 - i. No ditch on north side of east-west section of Gunflint Trail. Seepage freezes on the road
 - j. Continuous flow along County Road 15 between County Road 7 and County Road 12.
6. Design Standards
- a. Physical setting limits the types of stormwater practices that can be used for stormwater management (e.g. shallow depth to bedrock, shallow groundwater flow, seepage points, topography, existing and legacy wetlands, soils)
 - b. Poorly designed ditches within city limits
7. Regulatory Controls
- a. Need for stormwater and erosion control ordinances
 - b. No city stormwater ordinance
 - c. Erosion control on construction projects
 - d. Really happy to see planning happening
 - e. No city stormwater ordinance
 - f. Concerned with development upstream of existing development (drainage alterations, additional flow)
 - i. Residential properties downstream of new public works facility
 - ii. Becky’s house
 - g. Talustone bridge over 61 on west side of town. That creek goes through my property so whatever goes in above me, please don’t send more.
 - h. Development of new parks and trails area
 - i. No ownership of ditches; people inherit problems

- j. Lack of planning for stormwater management when new construction in city limits takes place; very minimal requirement and follow-up with landowners
 - k. **Lack of regulatory control, sizing and design guidance allows for development in unsuitable locations; results in on-going maintenance costs to homeowners and the city**
8. Seiche
- a. Contributes to parking lot flooding (source of water and debris in the downtown area)
 - b. Investigate ways to prevent infiltration of water from Lake Superior into downtown
9. Wetland Management
- a. Legacy wetlands and existing wetlands within the watershed (inventoried, delineated and their ecosystem services should be restored)
 - b. Pre-settlement wetlands in the harbor have been filled – functions lost
 - c. Cook County is the WCA LGU
 - d. Unregulated fill in wetlands reducing storage capacity in the landscape
 - e. Preserve remaining headwater and coastal wetlands
 - f. Municipal Storage Building removal and potential wetland restoration project near Public Water Intake
10. Community Awareness and Involvement
- a. Informed city council and staff
 - b. Cook County SWCD is proactive and involved
 - c. The general public needs to be better informed about stormwater management so they can help by implementing solutions at the residential lot scale
 - d. Residents help with raingardens
11. Ineffective / Aging Infrastructure
- a. Collapsed culverts in the system
 - b. Roadside ditches undefined (streets operate as stormwater conveyance) and/or channels in roadside shoulders that have erosion and sediment control issues
 - c. By-pass of catchbasin inlets due to design
 - d. Stormwater missing the stormsewer system
 - e. **Croftville Road creek washed out 6/6/2008. Culvert needs to be larger in this location.**
 - f. Aging infrastructure in campground/rec area; vulnerable culvert needs attention during large rainfall events
 - g. Aging infrastructure or lack of infrastructure along 1st Street
 - h. 3rd street by-pass
 - i. Aging/ineffective infrastructure along Old Gunflint Trail and Creechville Road north of County Road 12
 - j. **Poor drainage system along Old Shore Road; lack of right-of-way ditches and/or cross culverts**
 - k. **Culvert not sized properly under Hwy 61 east of 5th Avenue East**
 - l. **Surcharge on 1st Street blowing manhole covers**
 - m. **Old infrastructure west of 8th Avenue**
12. Operations and Maintenance
- a. City cleans ponds every other year

Comment [CC2]: Not sure this is in the study area.

- b. Folk House stormwater pond cleaned every five years
- c. Snow removed from catchbasin inlets periodically through the winter (e.g. prior to rainfall event or snowmelt event)
- d. Steep gravel road (4th Avenue West) washes down and plugs drains on east side of intersection with 2nd Street

Comment [CC3]: Ask the City if we have plans for this facility. Parks guy getting us plans for the outlet structure.

13. Cost

- a. How is the city going to pay for all of the improvements needed to address stormwater runoff?
- b. Need to communicate these costs to the public

14. Changes in Precipitation Patterns

- a. More rainfall delivered in winter; storm sewer system may not have capacity to handle this volume

15. Drainage issues

- a. Culvert replacements under County Road 7 and downstream conveyance capacity and erosion and sediment control concerns
- b. Culvert at County Road 15 and Gunflint Trail intersection has been plugged by rock and debris causing localized flooding
- c. Drainage through Ferrell gas site south of Industrial Park
- d. 4th street and 10th Avenue West intersection blocked and perched culvert
- e. 11th avenue west and 2nd street intersection – no culvert or ditch
- f. 2nd street (Nordic Star Development) – impacts of development and proposed culverts on existing downstream culverts/infrastructure
- g. Not enough capacity in the ditch downstream of Gunflint Trail ponds (culverts too small under 9th Street)
- h. North and south end of business park; ditch freezing, not deep enough
- i. Culvert not sized correctly on Village Ditch under 7th Avenue (blew out)
- j. No storm drain at the intersection of 7th Avenue East and County Road 7
- k. Springs near Humphrey Circle; ditch excavated in Spring of 2017
Catchbasins on north side of 2nd street daylight to surface on south side at intersections of 3rd Avenue West and 2nd Avenue West
- l. Road surface deterioration due to shallow groundwater flow on west end of 2nd Street
- m. Culvert has frost heave on west end of 2nd Street; west of the cooperative
- n. Ditch dead ends at 5th Avenue West north of 4th Street

Question #3: What do you think is most important to first address?

Each meeting developed a list of priorities. Participants were asked to identify what they think is the most important, most immediate need, considering the complete array of issues and concerns identified when answering the first two questions. The images below illustrate the list of priorities created at each meeting.

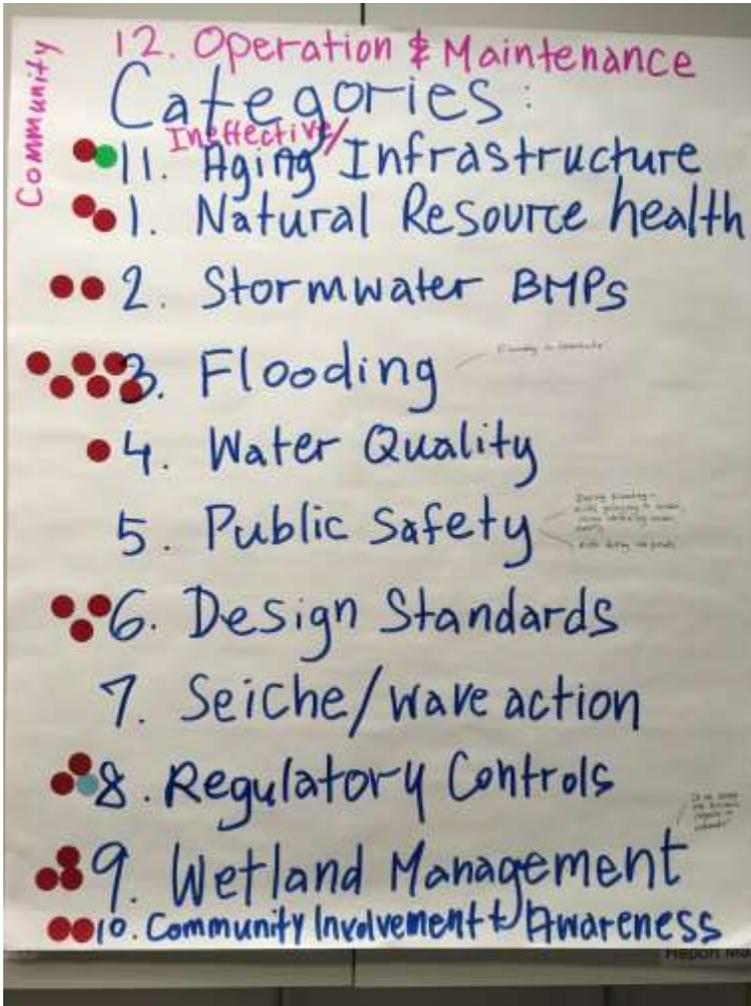


Figure 1. Prioritization of issue categories from Community Engagement Meeting, 12/20/2017

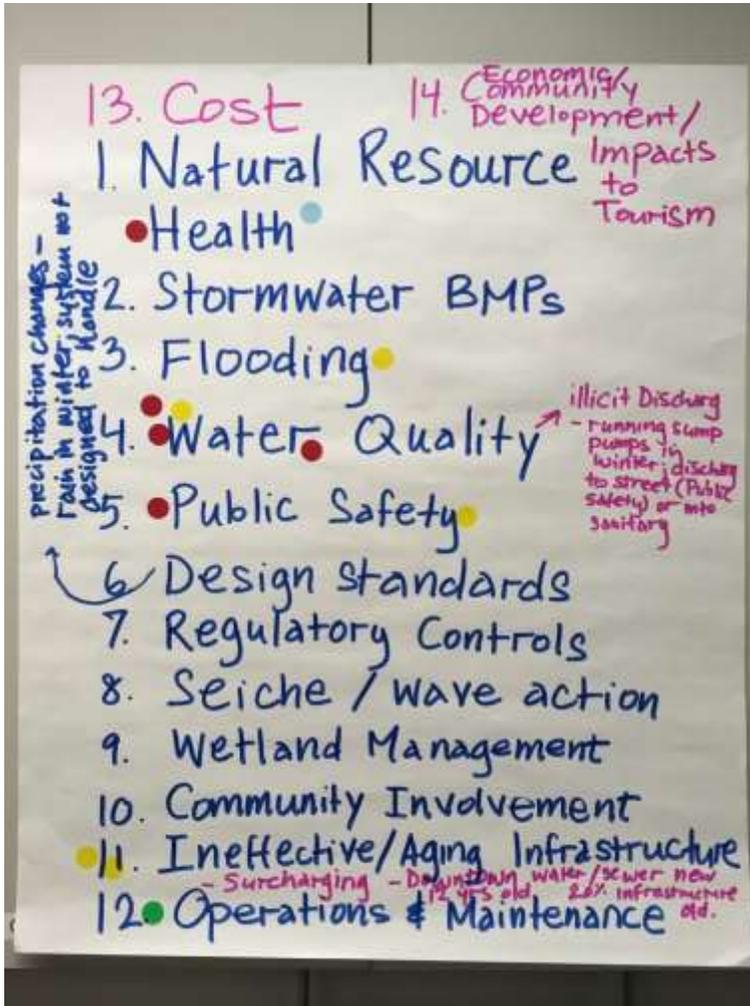


Figure 2. Prioritization of issue categories from Meeting with City Staff, 12/21/2017