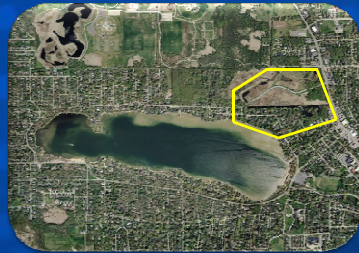


Woodland Channel

OVERVIEW & UPDATES



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AREA 1B (NORTH OF THE LAKE, WEST OF US 14)

Recommended as First Priority:


- ❖ Potential life safety issues with water overtopping N. Shore Dr
- ❖ Benefits over 250 residents
- ❖ Reduce frequency of roadway overtopping (currently every 2-3 years)
- ❖ Help provide relief to Areas 1A and 1C



RECOMMENDED AS FIRST PRIORITY SINCE NORTH SHORE DRIVE IS THE SOLE ACCESS

TRIBUTARY TO AREA 1B

All Outlets into Lake at One Point



LIKE THE NORTH SHORE, PRE-EXISTING DEVELOPMENT DID NOT INCLUDE DETENTION

AREA 1B - INITIAL DESIGN SPRING/SUMMER 2009

Open Channel


3-Box Culverts

1-Box Culvert

Emergency Access Maintained with 3-Box Culverts

North Shore Drive

Woodland Drive



INITIAL DESIGN PROVIDED BOTH FLOOD MITIGATION & ECOLOGICAL ENHANCEMENTS

AREA 1B

PROJECT EVALUATION

FALL/WINTER 2009



- ◆ **Poor Structural Soils**
- ◆ **High Groundwater**
- ◆ **Water Main Relocation Conflicts**
- ◆ **Challenging Topography**
- ◆ **Public Criticism**
- ◆ **Reliance on Private Property Owner Cooperation**



UNEXPECTED UTILITY CONFLICTS & POOR SOILS NEARLY DOUBLED CONSTRUCTION COSTS



SOIL BORINGS ON NORTH SHORE DRIVE NEAR EAST STREET

EVALUATION OF OPTIONS



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AREA 1B - REROUTE OPTION WINTER/SPRING 2010

Pros

- ❖ Improved traffic access to US Route 14
- ❖ Provides 100-year flood protection by raising the road
- ❖ Provides relief to Area 1A & Area 1C

Cons

- ❖ Unknown Impact to Woodland Channel
- ❖ Expensive
- ❖ Reliance on Private Property Easements

DRAINAGE IMPACTS TO WOODLAND CHANNEL MAY NOT OUTWEIGH TRAFFIC BENEFITS OR COST

AREA 1B - EVALUATION OF OTHER OPTIONS

Public Comments:

- Route storm sewer around the lake
- Pumping stations around the lake
- Raise North Shore Drive

ISSUES SUCH AS COST, FEASIBILITY, OR EFFECTIVENESS RULED OUT SOME OPTIONS

NEW AREA "1D"


N SHORE DR
S CRANDALL AVE
LAKE ST
OAK CT
EAST ST

Existing Problems:

- ❖ High Groundwater
- ❖ Localized flooding
- ❖ Existing drywells only

Possible Solutions:

- ❖ Lower Groundwater by use of drain tiles
- ❖ Install storm system with BMP's



NEW AREA OF STUDY WITH UNIQUE ISSUES DIFFERENT THAN AREA 1B AND AREA 2

```

    graph TD
      A[Overflow Channel & Emergency Access Created  
August 2007] --> B[Flooding Study Completed  
March 2009]
      B --> C[Area 1B Initial Design & Evaluation  
August 2009]
      C --> D[Public Meeting  
6/8/2010]
      D --> E[Evaluated Additional Options and Public Feedback]
      E --> F[Public Meeting  
10/14/2010]
      F --> G[Final Design Evaluation  
Winter 2010/2011]
      G --> H[Presentation of Preferred Design  
Spring 2011]
      H --> I[Complete Final Design  
Summer 2011]
    
```

AREA 1B - NEXT STEPS



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AREA 2 (NORTH OF THE LAKE, EAST END AVENUE TO CRYSTAL BEACH AVENUE)

Also Recommended as a Priority:

- ❖ Potential life safety issues with water filling all three streets during large events
- ❖ Benefits approximately 125 residents
- ❖ Routine flooding and standing water nuisance issues



MAIN ISSUES ARE HIGH GROUNDWATER, AN OUTDATED MINOR DRAINAGE SYSTEM & NO 100 YEAR OVERLAND FLOOD ROUTE

TRIBUTARY AREA TO AREA 2



TRIBUTARY AREA TO "AREA 2" FROM LIPPOLD PARK IS NOW LESS THAN IT WAS IN 1976

AREA 2 - EVALUATION OF ALTERNATIVES FALL 2009

Evaluation of Three Original Alternatives Outlined in Flooding Study

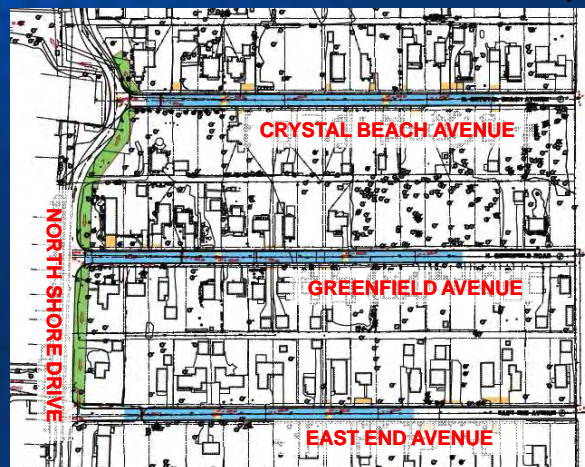
1. Replace existing drainage network along Greenfield & East End Ave
 - **FEASIBLE** with modifications
2. New field tile across south property line of Lippold Park above Area 2
 - **POTENTIALLY FEASIBLE** with modifications
3. Divert discharge from CLPD detention facility above Greenfield Road to the west to Lippold Park wetland
 - **NOT FEASIBLE** due to existing grades; water may end up flowing back east towards Area 2



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AREA 2 – PROPOSED DESIGN WINTER 2010

- ◆ **Proposed Design:**
New Storm Sewer & Overflow Route
- ◆ **Benefits:**
100-year Protection & BMP's for Water Quality Treatment



WHILE UNPOPULAR, DESIGN MET FLOOD MITIGATION, SAFETY, & LAKE PROTECTION GOALS

AREA 2 – EVALUATION OF OTHER OPTIONS

Public Comments:

- Bioswale in Ditch between Lippold Park and Area 2
- Lower North Shore Drive in Area 2
- Store water east of East End Ave
- Fill in Low Spots
- Re-evaluate rear-yard drainage
- Overflow Route in Alleys
- Lippold Park caused the problem

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AREA 2 - PUBLIC COORDINATION

May 11, 2010 Meeting with NCLPBB Association

June 8, 2010 Resident Input at Public Meeting

June 15, 2010 Meeting with Crystal Lake Park District

July 12, 2010 Field Meeting with Crystal Lake Park District

Sept. 22, 2010 Meeting with NCLPBB Association

Oct. 4, 2010 Meeting with Crystal Lake Park District

9/22/10 Association Meeting

- Discussed project status and potential solutions

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SUMMARY

Flood Study


- Completed Final Flooding Study
- Record Rainfall in the Region
- Provided Framework for Solutions


Area 1B

- Interim Emergency Access & Overflow Channel
- Completion of Concept Design
- Evaluating of Alternate Solutions
- Addition of Area 1D
- Final Alternative Evaluation Underway
- Design to be Completed Summer 2011

Area 2

- Emergency Storm Sewer Cleaning & Repairs
- Completion of Concept Design
(Short-Term Implementation)
- Extensive Public Coordination
- Interim Lippold Park Actions
- Consideration of Alternate Design
(Long-Term Implementation)
- Final Alternative Evaluation Underway
- Design to be Completed ~2012
(Depending on groundwater monitoring results)



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**IF YOU WISH TO ASK A QUESTION
OR MAKE A COMMENT:**

- ◆ **Please approach the podium
one-at-a-time**
*(questions shouted out will not be
picked up by the video recording)*
- ◆ **Speak into the microphone**
- ◆ **State your name and address**
- ◆ **Smile, you're on camera!**



QUESTIONS & ANSWERS



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