Final Check-In

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North Shore Study Area 2/1/2018

Stormwater Solutions & Stakeholder Engagement

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Final Check-In

- Update on Storm Sewer and Detention Improvement Concept
- Proposed Short-Term Improvements
- Proposed Park District Improvements
- Proposed Down-Stream Improvements and Concepts
- Next Steps
- OTHER CONCERNS
- Sanitary Sewer Improvements
- Cove Pond Survey/ Old Field Tile Investigations
- Permit Process Changes

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Proposed Storm Sewer & Detention Project

- Current private storm sewer system does not drain, widespread and prolonged yard flooding, damage to structures during frequent storm events.
- Storm sewers are designed for rainfall intensity (amount and duration)
  - Frequent = 2 yr. event (moderate rainfall intensity) 50%
  - Infrequent = 100 yr. event (heavy rainfall intensity) 1%
- Current private system has less than 2 yr. storm capacity

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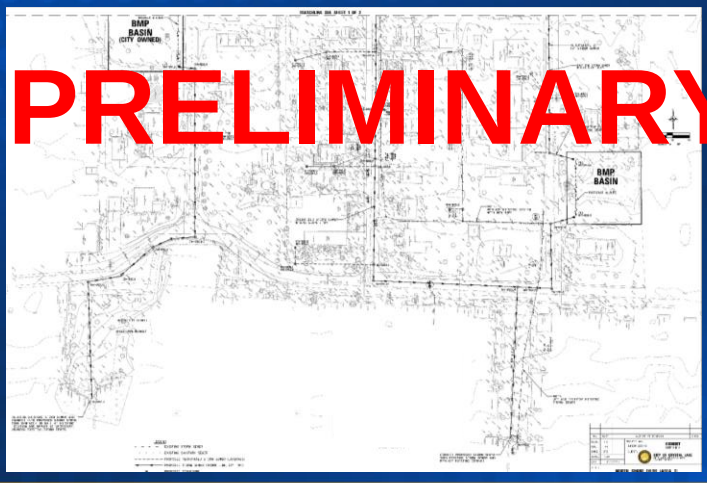
Refined Concept (2018)



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Refined Concept (2018)



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Proposed Storm Sewer & Detention Project

- ***Revised*** **public trunk line sewer provides 100-yr protection of structures**

  (yards will flood, will drain after storm)

- **100 year protection -Deeper detention areas.**
- **Bottom similar to East St. swale**
- **4-6 feet deep with 4:1 side slopes (walkable, mowable)**

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Proposed Storm Sewer & Detention Project

- **Main conveyance will be City funded/ owned/ maintained**
  (storm sewers down street, stubs for laterals, connection to old storm sewer, outlet pipes to lake)
- **Detention basins will be City funded/ owned/ maintained**
  (same as East St. swale, including mosquito treatment)
- **Laterals to side/rear yards will be homeowners responsibility to install/ fund and maintain (City policy).**
  (City will "stub" and cap pipes to property lines, provide grades, etc.)

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What will it Take to Build?

- **Acquisition of vacant lots**
- **Detention/BMP Areas are wetlands (requires US Army Corps of Engineers permit (IEPA, IDNR, MCSWCD)**
- **Engineering, Permitting, Acquisition**
  (FY 2018-2019 Budget Request – FY starts 5/1)
- ***IF*** we started tomorrow and land owners were agreeable: 12-18 months for permitting/engineering, then build.

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Proposed Near-Term Improvements

1. **Re-Establish Woodland Channel Connection**
   (Requires US ACE Permit 2018-2019 construction)
2. **Grading north end of concrete box culverts**
   (Requires US ACE Permit 2018-2019 construction)
3. **Cove Pond storm sewer outlet improvements (facilitate maintenance), move gauge** (US ACE Permit 2018-2019 construction)
4. **Additional storm sewer inlets along North Shore near Baldwin/Crandall (low intensity storms)** – City crews 2018
5. **North Shore Dr. (east end)** City property tree & brush removal 2018

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Proposed Near-Term Improvements



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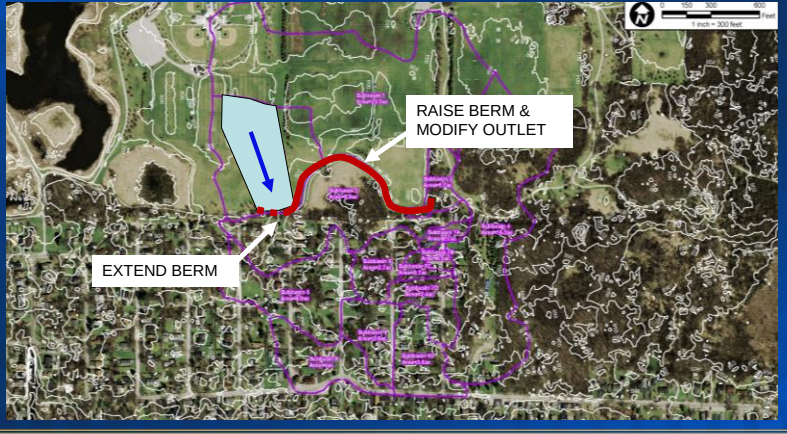
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CONSENSUS?

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Park District Coordination and Projects

- Raise Berm, Extend Berm, Modify Outlet Structure



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Proposed Down-Stream Concepts (Multi-Year Effort)

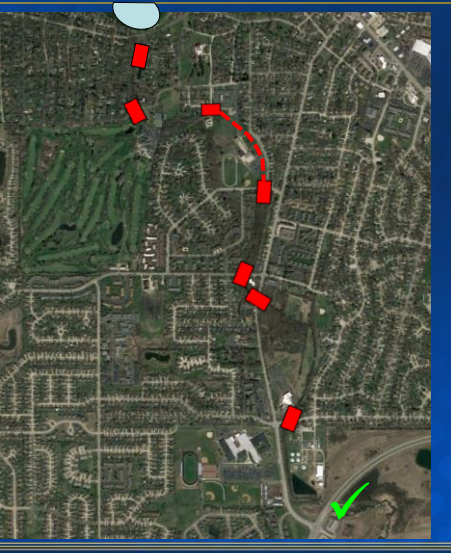
1. Replace and upgrade (100 yr. design) culverts under Broadway, Country Club Rd. Barlina Ave., McHenry Ave., Dartmoor Dr.
2. "Open up" Crystal Creek south of the Country Club and replace and upgrade culverts under St. Andrews.
3. Lake Level Study

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Proposed Down-Stream Concepts (Multi-Year Effort)

Lake/Creek Study then seek IEPA Section 319 grant for "opening" of creek



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Next Steps

- Prioritize Projects (impacts and implementation schedule)
- Distribute to City Council
- City budget approval (Fiscal Year starts 5/1/2018)
- Enhanced permitting requirements (Spring 2018)

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Sanitary Sewer Improvements

- Lining and Grouting (multi-year effort)



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Sanitary Sewer Improvements

- Lining and Grouting (multi-year effort)

2018 North Shore Manholes (partial)



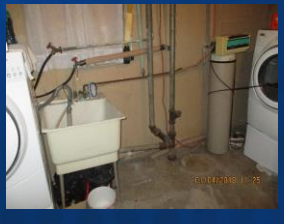
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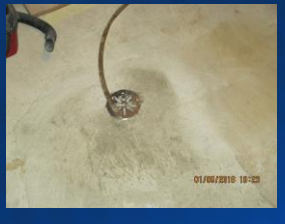
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Sanitary Sewer Improvements

- Overhead Sewer Program (7 left)







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Sanitary Sewer Improvements

- Overhead Sewer Program (7 left)

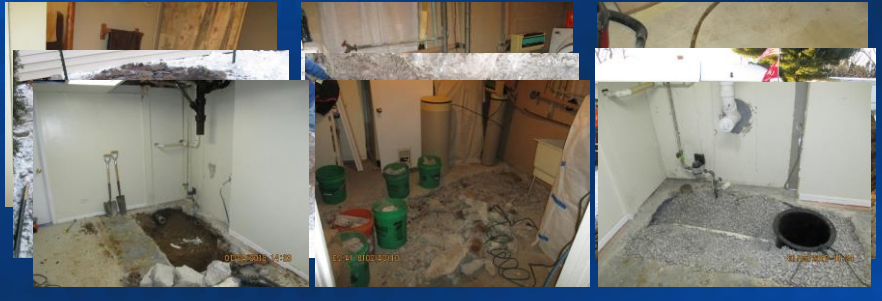


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Sanitary Sewer Improvements

- Overhead Sewer Program (7 left)



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Sanitary Sewer Improvements

- Overhead Sewer Program (7 left)



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Sanitary Sewer Improvements

- Ongoing improvements to Cove Pond Lift Station (2018)

  - Improved alarming & notification

Group: LiftStation Active
Tag : CRYSTAL:LS13_GENERATOR_NOT_IN_AUTO
Desc.: LS13 GENERATOR NOT IN AUTO
Value: ALARM
Event: *ALM*

  - New generator this year (bidding this month)

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Cove Pond Survey

- Preliminary results show small siltation in north end, high ground water in south end



- Available capacity approximately same

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Old Field Tile Investigation

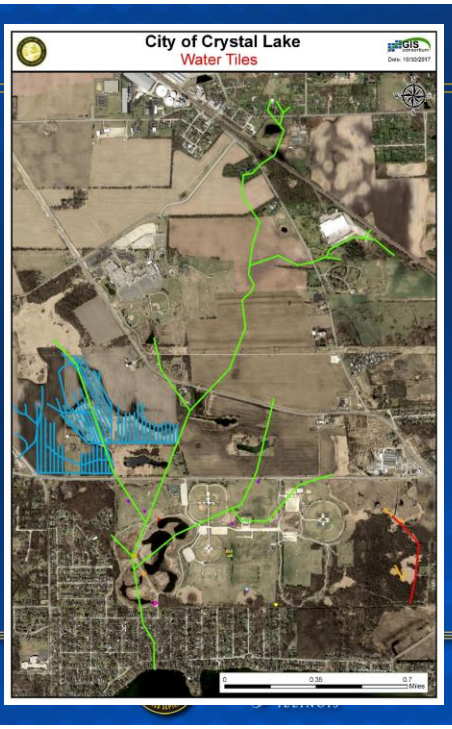
- Field tiles were used by farmers to drain naturally wet areas and wetland areas for crop production
- Field tiles, when blocked will cause the land to revert back to its natural state (wetlands/ wet areas)

Old field tiles are typically clay, concrete, butted end to end (with small gaps) and covered with tar paper.
New tiles are perforated plastic with a fabric sock.



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Old Field Tile Investigation



Old Field Tile Investigation



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Old Field Tile Investigation



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Other Efforts

- Enhancements to permit process (Spring 2018)
- Review of historical data & aerials
- 8 other study areas

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9 Study Areas



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