March 11, 2010

Village of Glenview Stormwater Planning and Public Participation Workshops

The Village of Glenview

MWH

BUILDING A BETTER WORLD

Introduction

Erin Maloney – MWH

Overview/ H&H Modeling

Thera Baldauf – MWH

Stormwater Task Force

Joe Kenney – Village of Glenview

Flood Risk Reduction Program

Background

3 Primary Watersheds

48 Sub Watersheds

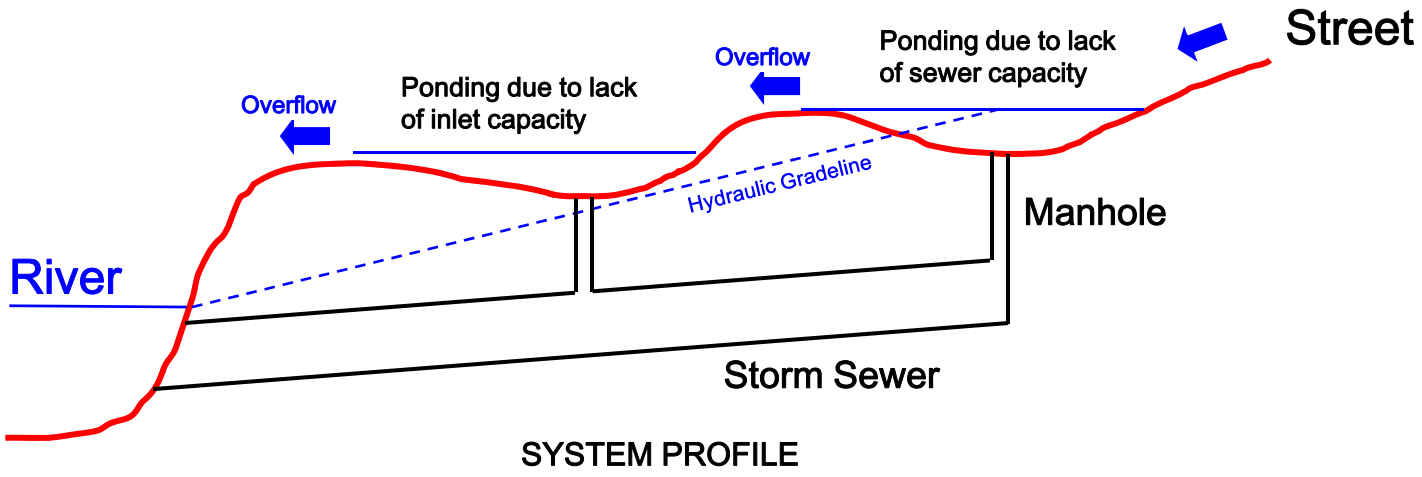
- River Capacity
- Detention
- Sanitary Sewer I&I

Stormwater Management

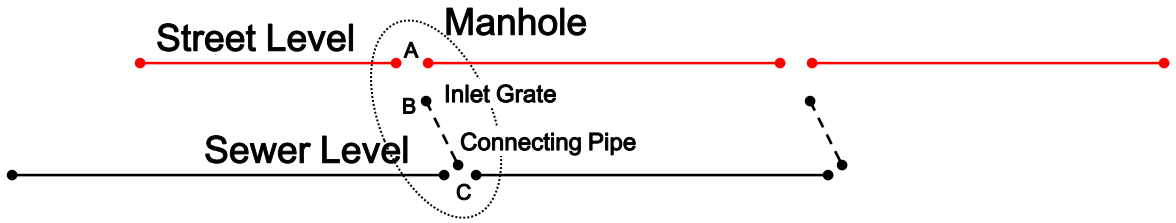
- Stormwater Management Guidebook – 2004
  - Summary of goals
  - General assessment
  - Preliminary decision flow chart
- Detailed modeling
  - Completed between 2004 and 2009
- August 2007 and September 2008 storm – Trigger for public workshops

Model Highlights

2-level FEQ model



SYSTEM PROFILE

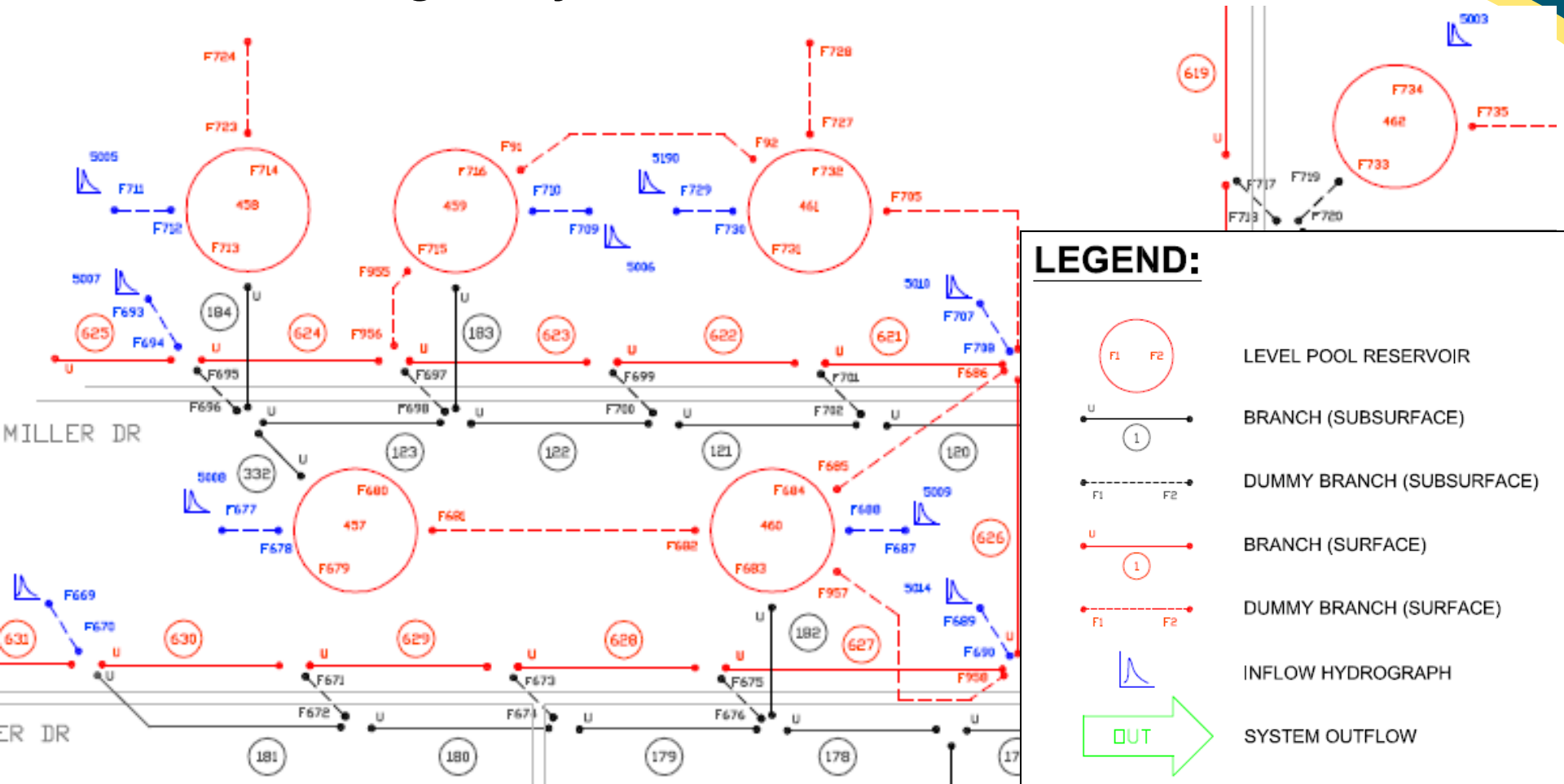


MODEL SCHEMATIC

Model Highlights

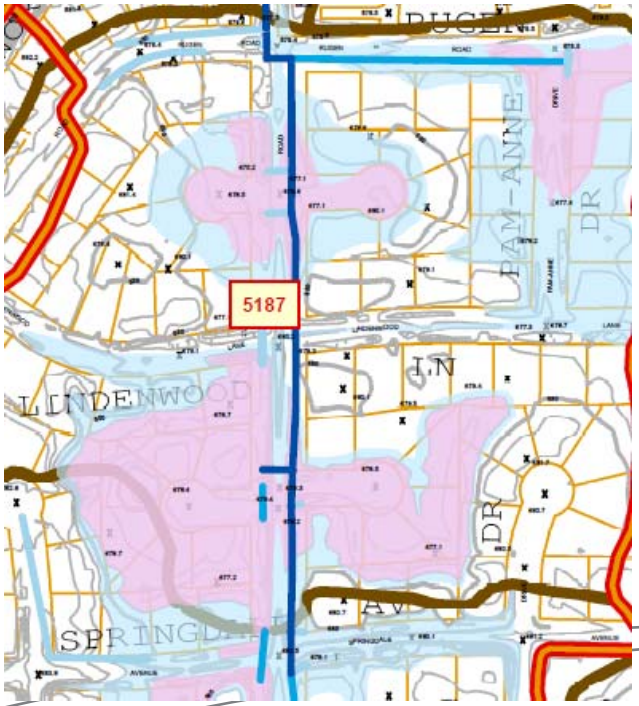
Invert Elevations Not Necessary

- Submerged system



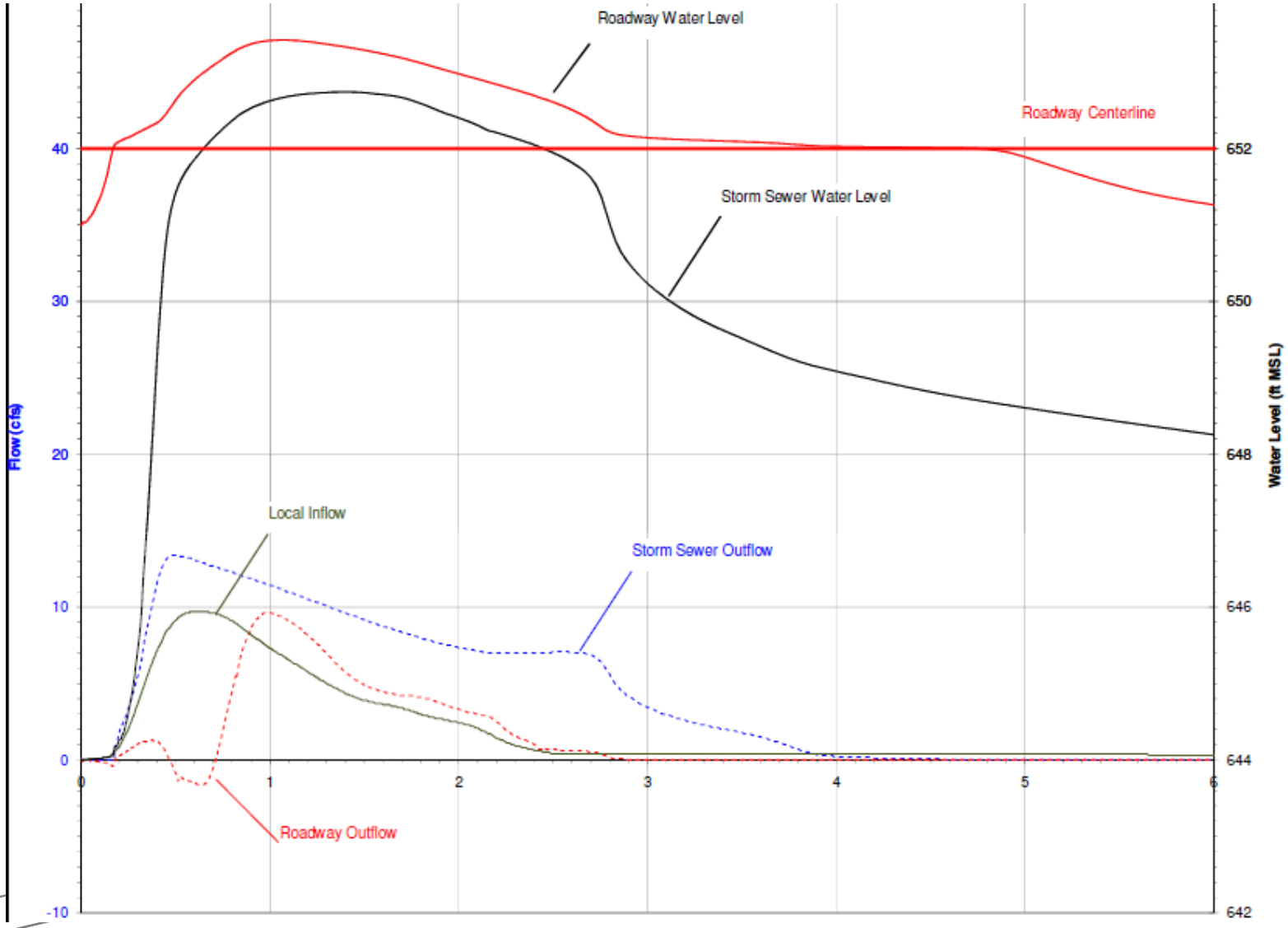
Model Results

- 10- and 100- Year inundation mapping
- Triggers for system deficiencies
  - Any10-year street flooding
  - 10-inches for 100-year



Improvement Recommendations

Deficiencies identified as inlet capacity or conveyance issues



Improvement Recommendations

- Basin-wide
- Hundreds of improvements recommended

Improvement Implementation

- Provide a forum where public concerns can be voiced
- Engage the public in the planning process
- Establish a Comprehensive Stormwater Master Plan

<u>How we do it?</u>

- Stormwater Task Force

Task Force – The Process

- Comprised of **16** Residents
- Convened **14** Workshop Meetings since January 2009
- Hosted **1** Public Storm Water Open House in August 2009
- Posted Materials on Village Website

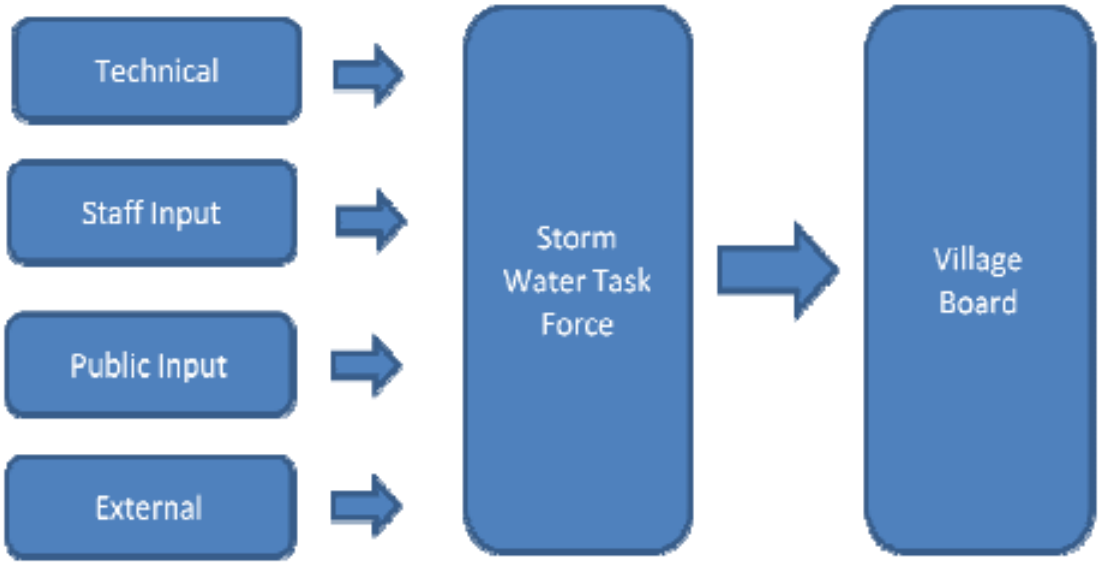
http://www.glenview.il.us/departments/capital/swtaskforce/index.shtml

Task Force – Committee Member Roles

- Be a Liaison between Village Staff and Residents
- Be apprised of flooding issues and improvement options
- Review materials provided in preparation for meetings
- Provide constructive feedback

Task Force – Workshop Goals

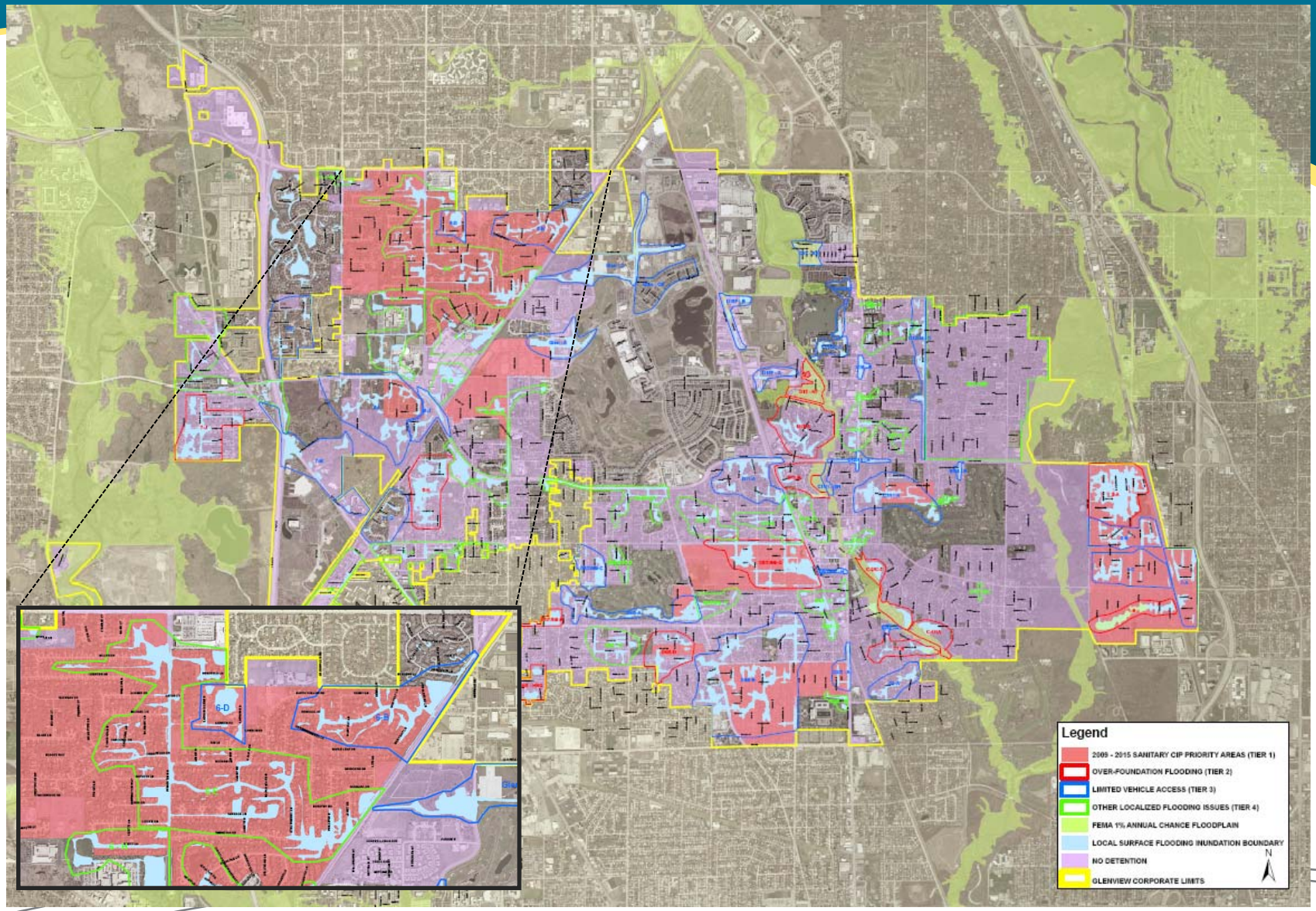
- Identify Community-Wide Flooding Problems
- Develop Recommendations and Priorities
- Create a Basis for Public Consensus



Framework for Prioritization

Sanitary Sewer Basement Flooding	Tier #1 – Sanitary sewer backup into homes with direct impacts on public health and structures
Property Damage Flooding of Structures	Tier #2 - Over-foundation flooding that can result from overbank flooding from rivers or surface flooding
Surface Flooding that Impacts Vehicle Access	Tier #3 – Surface flooding of streets to depths of that impair vehicle access
Other Localized Flooding	Tier #4 – Other areas impacted by street or property flooding

Prioritization Development – Tier Maps



Task Force Recommendations

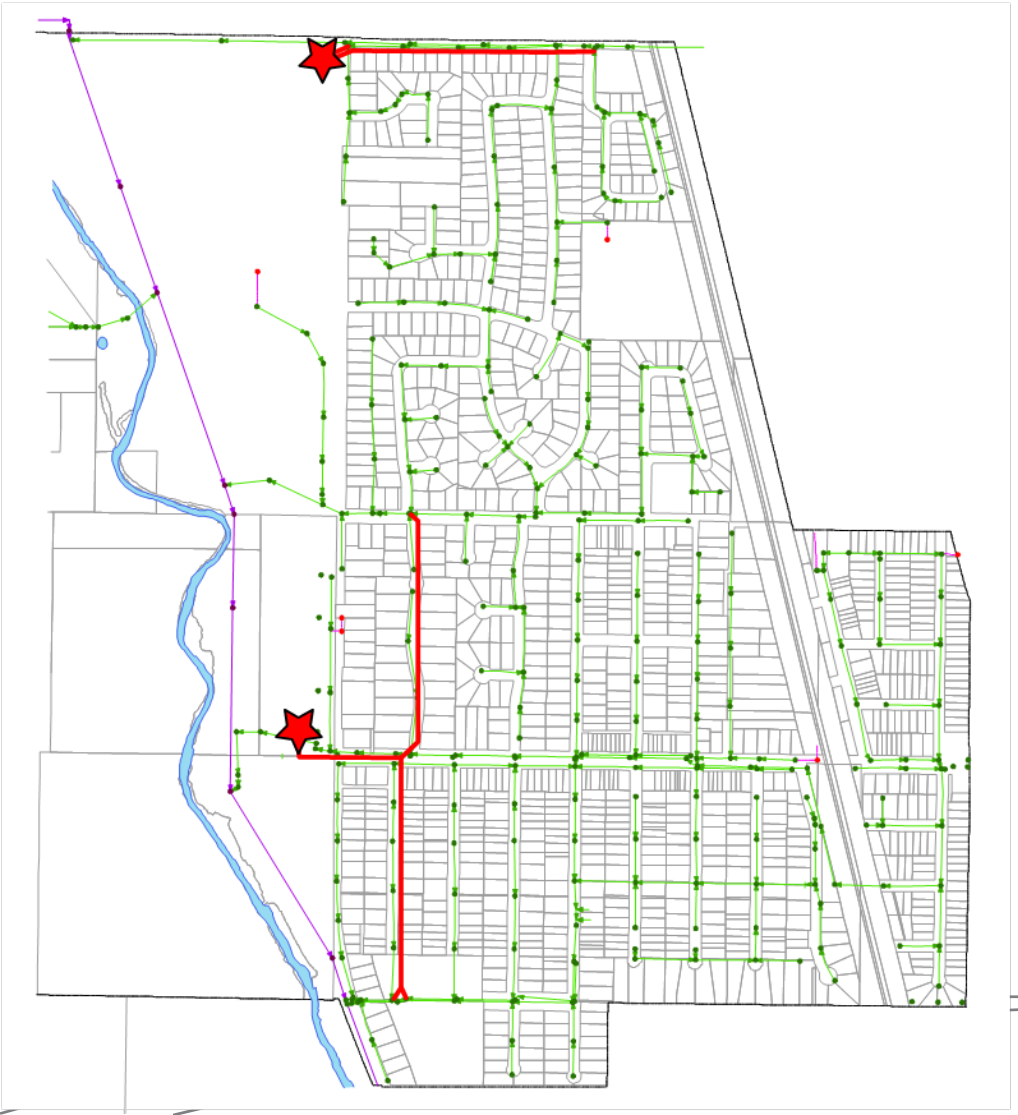
Master Plan Implementation Strategy Must Consider:

- Need for action (severity of impacts)
- Value of local best management practices
- Benefit of potential improvements relative to costs
- Fairness of funding mechanisms
- Opportunities for collaborative public/private solutions

2010-11 Implementation - "Need for Action"

- Phase I of five-year Sanitary Sewer Plan
  - East of Harms Neighborhood
  - Cost estimate: $4,150,000
- "Quick-win" Local Stormwater Infrastructure Projects
  - 15+ locations Village-wide
  - Cost estimate: $2,000,000
- Cost-sharing Programs
  - Overhead sanitary conversions
  - Dry-flood proofing flood-prone structures
  - Holistic private flooding inspections
  - Cost estimate: $900,000

East of Harms – Sanitary Sewer System Improvements

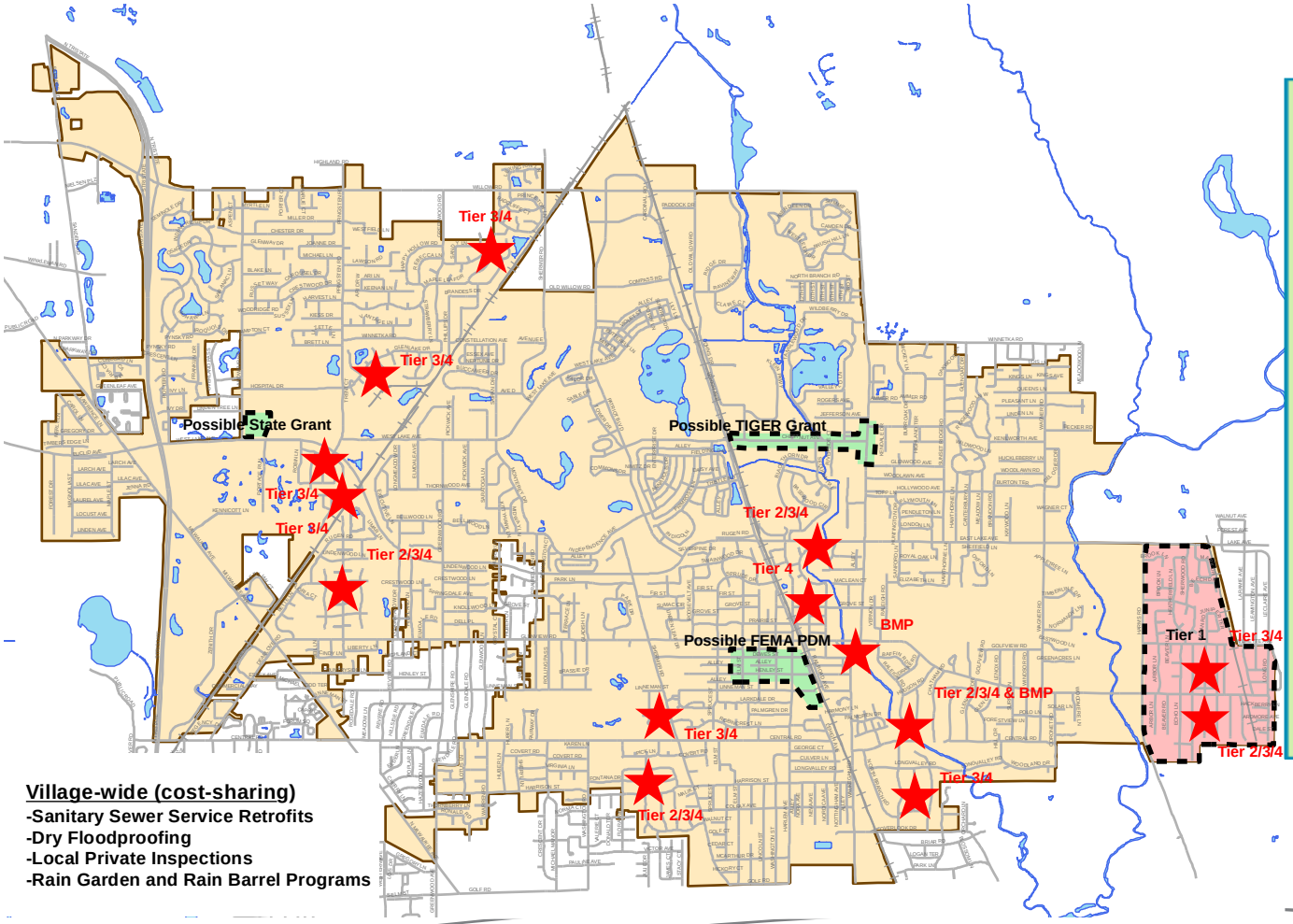


Background:
- 1,150 homes

Steps:
1. Final design, permitting and flow monitoring (2010) – $150,000
2. Completion of separation, pumping and phase I of storage construction (2010) - $2,000,000
3. Complete SSES (2010) - $300,000
4. Complete quick rehab construction (2010) - $500,000
5. Complete phase II storage – (2011) $1,200,000 *could vary due to permitting and results of SSES*

Total Estimated Cost = $4,150,000

“Quick-win” Local Stormwater Infrastructure Projects



Village-wide (cost-sharing)
-Sanitary Sewer Service Retrofits
-Dry Floodproofing
-Local Private Inspections
-Rain Garden and Rain Barrel Programs

- Mandatory Criteria:
  - Ease of implementation
  - Local-only funding
  - No negative downstream impacts
- Weighted Criteria:
  - <$15,000 per benefitting parcel
  - Impact in medium rain events
  - High tier of storm flooding
  - Coordination with 2010-2014 CIP

Total Cost Estimate = $2,000,000

Cost-sharing Programs

- Use public funds to leverage private improvements
- Example - annual rain garden grant program (50/50 up to $1,000)
- 2010-11 one-time programs:
  - Overhead sanitary sewer conversions
    - Immediate level-of-service improvement for the private homeowner
    - Village benefit (I&I) by requiring replacement of old service to the main and disconnection of footing drain tiles
    - 50/50 cost-sharing up to $7,500 ($15,000 total project)
  - Dry-flood proofing flood prone structures
    - IDNR acceptable means
    - Immediate level-of-service improvement while regional projects are developed, funded and programmed
    - 50/50 cost-sharing up to $15,000 ($30,000 total project)
  - Holistic drainage improvements
    - "If I'd only known *XYZ*, I'd have done something about it…"
    - Confidential consultation with professional engineer
    - 75%-Village/25%-Homeowner

Total Cost Estimate = $900,000

2012 and Beyond Implementation

- *Flood Risk Reduction Program* (Master Plan)
  - Board presentation scheduled for April 20, 2010
  - Elements of recommended plan:
    - Operations & Maintenance
    - Capital Improvement Program
      - Conveyance and inlet improvements
      - Inline storm water detention
      - Area storm water detention
    - Regional Projects
      - Coordination with MWRD
    - Regulatory Modifications
    - Funding
      - MWRD; ACOE; FEMA; legislator appropriations
    - Storm Water Task Force – ongoing sub-committee
      - Review progress on implementation with staff and advise Board
  - Identify funding source necessary for long-term success!

Flood Risk Reduction Program

Goal 1 Eliminate sanitary sewer basement back-ups for residents served by the Glenview Public Sewer System

Goal 2 Reduce the risk and impacts of over-foundation flooding on Village residents and businesses where practical and cost-effective

Goal 3 Improve local drainage infrastructure to meet the Village's current design standards throughout the community

Questions?


FLOODED
ROAD
SEP 14 2008


SEP 14 2008