

Common Causes of Residential Flooding

Glenview's Local Drainage Inspection Program



IAFSM

March 13, 2019

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Village of Glenview

Three primary watersheds

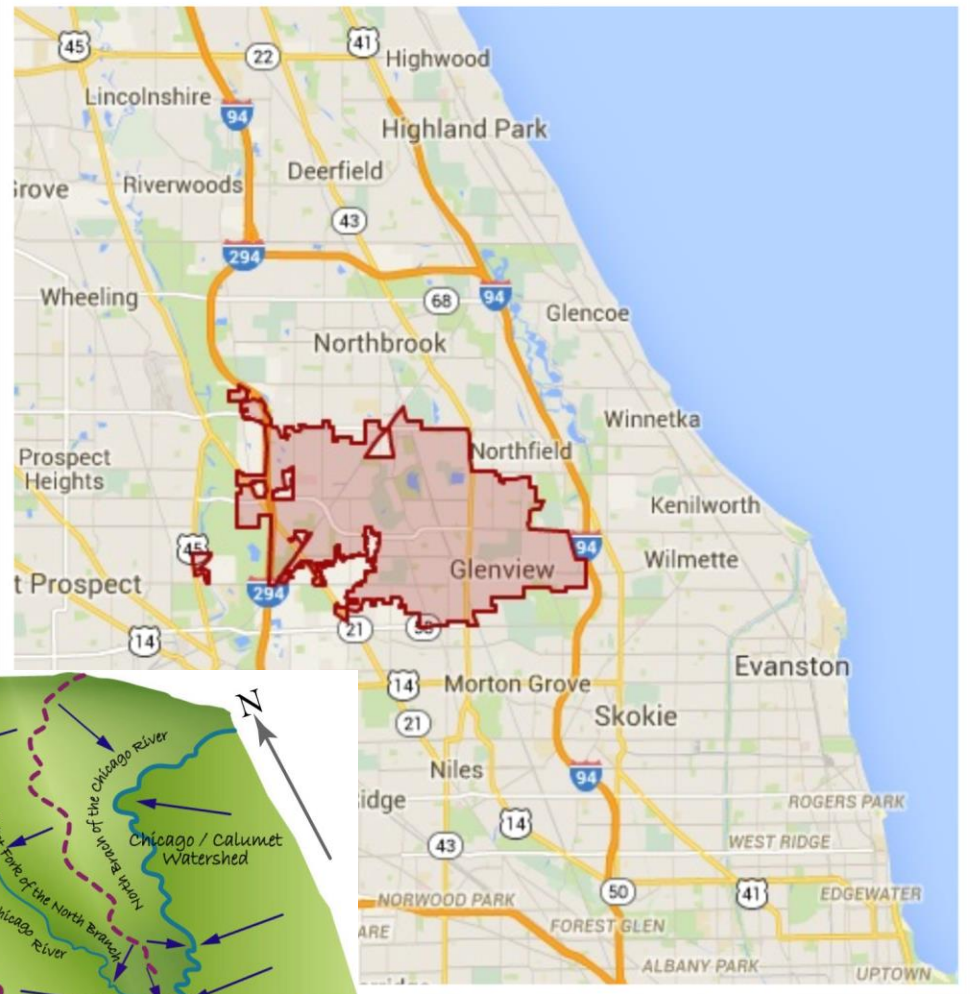
48 sub-watersheds

60% of Village built to old standards

- No stormwater detention
- No overland flow paths
- Limited conveyance

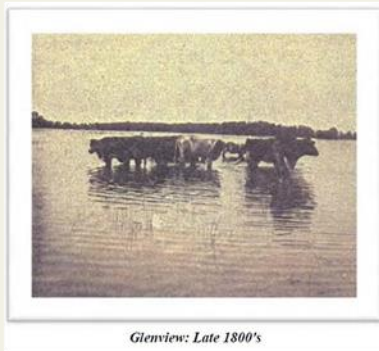
Clayey soils

Flat terrain

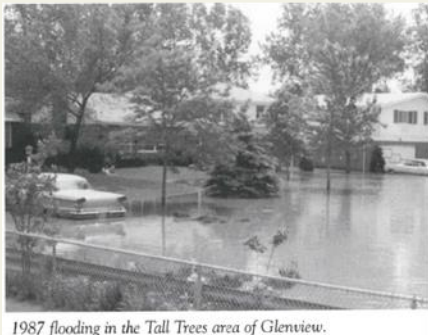


History of Flooding

2008 Flooding Event



Glenview: Late 1800's



1987 flooding in the Tall Trees area of Glenview.



Flooding in 1987. View on right is of the back nine holes of the Valley Lo golf course.

Stormwater Task Force Creation

16 area residents

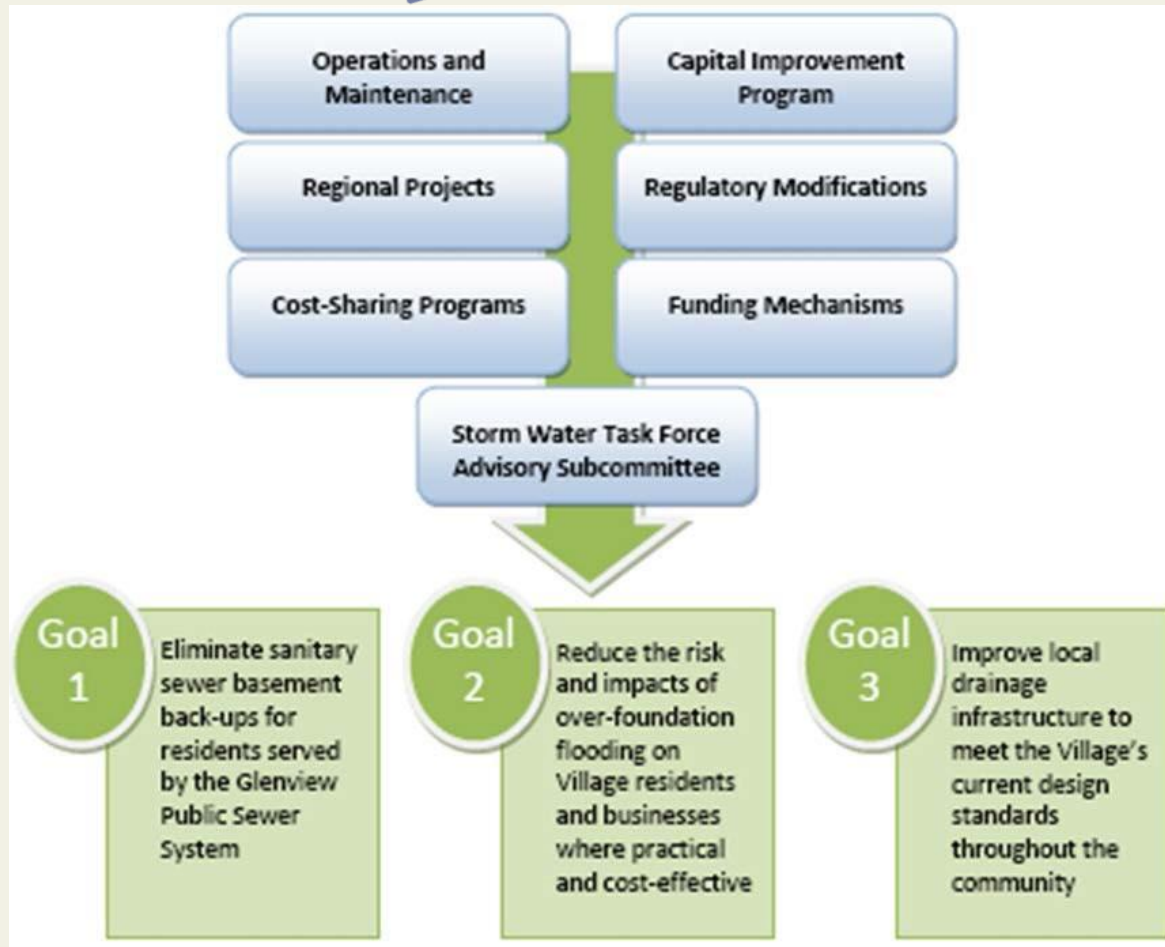
14 public meetings

Very public and active engagement

Created the Village's Flood Risk Reduction Program

- Approved August 2010
- Identified \$125M of local infrastructure projects
- Updated in 2013

\$125M of local projects identified



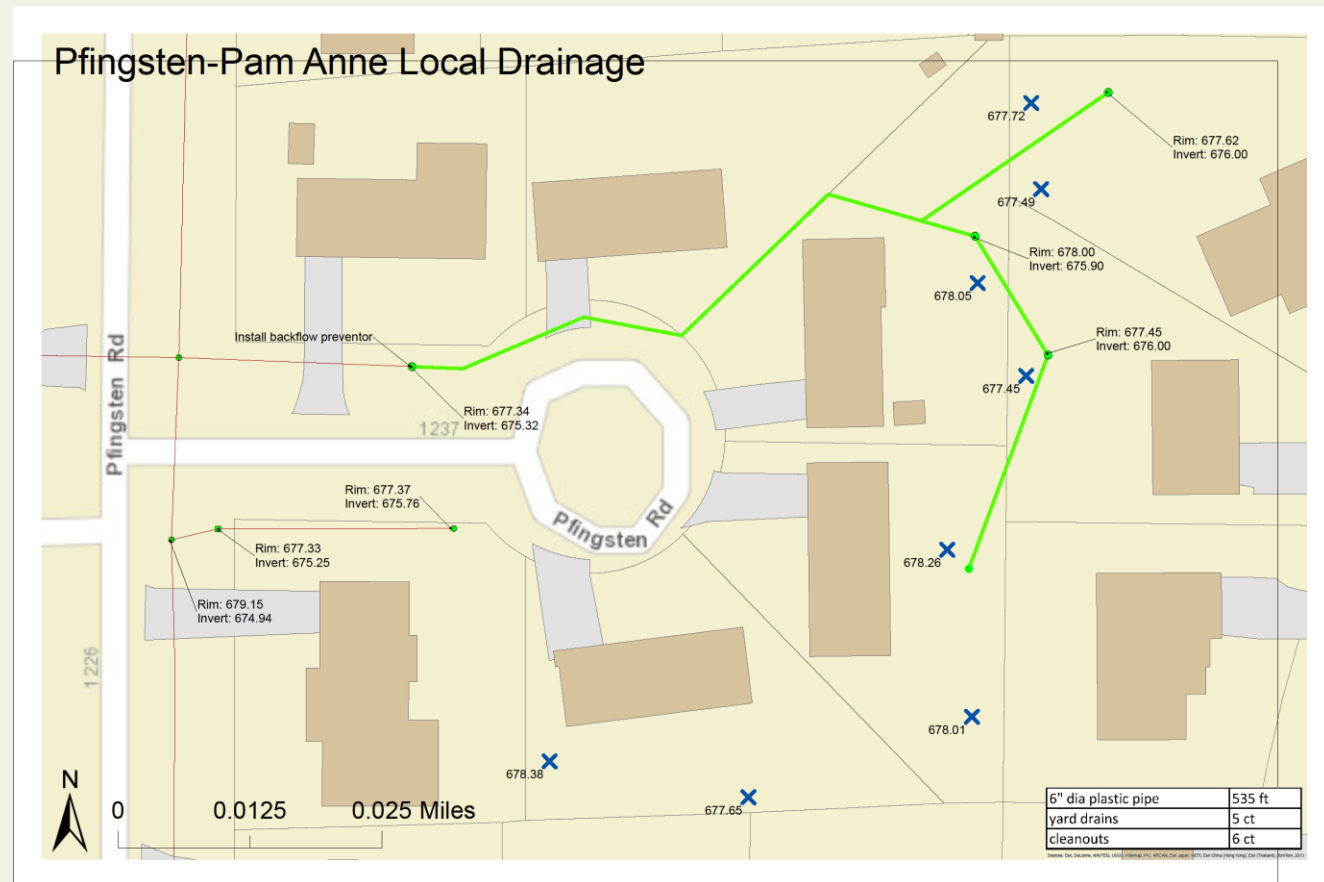
Residential Flooding

- Resident Call Volume Increasing
- Identifying Problem:
 - Public Infrastructure
 - Private Residence Issue
 - Hybrid (Cost Share)



Public-Private Hybrid

- Where does drainage originate?
- Benefitting multiple parcels?
- Resident support?



Residential Assistance Programs (50/50)

Over-head Sewer
Conversion

Raingardens

Local Drainage
Inspection
Program (LDIP)

The screenshot shows the 'Add Inspection Request' form for the Village of Glenview. The header includes the Village of Glenview logo, the text 'The Village of Glenview', and the 'Local Drainage Inspection Program' title. The breadcrumb trail indicates the user is at 'Home > Add Inspection Request'. The form contains several input fields: 'Name' (required), 'Address' (required), 'City / State / Zip' (pre-filled with 'Glenview', 'IL', '60025'), 'Home Phone', 'Work Phone', 'Cell Phone', and 'Email' (required). Below these is a 'Contact Via' section with radio buttons for 'Home', 'Work', 'Cell', and 'Email'. A text area for 'Please briefly describe your drainage problem:' is provided. A section titled 'To provide our inspectors with additional information about your drainage problem, please answer the following questions:' contains four questions with 'Yes'/'No' radio button options: 'Do you have a basement?', 'Do you have a sump pump?', 'Does water pond in your yard following a rain event?', and 'Do your roof downspouts discharge to your yard?'. Another text area for 'Please provide any additional information that you think our inspectors might find useful:' follows. At the bottom, there are two questions with 'Yes'/'No' radio button options: 'Do you agree to the terms and conditions provided below?' and 'Submit your site drainage inspection request?'. An 'Add Request' button is located at the bottom right.

You are here: [Home](#) > Add Inspection Request

Name: * (= required)

Address: *

City / State / Zip:

Home Phone:

Work Phone:

Cell Phone:

Email: *

Contact Via: ☐ Home ☐ Work ☐ Cell ☐ Email

Please briefly describe your drainage problem:

To provide our inspectors with additional information about your drainage problem, please answer the following questions:

Do you have a basement? ☐ Yes ☐ No

Do you have a sump pump? ☐ Yes ☐ No

Does water pond in your yard following a rain event? ☐ Yes ☐ No

Do your roof downspouts discharge to your yard? ☐ Yes ☐ No

Please provide any additional information that you think our inspectors might find useful:

Do you agree to the terms and conditions provided below? ☐ Yes ☐ No

Submit your site drainage inspection request? ☐ Yes ☐ No

Residential Flood Inspection

Pre-Visit Preparations

- Review Questionnaire
- Check GIS
 - Inundation Maps
 - Topography
 - Utilities
- Check CIP

Types of Issues

- Basement Sewer Backup
- Sump Pit Surcharge
- Foundation Seepage
- Garage Flooding
- Yard Flooding
- Yard Ponding
- Foundation Overtopping

Why Am I Here?

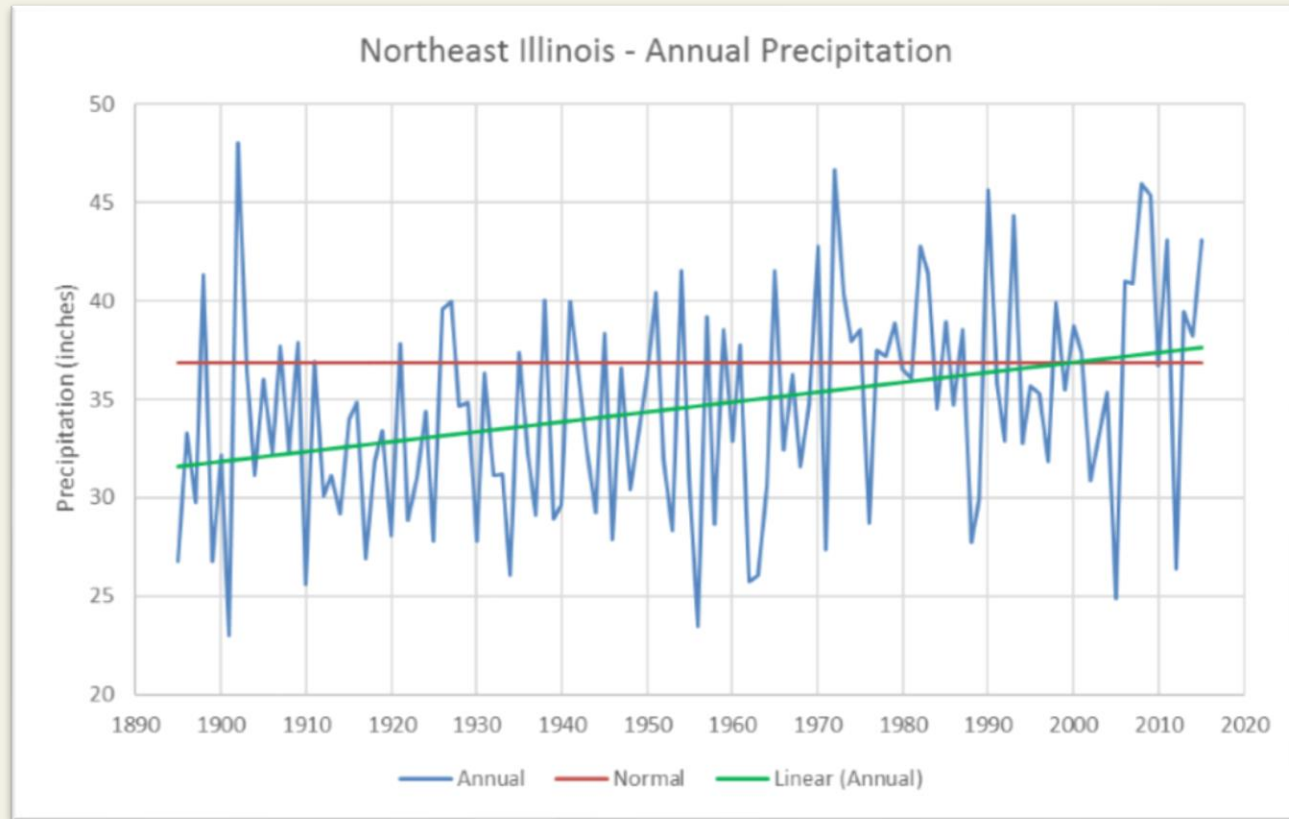
- What are all the problems
- Do the neighbors have problems
- What is the primary concern
- What do you think causes it
- How do you think we can fix it
- My suggestions

It's Their Fault!!!

I've lived here for 32 years and 7 months and I've never experienced this problem until they built the new library/house/road/park/flower bed/fence/(you name it)/etc...

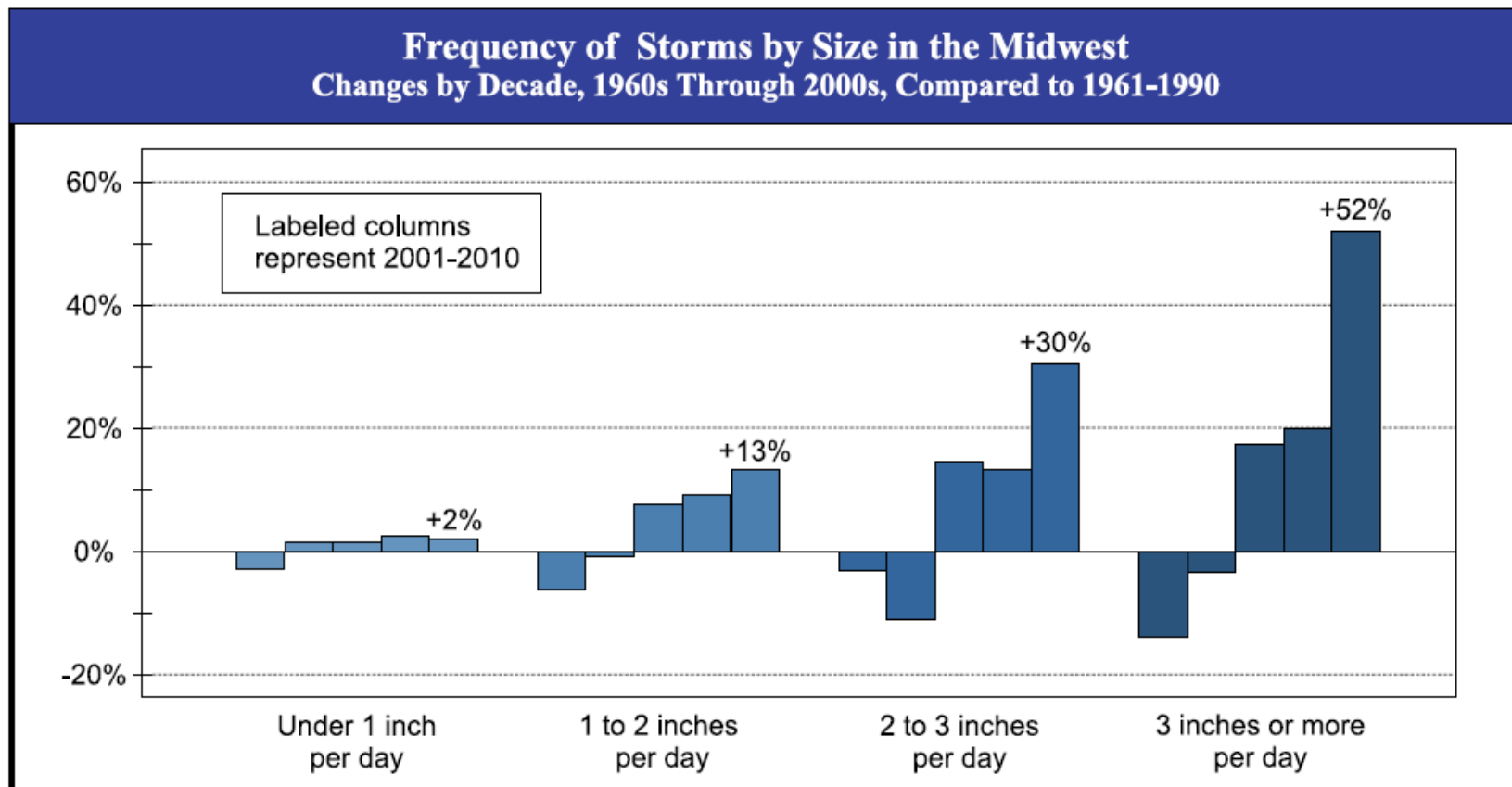
Sometimes there is merit...

Global Warming!!!



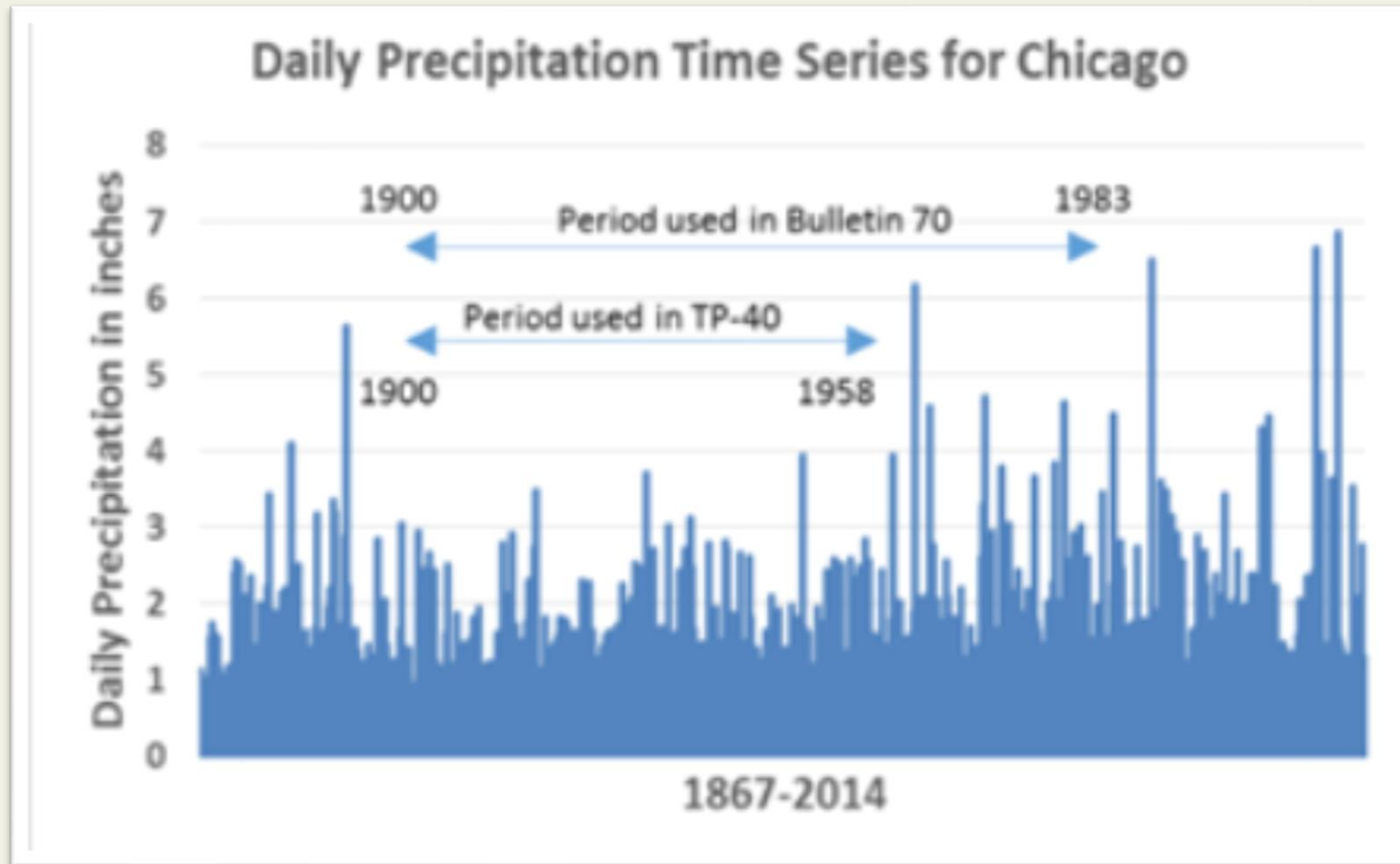
Rainstorms are larger and more frequent.

Global Warming!!!



Rainstorms are larger and more frequent.

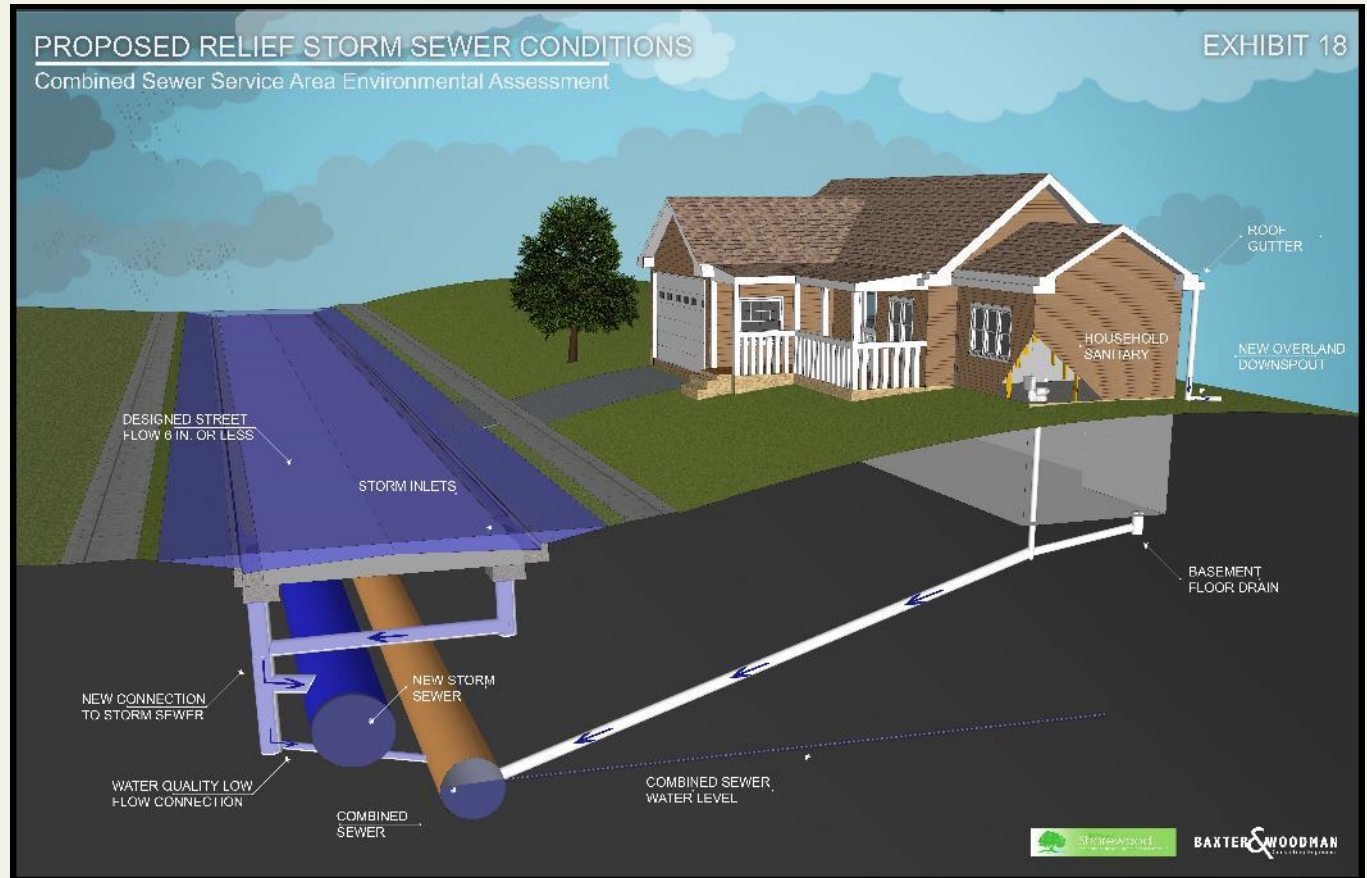
Old Math!!!



10 yr – 100 yr rainstorm
Rates not total inches

How Storm Sewers Work

Storm Sewers
only convey
the 10-year
storm event –
at most



Depressed property = Depressed Owner

“Why do I have to take everyone’s water”

“Why is my house at the low point”

“This isn’t my water, it’s from their yard”

“Only my house floods”

“Whose fault is it!”

Back to your House:

Is it Yard Flooding or Yard Ponding?

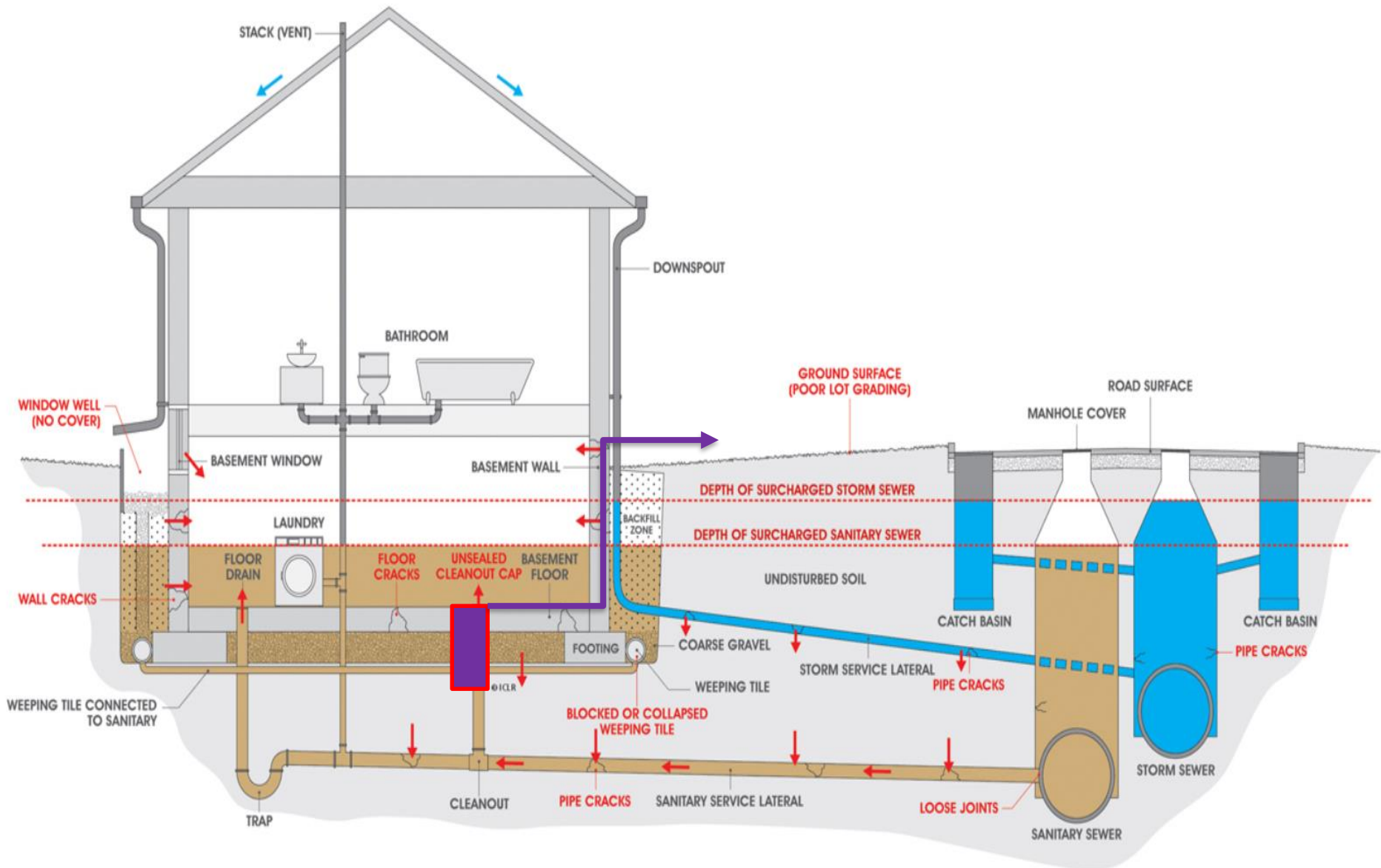
Ponding:

- Private storm sewer
- Infiltration trench
- Dry Well
- Rain garden
- Regrading
- Fill

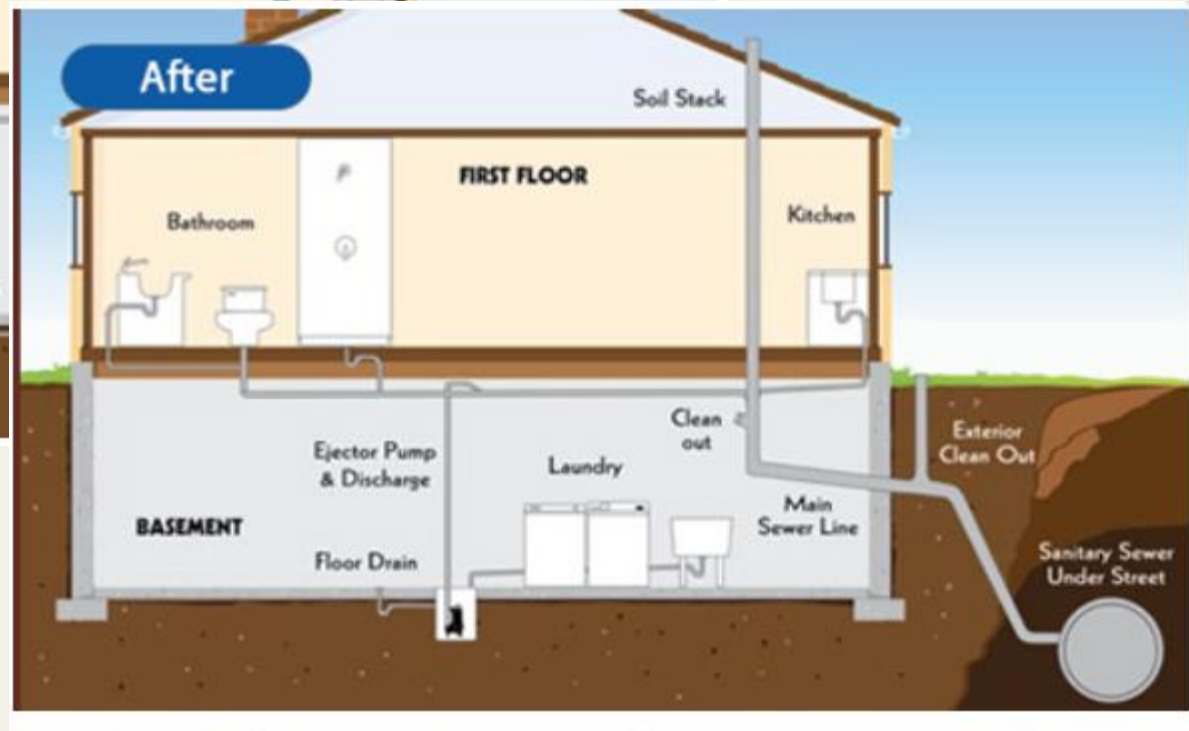
Flooding:



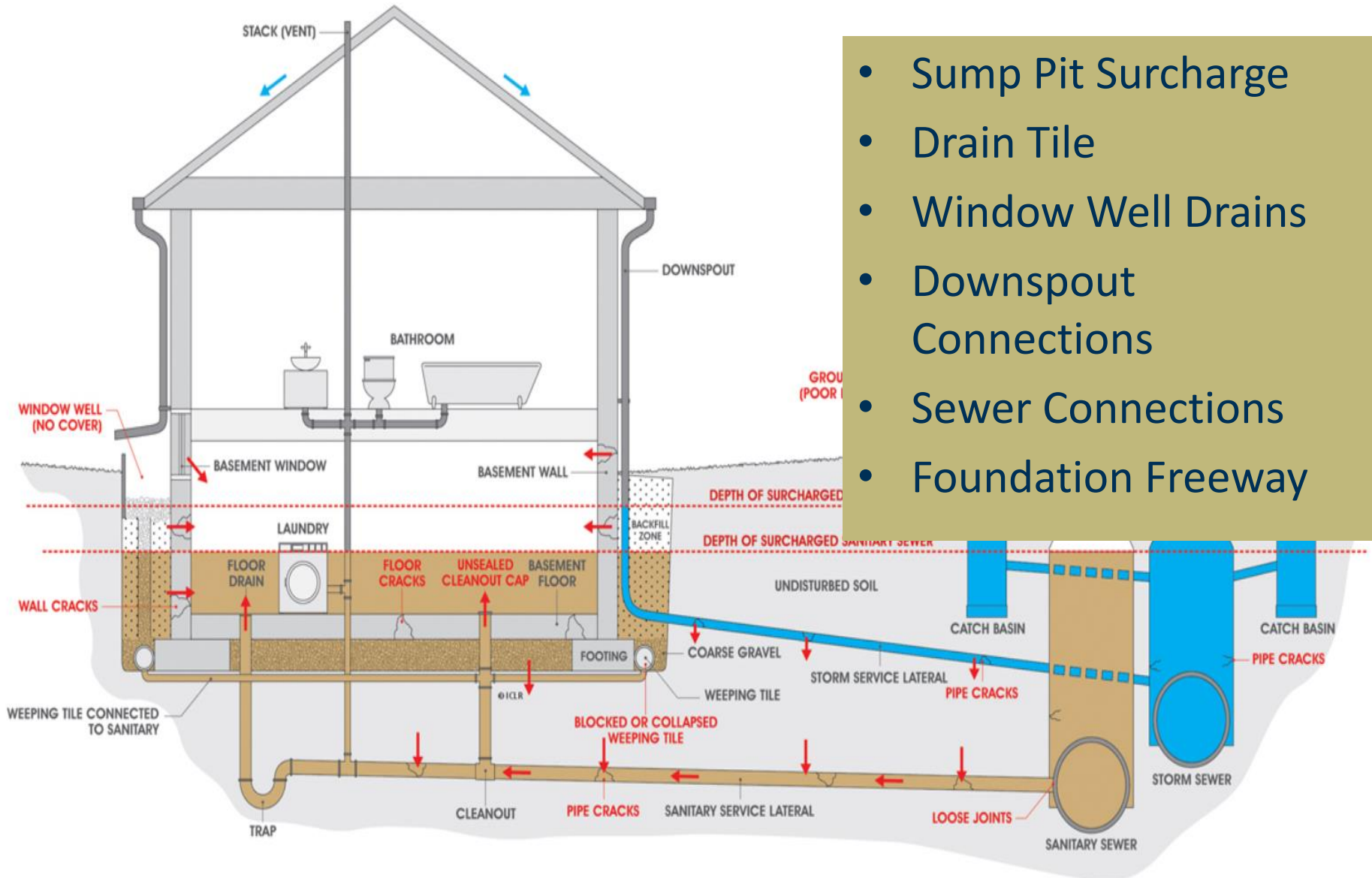
Wet Basement – Brown Water vs. Clear Water



Backup Prevention



- Sump Pit Surcharge
- Drain Tile
- Window Well Drains
- Downspout Connections
- Sewer Connections
- Foundation Freeway



Wet Basement – Clear Water

Leaking (or pouring) in around basement windows

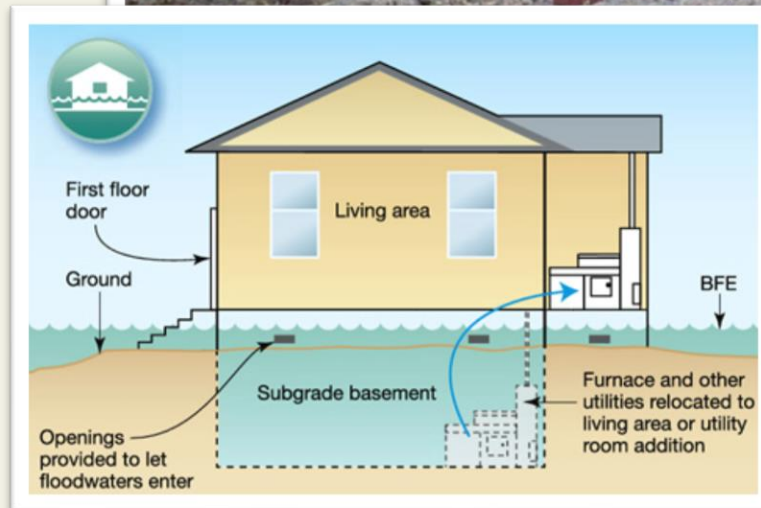
- Glass block windows
- Raise window wells
- Divert water



Wet Basement – Clear Water

Overtopping Foundation

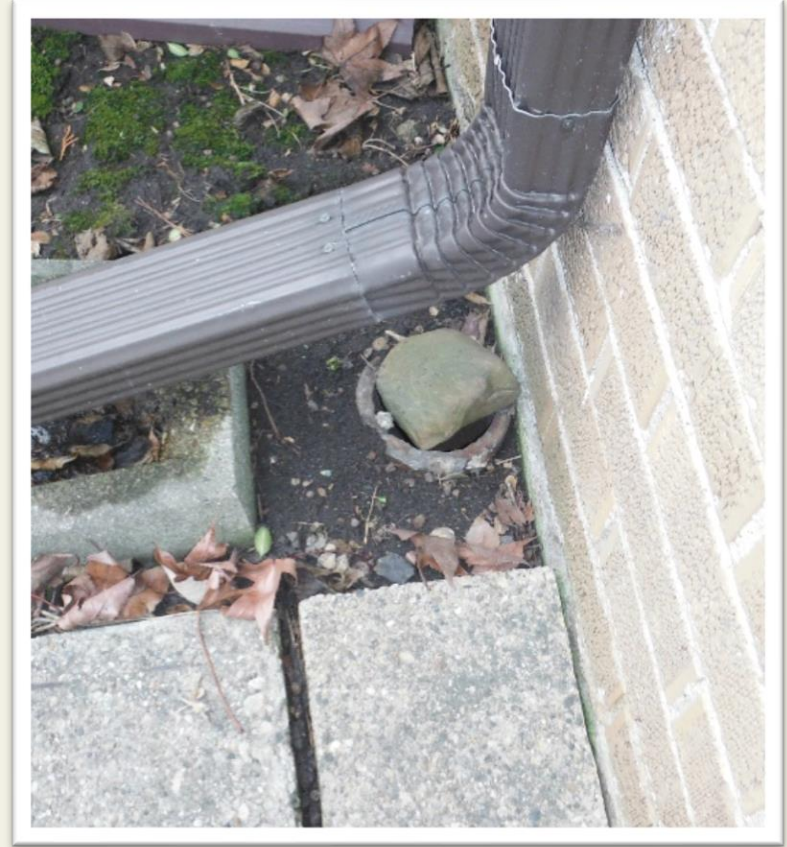
- Regrade yard
- Dry Floodproofing
- Wet Floodproofing



Window Wells



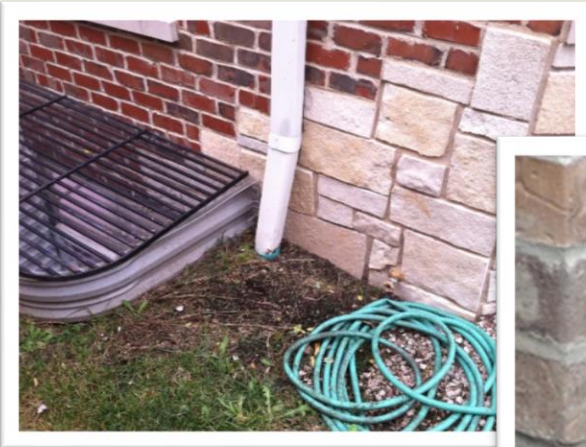
Downspouts!



Downspouts!



Downspouts!



Report

☐ Final Report

- Existing Site Conditions
- Existing Site Drainage Issues
- Apparent Causes of Drainage issues
- Potential Solutions to Drainage Issues (Alternatives)
- Preliminary Cost Estimate
- Recommendation(s)

☐ Cover Letter

☐ Contractor List

☐ Permit Voucher

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