

# Tips for a Successful Site Visit of a Localized Drainage Problem

Logan Gilbertsen, P.E., CFM | IAFSM | March 2022

# My perspective

Consulting engineer

City/public entity has authority and funding to do work

Non-floodplain

Not rocket science

Practical tips



# Agenda

## ▶ Prep

- ▶ Establish a purpose
- ▶ Desktop prep
- ▶ What to bring

## ▶ At the visit

- ▶ Talking to property owners
- ▶ Evidence



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# Prep: establish a purpose

- ▶ Source
- ▶ Severity
- ▶ Frequency
- ▶ Public or private?
- ▶ History of the site
- ▶ Conceptual solution
- ▶ Gather data, photos

#1 Goal: Only go out to a site once if possible



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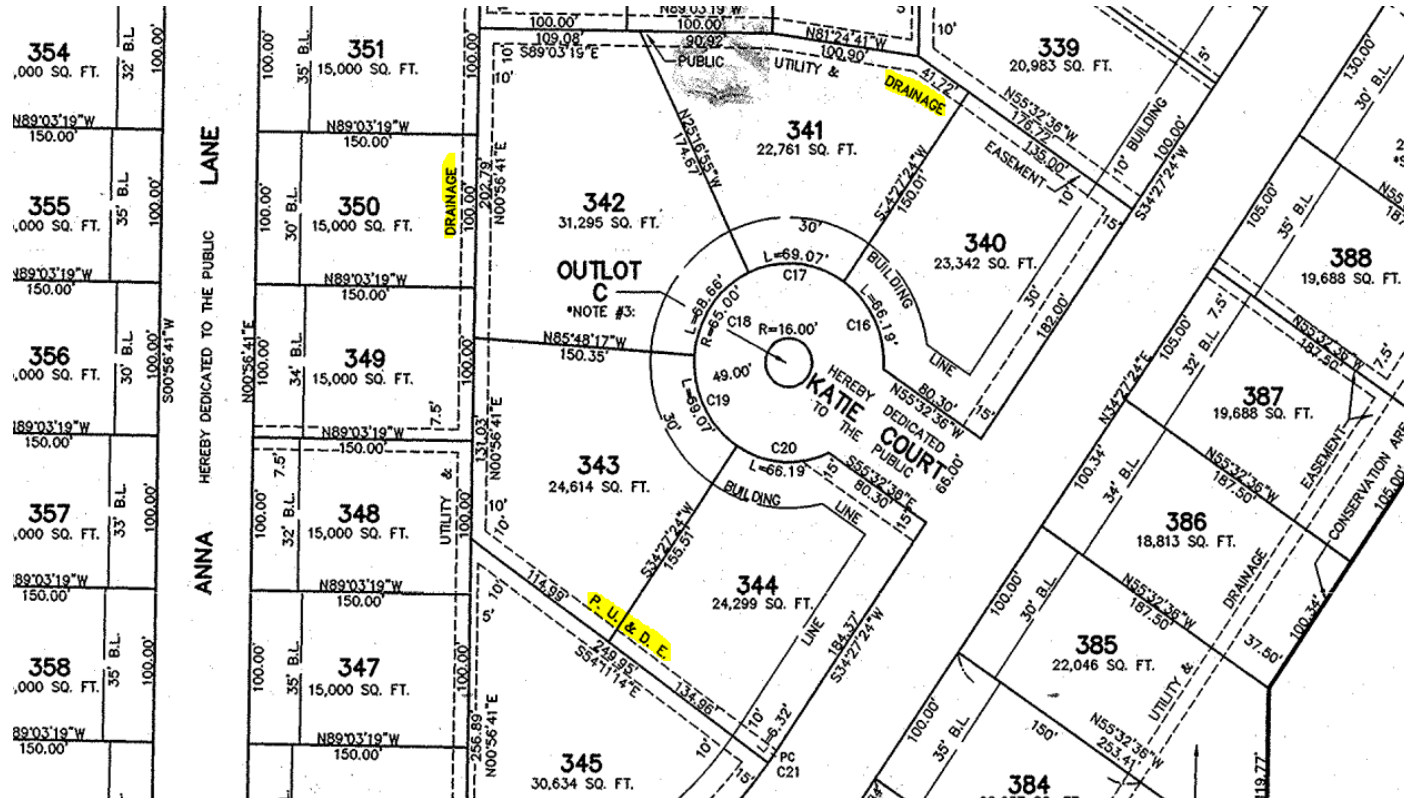
# Prep: desktop analysis



- ▶ Drainage area
- ▶ Storm sewer
- ▶ Other utilities
- ▶ Property lines
- ▶ Easements
- ▶ City/county limits
- ▶ Floodplain
- ▶ Recent event?

# Prep: desktop analysis

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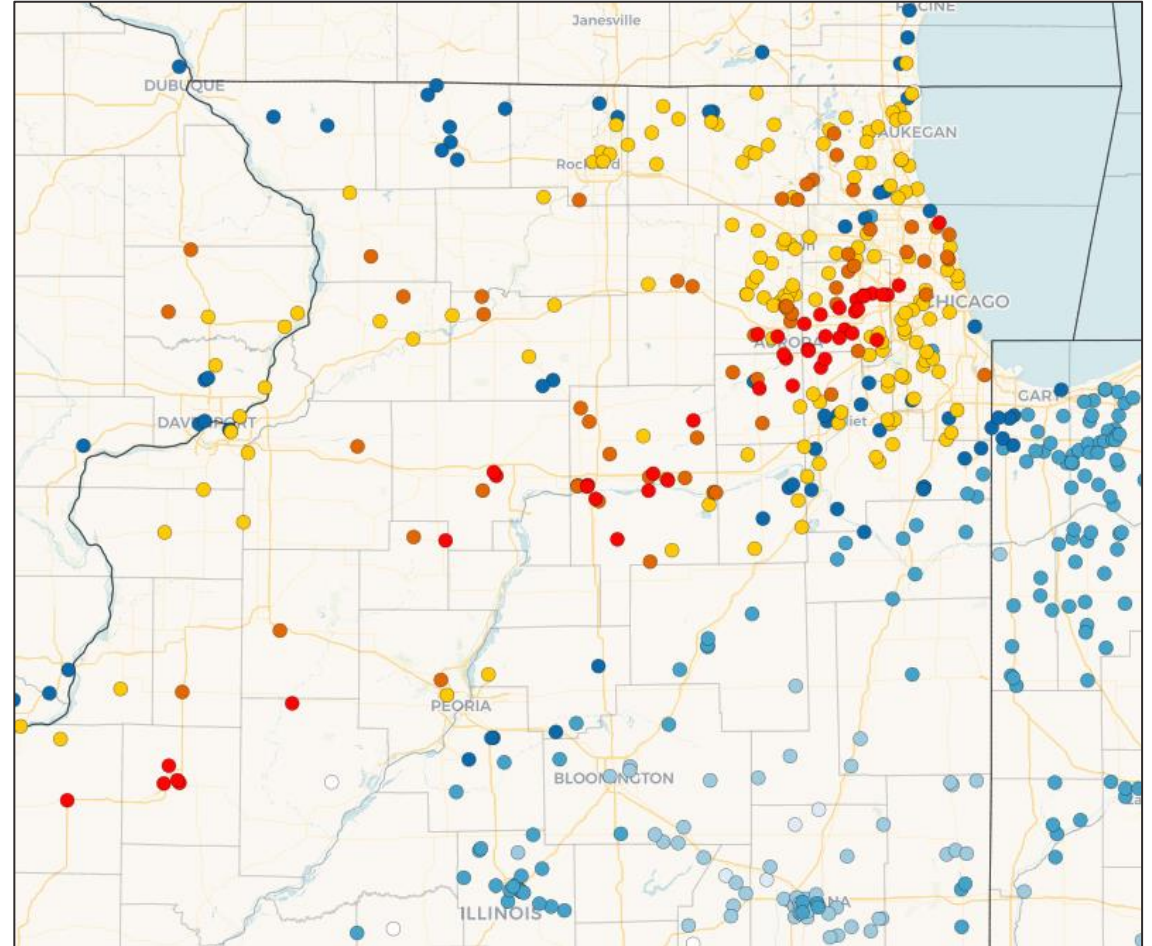
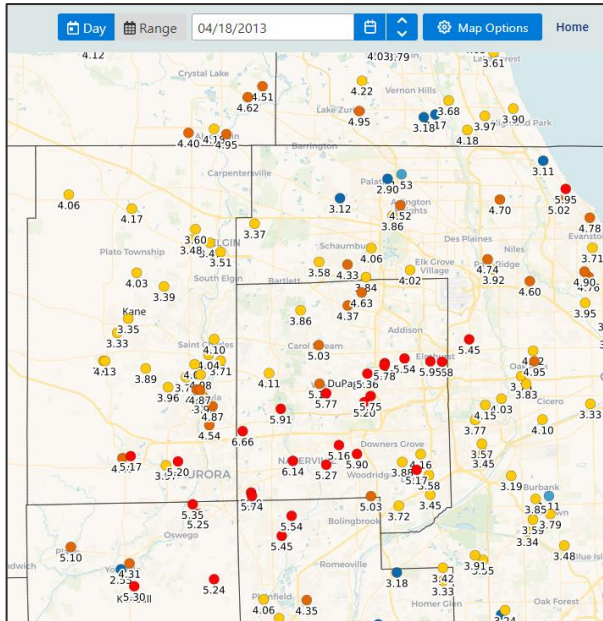




# Prep: desktop analysis

## ► CoCoRaHS

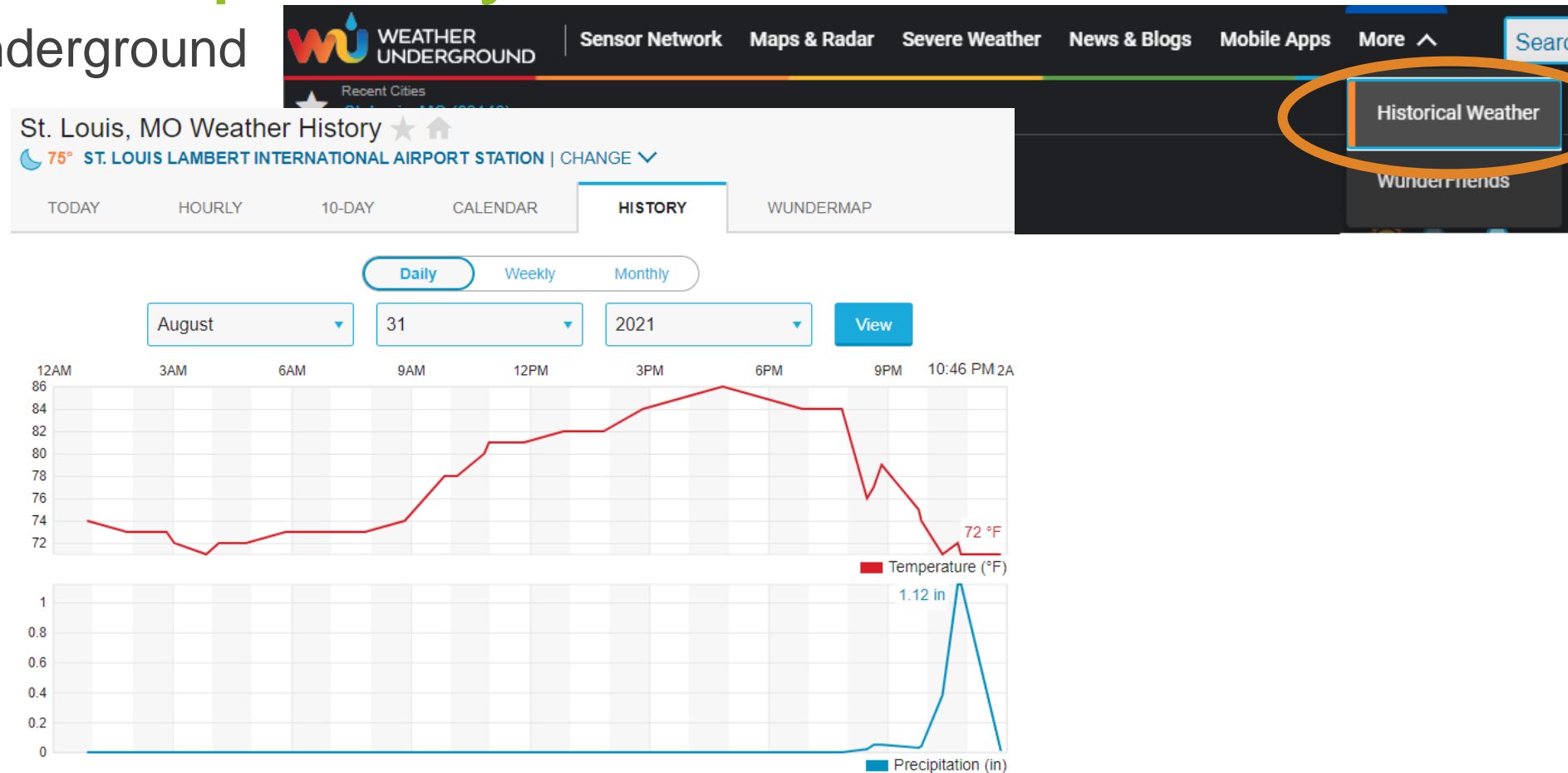
- Rainfall depth from previous 24 hours
- Observation time 7 am



[www.cocorahs.org](http://www.cocorahs.org)

# Prep: desktop analysis

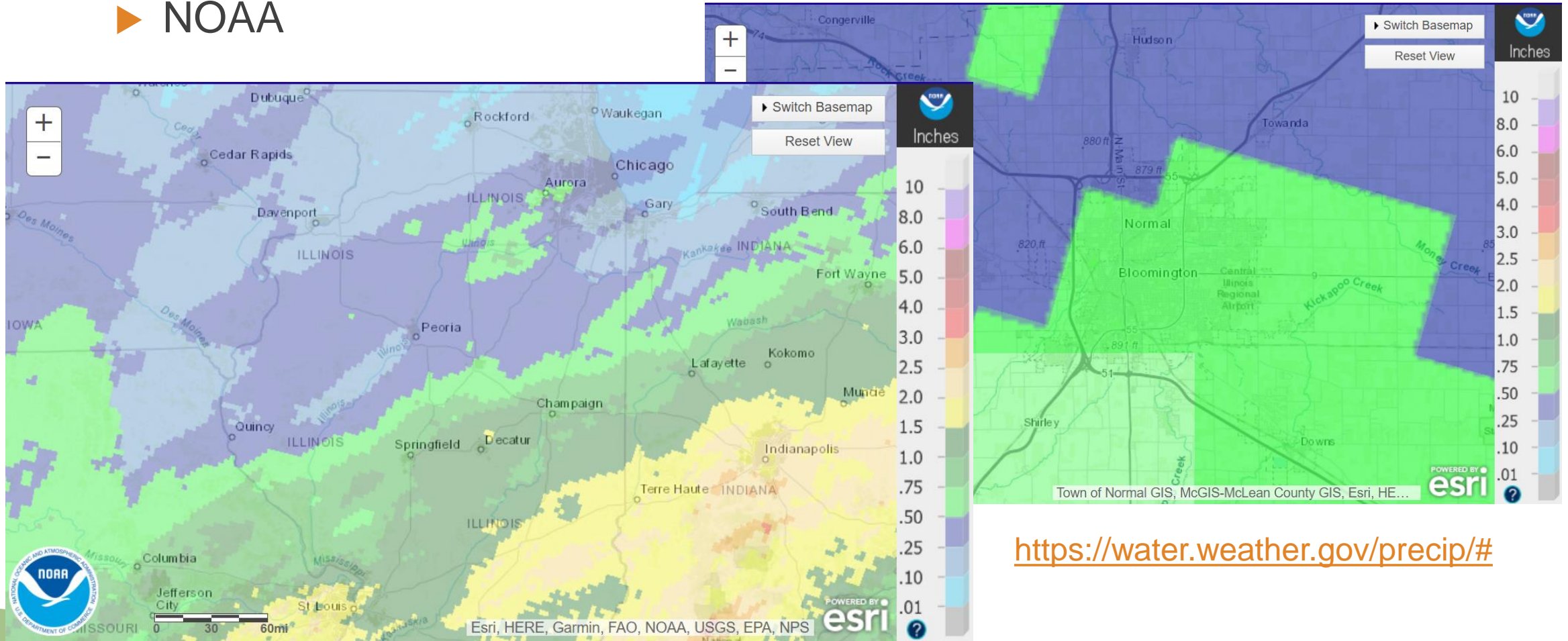
## ► Weather Underground



<http://www.wunderground.com>

# Prep: desktop analysis

## ► NOAA



<https://water.weather.gov/precip/#>

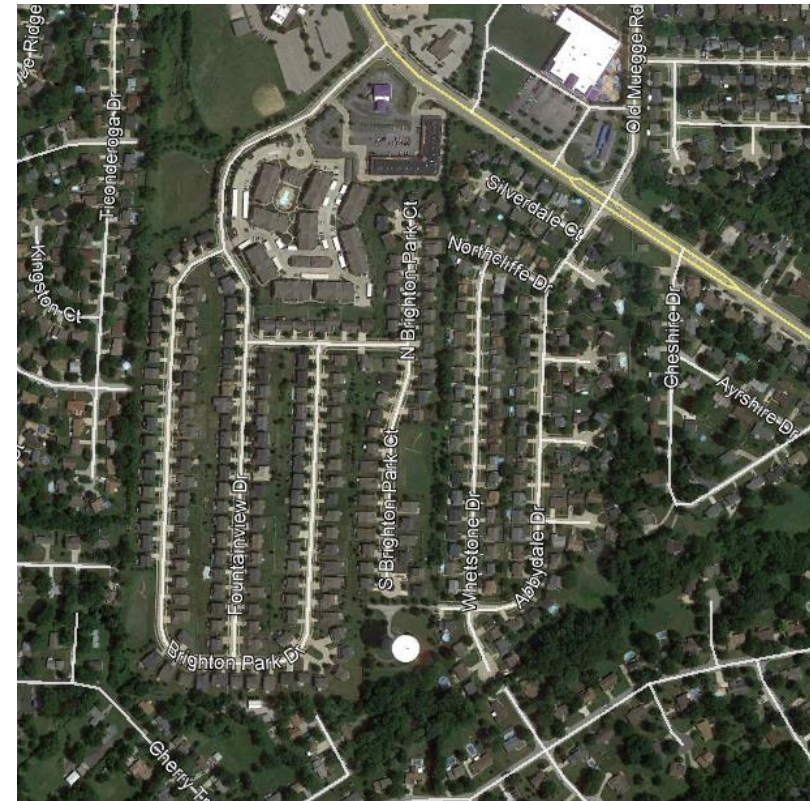


# Prep: desktop analysis

- ▶ Google Earth Pro (requires license)

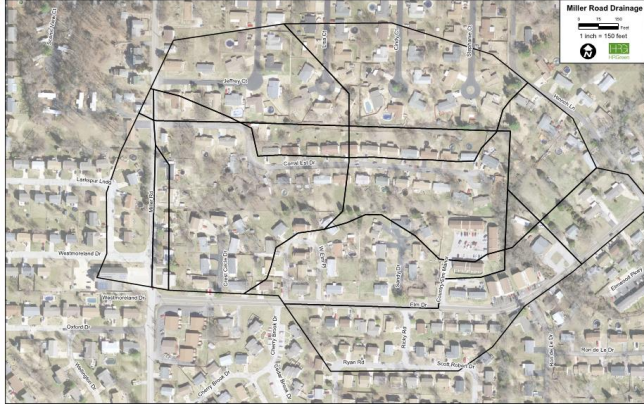


## February 1990



July 2020

# Prep: what to bring



Maps



Safety vest



Phone/camera



Folding ruler



Tape measure



Manhole pick/crowbar



Compass



Waterproof boots



Letters explaining program/project



Business cards



# Prep: pick a day when it's raining







Photo from resident



Looks harmless when it's dry!

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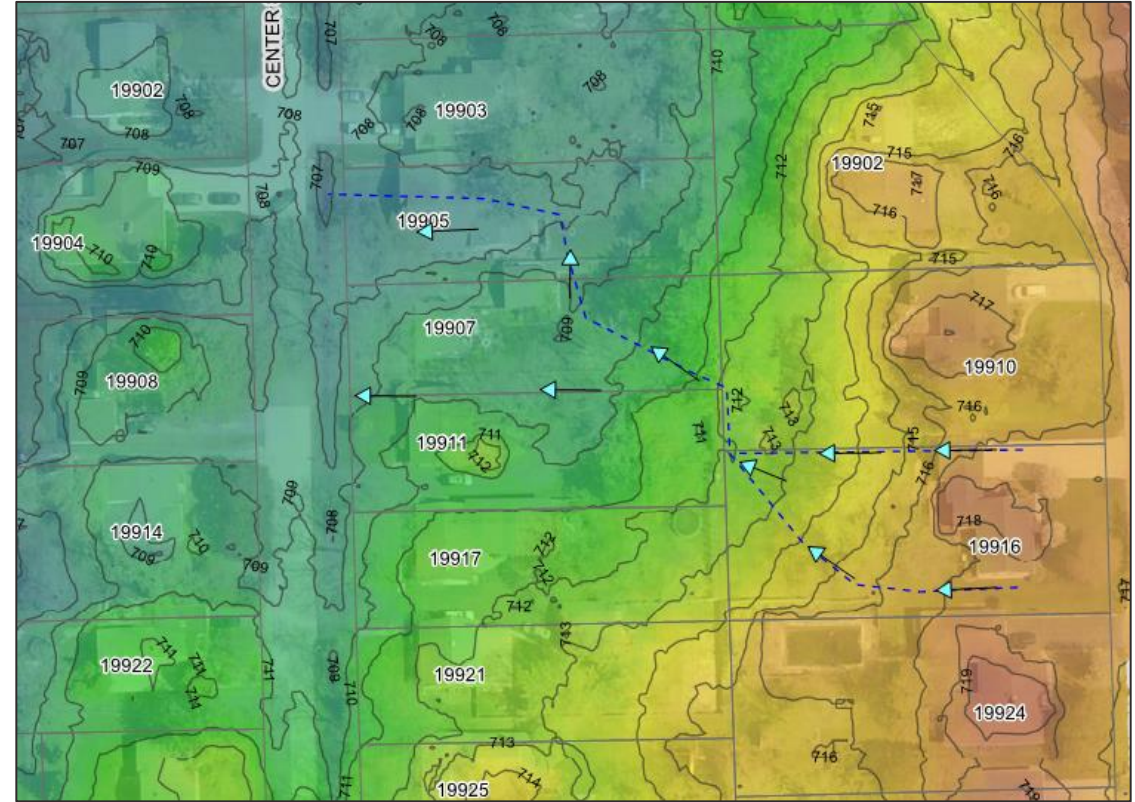
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# At the visit: tips when talking with residents

- ▶ Listen
- ▶ Beware of misunderstanding, jargon
  - ▶ “It flows like a river”, basement backups
- ▶ Be realistic and straightforward
- ▶ Have simple and clear exhibits



# Ask the right questions



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Do you  
have  
pictures or  
videos?



Photo from resident



Do you  
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pictures or  
videos?



Photo from resident

# Time to Look for Evidence







Patchy grass could mean ponding or water flow





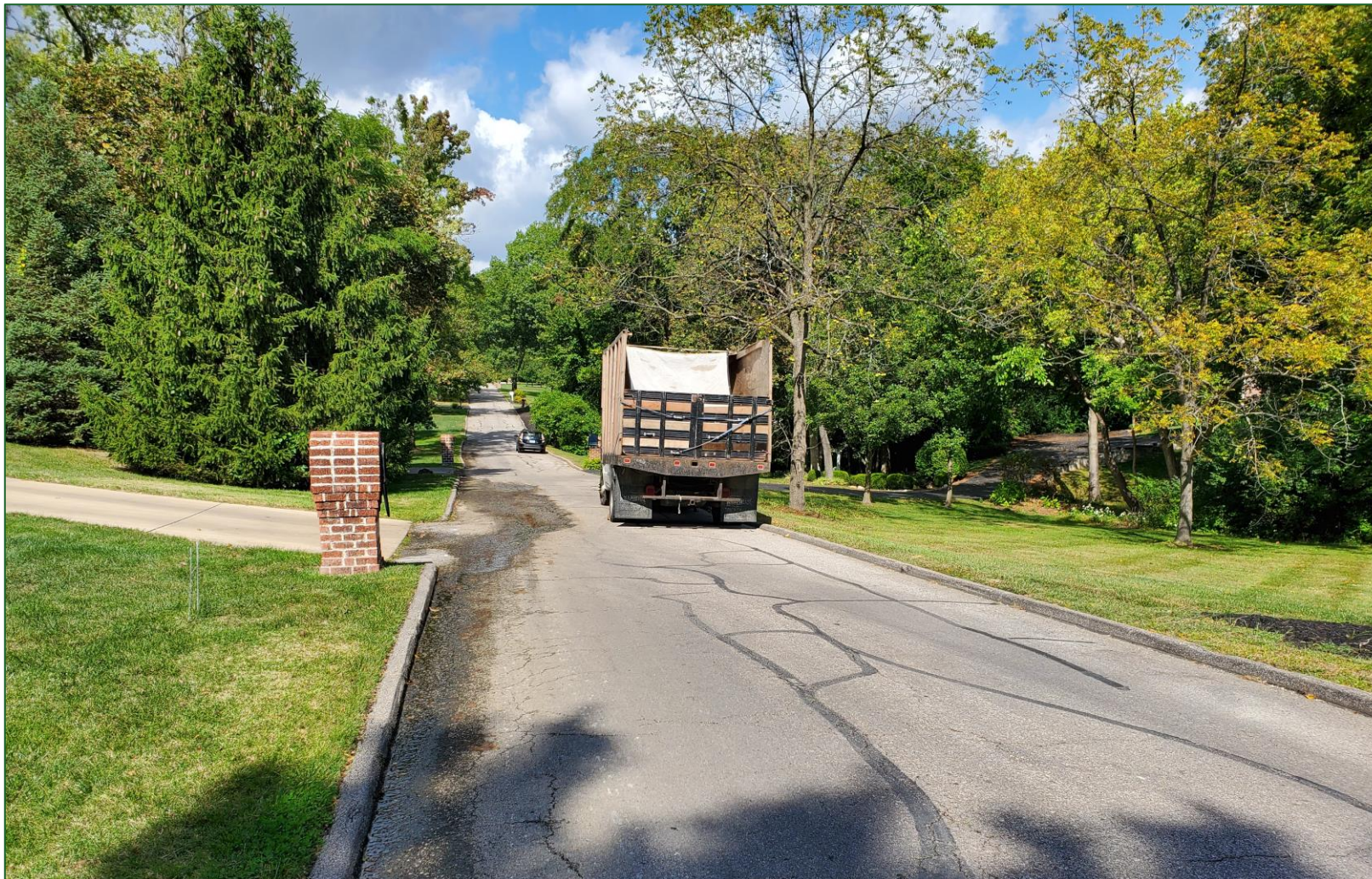
Look for debris and remind your intern to hold the rod upright





Frequent ponding is deteriorating the asphalt





Frequent water flow is deteriorating the asphalt





'Dirty' pavement







'Dirty' pavement





Poor conveyance to inlets





Inappropriately sized rock placed by homeowner  
has washed down hillside





French drain





Sandbags



Topsoil bags





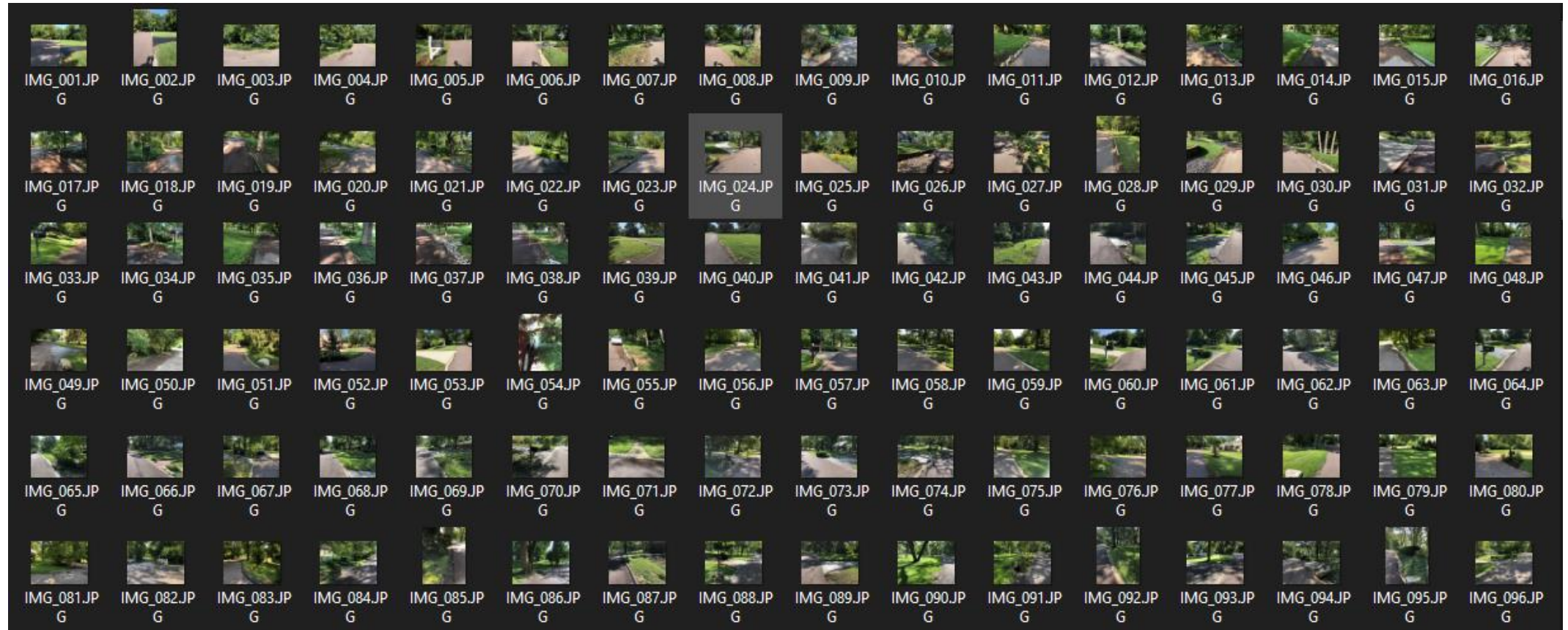
Sandbags at the ready



Driveway hump



# Take lots of photos!



# Recap

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Building Communities.  
Improving Lives.



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