

Northern Utah Flooding Event

Presented by:

Nibley City, Logan City and Cache County

Nibley City



Introduction

Nibley's Flood Event

- Started Feb 6, peaked on Feb 10-11, several homes are still experiencing groundwater infiltration
- 2"-4" inches of rain combined with about 3 ft. of snow on the ground and warm temperatures caused an unusual amount of runoff
- There was increased groundwater and surface water levels that flooded hundreds of homes in Nibley City
- This put increased pressure on Nibley's sewer and stormwater infrastructure

Rain continues to cause problems throughout Cache Valley



Raw sewage backs up into Wellsville homes—storm water pumped into city sewer likely to blame



Story Co

Recom

FURTHER INFO FROM LOGAN CITY ON FLOODING/SEWERS

Previous Ne



Story

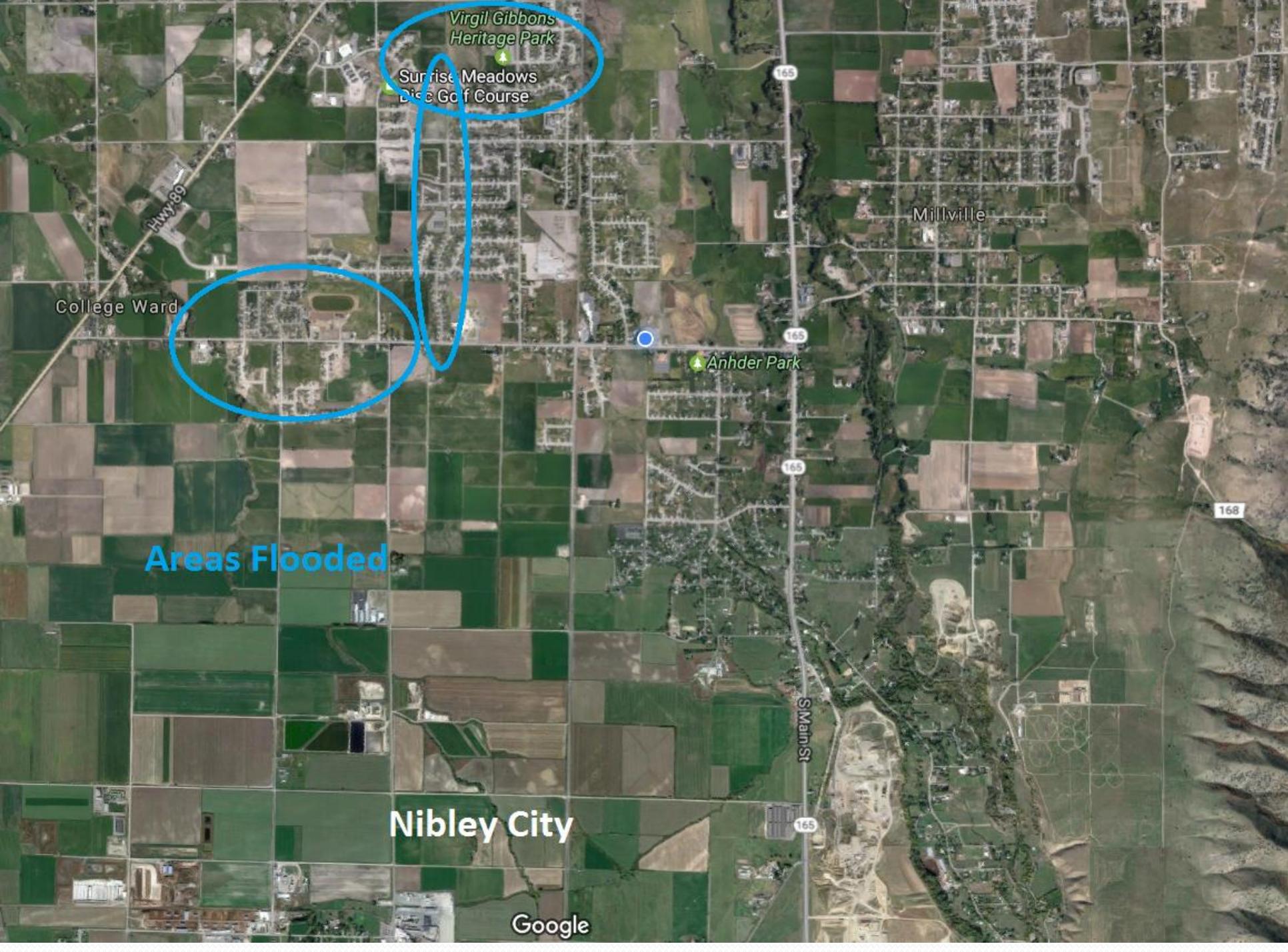
Flood warning posted for Bear River below Cutler Dam

f

Staff and wire report Feb 25, 2017 (0)



Local cap



Virgil Gibbons
Heritage Park

Sunrise Meadows
Disc Golf Course

Hwy 89

College Ward

Millville

Anhder Park

Areas Flooded

Nibley City

Google

165

165

165

168

S Main St

165



Home Flooding









Stormwater Infrastructure









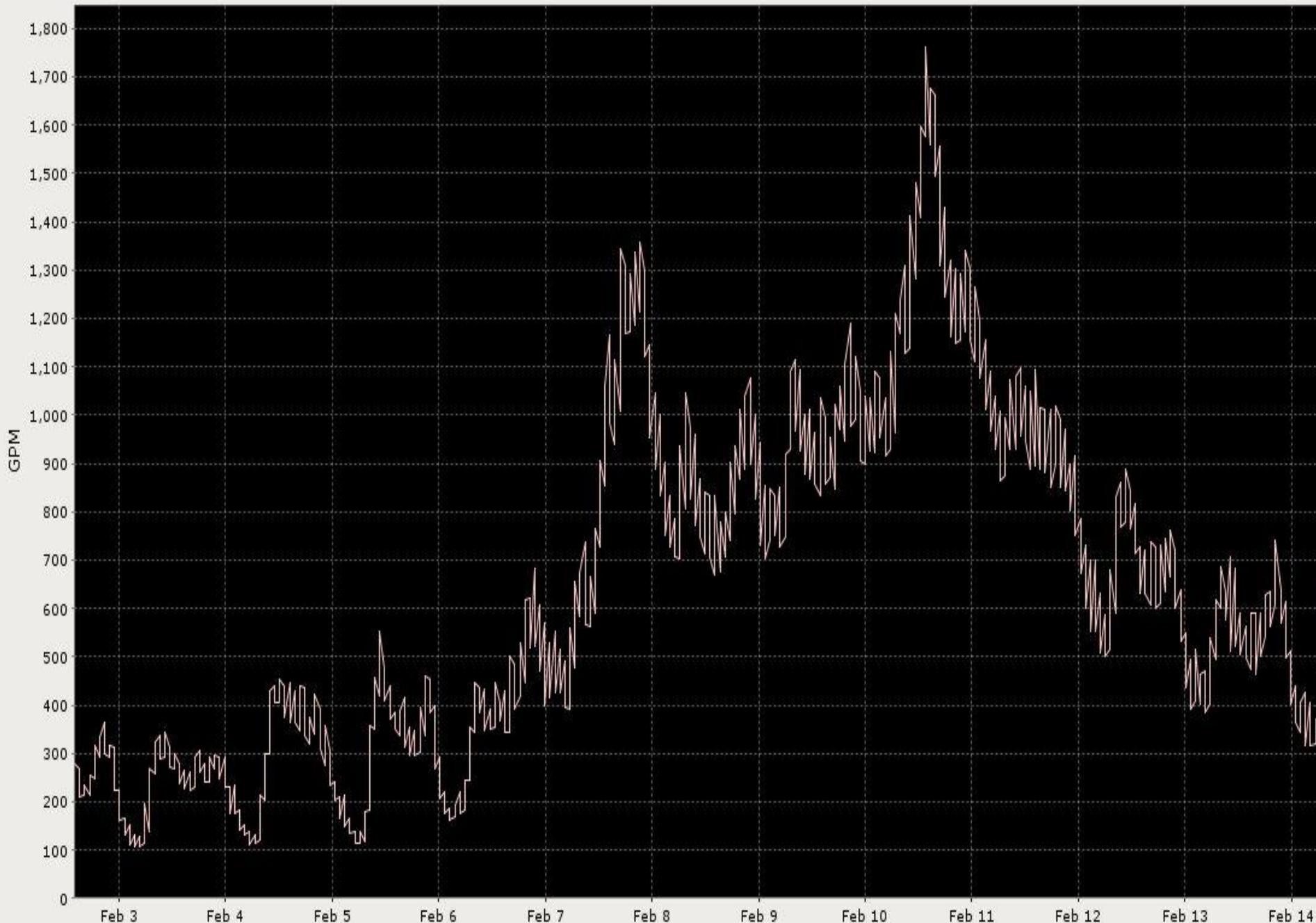




Sewer

- Nibley City sewer system started to receive more water than ever before.
- Water came from the following
 - Water leaking into sewer pipes
 - Water leaking through manholes
 - Residents pumping and draining water into sewer system

Hansen Lift Station Trends



Actions Taken

- Educating public
- Sent out message through City's communication systems about dangers of putting ground/stormwater in sewer system
- Ordered not to use sewer system
- Sealed manholes and checked for other leaks.
- Monitored lift station very carefully





Public Outreach

- Nibley City Used Several Methods
 - Social Media (Facebook, Twitter)
 - Website
 - City posted all updates, tips to stop flooding, flood information and other recourses on website
 - Nibley Community Alert System



Nibley, Utah

Published by Chad Wright [?] · February 10 · 🌐

Update: Sat 2/11 8:21 am Sewer flows from Nibley are still many times the normal rate. We are waiting to hear how the sewer treatment plant in Logan is doing before we make any changes.

The request to significantly limit the use of drains in your home is still in place.

Update Fri 7pm: Sewer flow in our system has improved and you may use your drains SPARINGLY. We will notify residents when we have reached normal sewer flow rates and will at that point lift the request to lim...

[See More](#)



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Boost this post for \$15 to reach up to 2,900 people.

18,051 people reached

[Boost Post](#)

👍👎 25

29 Comments 143 Shares 📄

18,051 People Reached

567 Reactions, Comments & Shares

155 Like
👍 On Post

16 On Post

139 On Shares

5 Haha
😂 On Post

0 On Post

5 On Shares

67 Wow
😲 On Post

9 On Post

58 On Shares

11 Sad
😞 On Post

0 On Post

11 On Shares

2 Angry
😡 On Post

0 On Post

2 On Shares

177 Comments
On Post

57 On Post

120 On Shares

152 Shares
On Post

143 On Post

9 On Shares

3,780 Post Clicks

348 Photo Views

6 Link Clicks

3,426 Other Clicks 📄

NEGATIVE FEEDBACK

6 Hide Post

3 Hide All Posts

0 Report as Spam

0 Unlike Page



Nibley, Utah

Published by Chad Wright [?] · February 11 · 🌐

Thanks for your help and cooperation this week. The sewer usage advisory has been lifted! RESUME NORMAL USE OF YOUR DRAINS! Have a dishes party, take a shower etc. Reminder ALL flood/stormwater in and around your home should be discharged in your yard or street (NOT the drains in your home). Drinking water is safe.



Get More Likes, Comments and Shares

Boost this post for \$15 to reach up to 2,900 people.

4,541 people reached

Boost Post

👍❤️😄 Dody Jones, Jackie Hinnen and 58 others · 7 Comments · 17 Shares · 🌐

👍 Like · 💬 Comment · ➦ Share

4,541 People Reached

207 Reactions, Comments & Shares

136 👍 Like	50 On Post	86 On Shares
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15 ❤️ Love	5 On Post	10 On Shares
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10 😂 Haha	5 On Post	5 On Shares
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28 Comments	11 On Post	17 On Shares
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19 Shares	17 On Post	2 On Shares
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591 Post Clicks

77 Photo Views	1 Link Clicks	513 Other Clicks ⓘ
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NEGATIVE FEEDBACK

4 Hide Post **1** Hide All Posts

0 Report as Spam **0** Unlike Page



Nibley, Utah added 2 new photos.

Published by Chad Wright [?] · February 10 ·

Thank you to our sandbag helpers today. We appreciate everyone's cooperation and willingness to help a neighbor.



Get More Likes, Comments and Shares
Boost this post for \$15 to reach up to 2,900 people.

1,166 people reached

Boost Post

Nibley, Utah, Sherrie Hill Garcia, Dody Jones and 39 others

Like Comment Share

1,166 People Reached

42 Reactions, Comments & Shares

37 Like **37** On Post **0** On Shares

5 Love **5** On Post **0** On Shares

0 Comments **0** On Post **0** On Shares

0 Shares **0** On Post **0** On Shares

348 Post Clicks

267 Photo Views **1** Link Clicks **80** Other Clicks

NEGATIVE FEEDBACK

0 Hide Post **0** Hide All Posts
0 Report as Spam **0** Unlike Page

Stormwater & Flooding

Where2Pump

Inspection

Sandbags

H₂O Mgmt

FEMA Terms-WthrAlrts



Pump stormwater to: YARD OR STREET

The extreme weather conditions we have been experiencing have resulted in many Nibley residents having water in their homes and basements. As residents work to pump this water from their homes, it is apparent that much of this water is being dumped into the City's sewer system. **Please do NOT discharge floodwater or groundwater into the sewer system.** The City's sewer system is currently receiving more water than it has ever handled before. Nibley City is concerned

that the system could become overwhelmed, which would result in raw sewage backing up into homes. It has been reported that this scenario is already happening in Wellsville. Please use hoses or other methods to divert floodwaters into streets and stormwater systems rather than floor drains, sinks, tubs or manholes.

If you discover water or sewage coming UP through your drain notify us IMMEDIATELY 435-752-0431

Like 1

Share

Share

Future and Repairs

- Nibley City has created an after action report with a list of things that need to be fixed or changed to avoid the problems we had.
 - Infrastructure
 - Working with community members
 - Planning
 - Equipment
- Minimal Cost this time - \$15,000

Infrastructure

- Regular cleaning and inspections of sewer and stormwater pipes



Working with Community

- Nibley City staff have held meetings with residents who live in some of the hardest-hit areas of the City to work with them to resolve long-term problems.
 - Muffins with the Mayor
 - One-on-one meetings
 - Neighborhood workshops

Planning

- New Code
 - Require a stamped report from an Engineer establishing the ordinary high groundwater elevation and finished floor elevation for a subdivision
 - Changed Street Code to allow for Low-Impact Development for stormwater retention and detention

Planning

- Future Code and other projects
 - Canal and stormwater regulations
 - Planning new infrastructure to fix problems
 - Change of code to give the City greater ability to hold developers accountable for infrastructure they install
 - Continued research to manage ground water in a suburban setting
 - Tabletop and community-wide training drills

Planning

- Flood Plain
 - Maintain natural and beneficial functions of the floodplain
 - Many cities across the country have passed laws to not allow home development in 100-year flood plain or required that all buildable area is out of the flood plain
- Other Flood Tips
 - Protect open space/less hardscaping
 - Design and require stormwater facilities and network to be resilient to all types of flooding events
 - Create laws and plans to protect sewer and stormwater infrastructure
 - Educate public about proper water disposal

**Flooding at Logan City's
Wastewater Facilities
February 2017**

“Poonami 2017”



460 Acres of Aerated Lagoons

Serve 7 Cities:

Logan

Nibley

Providence

River Heights

North Logan

Hyde Park

Smithfield

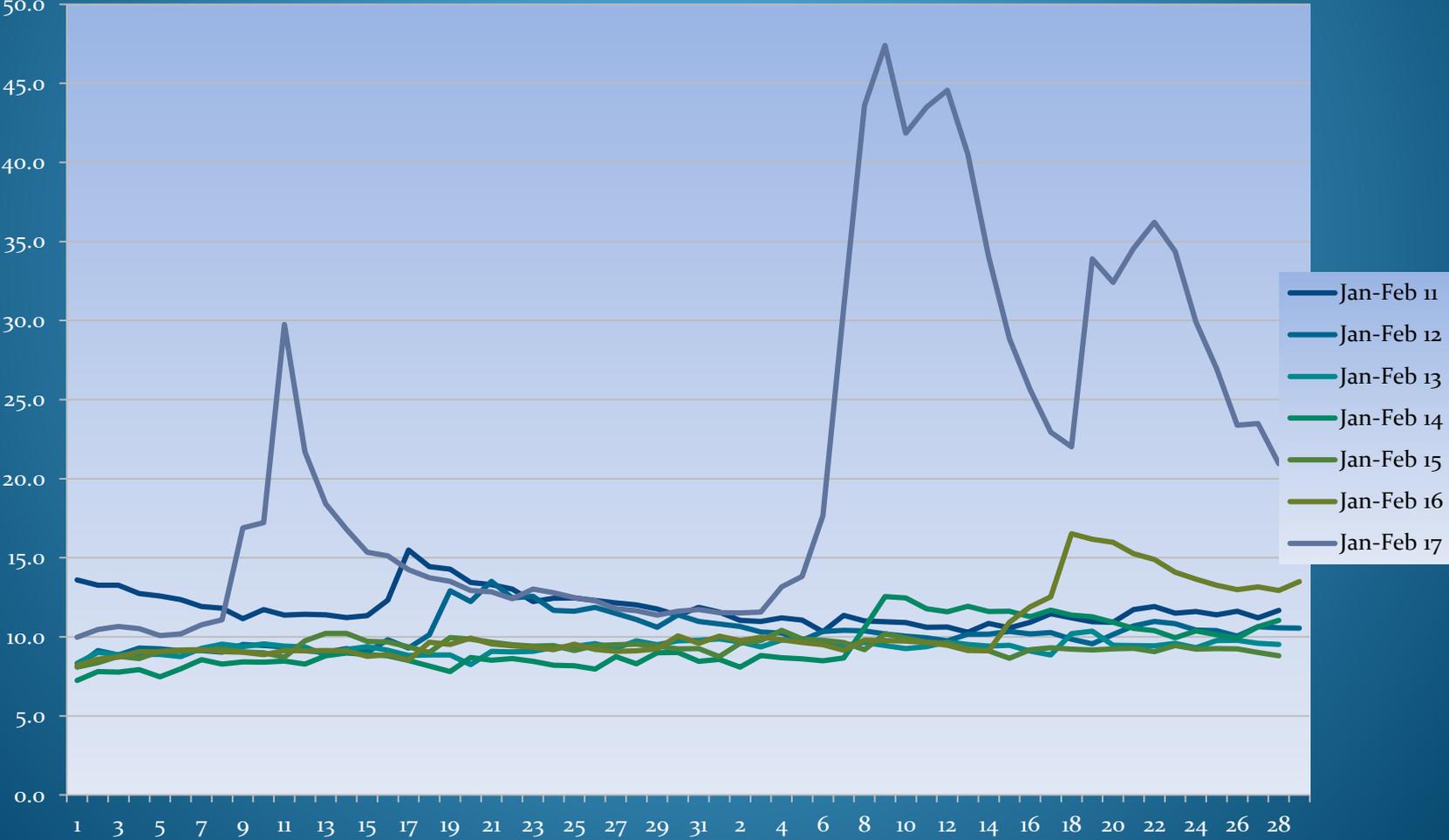


240 Acres of Wetlands

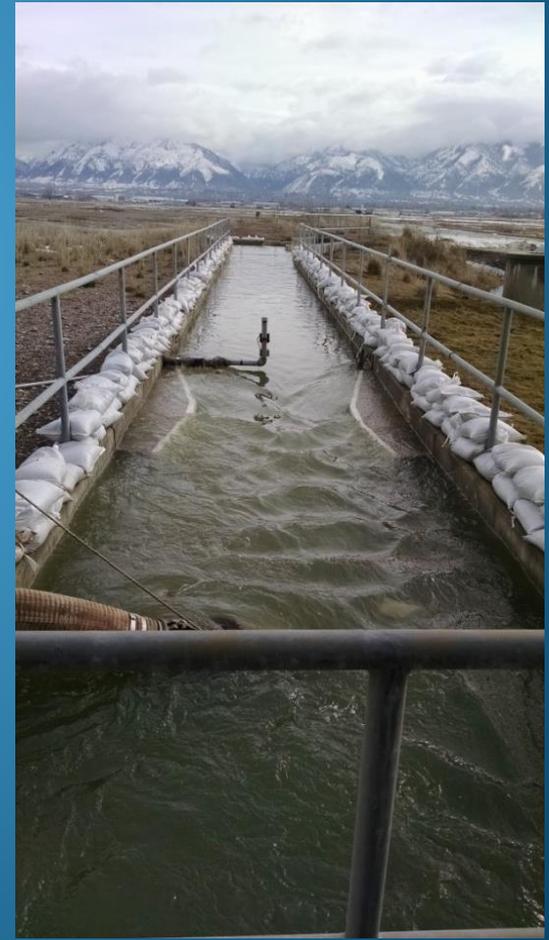
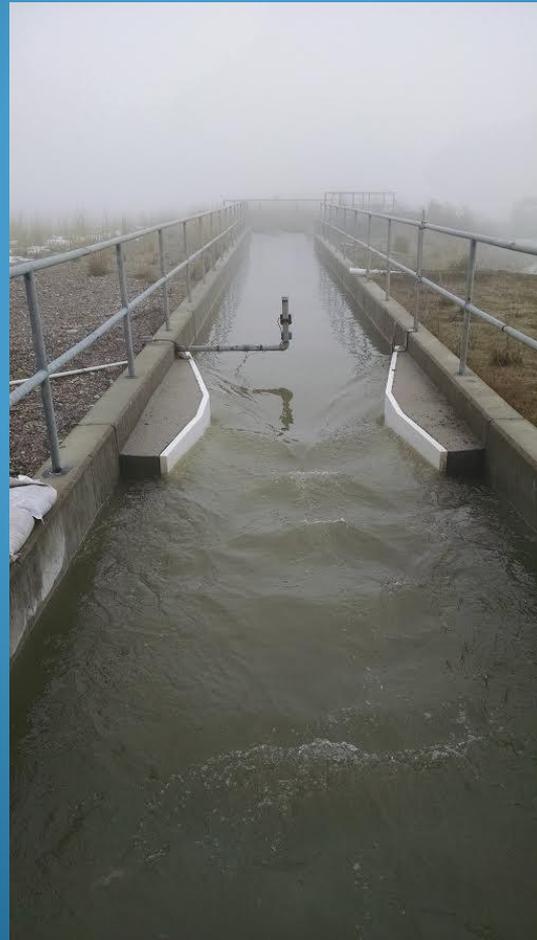
Constructed for
polishing of treated
wastewater from
Lagoons



Lagoons average 13 MGD



Lagoons Headworks



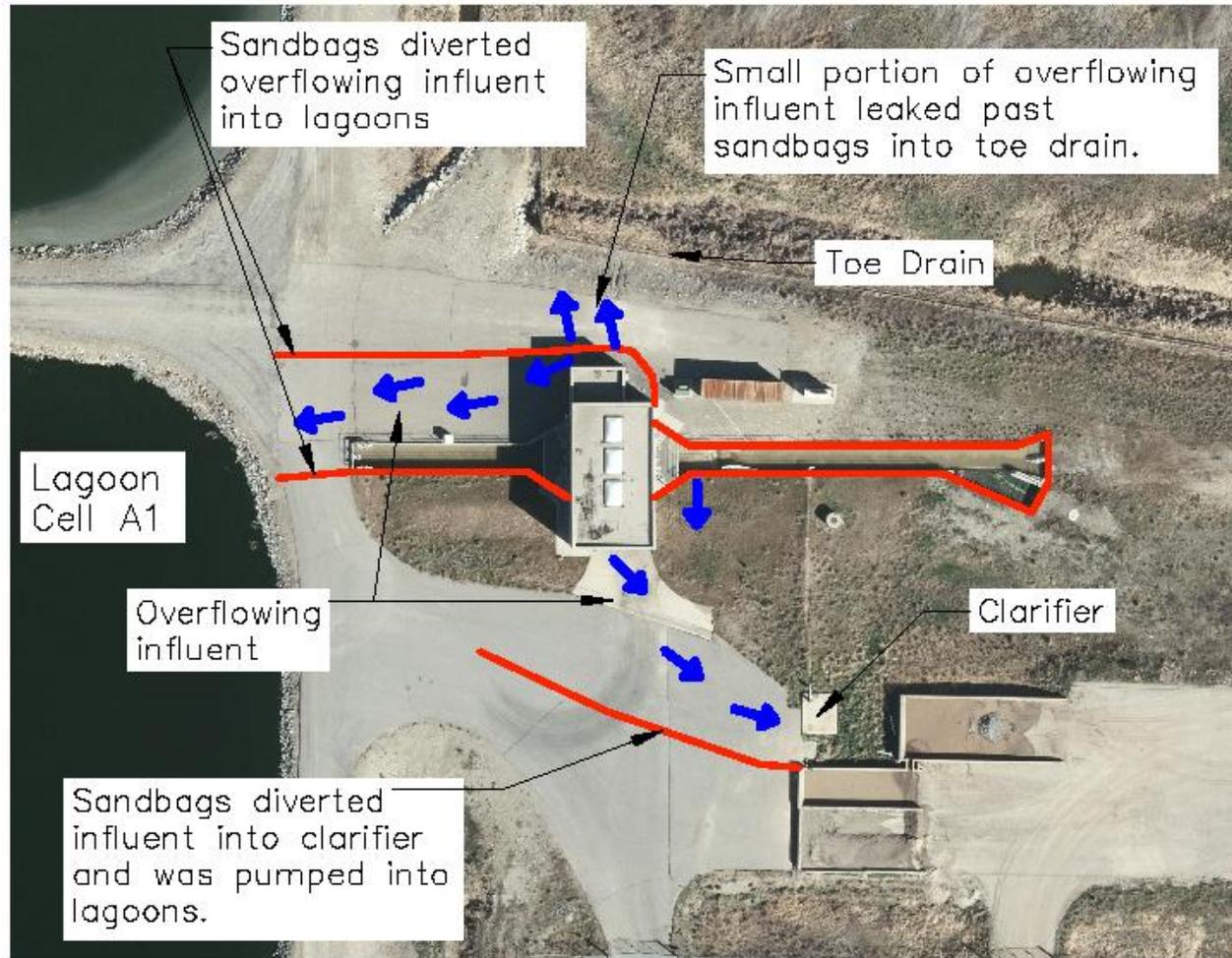
Lagoons Headworks cont.



Lagoons Headworks cont.



Lagoons Headworks cont.



Wetlands Flooding



Wetlands cont.



How we handled it



30 – 40 volunteers from other departments within the city responded.

Filled Sandbags ~ 1000 bags

Laid Sandbags

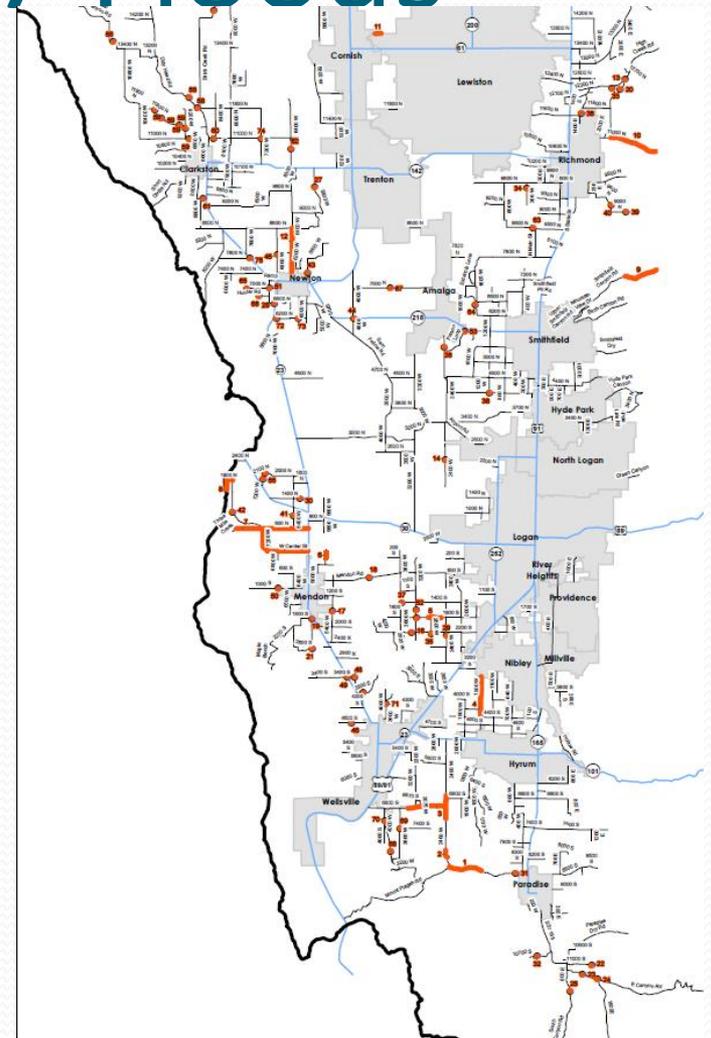
Sent PSA to ask for reduced water usage from citizens & businesses

What we have learned?

?

Cache County - 2017 Floods

- Rapid response needed
 - 469 miles of road to cover
 - Snow/Ice plugged culverts
 - Water backup at bridges
 - Large amounts of erosion/debris
 - 75 damage locations (map)
 - ~60 additional flood locations
 - 100's of homes in jeopardy
- This was a unique event



Cache County - 2017 Floods

- Our Response:
 - Understand what to respond to
 - Roads & Infrastructure
 - Homes with surface flooding
 - No basements
 - Need to move water
 - Clearing ditches/culverts
 - Pumps with little success
 - Multiple road cuts (understanding the consequences)
 - Insufficient Temporary Signs
 - Borrow signs/cones/anything
 - Triage locations



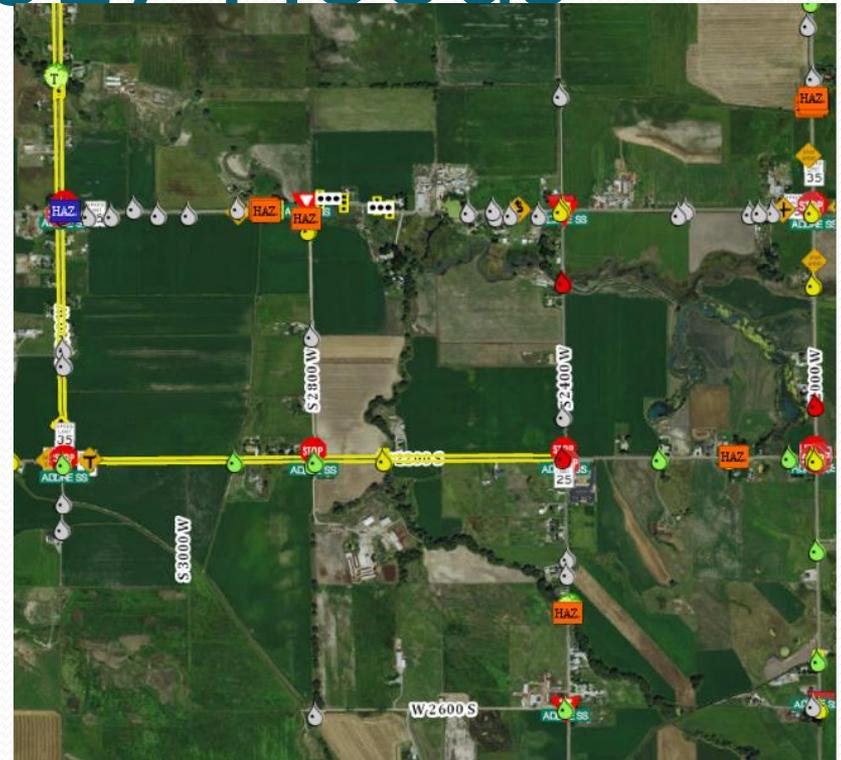
Cache County - 2017 Floods

- Public Communication
 - Land owner assistance
 - Emergency Manager 1st day on job was mid-event
 - Understanding our capacity & limitations
 - Communicate our capacity & limitations
 - Public, utilities, other jurisdictions
 - Enable our crew to focus on broader flooding, not home by home
 - Road closures
 - Multiple major and numerous smaller roads closed
 - Intermittent vs. Full closures
 - Failure of public respect of closures
 - Coordinate with Sheriff's office



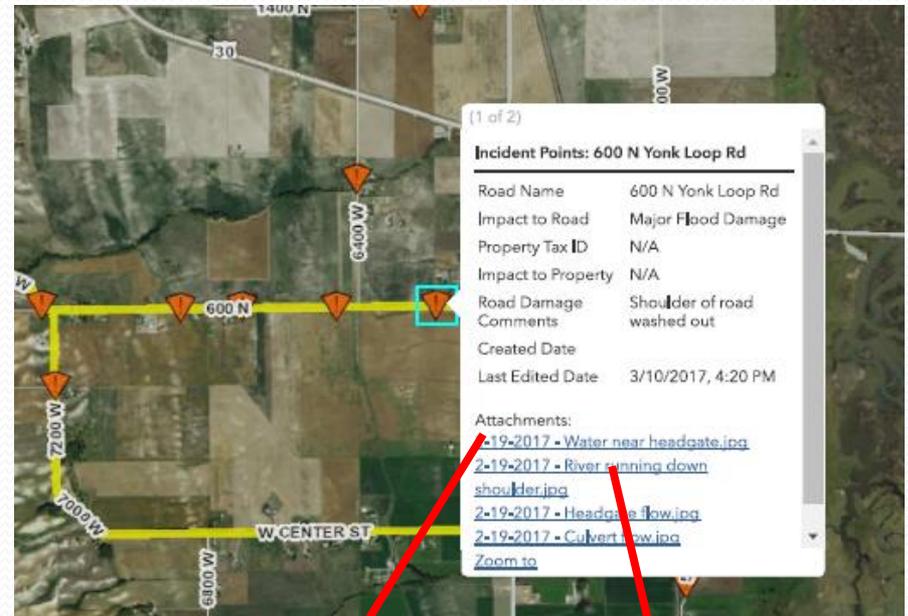
Cache County - 2017 Floods

- Tracking the Issues
 - Multiple Sites
 - Need to assess and track damage (disaster relief)
 - Provide information to public, elected officials, and emergency/utility services
- Piggy backed on our existing GIS system
 - Permanent Signs, Road Hazards, Storm Water, etc.
 - Weed Tracking
 - New: Flood Tracking
 - ~3hrs to implement



Cache County - 2017 Floods

- How we track
 - **Any** iPad/Smartphone
 - Collector App
 - Georeferenced location
 - Attach images
 - Enter field notes
 - Live link to County website
 - Public access to all imagery, closures, etc.
 - Basic site ~15-20 minutes
 - www.cachecounty.org



Cache County - 2017 Floods

- How we track
 1. Locate a Site
 2. Start Collector App
 3. Track 6 fields of information (drop downs, open comment)
 4. Pictures/Video with iPad/Smartphone camera
 5. Hit Submit
- <https://www.slideshare.net/sspinnovations/collect-or-for-arcgis>

