

Burlington's Response to Historic 2017 Flooding

Fox River Summit

Presented by

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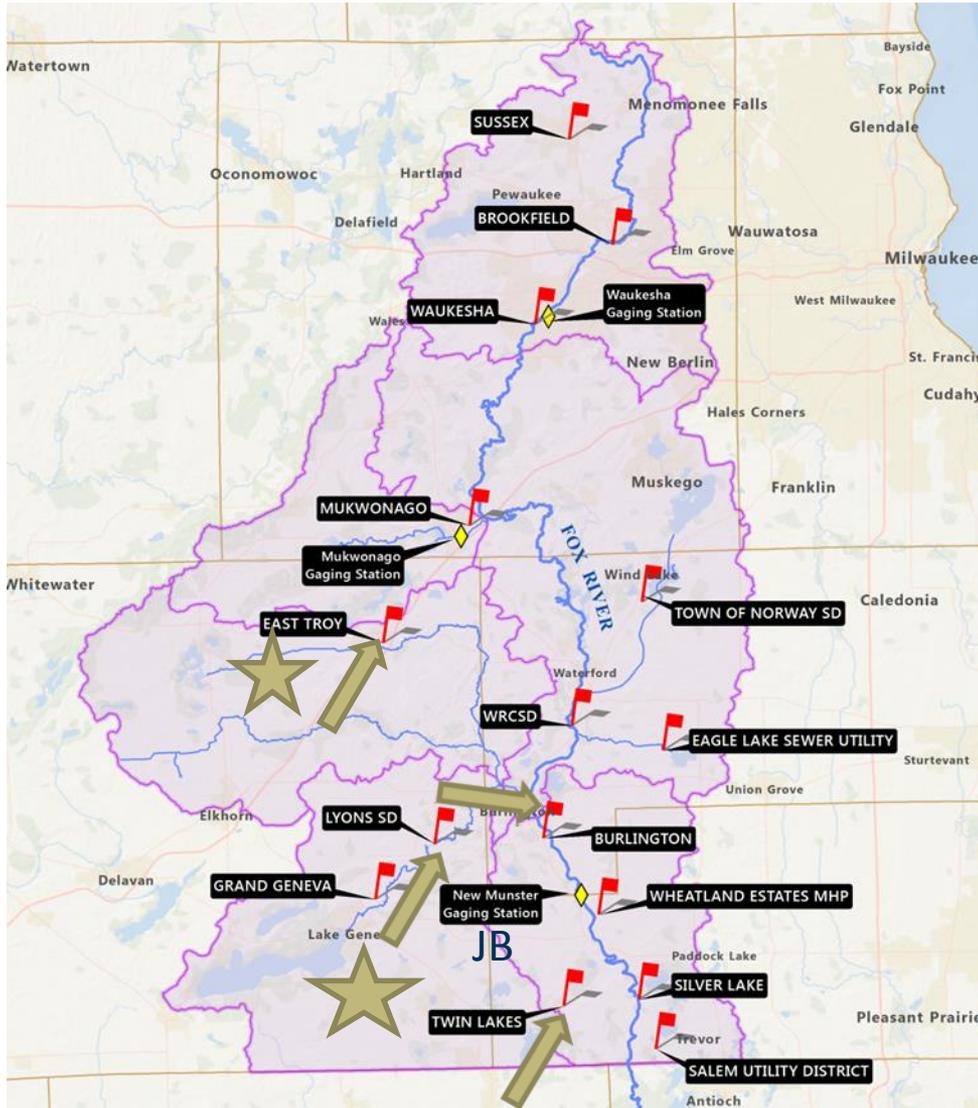
Donny Hefty-Lead Operator-City of Burlington

March 23, 2018



BAXTER & WOODMAN
Consulting Engineers

Overview of Watershed



Major Sub-Basins

Upper Fox

- Sussex
- Brookfield
- Waukesha

Mukwonago River

White River/Honey Creek

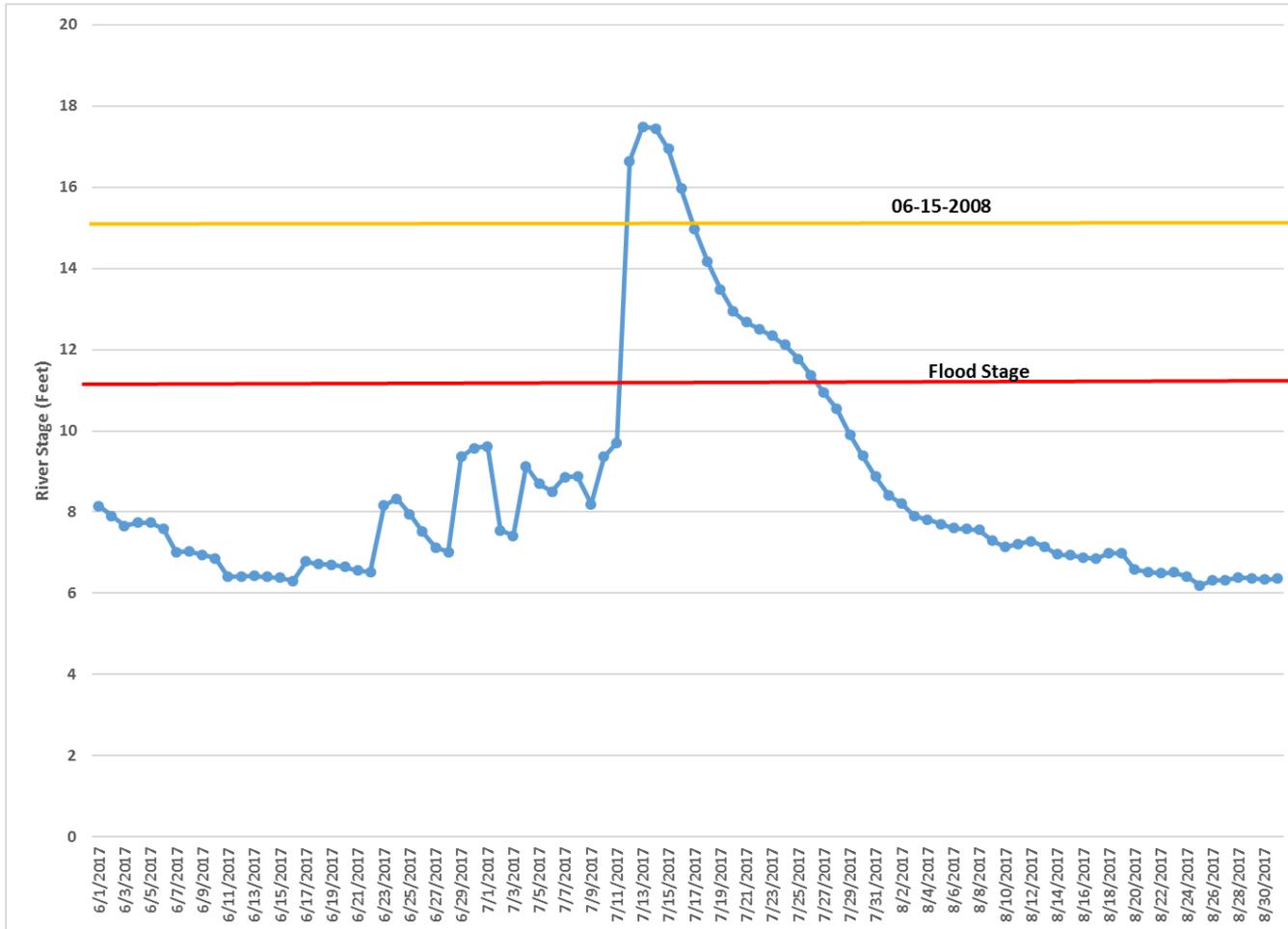
Lyons

East Troy

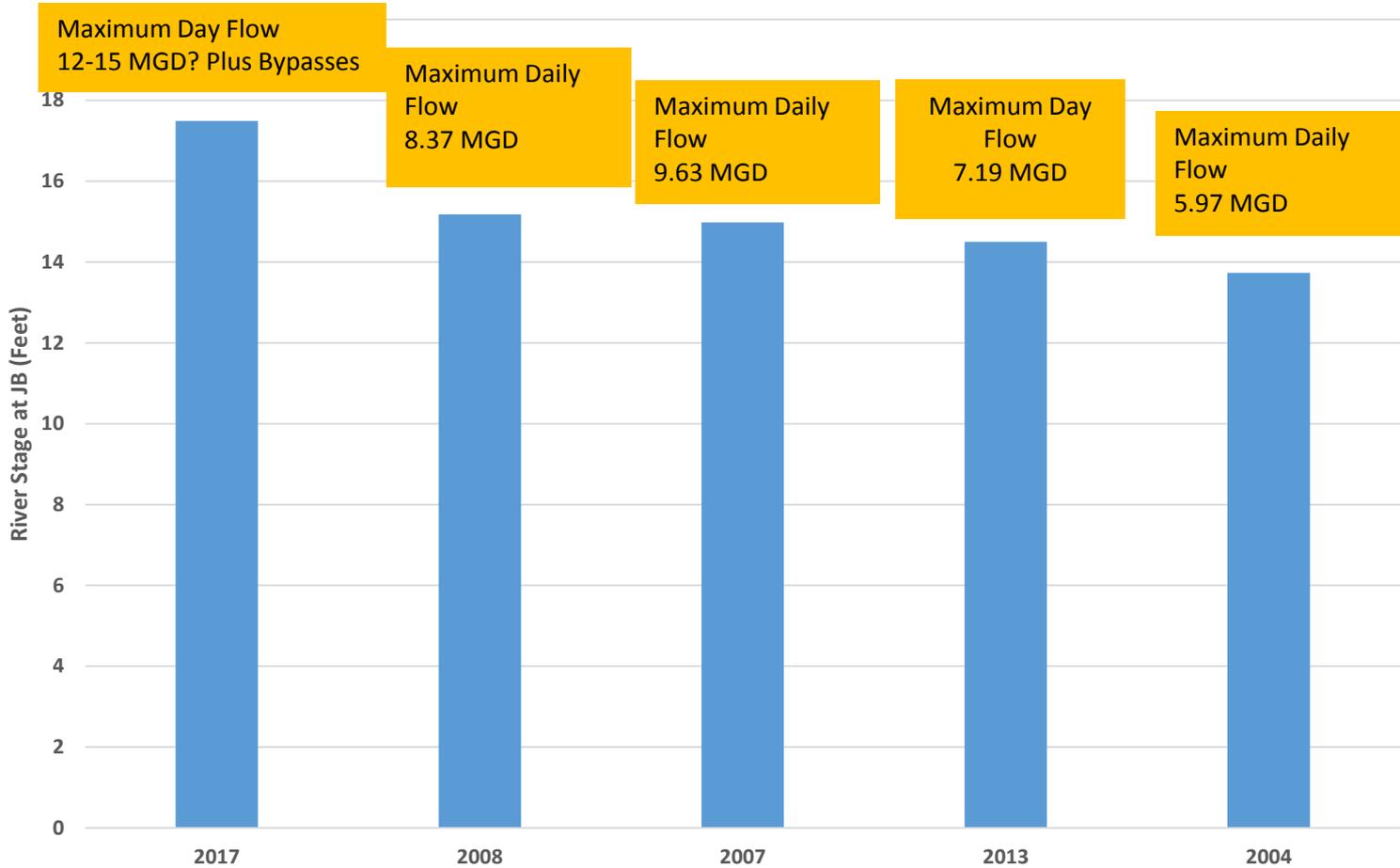


Approximately 8 inches of Rain in Less Than 24 Hours-Western Watersheds and Burlington (West Side of Fox River)

River Stage Summary-CTH JB



Maximum Recorded River Stages



Burlington Collection System-Wastewater



9 Lift Stations

Main Lift-Emergency
Generator and Emergency
Power Receptacles

7 Lift Stations-Emergency
Power Receptacles

2 Lift Stations-Standby
Generator

Background on Storm



Background on Storm



Background on Storm



Jefferson
St. Bridge

Fox River

White River

Background on Storm



White River
Downstream of
Echo Lake

Background on Storm



Storm Water Flooding

Time Line-July 1 through Noon on July 14

Director of Public Works Resigns on July 1, 2017

Rain Fall of About 8 Inches in Less than 24 Hours (>500 Year Storm?)-Midnight until 2 pm

Call Out-Communication Fail Power Outage 1 AM on July 12, 2017

Fourth Influent Pump Began Operation at 4 AM on July 12, 2017

Bypassing Upstream of Influent Pumping Station at 11 AM on July 12, 2017

Bypassing Stopped at Noon on July 14, 2017-Bypass Volume 16,200,000 Gallons

Bypassing and Flood Elevations

River Stage 759.85 > 100 Year Flood Elevation < 500 Year Elevation

Pumping Station 11 Flooded (7 AM to 11 AM on July 13, 2017)-180,000 Gallons
Flooding of the Fox and White River (Basements)

Bohners Lake PS Overload (11 AM to 10 PM on July 12, 2017)-384,009 Gallons
Flooding at Bohners Lake (Sump Pumps)
Common Force Main into WWTP

Consequences-Wastewater Facilities

Power Outages to All Lift Stations

Bypass Pumping and Emergency Generator Shuffling

Treatment of 12 to 15 MGD at WWTP

Utility Damages \$1,500,000

Overtime Hours

Consequences-Other Facilities

Flooding of Money Stored at Bank
Flooding of Dispatch and IT Services-City Hall
Loss of Rail Traffic-Three Days
Shut-Down of Cretex Quarry
Suspension of Work
 Ardagh
 Packaging
Overtime Hours

Actions to Date or in Future

Joint Racine County Dispatch Vs. City of Burlington-Basement Flooding

Relocation of Critical IT Equipment (Flood-Prone Area)

Reevaluation of Flood Elevations/Future Flood Protection (DNR Evaluation Flood Potentials)

City of Burlington Storm Water Study

Acknowledgements

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Racine WWTP Staff

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Baxter & Woodman

