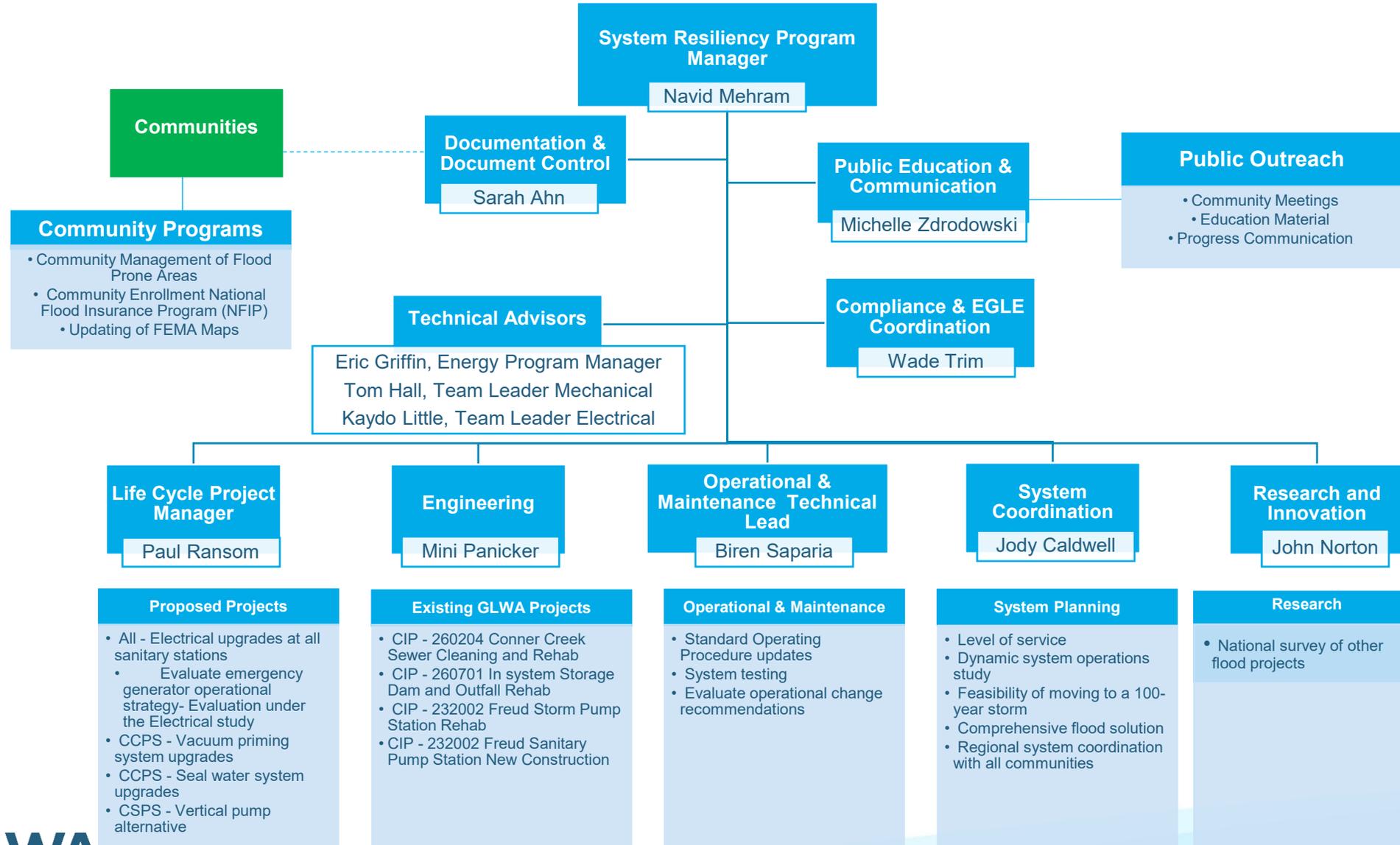




Resiliency Team Progress GLWA Board Of Directors

5/24/2023 | Navid Mehram, P.E.

Resiliency Delivery Team



Community Programs

- Flood Mitigation and Resiliency Planning Member Meeting held on March 29, 2023
- 62 attendees, including Member Partner representatives, public works representatives, consultants, elected officials
- Topics included commercial flood insurance, hazard mitigation planning, NFIP, and grant/funding opportunities for hazard mitigation
- Key takeaways:
 - Communities should take proactive measures to have a flood mitigation plan in place and begin building relationships with state and federal representatives (i.e., MSP, FEMA).
 - Disaster assistance is not a substitute for insurance.
 - Encourage building a risk management team with key flood responders.
 - Review current insurance policies and review with risk management team – concise understanding and interpretation of policy language is important.
 - Explore various assistance programs with MSP, including HMGP, FMA, BRIC.

Michigan State Police (MSP)
Hazard Mitigation Grant Program (HMGP)
Flood Mitigation Assistance (FMA)
Building Resilient Infrastructure and Communities (BRIC)
Federal Emergency Management Agency (FEMA)
National Flood Insurance Program (NFIP)



James G. Sink,
Regional Flood
Insurance Liaison
FEMA Region 5



John Hurley,
Managing
Director
Marsh McLennan



**Matthew
Occhipinti, P.E.,**
NFIP Coordinator/
Floodplain Engineer
EGLE



Matt Schnepf,
Hazard Mitigation
Unit Manager
Michigan State
Police



Scott Bailey,
Program Analyst
FEMA Region 5

Proposed Projects

- **Electrical upgrades at all sanitary stations**
 - 2301499 – SPS Power Reliability Study advertised April 24th
 - Bids due June 9th
- **Conner Creek Stormwater Pump Vacuum Priming System**
 - Testing is in progress.
 - Design is under way; 60% design under review
 - Final design July 2023
- **Conner Creek Stormwater Pump Seal Water System Upgrades**
 - Design is under way; 60% design under review
 - Final design July 2023
- **Conner Creek Stormwater Vertical Turbine Pump Alternative**
 - GLWA has authorized design
 - Final report September 2023

Conner Pump Station Design/Construction Road Map

Proposed Projects	2023	2024	2025	2026	2027	2028	2029	2030	2031-32
Basis of Design – Update & Review	BoD								
New Sanitary Station		Design	Construction						
Existing Storm Station Rehabilitation									
- Phase I – Pumps 4 & 8		Design	Construction		Test				
- Phase II – Pumps 1-3 & 5-7						Design	Construction		
New Storm Station					Design	Construction			

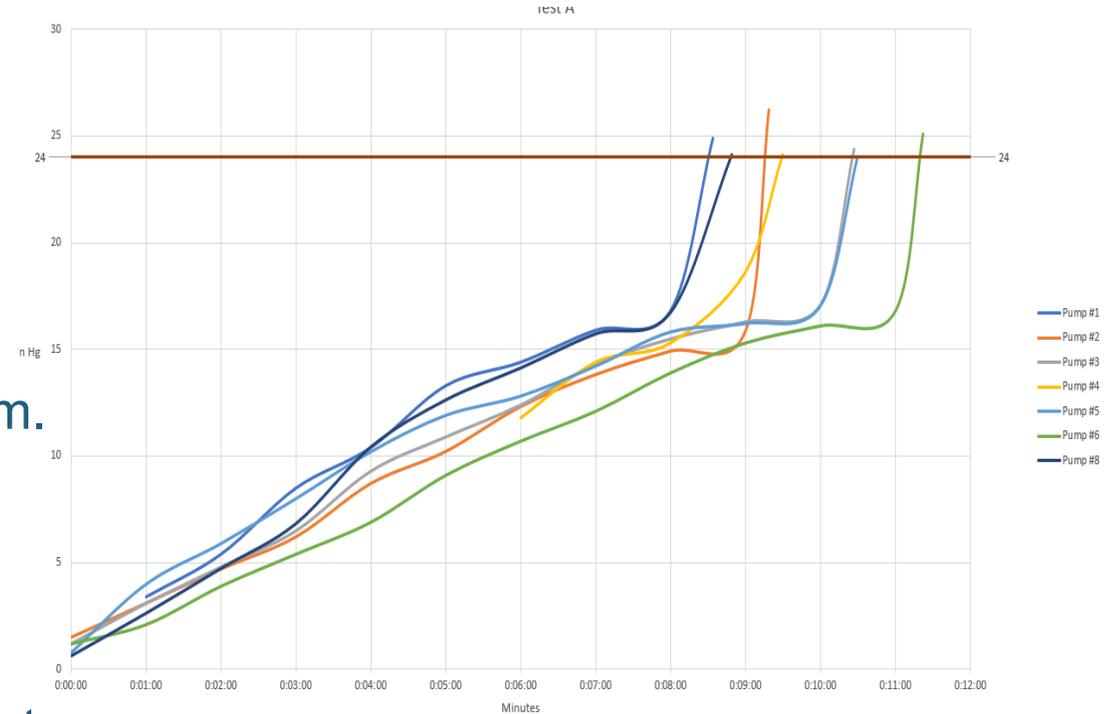
- **Revised Basis of Design – Critical Path**
 - Workshops - May – July
 - Review - August – September

Existing GLWA Projects

- **CIP - 260204 Conner Creek Sewer Cleaning and Rehab**
 - CIPP lining of approximately 850 LF is complete in the upstream portions of the Connor Creek Sewer and spot repairs continue; Access structures #2 and #3 buildout is complete and soon debris removal is to start .
- **CIP - 260701 In System Storage Devices (ISD), Valve Remotes (VR), and Outfalls Rehab**
 - In System Storage Devices condition assessment will start in the next couple of weeks; ISD rehabs are to be completed by the end of this year and VRs rehabs are to begin by early 2024.
 - Permits obtained from Highland Park, Dearborn, and Hamtramck. Waiting on COD permit.
- **CIP - 232002 Freud Storm Pump Station Rehab**
 - Design is in the final phase. The anticipated advertisement in the next 3 - 6 months.
- **CIP - 232002 Freud Sanitary Pump Station New Construction**
 - Design is in the final phase. The anticipated advertisement is in the next 2 - 3 months.
 - The requested changes to the façade and exterior fencing by the City of Detroit planning and development department have been evaluated and incorporated into the design. The next step will be re-zoning of the new pump station sites, and this will happen parallel to the GLWA's solicitation process.

Operations and Maintenance

- **Standard Operating Procedure Update**
 - GLWA is in the process of reviewing its standard operating procedures and making corrections, as necessary.
- **System Testing of the Vacuum System**
 - Several tests have been completed on the system.
 - Additional, tests have been identified
 - The tests are weather dependent.
- **Evaluate Operational Changes**
 - GLWA has made attempts to test the operational changes recommended. This is a weather dependent test, and additional testing and wet weather are necessary to determine the feasibility of the change.
- **Evaluate Emergency Generator Operations**
 - This item has been captured under the Electrical Resiliency Study.



System Planning

- **Comprehensive Flood Solution**
 - GLWA continues to work with U.S. Army Corp of Engineers to scope the project for the **Flood Risk Management Study for southeast Michigan**.
 - Since the appropriation was not approved in 2022, GLWA, in partnership with the Army Corp, has requested the use of the Planning Assistance to States (PAS) program to initiate the study effort in anticipation of the Water Resource Development Act (WARDA) appropriation in the fall of this year.
 - The PAS scope of work is currently being developed that would include areas of focus such as:
 - **Level of service**
 - **Dynamic system operations study**
 - **Feasibility of moving to a 100-year storm**
- **Regional system coordination with all communities**
 - GLWA has re-initiated individual meetings with Eastside, Westside and Central Member Partners.

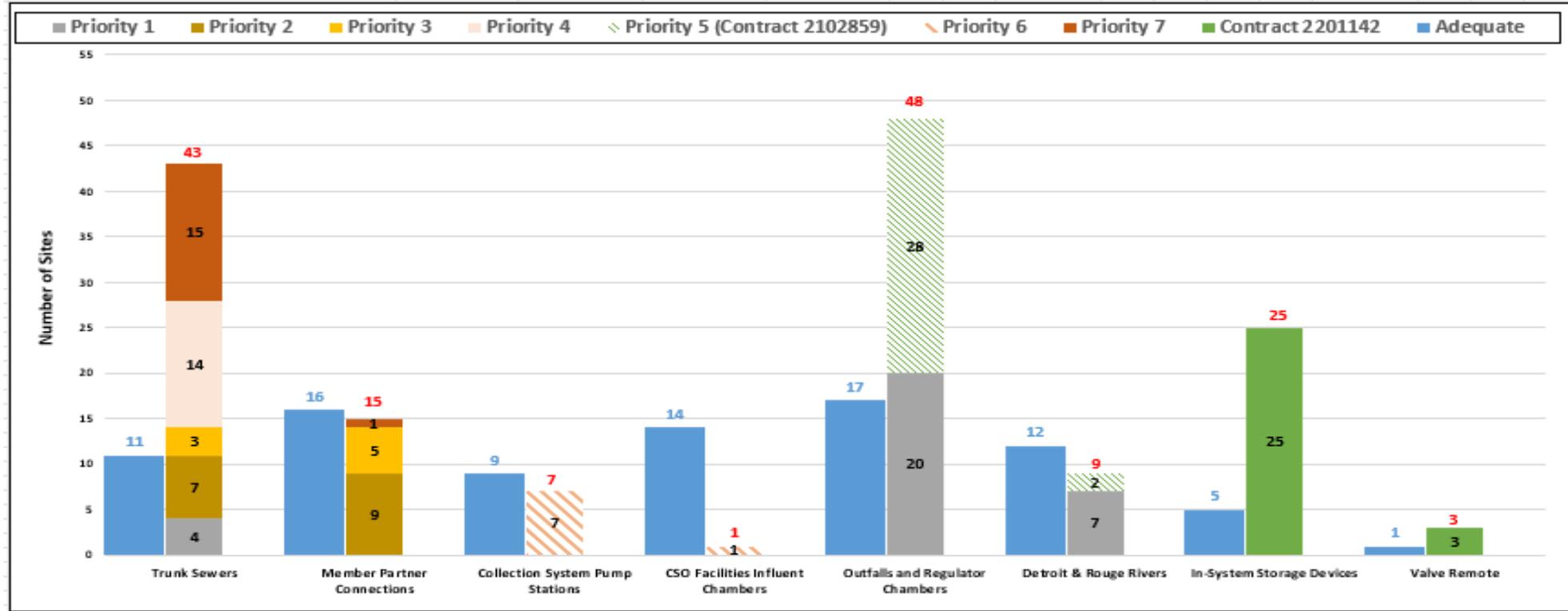
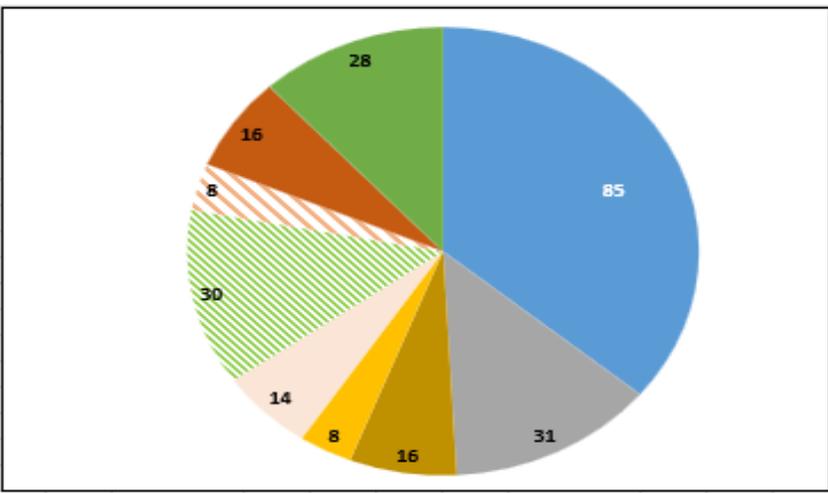
Research and Innovation: Survey of Utility Stormwater Management

- **National Survey of Flood Projects**
 - Currently in the scope development phase within our Energy, Research and Innovation Team to determine the desired outcome of the survey.
- **Comparable systems**
 - Combined sewers or SSOs with peaks
- **Peer utilities:**
 - Cincinnati MSD
 - Chicago MWRD
 - San Francisco PUC
 - Louisville MSD
 - City of Columbus
 - DC Water
 - Washington Suburban Sanitary Commission (WSSC)
 - Northeast Ohio Regional Sewer District (NEORS)
 - Metropolitan St. Louis Sewer District
 - Plus 7 others, to be determined

Draft questions

1. Regulatory structure
 - Stormwater control: included or separate
 - Funding mechanism
 - Stormwater permitting requirements
2. System geometry
 - Sewer shed area
 - Flows: Base and peak
 - Pump stations: size and capacity
 - Number of CSO/SSO treatment basins
3. In-system storage
 - Surface
 - Deep tunnels
 - Other
4. Design criteria
 - Design storm
5. Operational scenarios during a storm event
6. New flood-related projects (e.g. wastewater infrastructure to handle extreme storm events)

Level Sensor Group	Priority #	No. of Sites (some sites may include multiple sensors)		
		Adequate Installed	Need Improvement for Max	Total
Trunk Sewers				
Original L-Series	1,4,7	7	24	31
10 L-Series Surveyed in 2022	1,2	2	8	10
Sewage Meters (DT-S-00)	1,4,7	2	8	10
Hydraulic Viewers	3	0	3	3
Member Partner Connections				
Existing Flow Meters	3,7	16	6	22
9 Additional Sites (L-Series & Flow Meters)	2	0	9	9
Collection System Pump Stations				
CSO Facilities Influent Chambers	6	9	7	16
Outfalls and Regulator Chambers (Contract #2201142)	6	14	1	15
Detroit & Rouge Rivers (Detroit & Rouge) Level Sensors	1,5	17	48	65
In-System Storage Devices (Contract #2201142)	1,5	12	9	21
Valve Remote (Contract #2201142)	Other Contractor	5	25	30
	Other Contractor	1	3	4
TOTAL		85	151	236



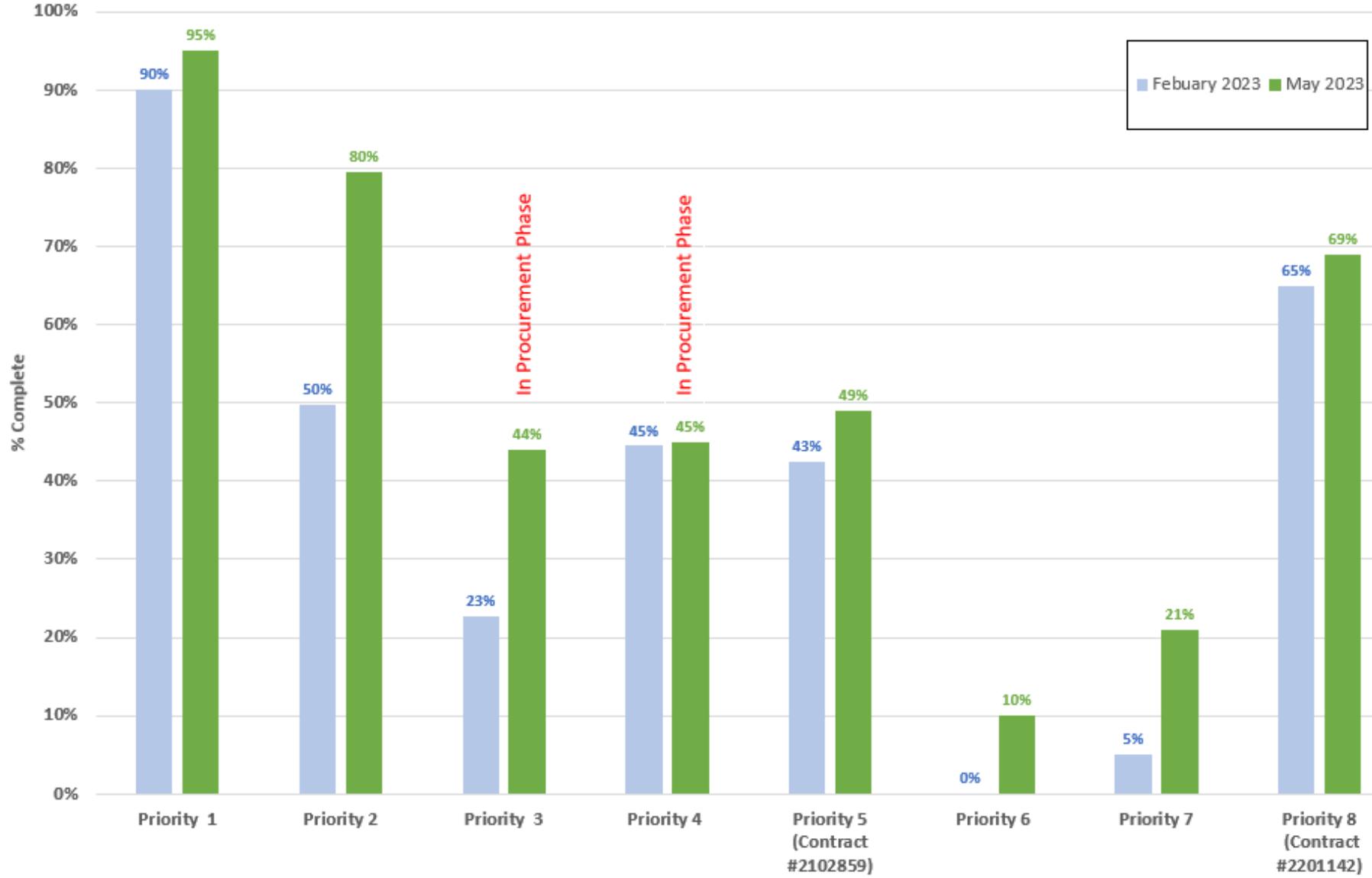
GLWA continues to review the sewer system instrumentation and make corrections in a phased approach.

GLWA released around \$2.1M for revisions to nearly 61 sites. This will complete Priority 1, 2 & 4 sites.

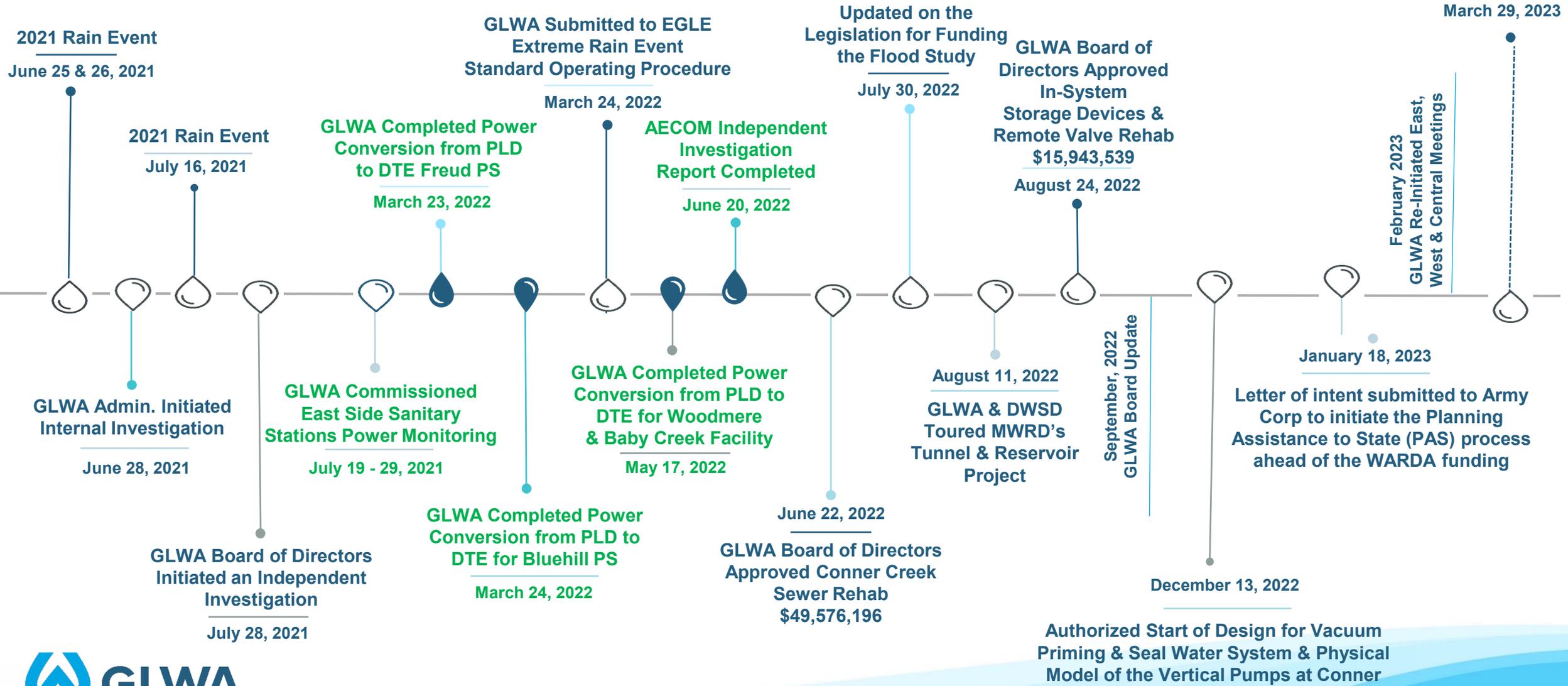
Procurement for Priority 3 sites is in process and budgeted for \$625,000.



Progress to Date
Engineering Services for GLWA Collection System Level Sensors and Precipitation Gauges Program (TOES 30T 2200729)



GLWA Resiliency Effort Timeline



Thank you