

**Beyond the Blueprint:
Digital Transformation Lessons
from a Decade of Smart
Stormwater Management**

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2024
TOP
PROJECTS

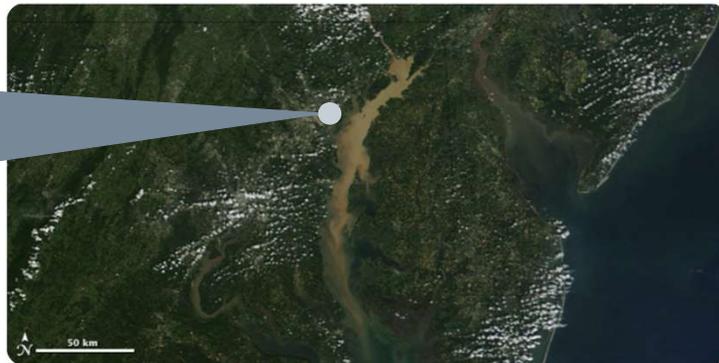
**STORMWATER
SOLUTIONS**

Opti
by allaxis

Current Challenges: Flooding & Water Quality



Ellicott City flooding
2016, 2018



Sediment plume in the Chesapeake Bay: 09-13-11, Google Images

**Multi-objective goals are met with a multi-objective solution:
Adaptive Stormwater Control Technologies**

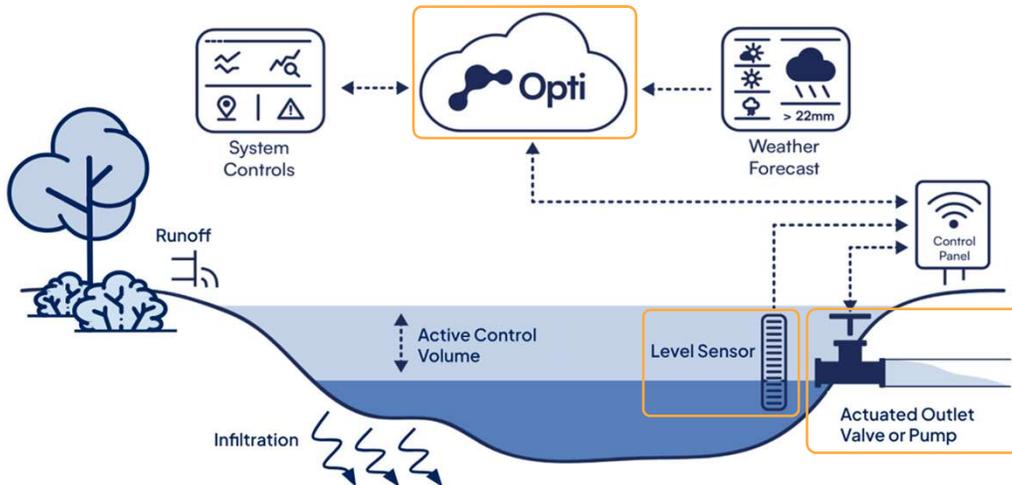
Evolution of Stormwater Management in Maryland



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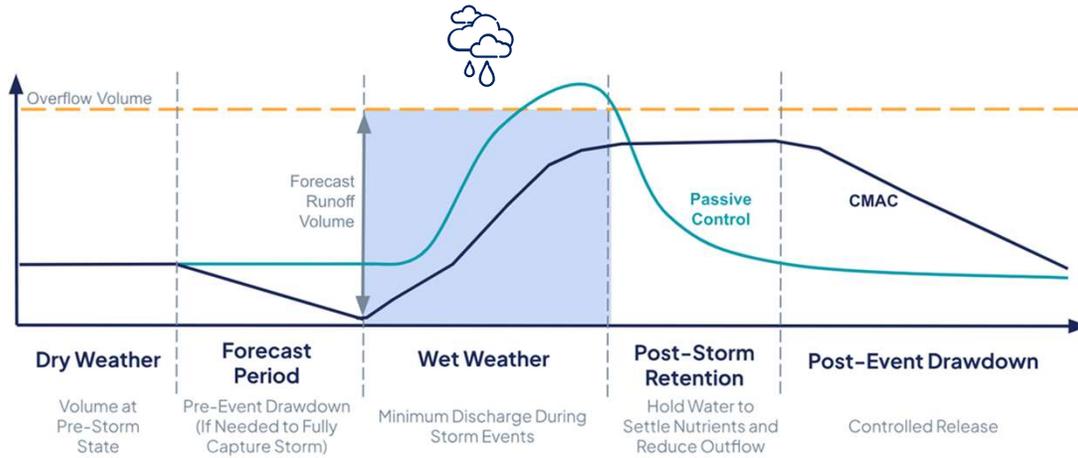
Continuous Monitoring and Adaptive Control (CMAC)



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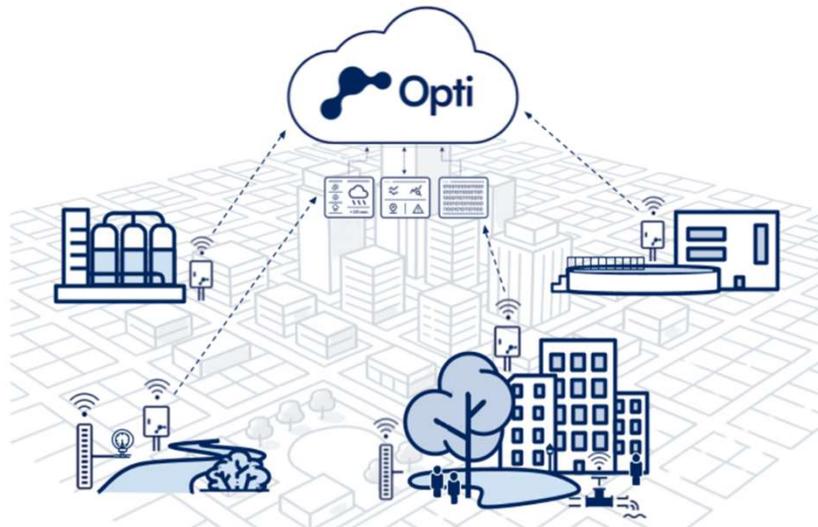
Opti's Adaptive Stormwater Management



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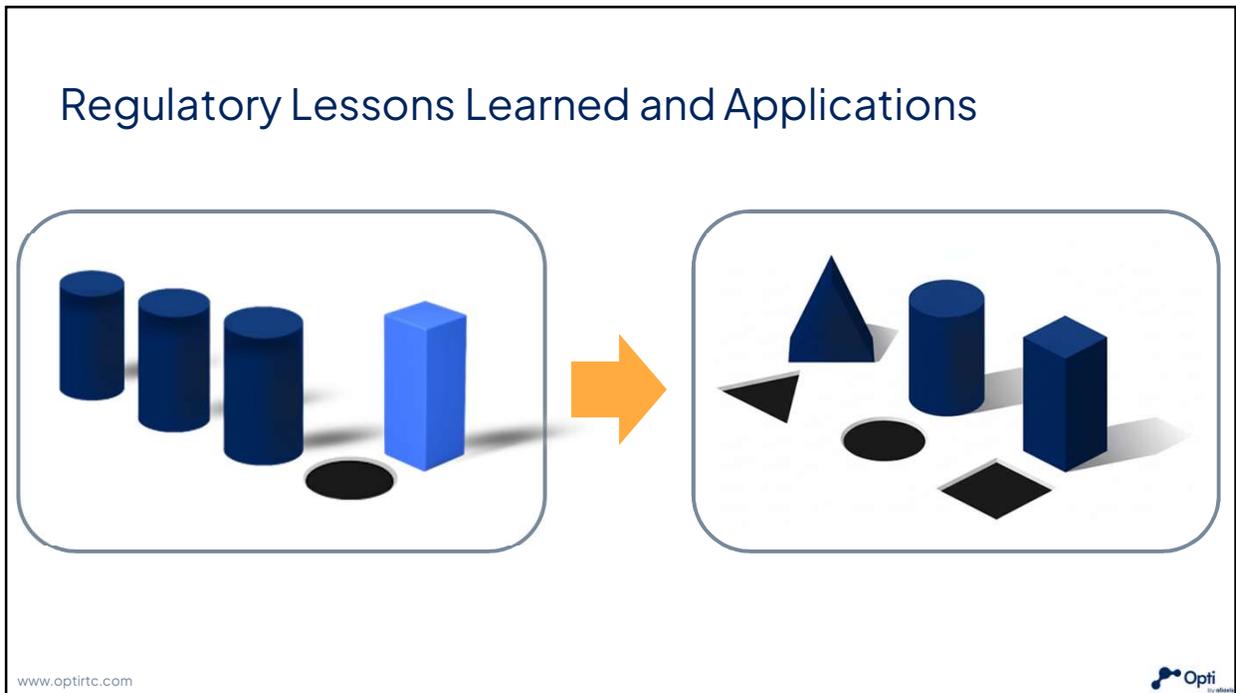
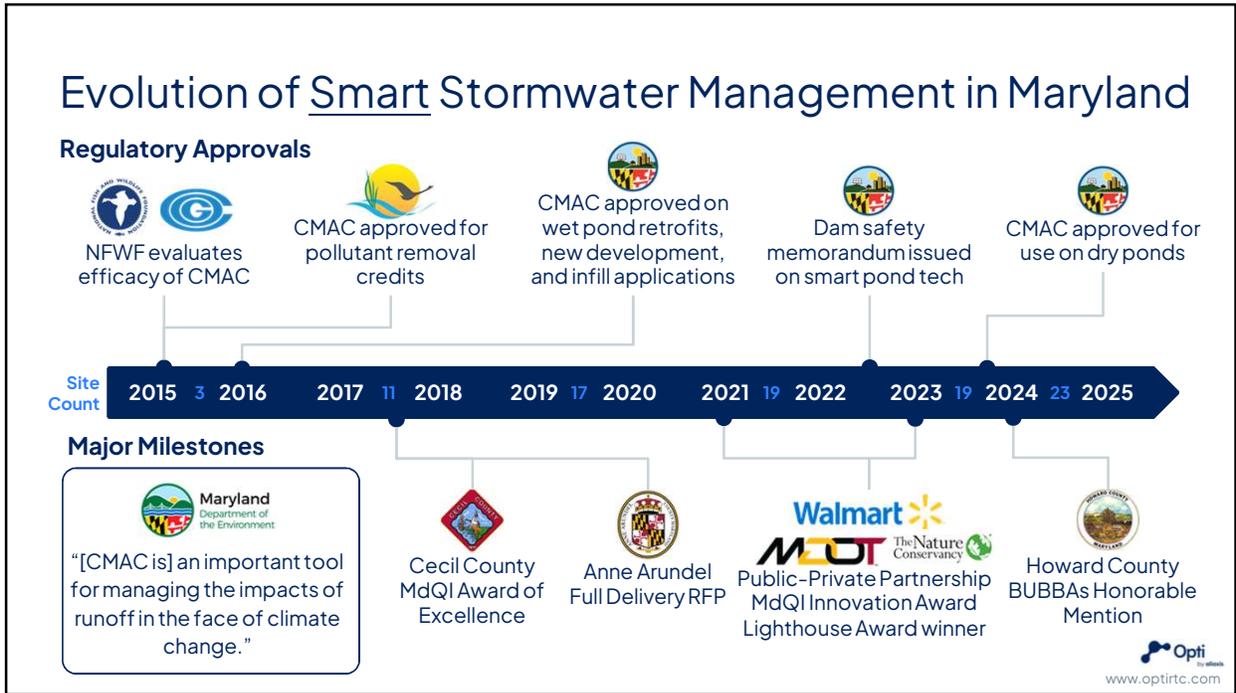


From a Smart Pond to a Smart Watershed

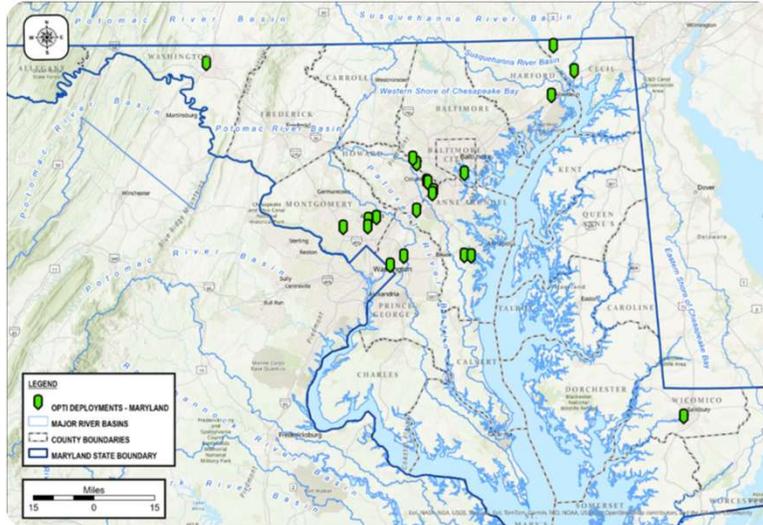


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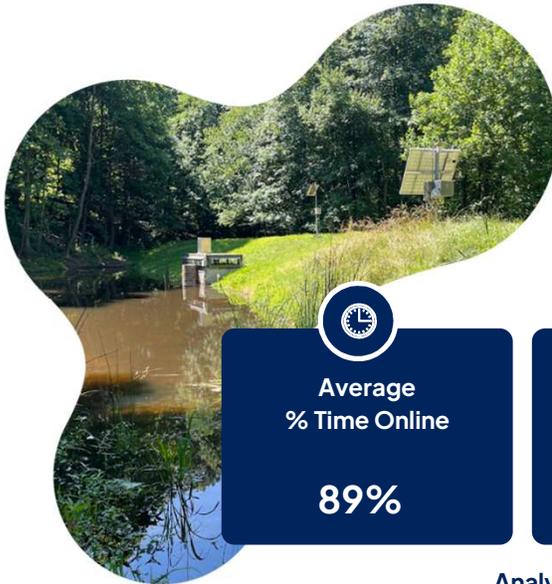




Maryland CMAC Deployments



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Results


Average
% Time Online
89%

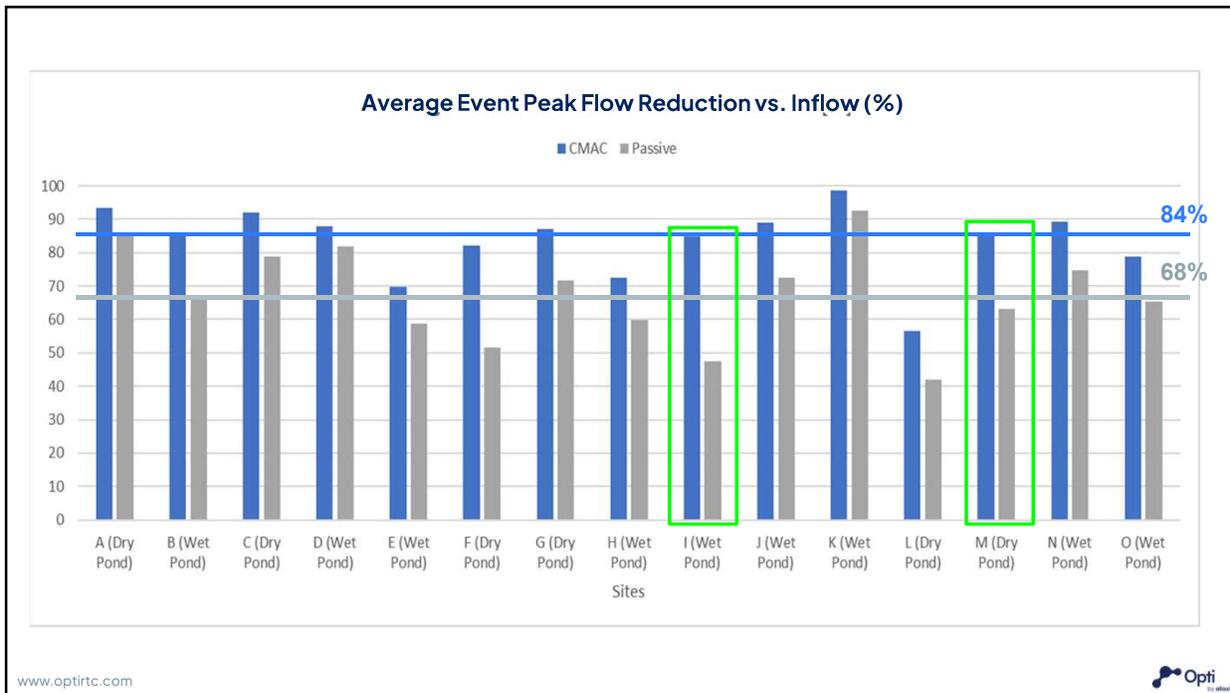
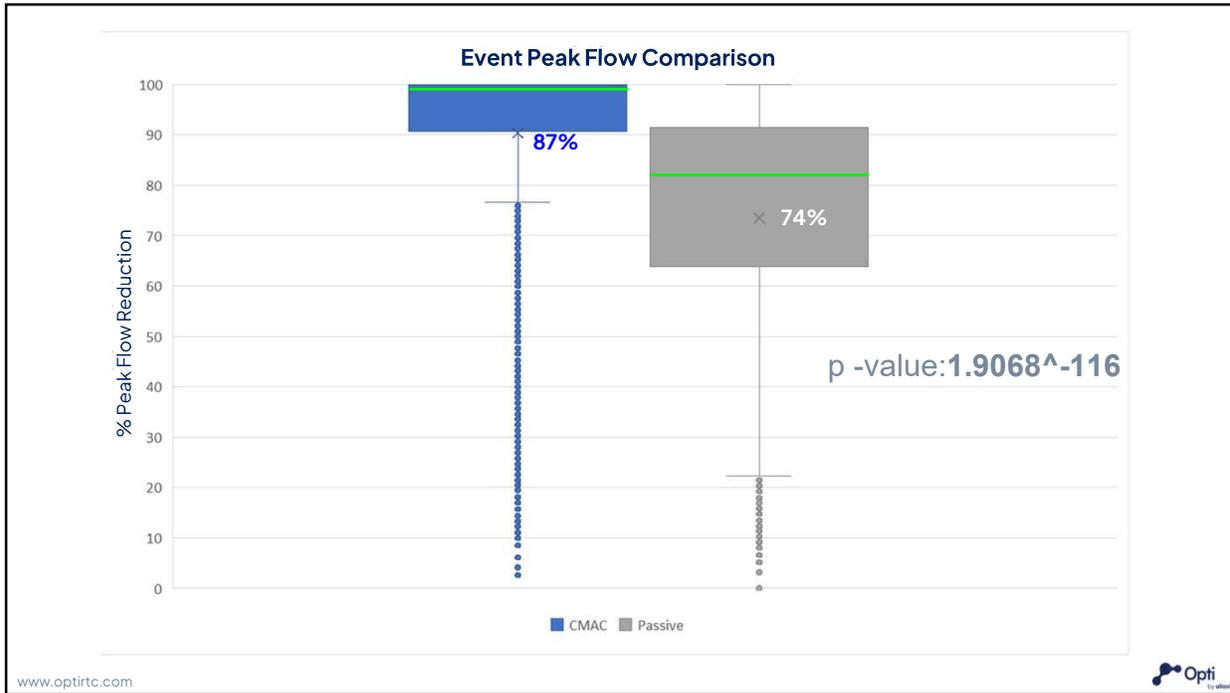

Rain Events
Managed
5,613


Average Precipitation
Depth Managed
0.57 in

Analysis Time Frame 2019 - 2024

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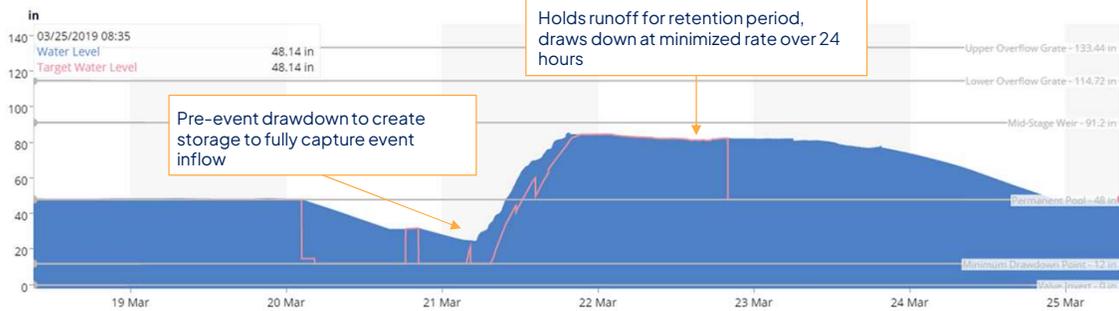




Site I (Wet Pond): 2.1inch Storm - 3/21/2019

Water Level in Storage

12hr | 24hr | 48hr | 1wk | [Dashboard's duration: 1 week](#)



Event Peak Inflow	6.50cfs
Event Peak Outflow	1.41cfs
Event Peak Flow Reduction	78%

Improvement Over Passive	
Average Retention Time	4X
Savings	\$1,054,000

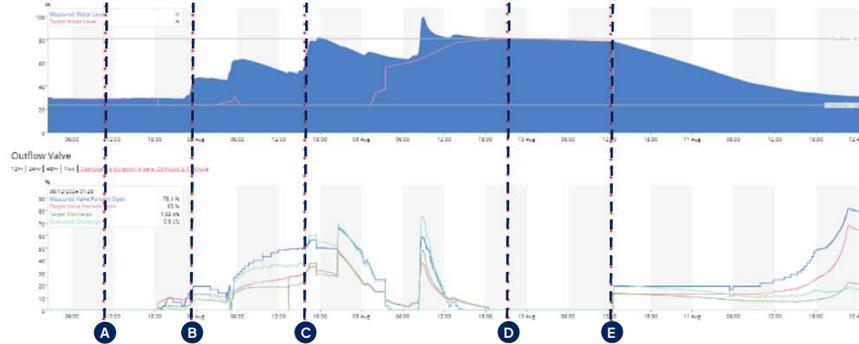
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Site M (Dry Pond): Hurricane Debby 3.0inch Storm 8/8/24

Water Level in Storage

12hr | 24hr | 48hr | 1wk | [Dashboard's duration: 24 hours & 1 week](#)



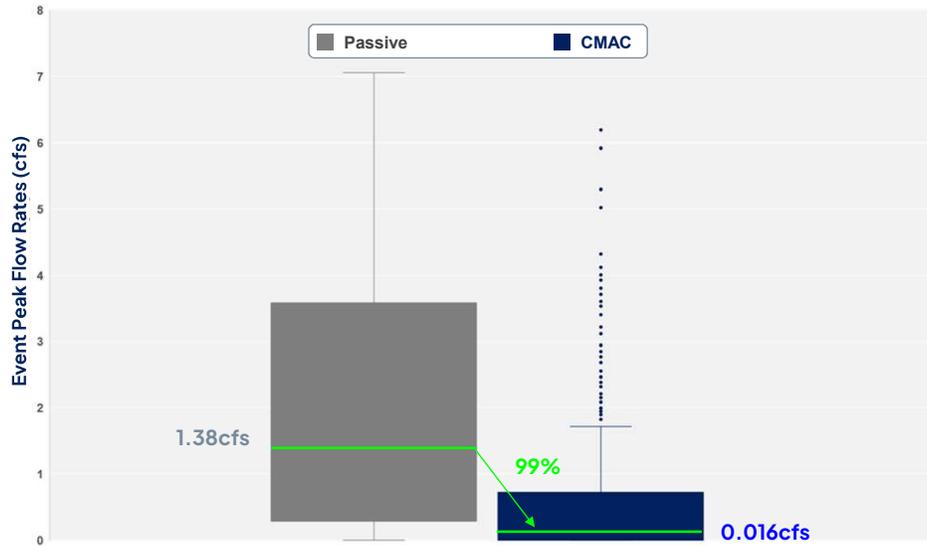
- A** Storm detected, pond at dry weather target
- B** Draining for runoff, valve creates storage
- C** Heavy rain, pond fills, valve prevents overflow
- D** Storm over, water held
- E** Water slowly released

Debby Performance Statistics			
Total Runoff Into System	462,758 cf	Overflow Volume	4,183 cf
Wet Weather Underdrain Outflow	293,835 cf	Percent Captured	36.5%

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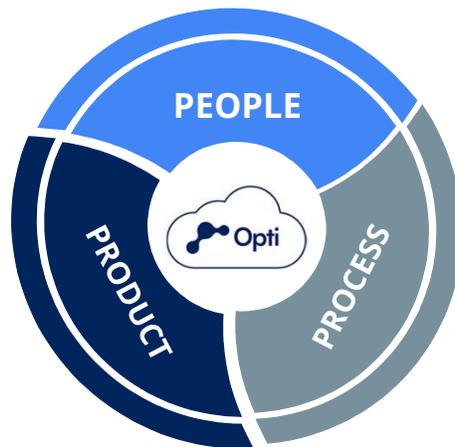
Site M (Dry Pond): Event Peak Flow Comparison



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Lessons Learned
Delivering the world's most **trusted**
and **transformative** stormwater control platform.



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People & The Change Management Blueprint



Managing complex change

Vision	Consensus	Skills	Incentives	Resources	Action plan	=	Success 😊
✗	Consensus	Skills	Incentives	Resources	Action plan	=	Confusion 🤔
Vision	✗	Skills	Incentives	Resources	Action plan	=	Sabotage 😡
Vision	Consensus	✗	Incentives	Resources	Action plan	=	Anxiety 😟
Vision	Consensus	Skills	✗	Resources	Action plan	=	Resistance 🙅
Vision	Consensus	Skills	Incentives	✗	Action plan	=	Frustration 😡
Vision	Consensus	Skills	Incentives	Resources	✗	=	False starts 😞

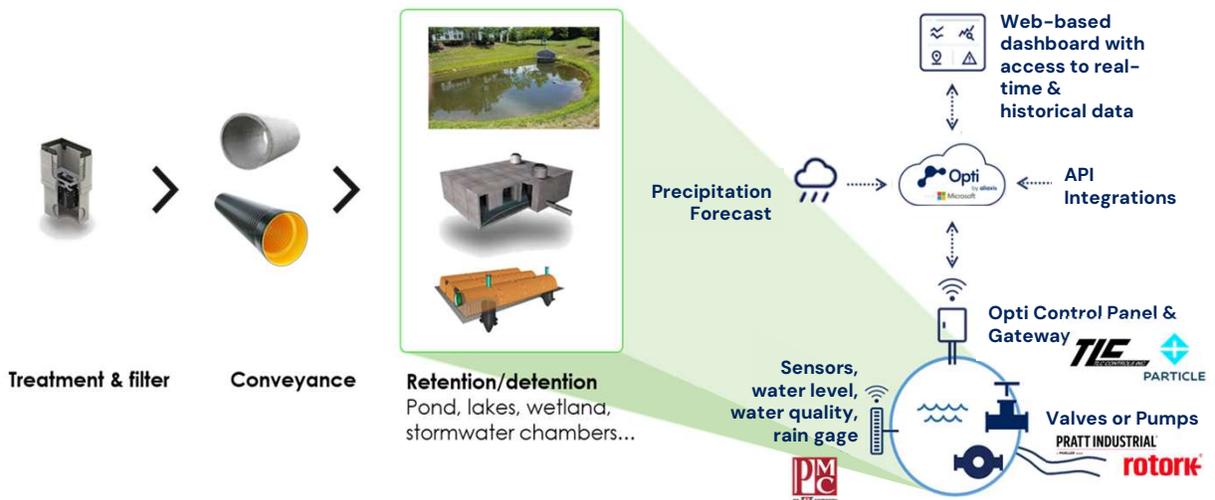
The Lippitt-Knostrer Model for Managing Complex Change

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Product - Integrating Infrastructure, Hardware & Software



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Process - Watershed Agile Methodology (WAM)



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We can't solve today's problems with yesterday's mindset



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Join the Opti Wave Today!

300+ deployments **60,000+ Storms managed**

2022 Joined Aliaxis

2020 Smart Watershed Network Management

2017 3 U.S. Patents
Optimized Hydromodification Management With Active Stormwater Controls

2015 Regulatory Approvals

2010 Development of the Opti® Platform

Strategic Partners

Opti by aliaxis

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Thank you for your time!

Visit our website to learn more about CMAC and Opti's projects across the country!
www.optirtc.com

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