

VELO

Non-Contact Flow Velocity Monitoring System for Stormwater Infrastructure

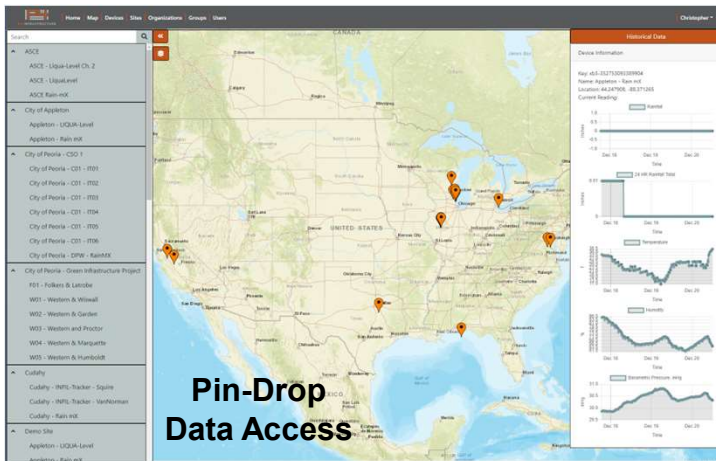


VELO is a robust flow velocity monitoring system for stormwater infrastructure.

Coupling VELO with P4's Rain-mX system creates a stormwater infrastructure monitoring and performance documentation system.

Battery health and (solar) re-charging cycles are documented and displayed.

Wireless data transmission.



Applications & Value

Open channel flow

Larg(er) diameter pipe

Flow Velocity

Performance documentation

Data Sampling & Resolution

Variable or Fixed (10-min std)

Velocity: 0.98 ft/s to 19.7 ft/s



Nationwide cellular connectivity (LoRa and WiFi possible)

Flow velocity measurements for:

- Round pipe systems
- Trapezoidal channel systems
- Elliptical pipe systems
- Other custom open channels
- Non-pressurized flow



Browser-based dashboard (viewing and data download). Advanced notice of potential problems. Data visualization. Data-driven maintenance notification.



Flow velocity monitoring system to complement other sensor systems (synchronized data)

VELO – Specifications

Communication

- Cat-M1 cellular (2G, 3G, 4G LTE compatible)
- Wi-Fi option
- Long Range WAN (LoRa) option

Power

- Voltage – 12V DC
- Battery – 5,000 mAh NiMH pack (modular)
- No external power required
- Remote battery health monitoring
- Solar re-charging with remote monitoring

Operating Temperatures & Compliance

- Fahrenheit: -4 °F to 140 °F (discharge)
- Celsius: -20 °C to 60 °C (discharge)
- FCC and RoHS

Installation & Accuracy

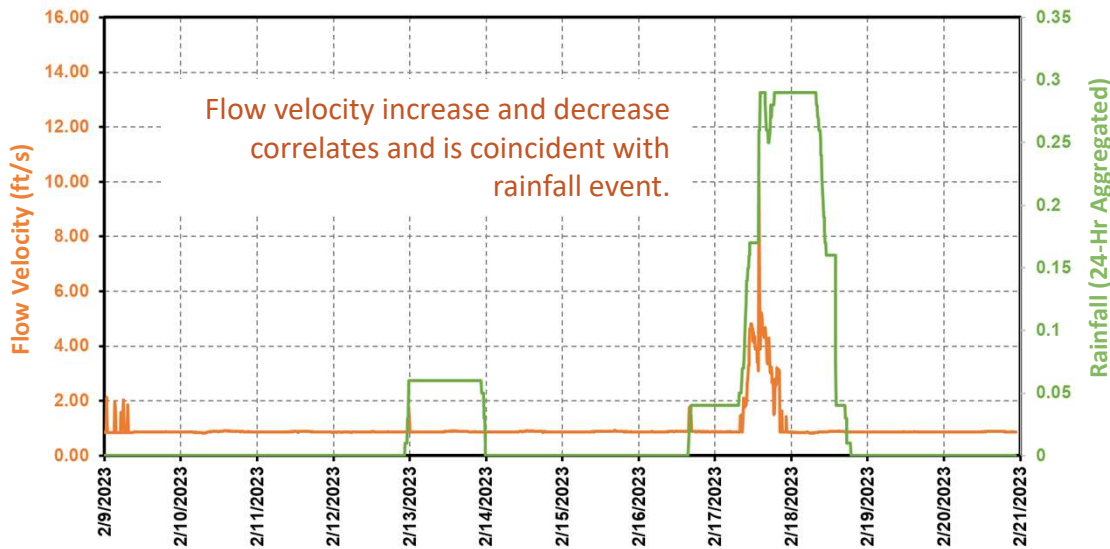
- Post-construction installation
- Accuracy: +/- 1.5% of reading or 2 in/s
- Min. separation: 10-in from high water level
- Max. separation: 10-ft from low water level
- 45-deg installation angle

Maintenance

- Modular system (sensors, computer, battery)
- Remote battery health monitoring
- Solar panel cleaning (every 6 months – site dependent)
- Sensor inspection (annual – site dependent)

User Interface & Data

- Browser-based access & display
- CSV downloading
- Mobile via iOS and Android
- 90%+ data reliability



How do you know your open channel or gravity flow conveyance velocity is within your design parameters?

How do you know the velocity of stormwater runoff flow in your infrastructure system?

VELO