EPCOR: Using real-time data to create situational awareness

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EPCOR uses real-time data to drive situational awareness and improve resiliency

**Challenge**
- Increased risk of large rainfall events necessitated a new approach to prevent and reduce the impact of stormwater and urban flooding in the City of Edmonton
- Distinct and isolated systems prevented a real-time view of system performance
- Needed to create secure access to centralized data for user groups and business applications to access actionable information for monitoring, reporting and analysis

**Solution**
- Implemented AVEVA™ PI System™ to predict and manage the movement of stormwater through smart sensors and technologies that integrate into the collection system

**Results**
- Unlocked data and made it accessible to users and applications
- Developed system allows people to discover process interdependencies, improving operational performance and cutting response times from days to minutes
- Enabled dynamic management of stormwater systems during flood events, ensuring public safety, avoiding environmental releases and saving thousands in regulatory fines

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ABOUT EPCOR

EPCOR OPERATIONS
- Electricity
- Water
- Natural Gas
- Drainage
- Wastewater

Locations at a glance
HOW WE'RE REDUCING THE RISK OF OVERLAND FLOODING

EPCOR’s future flood mitigation work will include a combination of homeowner programs, drainage system improvements, green infrastructure and planning.

The goal is to **slow, move, secure, predict, and respond** to flooding events to prevent or reduce the impact of flooding.

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**STORMWATER INTEGRATED RESOURCE PLAN**

**SLOW**

We slow the entry of stormwater into the drainage network by absorbing it into green infrastructure and holding it in ponds.

1. Dry ponds
2. Low impact development — including rain gardens, bioretention basins, box planters and tree soil cells

**MOVE**

We move excess water safely away from areas at risk.

3. Tunnels and trunks
4. Separation of storm and sanitary sewers

**SECURE**

We help secure individual properties in higher risk areas.

4. Enhanced Building Flood Proofing Program for residential, multifamily and commercial properties
5. Engage and educate owners of 40,000 homes in targeted high and medium-high risk areas
6. Additional control gates at outfalls
7. Increased maintenance and repair priorities

**PREDICT**

We predict and manage the movement of stormwater in real time through smart sensors, automatic controls and operational dashboards

**RESPOND**

We respond through the fast rollout of flood barriers, traffic diversions and public communications.

8. Emergency response in coordination with the City of Edmonton Office of Emergency Management
PI AT EPCOR
WE HAVE THE DATA…
ITEM OF INTEREST – TRESTLE 7
DOES THE SCADA SCREEN HELP?
TRESTLE 7 PI SYSTEM VIEW
NORTHWEST STORM SYSTEM – PI VISION
GLOBAL OBJECTS

RoC: 3
Current Level: 1510 mm
Max: 1723 mm
Normal: 1505 mm
OPEN

PW591 442554

Baranow #1
WHAT’S NEXT?

• After prototyping the Northwest SWMF dashboards, we’ve educated and enabled the group responsible to tackle the other quadrants of the city themselves (with our support)

• Work closely with Wastewater Collection Operations to develop system view of Sanitary Collection System. Start with trunklines and then “spider web” out from there.

• Keep building momentum by sharing dashboards already created to show users what’s possible, with a view to providing inspiration.

• Working closely with other “power users” within EPCOR to both enhance their experience and give platforms to share their findings.
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Questions?
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State your name and company.

Please remember to...
Navigate to this session in the mobile app to complete the survey.

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