Executive Director's Report
2019 AGM

Equipping Albertans to build vibrant, ecologically functional landscapes within the built environment, through comprehensive stormwater management

Quarry Park Bioswale
Calgary

Leta van Duin
leta@alidp.org

Our Partners

GOVERNMENT

Redcliff
Blackfalds
Coaldale
Red Deer
Strathcona County
The City of Calgary
Airdrie

NON-PROFIT

EPCOR
C.E.A.C.
TID Taber Irrigation District
Bow River Basin Council
Red Deer River Watershed Alliance
Pigeon Lake Watershed Association

CORPORATE

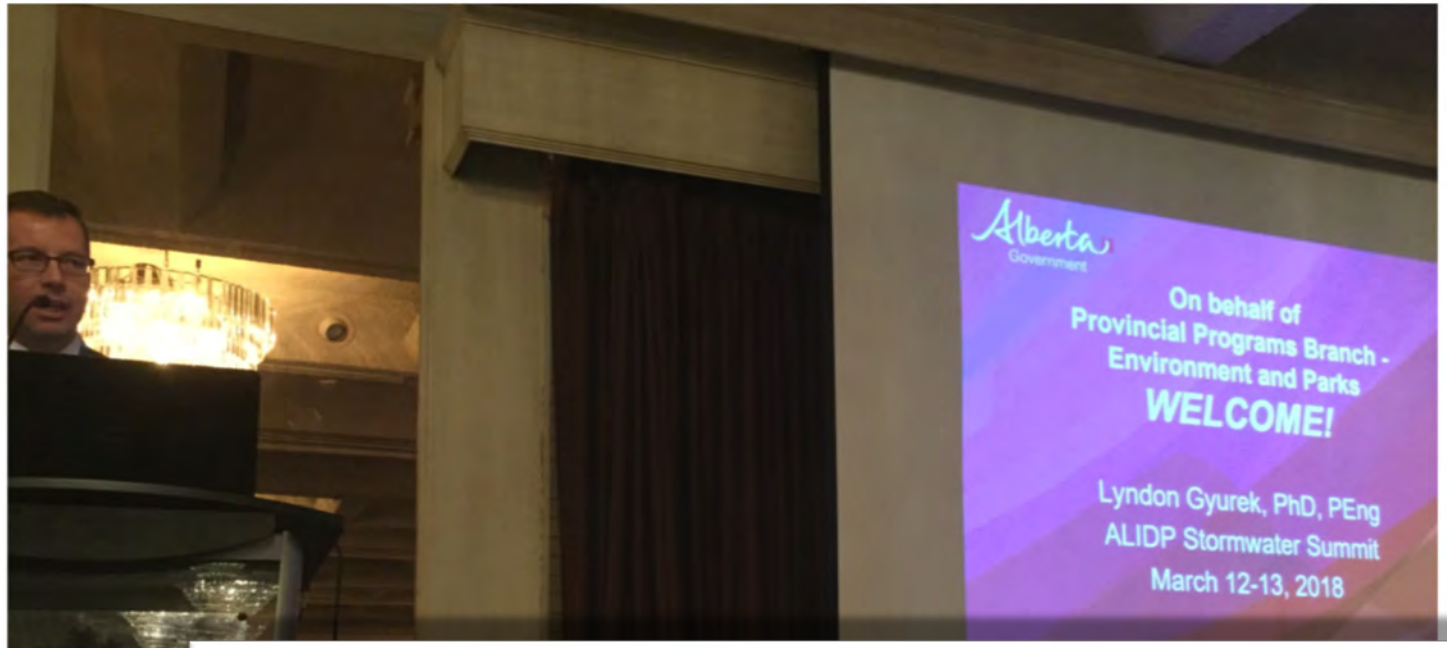
OpenGate
Westhoff Engineering Resources, Inc.
URBAN systems
VERITAS Development Solutions
Stantec
source source
Scheffer Andrew Ltd.
nhc northwest hydraulic consultants
MPE Engineering Ltd.
McElhanney
Matrix Solutions Inc.
L.A. West
KERR WOOD LEIDAL
ISL Engineering and Land Services
Eagle Lake
Dillon Consulting

VENDOR

deeproot

ALIDP Strategic Pillars

Designing for Tomorrow Conference and Training



Canadian Stormwater Institute Inaugural Event

Making Green Infrastructure Mainstream in Vancouver, British Columbia

It's time to revisit stormwater management design standards to protect our waters – The Credit Valley, Ontario, experience

Minnesota's Minimal Impact Design Standards (MIDS) Experience-Collaborative Development of Statewide Volume Reduction Targets and Tools

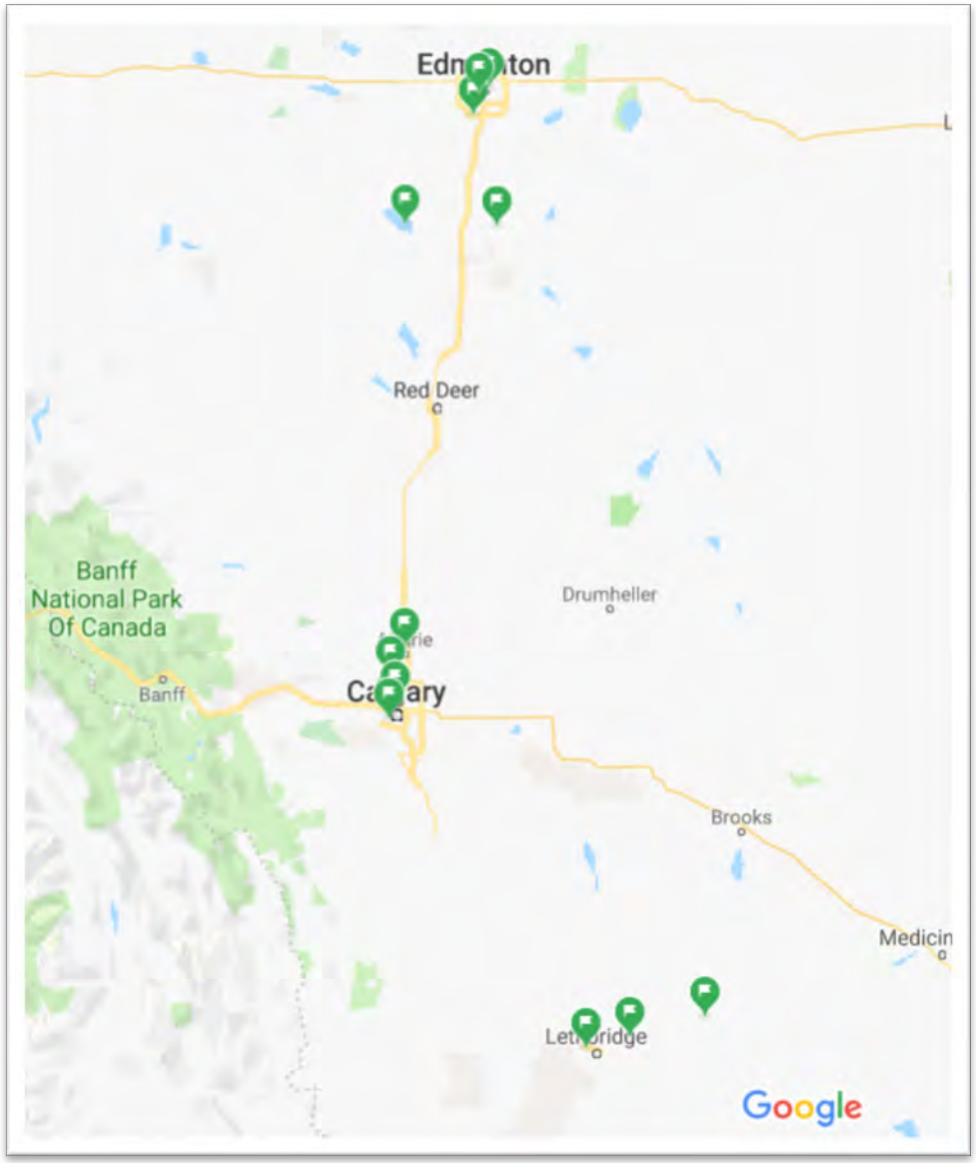
Developing Regulatory Drivers For Stormwater Planning, Design, Implementation, and Resiliency - Case Studies from the Western U.S.A.

Site Tour and AGM in Edmonton

Speaking Engagements

- Edmonton Federation of Community Leagues
- Town of Strathmore
- Central region municipalities – Wetaskiwin
- Renfrew Earth Day Eco-Fair

Rain Gardens 4 Resilience – Residential Demos



12 gardens built since 2017:

- 3 North Saskatchewan
- 2 Battle
- 3 Bow (monitored)
- 3 Oldman

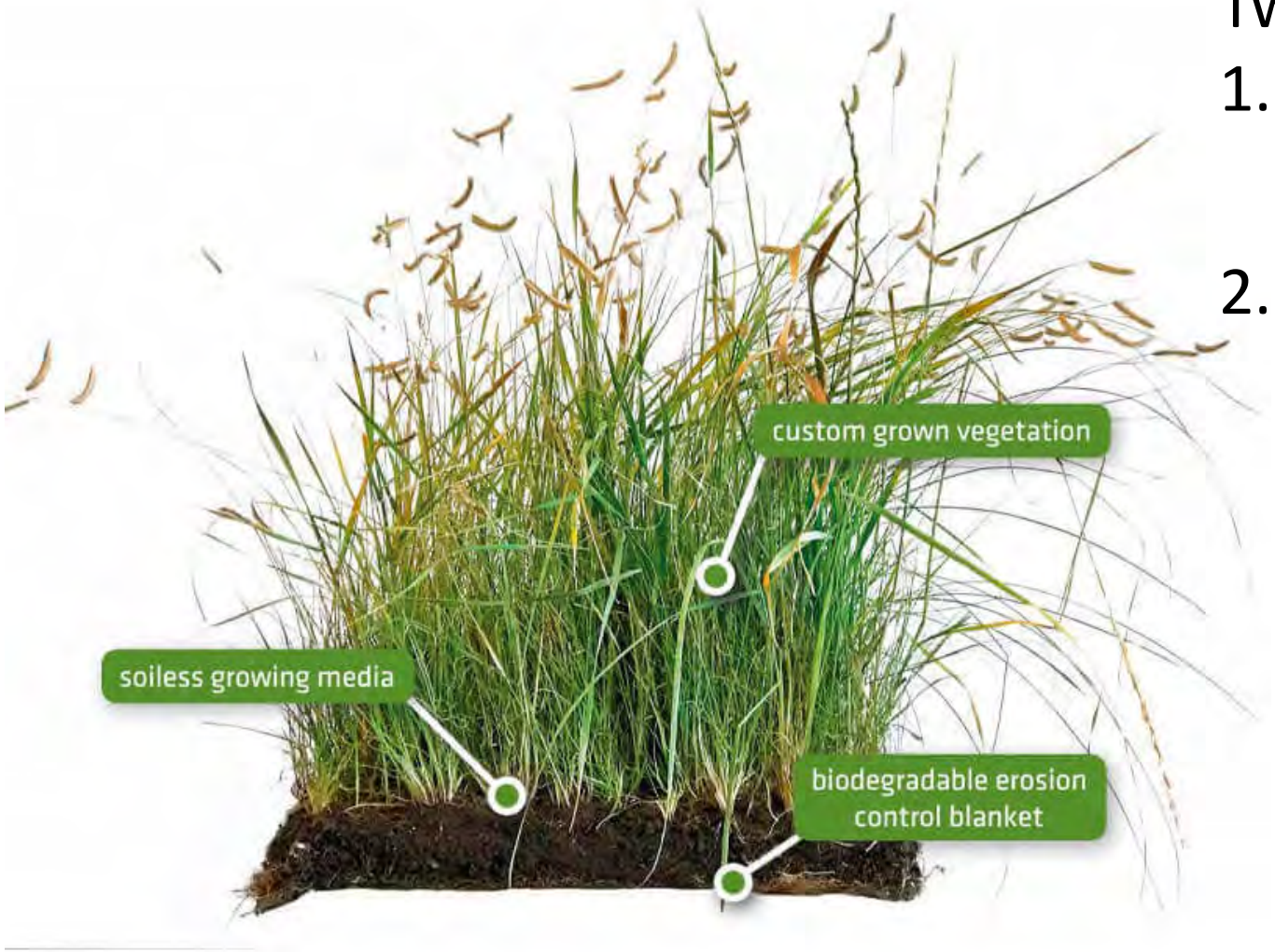
4th monitored garden to be built in Calgary in 2019

Alberta

Rain Gardens 4 Resilience - Testimonials

Rain Garden Construction Video (4:30 min)

Rainwater 4 Resilience



Two components:

1. Monitoring

   Bioretention, rain gardens, turf vs. naturalized planting

2. Community Demonstration Hubs

   Ten community gathering spots in each of Calgary and Edmonton

   - 2 rain gardens each
   - Native grasses, flowers, and shrubs
   - Alternatives to conventional turf

https://eaglelakelandscape.com/turfgrass/natures-turf/

Alberta

Rain Garden Education

- Construction Video
- Clean Runoff Action Guide (part how-to, part benefits and rationale)
- Landscape Design and Construction Certifications
- Community Hubs Citizen Workshops (winter 2021 CGY and EDM)
- Explainer Video

https://www.youtube.com/watch?v=3frkqNjScpk

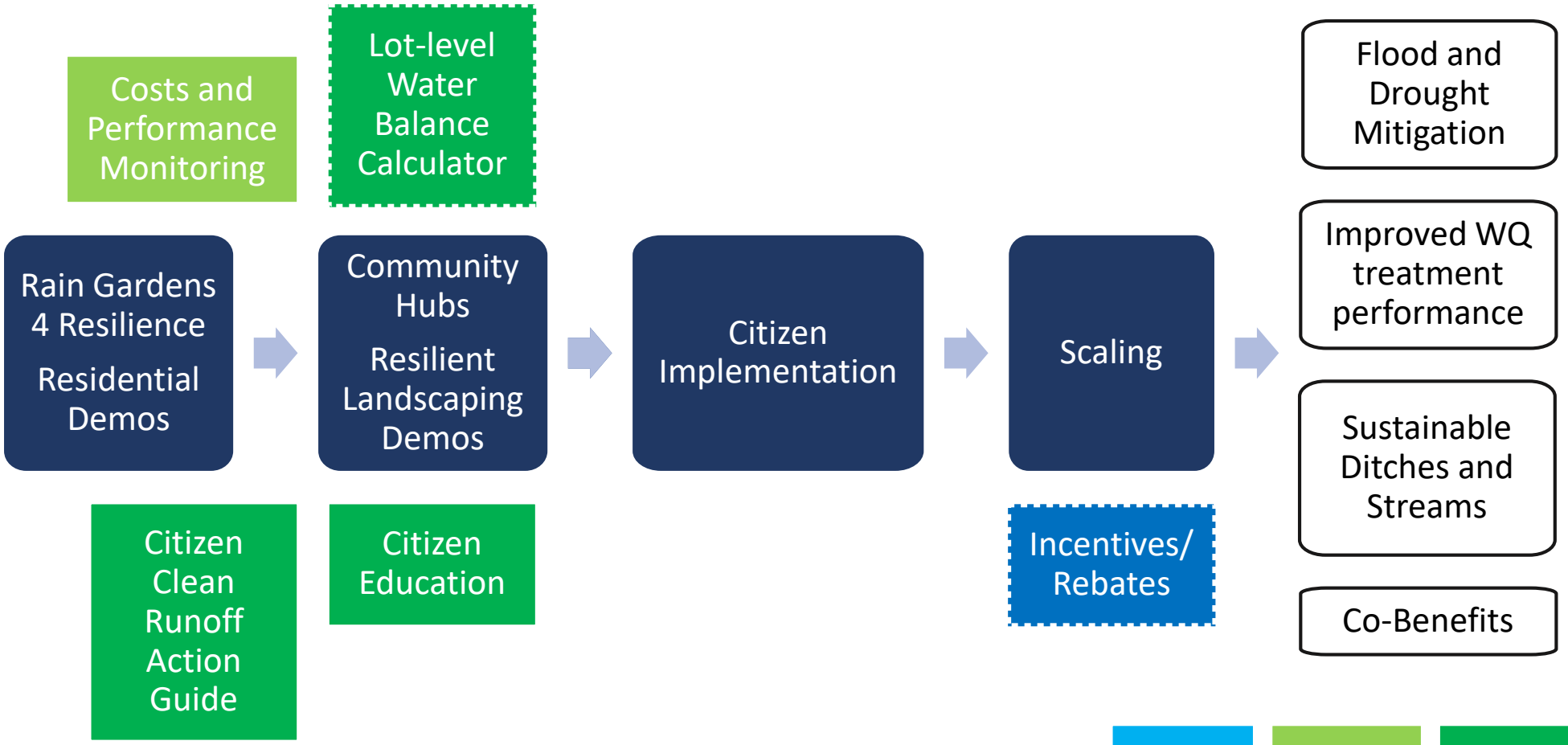
Calgary Vegetated Practices Quantity Monitoring

- Roadside Bioswales
- Residential Rain Gardens
- Conventional Turf to Rain Garden (before/after)
- Conventional Turf vs. Prairie
- Open Space Bioretention

→ Stormwater Quantity
→ Soil moisture
→ Vegetation

→ Design Guidance

Lot-Level Resilient Landscaping Implementation

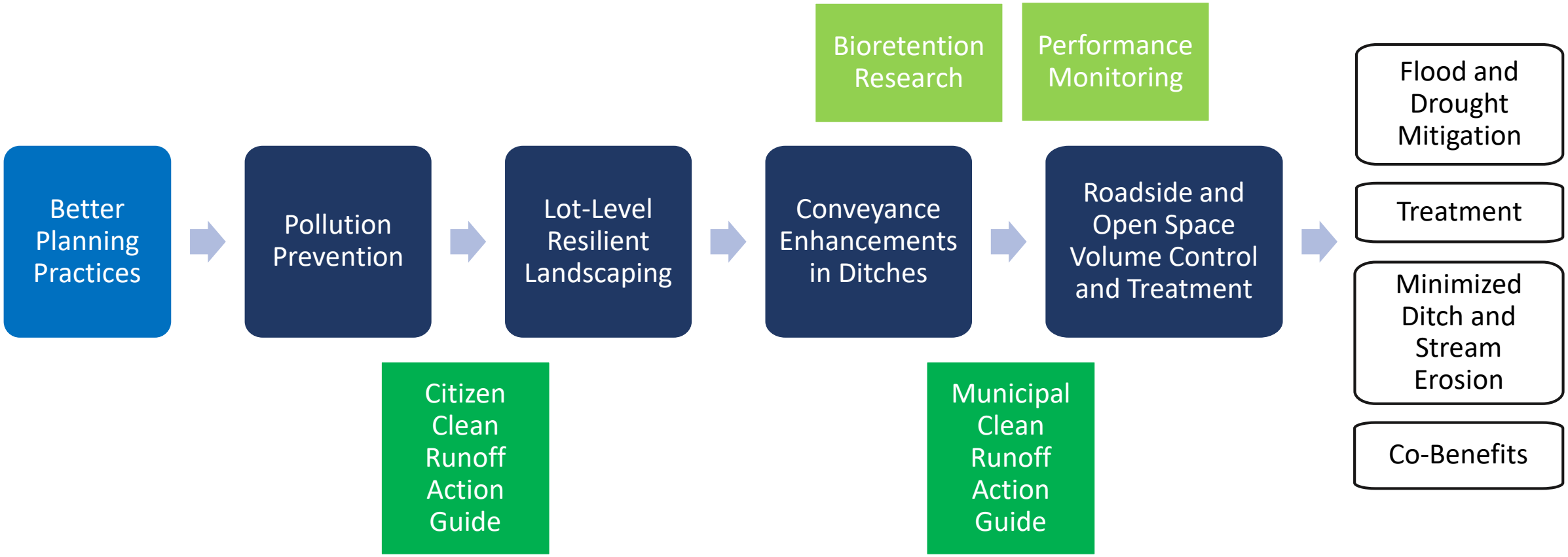


Pigeon Lake Watershed Association

- Recreational lakes experiencing blue green algae blooms
- Clean Runoff Action Guide – techniques for property owners to keep first 25 mm on-lot; BMPs to control nutrients
- Interpretive Signage for bioretention retrofit at MaMeO Beach
- Municipal Action Guide and CRAG v.2 coming

Photo: PLWA

Harmful Algal Blooms



Social Support | Feasibility | Knowledge and Tools | Policy/ Planning/ Regulatory

Okotoks Bioretention Performance

Evapotranspiration differences in woody, herbaceous, and conventional turf vs. media type

Plant survivability vs. media type

Contaminant removal

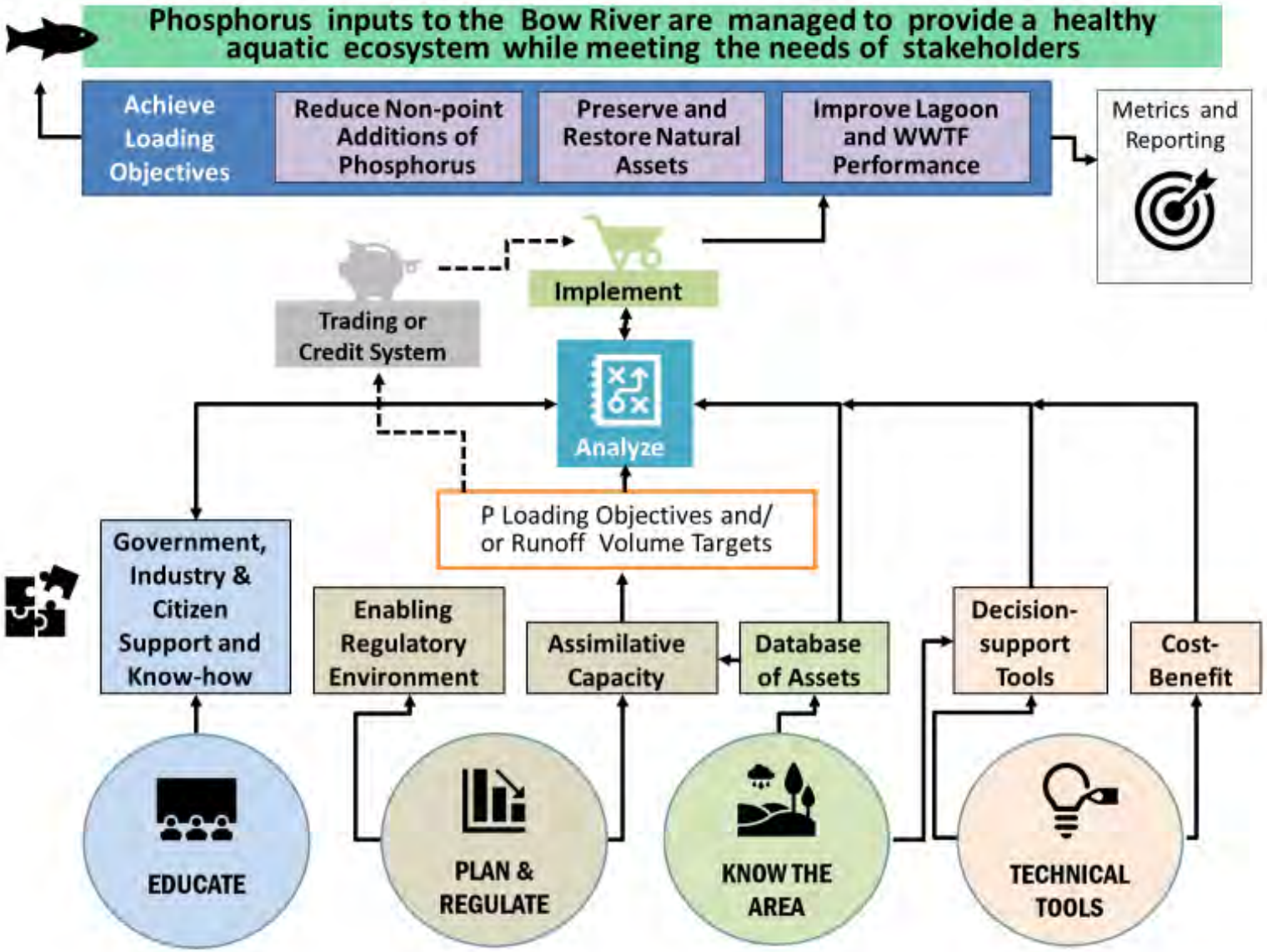
Leaching

Detention/ retention/ volume reduction

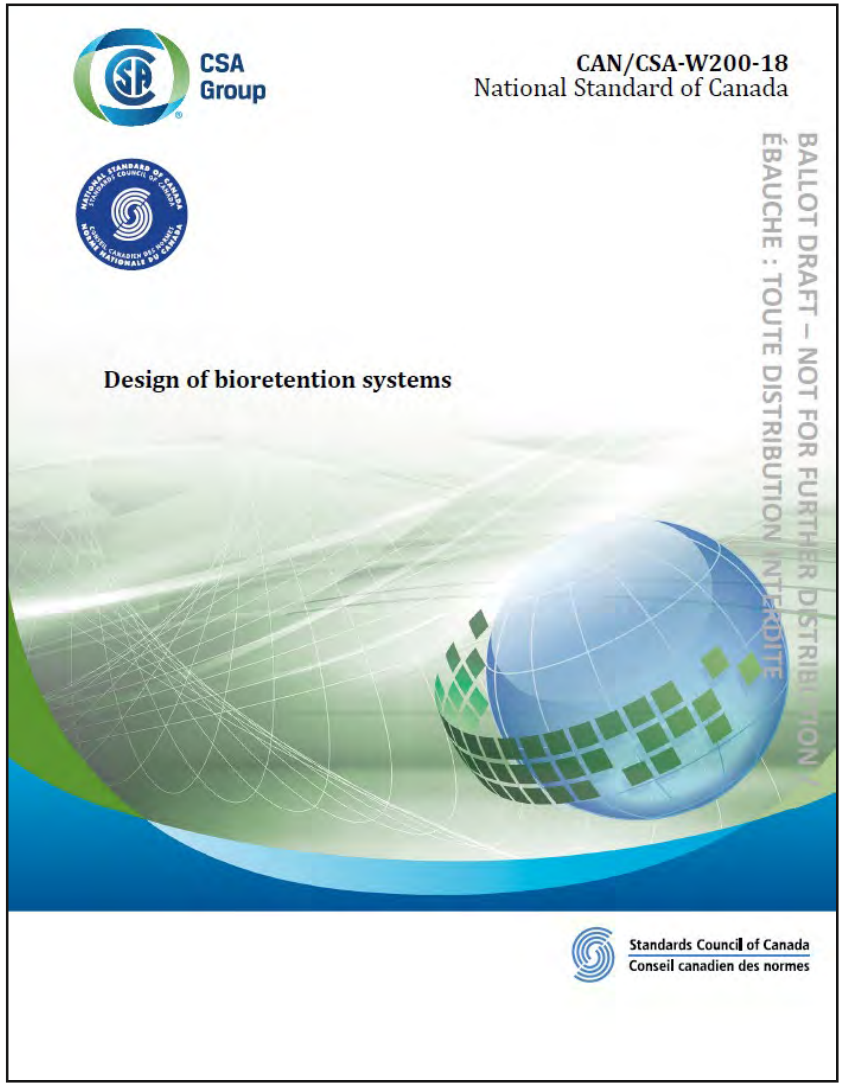
Dissolved Phosphorus Reducing Amendments – Type and Configuration

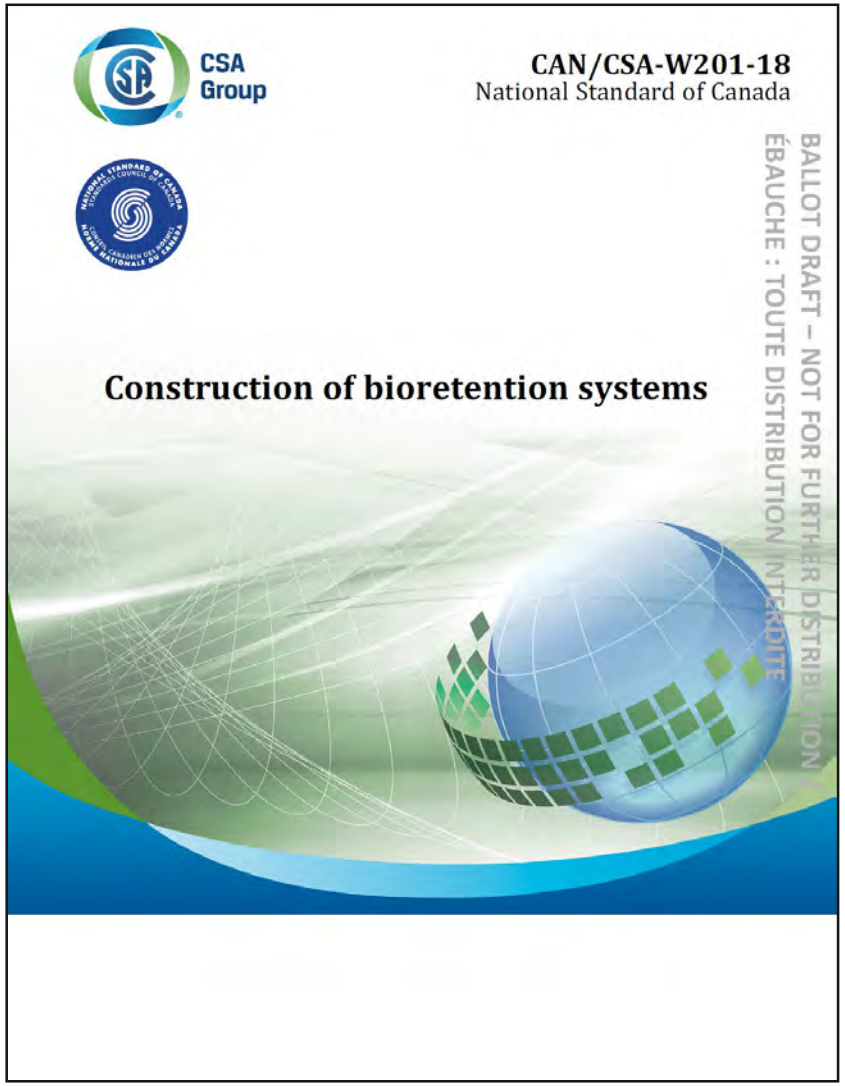
Plant and media recommendations

Bow River Phosphorus Management Plan



CSA Green Infrastructure for Stormwater Committee





Albertans played a major role in drafting these standards

Kudos to Chair Bert van Duin (City of Calgary), Leta van Duin (ALIDP), Jim Laidlaw (Stantec), Mohd Gazi (City of Calgary), Nathan Gill (Eagle Lake Landscaping), Kenneth Clogg-Wright (MPE at time of publication) and Craig Kipkie (Kerr Wood Leidal)…all ALIDP partners!

Experiences from both the City of Calgary Design Bioretention and Bioswale Module and the Okotoks Research Site are reflected in these CSA standards!

City of Calgary Stormwater Strategy

Phase 1 report for release summer 2019
Phase 2 to begin fall 2019

Five stakeholder engagement groups:

1. Business and Development
2. City of Calgary Internal
3. NGOs and Academics
4. Regional & Regulatory & Indigenous Peoples
5. Customers and Communities

- Sustaining the ecological integrity of streams
- Riparian action program
- Source water protection
- Flood mitigation
- Drought management
- Drinking water and wastewater treatment
- Regulatory compliance
- Alignment with other Corporate objectives

The Evolution of Implementation

ACCESSORIES
CHAMPIONS
PROJECTS
SERVICE-DELIVERY TARGETS
FUNDING

ASSETS
SYSTEMS
PORTFOLIOS
COMMUNITY OUTCOMES
FINANCING

From Projects to Portfolios. Earth Economics. 2018

What's Next?

- Lot and community (street and open space) green infrastructure for flood resiliency (EPCOR Edmonton and Alberta Community Resiliency Program)
- Wetland compensation funding to implement LID
- Provincial guidelines and LID
- AEP Reuse Policy and Delta Water
- Volume Targets: Getting to implementation
- Water Balance Calculator for lot-level volume control
- How tools fit together – treatment trains for different objectives
- Forthcoming research initiatives

- Case study database, canned presentation materials, FAQs

Bonus: Treatment Trains for Different Objectives

1. Blue green algae/ recreational lakes
2. Stream stability/bioengineering
3. Drinking water source water protection
4. Water security/reuse
5. Flood resilience
6. Densification
7. New development
8. Downstream water quality