Why do we do research?

To make informed decisions.

Photo: Strathcona County

"You can't move forward with solutions before people understand the problem, or your solution will become the issue."

> Glen Brown Executive Director & Deputy Inspector of Municipalities Province of British Columbia







Lil. Review OTTALING OTTALLOWS OCCUT/EDH Shere are the small starts. ONSERCIally Small designed rangerden (\$50++ maniany) San Brinni 8 e e XA inducting ° 1 0 0⁰ 130 deges WHO DOES WHAT ? (HOW) CAN WE DO THIS INCREMENTALLY? WHERE PIRE THE LOW-HANGING FUNDING FRUITS? EARLY OUTREACH/TEACHING MOMENTS? -> contribution

Now and Later





Questions





Small Start: Field-scale Trial

- Vegetation performance as a function of soil
 - First idea to compare a light soil with a heavy soil and vary the organics significantly, keeping the veg palette consistent
 - More discussion led to idea of keeping the texture consistent (light) and only varying the organics (see annual report – LA's didn't realize the amount of water being proposed by eng.)
 - Veg list in annual report proposed palette



Optimization

- Amendments
- Design optimizations for WQ objectives
- Locally available materials
- Incorporation of waste materials from other processes



Bioretention Research Elsewhere



Bioretention Research Elsewhere



What have they learnt about Bioretention?

- Design critical for good performance
- Plants are important in reducing N & P loads
- Media composition and arrangement can optimize performance i.e. amendments, submerged zone
- Good designs can achieve pollutant load
 reduction of: 90% TSS, 80% TP and 60%TN



Our Outcomes

- Development of credible and reliable design and implementation guidance
- Successful installations
- Guidance for policy development at the provincial and municipal level with respect to water quality objectives



Why research at Olds College?





ALIDP's Role



disseminate





Cold Climate Centre of Excellence

- Colleagues in Minnesota, Quebec and Ontario
- International Water Association/International Association on Hydraulic Engineering and Research (IWA/IAHR) Joint Committee on Urban Drainage (JCUD)
 - Source Control for Stormwater Management
 Working Group (SOCOMA) Chair Gilles Rivard
 - Urban Drainage in Cold Climate Working Group
 (UDCC) Chair Maria Viklander (Sweden)





Field Scale Trial - Mark II





Field Scale Trial - Mark II



Alberta Low Impact Development Partnership

Field Scale Trial Mark III



Alberta Low Impact Development Partnersh

Field Scale Trial Mark III



