MLC

ecosystem restoration

Kent Rundle| kent@mlceco.ca | 289.260.2394

mlceco.ca

# Who we are

Kent Rundle

Certified Ecological Restoration Practitioner with over 20 years experience working as an aquatic monitoring ecologist and then onto aquatic and terrestrial restoration projects as a project and program manager.

Joel Johnston

Landscape and light civil contractor and skilled equipment operator with over 20 years experience. Joel has led and/or been involved in the construction of dozens of ecosystem restoration and green infrastructure projects.

# Who we are

Small team, other members are:

Christine – Office Manager

Josh – Site Supervisor

Andrew – Restoration Crew Supervisor

Meghan – Operator

We also scale up with a team of labourers for the spring, summer and fall

# Our focus

Ecosystem Restoration Project Construction

- Creeks and Wetlands (natural channel construction, channel stabilization, weir decommissioning, wetland creation, bioengineering, riparian planting, etc.)
- Meadows and Forests (native planting, pit and mound, habitat feature construction and installation, hibernaculum, invasive plant management, etc.)
- Infrastructure projects that intersect with natural infrastructure features (culverts, pedestrian bridges, LID, etc.)
- Landscape construction where an emphasis is placed on value added ecological services

# Today's Talk

- Challenging soil and subgrade conditions
  - Gilbert Creek and Lathrop Nature Sanctuary
- Passive bypassing
  - Rogers Creek & Oshawa Creek
- Worksite isolation
  - Credit River
- Rapid Topics

# Challenging Soils and Subgrade Conditions

- Underlying soil type is a foundational building block. It is important for designers to ensure stability and to builders for access and constructability.
- Despite our best intentions, there are times we find ourselves with shovels in the ground discovering things aren’t what we thought they would be.
- When this happens, it takes a cooperative and collaborative team to develop solutions on the fly.

# Gilbert Creek

- Dam decommissioning to restore Brook Trout passage

# Gilbert Creek

- Looking downstream from upstream end of former head pond

# Gilbert Creek

- No stable ground found to build the channel on
- Approximately 2.5m of pond sediments

# Gilbert Creek

- Project team worked together to develop a constructible solution in the field
    - Over-excavated the sediments slightly
    - Placed layers of sub angular stone and granular B to create a blanket to construct the channel, floodplain terrace and Vegetated Riverstone Buttress
    - Worked in very short channel lengths to avoid cave in of unstable soils, approximately 3m at a time

# Gilbert Creek

# Lathrop Nature Sanctuary

- Turf Reinforcement Mat

# Lathrop Nature Sanctuary

# Lathrop Nature Sanctuary

# Passively Bypassing Flows

Benefits to passively bypassing flows without the use of pumps

- Reduced carbon emissions from burning gas and/or diesel
- Reduced cost to clients
- Elimination of weekend refueling
- Less risk of overnight failure

# Roger’s Creek

# Oshawa Creek

# Passively Bypassing Flows

Negatives to passively bypassing flows without the use of pumps

- Overnight bypassing requires an end of day setup and morning teardown ahead of commencing work
- Materials required take up considerable storage space
- Leakage into workspace

# Instream Isolation

- Isolating work areas in stream is a challenging and labour intensive component of stream restoration projects
- Traditional method of pea gravel bags and poly barrier is effective, but access often limits the practicality of it
- Inflatable options exist, but they often require a large footprint

- Summer 2025 we tested the use of fillable traffic barriers as a mid channel barrier.

# Credit River

# Rapid Topic #1

- Megasecur Watergate Dam

# Rapid Topic #2

- Tiltrotators

# Rapid Topic #3

- FODS Mats

# Thank you

Kent Rundle| kent@mlceco.ca | 289.260.2394

MLC ecosystem restoration

mlceco.ca