Waiheke Transport Forum

OPEN MINUTE ITEM ATTACHMENTS

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Note: The attachments contained within this document are for consideration and should not be construed as Council policy unless and until adopted. Should Councillors require further information relating to any reports, please contact the relevant manager, Chairperson or Deputy Chairperson.
Item 6.1

Who we are

Ewaters Engineers Environments provides comprehensive water infrastructure solutions through data engineering and analysis built on fundamental engineering principles and construction knowhow.

We create UrbanThrive infrastructure by seamlessly integrating the natural, built and digital environment.

Our services support thriving vibrant cities, smart infrastructure, healthy agriculture and ecological habitats.

Attachment A
Our Clients Domestic
New Zealand

- Northland Regional Council
- Auckland Council Healthy Waters
- Waikato Authority
- New Zealand Transport Agency
- Far North District Council
- Whangarei District Council
- Thomas Consultants
- Aecom NZ Ltd
- WSP Opus
- CBC Wastewater
- Centre Group
- Waiheke Resources Trust
Clients International China

- TianJin City
- Shanghai
- Wuhan
- Shandong
- Jianyin
- Ningbo
- Suqian
Jess Wallace
Principal Water Resources Engineer

- Principal water resources engineer with twenty years of experience in water resources engineering, innovation and management.

- Career Experience
  - Field engineer,
  - Surveyor,
  - Project to Principal Engineer (design, analysis and construction),
  - Project Manager to Director,
  - Company director

- Waters resources driven engineering
  - River and Floodplain Management
  - Land Development
  - Urban Stormwater Systems
  - Onsite Wastewater Treatment Systems
  - Water Systems (Drinking and Irrigation)
  - Wetlands delineation and design
  - UrbanThrive infrastructure
    - Three waters closed loop systems
    - Biofiltration stormwater design
    - Living infrastructure roadway design

Pioneered some of Colorado’s first low impact developments through sound engineering and active policy negotiations for their effective inclusion as living infrastructure options. In New Zealand, he joined URS where he and became the leader of the Rivers Management and Modelling team (Auckland office). As an owner and director of Ewaters Engineering Environments he has developed the company’s water business to become a preferred supplier for Northland Regional Council, Auckland Council HWT and Warkato Local Authority.
**flow control**: The regulation of stormwater runoff flow rates.

**detention**: The temporary storage of stormwater runoff in underground vaults, ponds, or depressed areas to allow for sedimentation of suspended solids.

**retention**: The storage of stormwater runoff on site to allow for sedimentation of suspended solids.

**filtration**: The sequestration of sediment from stormwater runoff through a porous inmedia such as sand, a fibrous root system, or a man-made filter.

**infiltration**: The vertical movement of stormwater runoff through soil, recharging groundwater.

**treatment**: Processes that utilize phytoremediation or bacterial colonies to metabolize contaminants in stormwater runoff.
Attachment A

Integrated Streetscapes

How can we transform the street right-of-way?

How can we integrate LID landscapes?

How can we employ curb alternatives?

climate regulation

infiltration

evapotranspiration

infiltration

runoff

street
Many ways to achieve objectives

note: provide perforated overflow pipes to manage stormwater runoff during large storm events, especially for poorly-drained soils.
Living infrastructure establishment

Integrated Pest Management: Purple Martins and bats can eat anywhere from 200 to 300 mosquitoes an hour. Other predators such as dragonflies and fish eliminate larvae in water.

year 1: Initial planting and soil amendment: if necessary, root systems begin to establish.
year 2: Root systems established, additional vegetation introduced, minimal habitat created.
year 3: Diverse habitat more established, system becomes more autonomous.
year 4: Climax habitat established, system is self-sustaining.

Food source:
- Pollinators
- Decomposers
- Consumers
- Exchangers and digesters

Predators:
- Seed distributors
- Mole
- Dragonflies
- Fish

annators and composters
Subsurface flow can be substantial

Stormwater infrastructure can be planned to deliver valuable ecological benefits to botanize
Attachment A

Item 6.1

- **soil as sponge**
- **robust plant communities**
- **urban riparian conservation**
- **balanced growth**

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**excessive impervious surfacing**

Streets, parking lots, and roofs can be designed as gardens to slow, spread, and soak stormwater runoff.

**lack of biological functioning**

Productive vegetation within cities provides ecological services not attainable with the decorative suburban lawn and impervious surfaces.

**urban stream syndrome**

If forested parks are the “lungs of the city” as landscape architects have claimed, healthy urban riparian (stream) systems are the “kidneys of the city”.

**urban sprawl**

Urban sprawl infills wetlands and clearcuts sites, which may maximize development efficiencies, but destroys ecological or natural capital. Good urban land-use planning reflects, rather than destroys, ecosystems that structure the historical patterns and...