CITY OF PRINCE GEORGE

Integrated Stormwater Management Plan

Engineering & Asset Management Issues

ISMP COMPONENTS

Guiding Document, Roadmap, and Public Engagement Plan

- *Guiding Document with key messages*
- *Public Engagement Plan*
- *Action Plan – Roadmap*

TWP #1 – Technical Background

TWP #3 – Policy and Regulations

- Review Plans, Bylaws, Fines, Authority and Enforcement
- Gap Analysis and Peer Municipal Comparison

TWP #2 – Engineering & Asset Management Issues

TWP #4 – Financial Options

- Review Previous funding initiative
- Summary of other Municipal Stormwater financing models

Final Presentation to Council (Summer 2021)

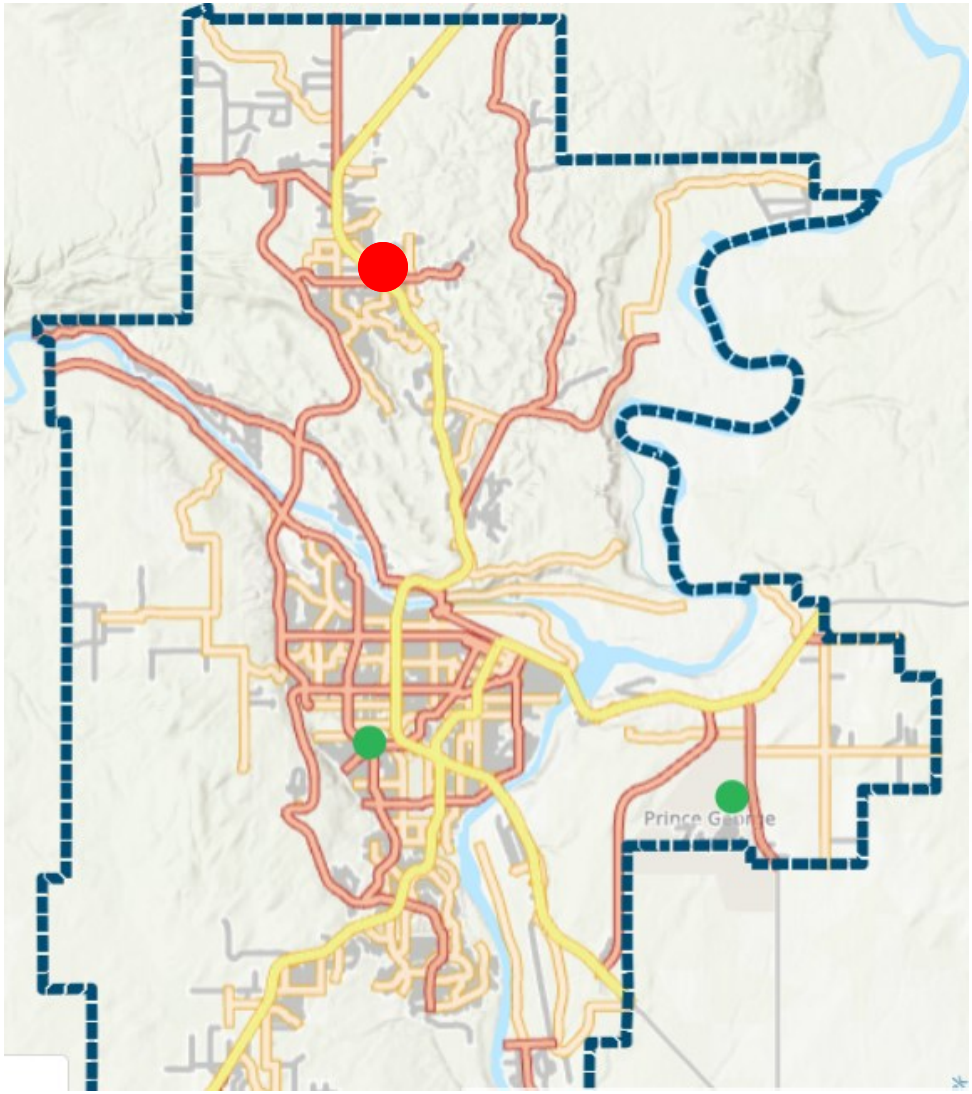
Public Engagement (Summer/Fall 2021)

PRESENTATION OUTLINE

Technical Working Paper #2 – Engineering & Asset Management Issues:

a. Rain Gauge Monitoring Program
b. Green Infrastructure (Low Impact Development)
c. Standards
d. Stormwater Network Risk Assessment
e. Condition Assessment Program

RAIN GAUGE MONITORING PROGRAM



Source: Geonor.com

LOW IMPACT DEVELOPMENT (LID's)

'Green Infrastructure'

NATURAL ASSETS VS. GREEN INFRASTRUCTURE

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EXISTING LOW IMPACT DEVELOPMENT

Road Ditches – *South Kelly Gardens*

Retention Pond – *Hwy 16 & Domano*

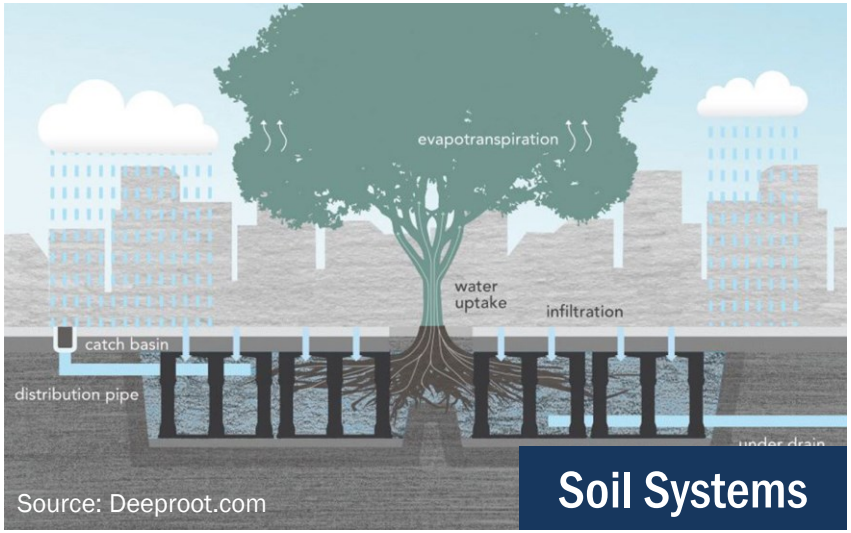
Detention Tank – *Boundary Rd*

Infiltration Pond - *Malaspina*

LOW IMPACT DEVELOPMENT (LID) OPTIONS

Bioretention Basins

Source: Kensington Library



Source: Deeproot.com

Soil Systems

Rain Gardens

Source: nwdistrict.ifas

LESSONS LEARNED FROM OTHER CANADIAN CITIES

- Calgary
- Thunder Bay
- Ottawa
- Sudbury

- Edmonton
- London
- Guelph
- Peterborough

STORMWATER TREATMENT DEVICES


Source: Enviropod.com


Source: Rainguardian.biz


Source: cbshield.com

CITY STANDARDS

CITY STANDARDS

- Subdivision & Development Servicing Bylaw
- Design Guidelines

Recommended Changes:

- Design stormwater infrastructure to handle the more intense storms we are seeing;
- Include design requirements for oil-grit separators and stormwater treatment ponds;
- Allow the installation of road ditches where it makes sense;
- Require erosion and sediment control measures where construction and development is occurring;
- Limit the use of corrugated steel pipe for culverts, sewers and catch basins;
- Only accept stormwater ponds once appropriate and approved vegetation is established.

STORMWATER NETWORK RISK ASSESSMENT

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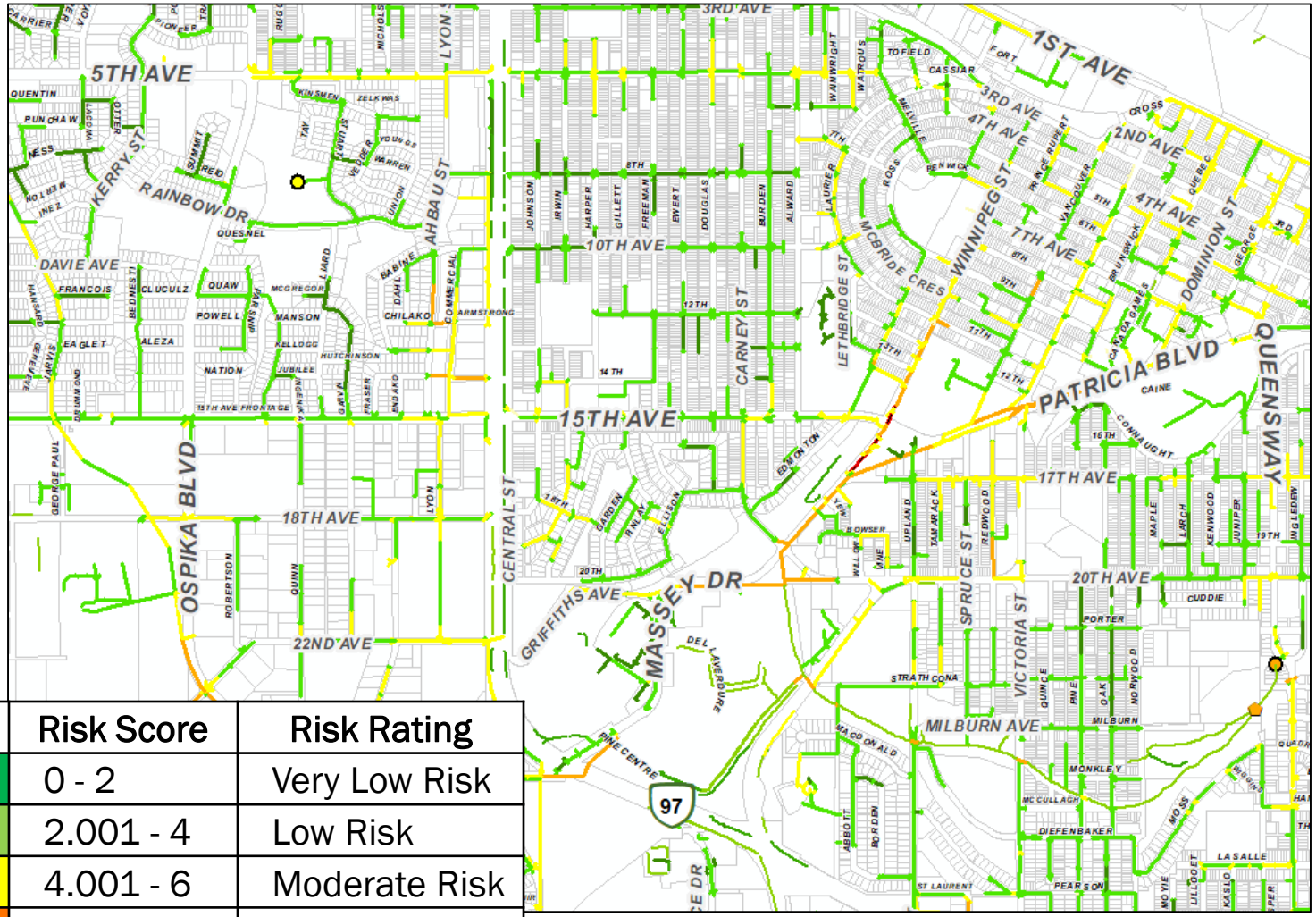

	Risk Score	Risk Rating
	0 - 2	Very Low Risk
	2.001 - 4	Low Risk
	4.001 - 6	Moderate Risk
	6.001 - 8	High Risk
	8.001 - 10	Very High Risk

CONDITION ASSESSMENT PROGRAM

CONDITION ASSESSMENT PROGRAM

Source: rauschusa.com

Source: Cityworks Inspection

Benefits:

- Forecasting when infrastructure needs to be renewed or replaced;
- Minimizing infrastructure failures and the resulting costs;
- Extend the life of the asset before it becomes completely deteriorated and must be entirely replaced.


THANK YOU