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KILMER BROWNFIELD EQUITY FUND L.P.

Redeveloping Brownfields in a Challenging Urban Context

Remtech 2019

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Outline

1. Starting Point
2. The End Game
3. Finding a Path to Development
4. Remediation / Risk Assessment
5. Stakeholder Challenges
6. Key Takeaways

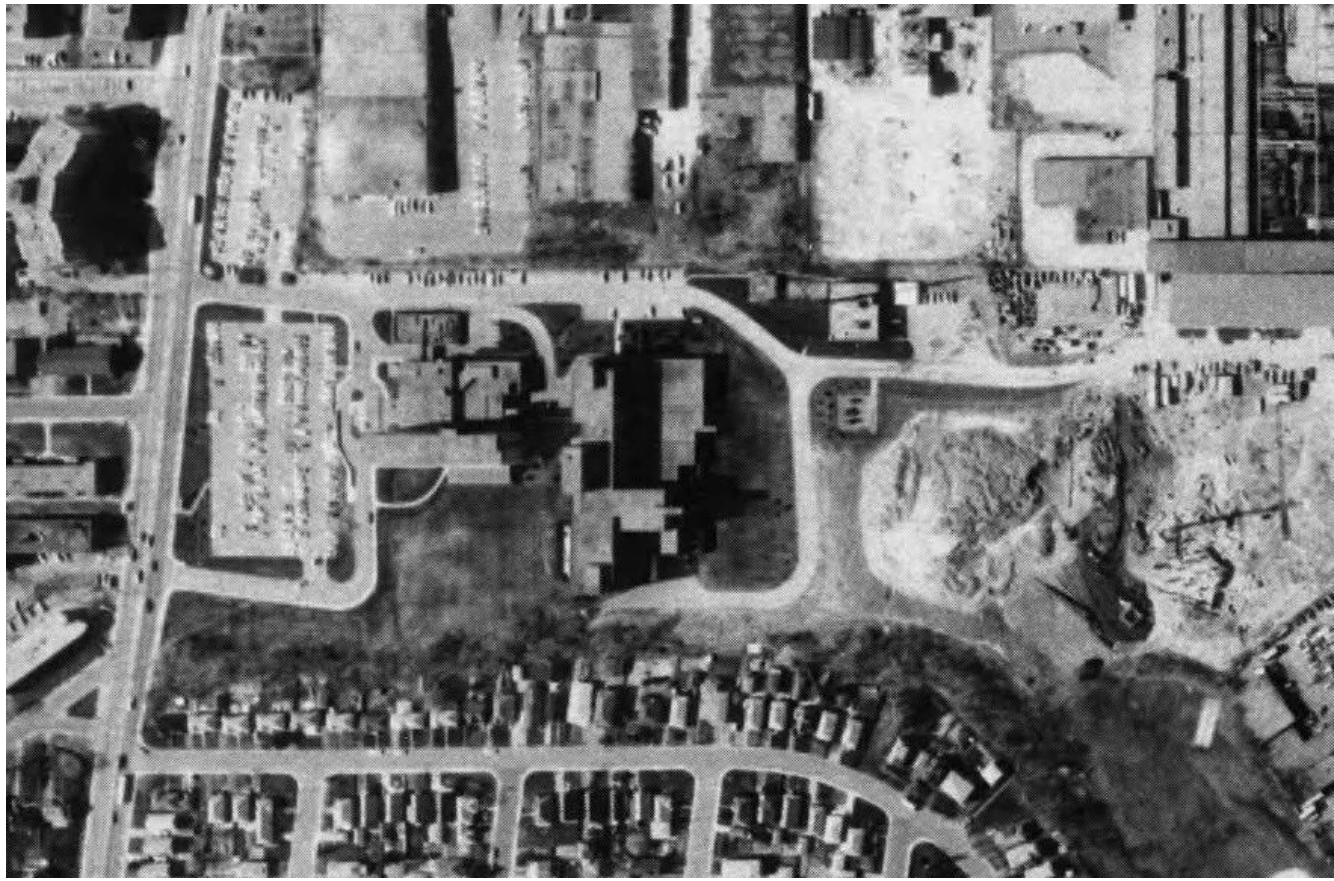
Case Study

Former 1950s era hospital

Environmental Concerns

- Historical Use of Fuel Oil
- Fill material of unknown quality
- Unlicensed fill area – historical construction debris
- Methane
- Adjacent industrial land use

No Provincial legal obligation to obtain Record of Site Condition



The End Game

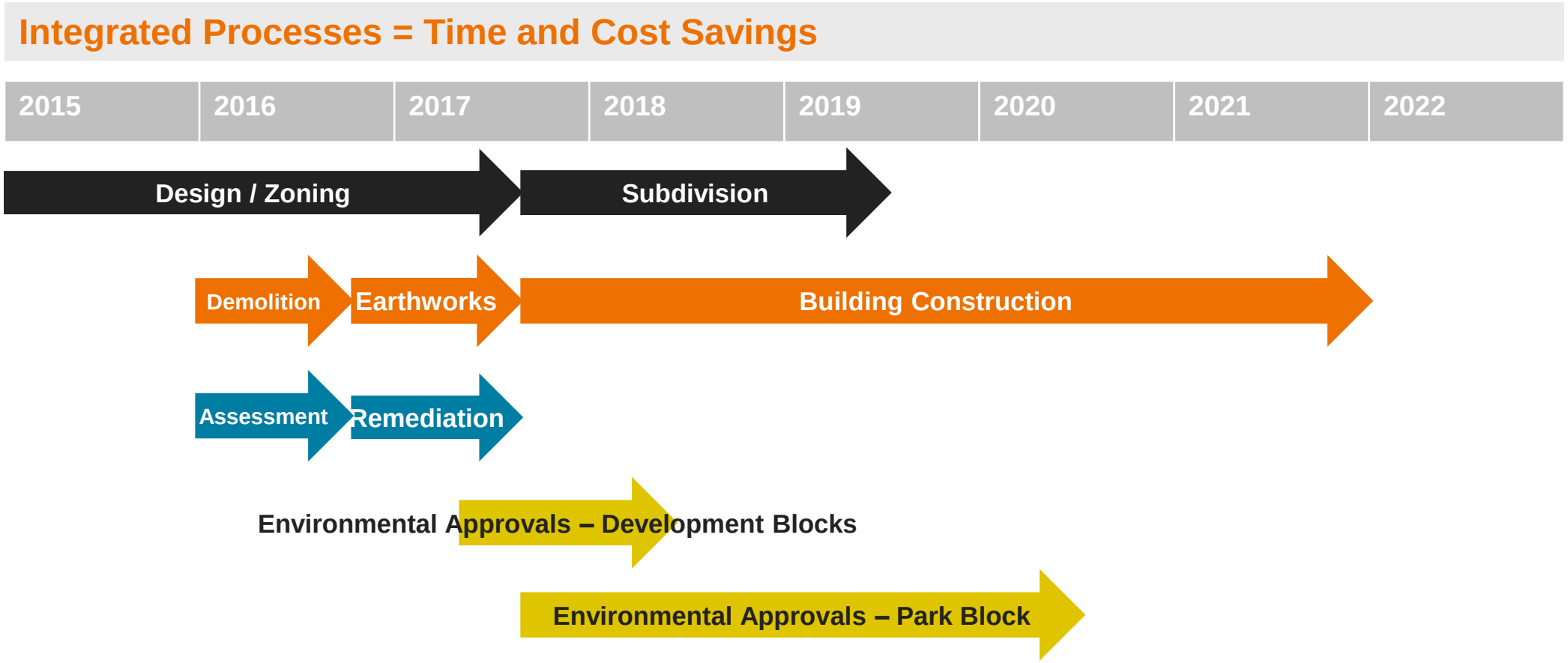
- Develop property to highest and best use
- City building: create “missing middle” housing, affordable housing, improved public realm
- H&S of future residents and adjacent community

How?

- Address environmental impacts responsibly and sustainably >> integrated design
- Mitigate schedule risks
- Address stakeholder concerns
  - New roads & parks, with Records of Site Condition
  - Urban design considerations

Timeline

Integrated planning, remediation, and construction



Integrated Design

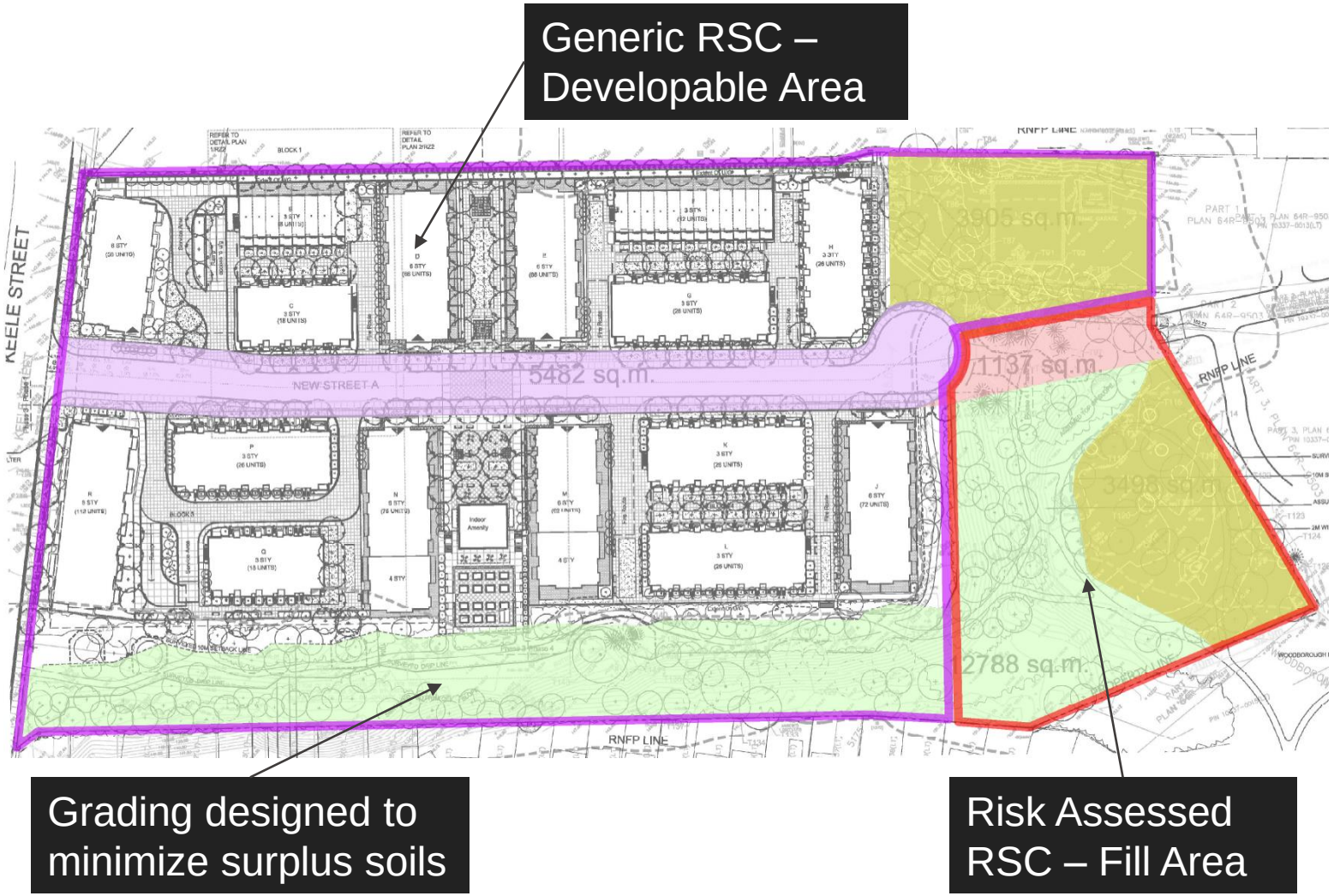
Finding a path to development

Remedial Options Evaluation

- Development Plan
- Surplus soil
- Strategic use of Generic vs Risk Assessment RSCs

Planning Approvals (zoning, subdivision)

- Multi-disciplinary coordination
- Multiple stakeholders
- Public conveyances – sequencing to permit efficient development



Site Preparation

Concurrent Construction and Environmental Activities

Demolition

- Abatement – Type 3
- “Award-winning” Recycling – brick, steel, asphalt
- Crushed concrete re-used – 20,000 m^3

Site Assessment

- 64 boreholes, 55 test pits, 40 monitoring wells
- PHCs, VOCs, metals, PAHs

Remediation

- Targeted excavations
- UST removals

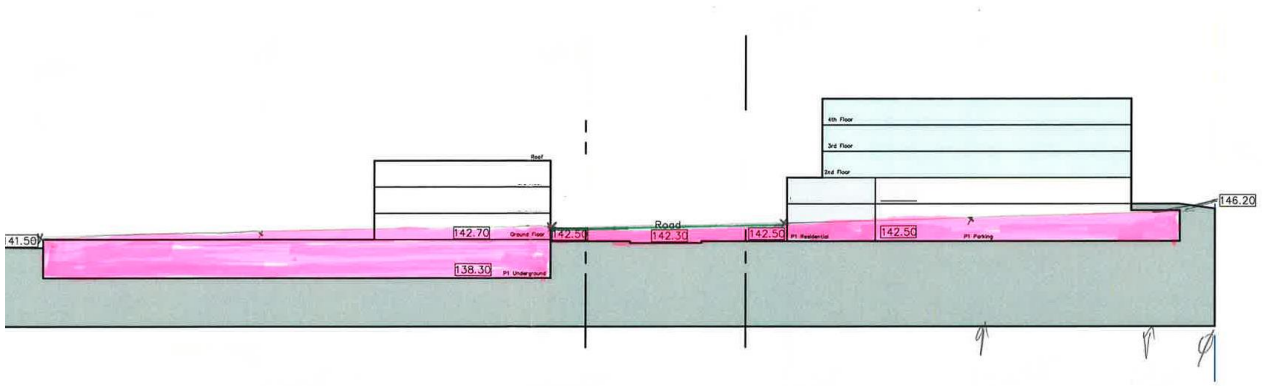
Soil Management

Meeting an evolving Excess Soil Framework

- Additional characterization:
  - Soil met Table 2 SCS,
  - Elevated EC/SAR at some locations
- Tracking, monitoring
- Sourcing receiving sites

Meeting multiple stakeholder objectives

- Cut operation increased from ~25,000 m^3 to >70,000 m^3 due to urban design
- Setting Expectations in Earthworks contracts
- Ground improvement for geotechnical issues



Risk Assessment: Unlicensed Fill Area

Historical Construction Debris

Assessment

- Creosote / Bunker C
- PHCs, VOCs, metals, PAHs
- Methane

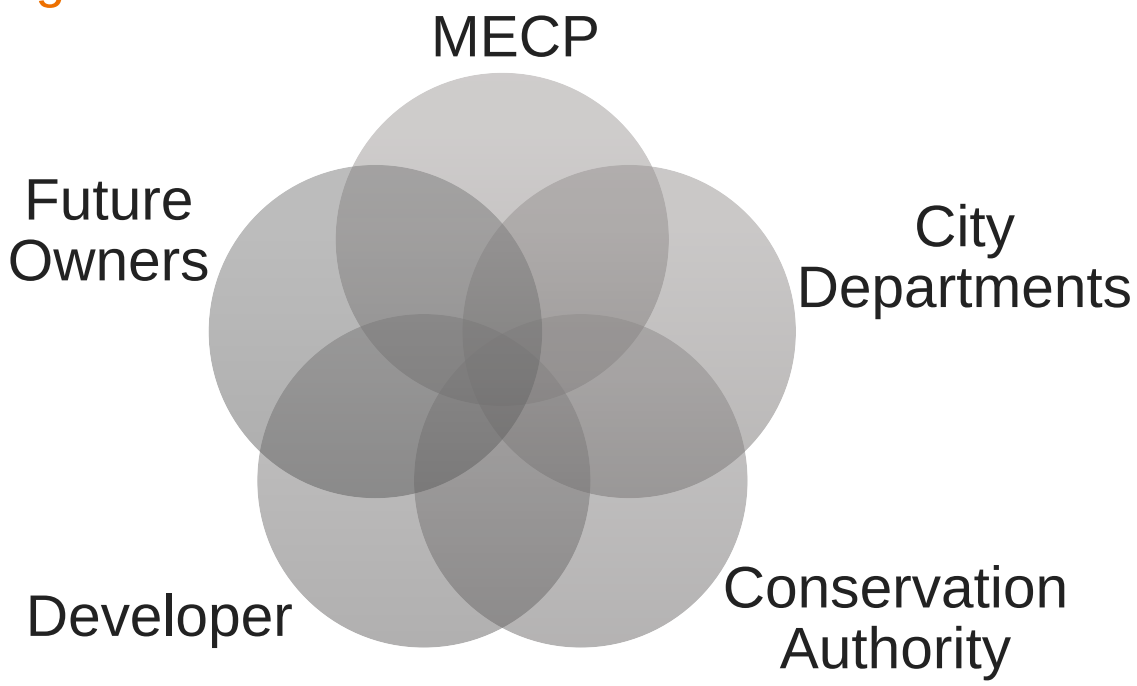
Remedial Options

- Generic RSC vs. Risk Assessment
- Widespread impacts to soil – poor quality fill
- Expected to remain parkland/ravine land

Risk Assessment - Stakeholders

Many stakeholder considerations – not always aligned

- H&S of current and future occupants
- H&S of future maintenance workers
- Protecting future vegetation
- Protecting existing vegetation
- Liability management
- Resale value / saleability / stigma
- Cost of risk management measures
- Long-term costs



Risk Assessment - Modelling

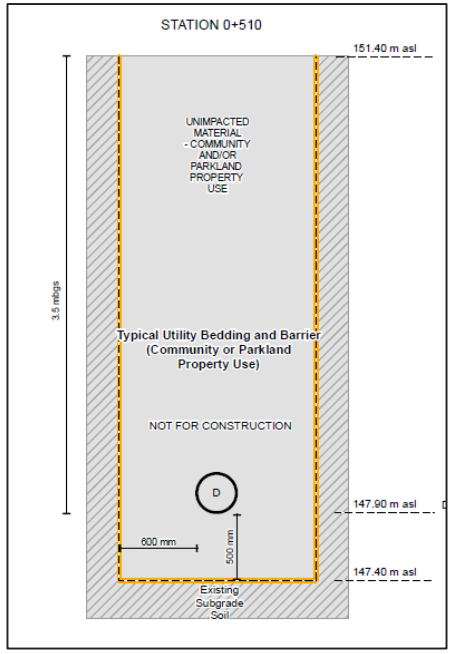
RSC required for Conveyance

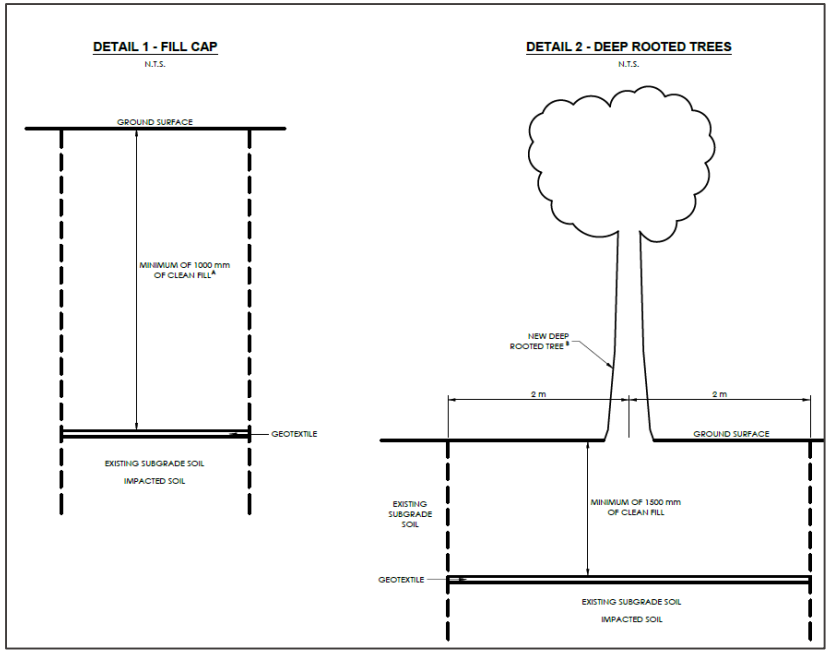
Risk Assessment

- No eco risk – evaluated on population level
- Human health risk – surface cap required
- J&E model adjustments for methane

Risk Management Measures

- Maintain existing vegetation (natural cap)
- Fill Cap – standard and alternatives (thin cap around existing mature trees)
- Methane – monitoring program required
- Vapour membrane - utilities





Conveyance to City

Highly-specific City Policy – no flexibility

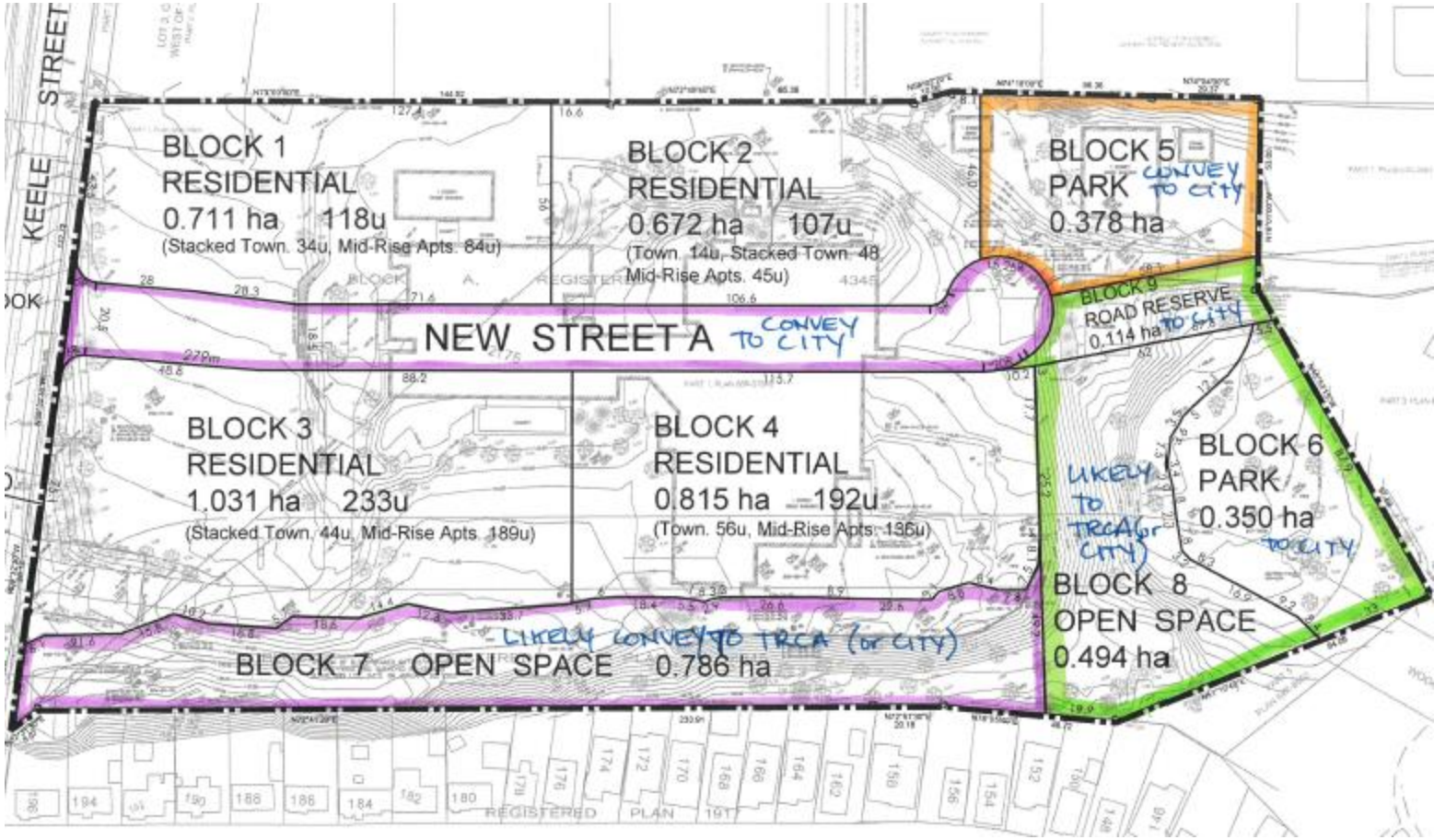
Peer Review process

Roadway Conveyance

- RSCs required
- EC/SAR

Parkland Conveyance

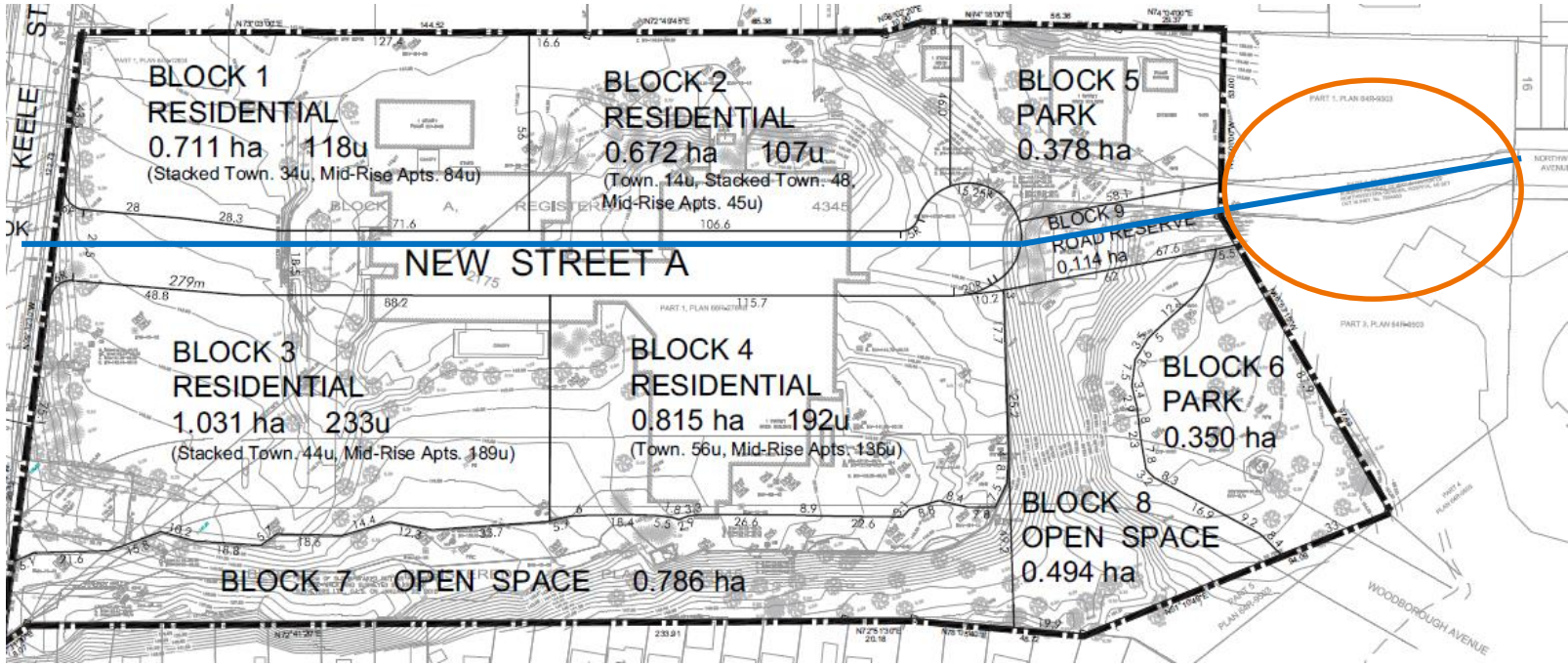
- Risk Assessed Area – coordination with City peer reviewer to confirm acceptability of RMMs.



Conveyance to City

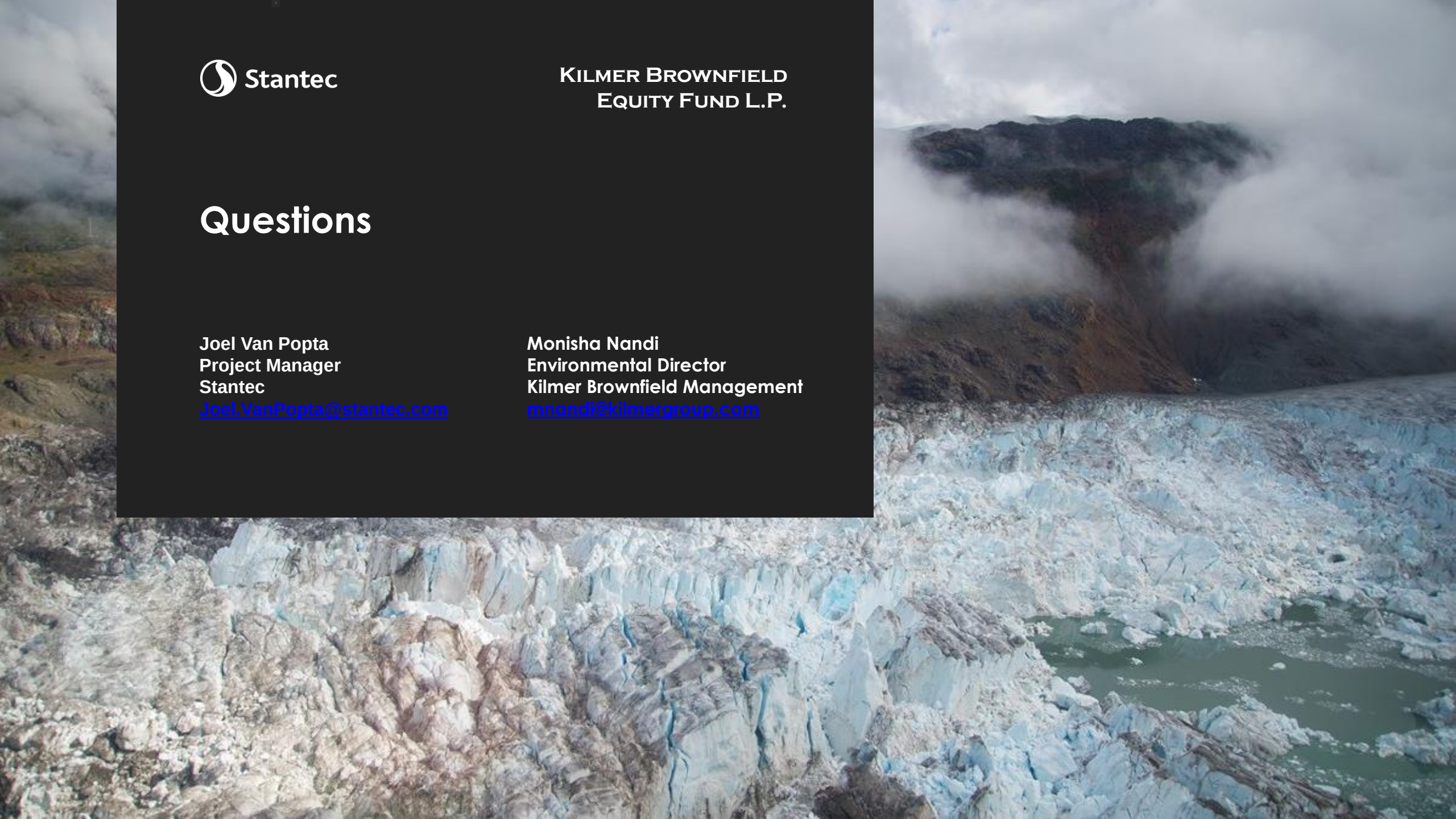
Offsite easement for watermain

- Land owned by 3rd party
- City required conveyance in strict accordance with Policy
- Third party owner with limited environmental experience
- Independent third-party peer reviewer required to move things forward
- 2+ years of negotiations



Key Takeaways

- Integrated Consulting and Development Team Key to Success
- Understand ***all*** stakeholder needs
- Early & frequent engagement with peer reviewers
- Plan for changing regulations



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Questions

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