The Utility Coordination Role – Defined

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Presentation Outline

- Utility Coordination and the Utility Coordinator
- Outline of The Bathurst St PilotProject
- UC for the Bathurst Street Project
- Sample Exercise
- Conclusions

Utility Coordination

- Utility coordination is a fundamental aspect of all capital projects
- Utility Coordinators manage one of the highest risk elements on projects
- Experience is key!

Coordination through
Collaborative, Cooperative, Communication

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Role of the Utility Coordinator

- Coordinate between Designer and Utilities
- Review impact of design on utilities
- Analyze conflicts and recommend revisions to design or utility relocation or protection
- Establish preferred utility running line – factor in constructability, scheduling, cost

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Role of the Utility Coordinator

- Ensure Utility Agency completes relocation design on schedule
- Track utility relocation construction
- Implement unknown conflict resolution process
- Document scope changes
- Reconcile utility invoicing for payment
- Review “As Built” drawings for accuracy

Utility Coordinators blend engineering, design and construction experience

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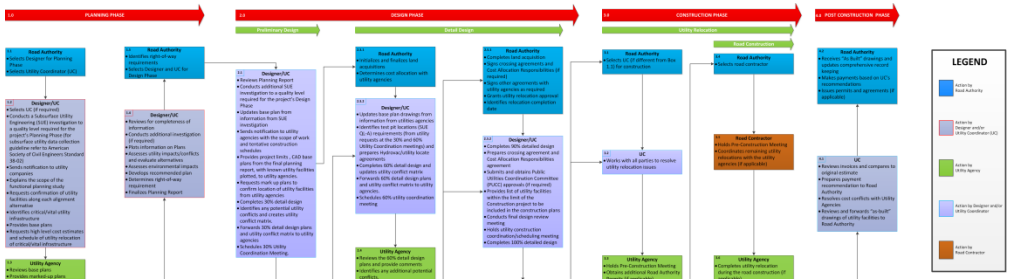
TAC Utility Coordination Guideline

Transportation Association of Canada

Guideline for the Coordination of Utility Relocations

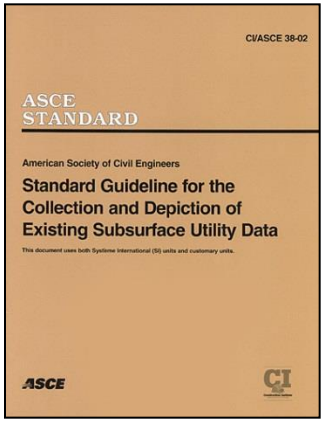
GUIDELINE FOR THE COORDINATION OF UTILITY RELOCATION FLOW CHART



Process and Associated Standards

Planning → **Design** → **Construction** → **Post Construction**

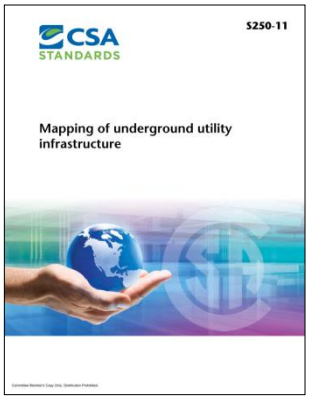
Identify Corridor
- Subsurface Utility Engineering Investigation,
  ASCE 38-02



Complete Design
- Capital Project
- Utility Conflict Matrix
- Utility Relocation

Relocate Utilities
- Early works
- During construction

Utility Close Out
- Invoicing/Payment
- Claim Resolution
- As Built Drawings,
  CSA S250



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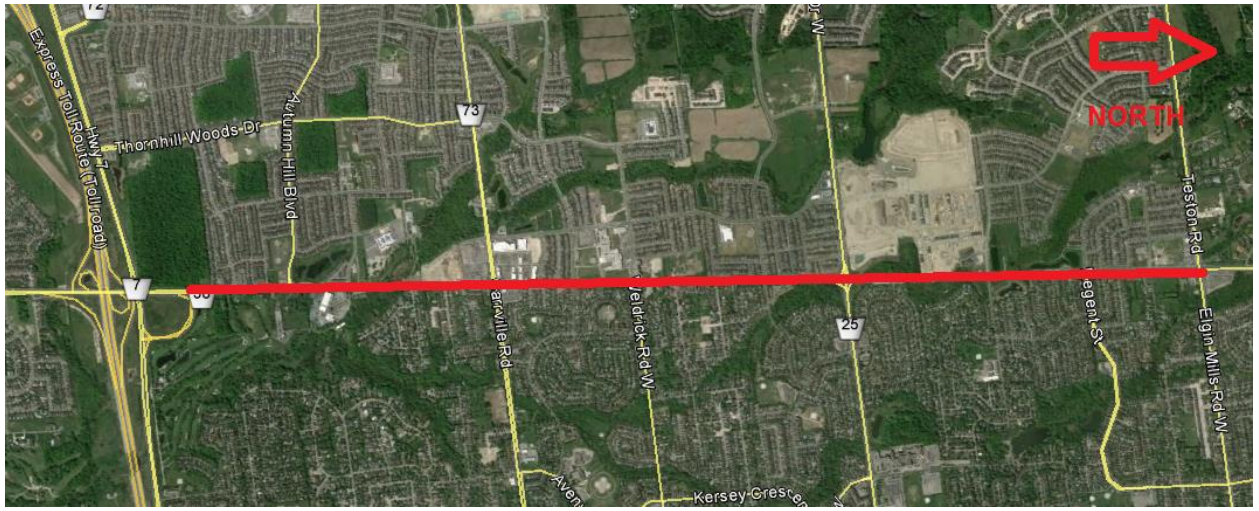
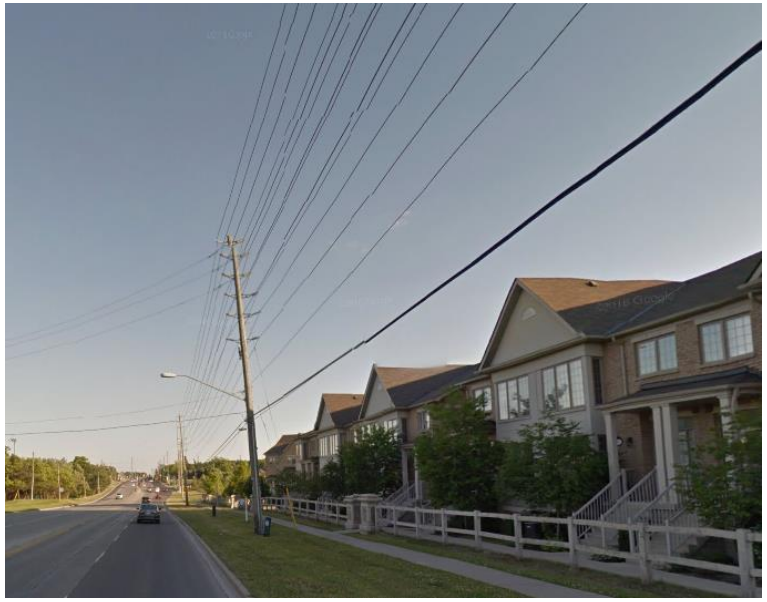
Bathurst Pilot Project Overview

- Road widening
- Culvert Installation
- Retaining Walls
- Construction staging / detours?



Bathurst Pilot Project Schedule

- Design currently at 60%
- Tender January 2018 for May 2018 Construction



Bathurst Pilot Project Scope

- Independent UC firm used to provide UC services as part of SUE/UE Contract
- UC firm worked directly with the Region's engineering consultant
- UC firm worked directly with the 3rd Party Utility Companies.

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Utility Conflict Analysis – Considerations

- What is the Project Scope?
- Utilities Present?
- Utilities Future?
- Utility Outage Restrictions?
- Utility Relocation Schedules?
- See handount for all of the above…

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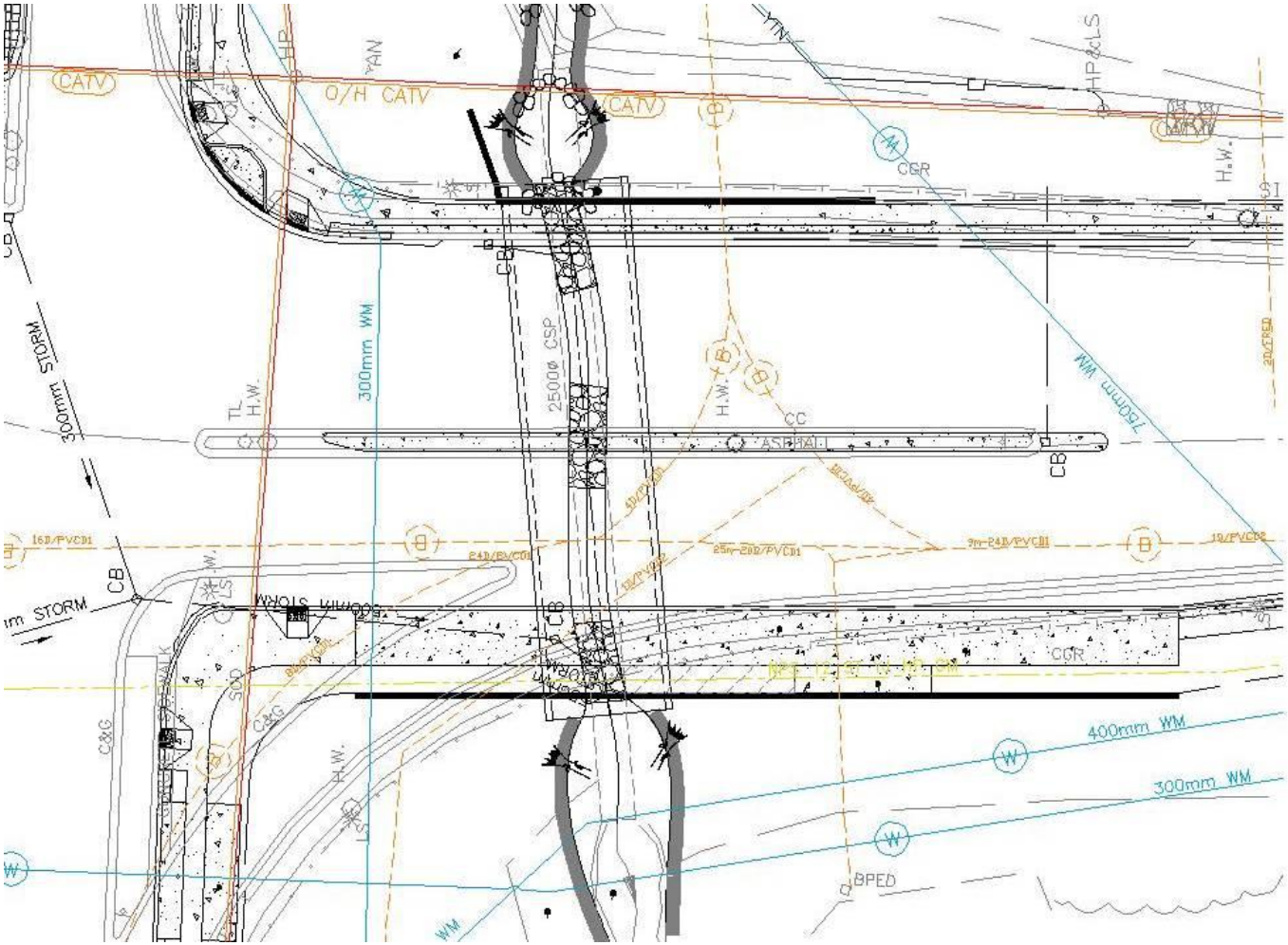
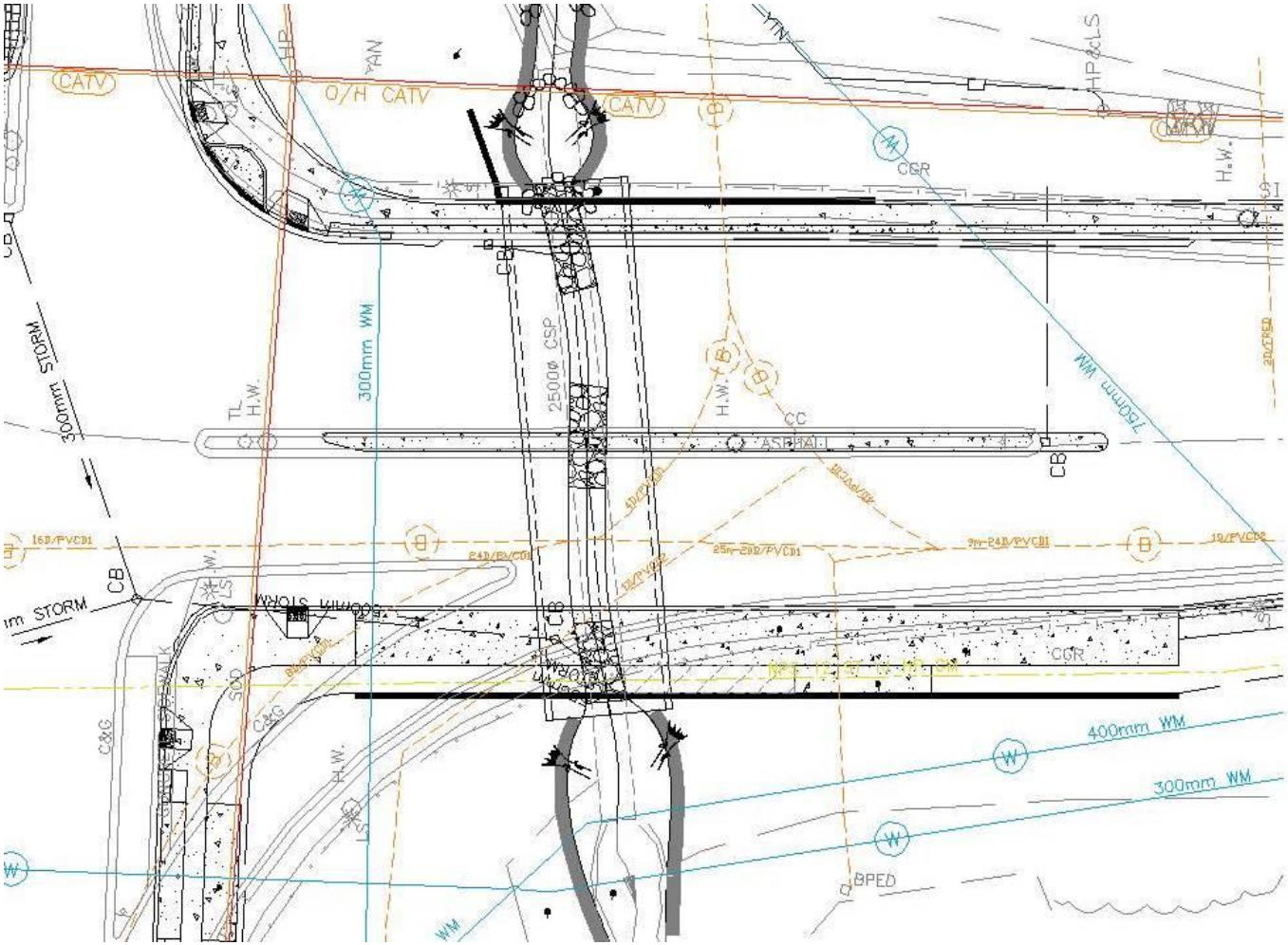
Utilities Present



Review Available Utility Records



Site Walk with all Stakeholders

Site Walk with all Stakeholders

Site Walk with all Stakeholders

Utility Conflict Analysis Excercise

Each table take 5 minutes to discuss:

- Utility impacts – Fill out Conflict Matrix
- Utility Relocation Strategy
- Potential Utility Relocation Schedule

Utility Conflict Analysis

ROW Conference - Sample Project

Con #	Utility Information	~ Proposed Grade Change (m)	Location	Assessment of Effects	Investigation Required	Relocation Required	Resolved
Bell							
1	Bell Conduit (24PVCD1)	-	E-W				
2	Bell Conduit (4PVCD1)	-	E-W				
3	Bell Conduit (1PVCD2)	-	E-W				
4	Bell Conduit (8PVCD1)	-	N-S				
Enbridge							
5	Enbridge Gas - 300mm ST HP	~+2.0m	E-W				
Hydro Distribution							
6	Primary pole Alignment (1 x 27.6kV)	-	E-W				
Rogers							
7	Rogers - aerial (on Hydro Poles)	-	E-W				

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Utility Conflict Assessment

ROW Conference - Sample Project

Con #	Utility Information	~ Proposed Grade Change (m)	Location	Assessment of Effects	Investigation Required	Relocation Required	Resolved
Bell							
1	Bell Conduit (24PVCD1)	-	E-W	Concrete encased structure crossing proposed culvert installation. Breakout, support, protect, reinstate following culvert installation. Bell design required for breakout / reinstatement, structural design required for support. Bell approved sub-contractor required for breakout / reinstatement.	No	Yes	No
2	Bell Conduit (4PVCD1)	-	E-W	Concrete encased structure crossing proposed culvert installation. Breakout, support, protect, reinstate following culvert installation. Bell design required for breakout / reinstatement, structural design required for support. Bell approved sub-contractor required for breakout / reinstatement.	No	Yes	No
3	Bell Conduit (1PVCD2)	-	E-W	Non-encased conduit crossing proposed culvert installation. Expose, support, protect, reinstate following culvert installation. No breakout / reinstatement required, no Bell approved contractors necessary.	No	Yes	No
4	Bell Conduit (8PVCD1)	-	N-S	Concrete encased structure crossing under proposed retaining wall. Confirm depth of existing structure and determine if in conflict with retaining wall footings.	Yes	TBD	No
Enbridge							
5	Enbridge Gas - 300mm ST HP	~+2.0m	E-W	Gas main crossing over proposed culvert. Support / protection of main during culvert installation acceptable to Enbridge, however alignment is conflicting with proposed footing. Relocate in advance of contract. Engage Enbridge to determine if relocation for 2017 during CLOCA coldwater construction window is feasable.	No	Yes	No
Hydro Distribution							
6	Primary pole Alignment (1 x 27.6kV)	-	E-W	No conflict with existing pole alignment. Anticipated construction methodology of culvert and retaining wall will not be restricted by 3 phase primary O/H lines.	No	No	Yes
Rogers							
7	Rogers - aerial (on Hydro Poles)	-	E-W	No conflict.	No	No	Yes

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Wait a minute!!
Was a SUE investigation Completed?

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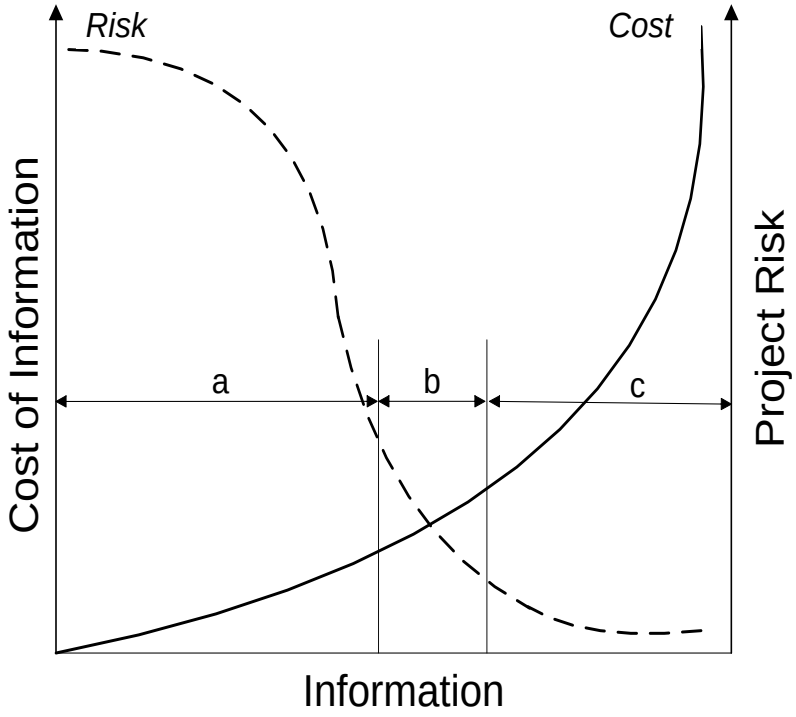
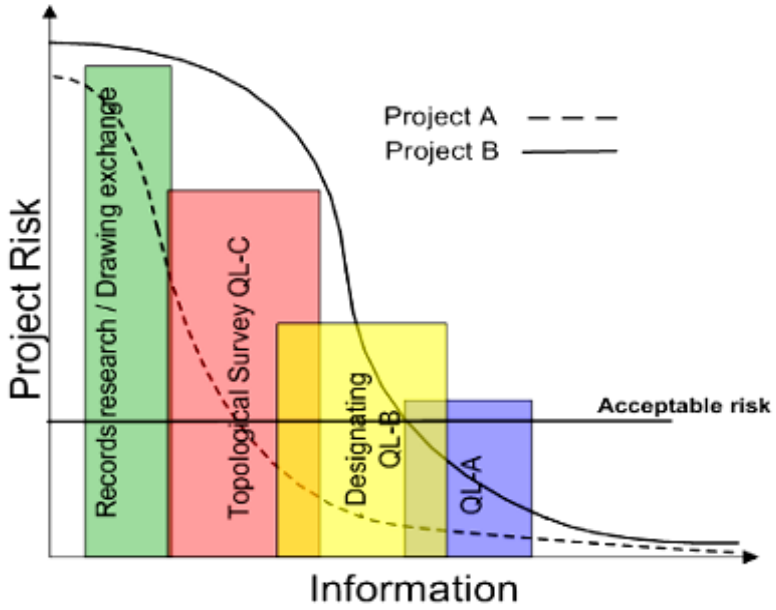
Not originally, but good thing we did!

Why is good data important?





University of Toronto Study - ROI = $3.41

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Conclusions

- UC relies on Accurate, reliable Utility Dwgs – “ASCE 38-02”.
- Have an effective UC process in place which follows “TAC - Guideline for the Coordination of Utility Relocations”
- Recognize the importance of the Role of the UC
- Create Reliable records of Utility relocations – “CSA S250”.

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Get your FREE Copy of the Guideline

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