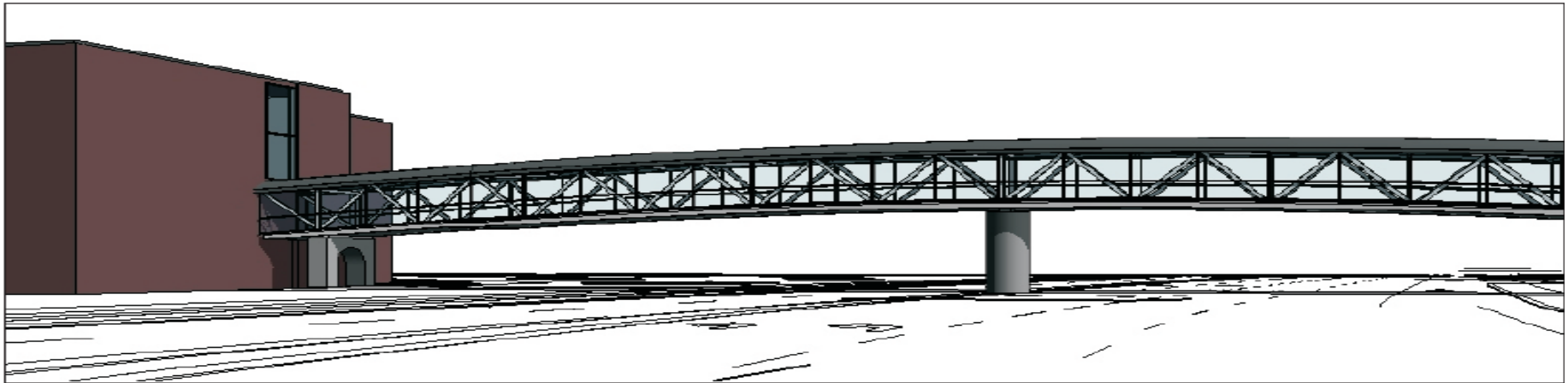




Value Engineering Seminar & Design
for the
Woodroffe Avenue Pedestrian Bridge
November 24, 2009



Elizabeth Murphy, P.Eng.
Sr. Project Manager, City of Ottawa

Introduction

Algonquin College and the City of Ottawa
intend to construct a pedestrian link
between the second floor of Building B of
Algonquin College and the Algonquin
College Centre for Construction Excellence

Stakeholders

The Woodroffe Avenue Pedestrian Bridge will serve:

- OC Transpo Users (Baseline Transit Station)
- Algonquin College students and faculty
- Citizens of the Centerpointe Development

Long Term Needs

- The design must meeting the long term needs of the future expansion and growth of Algonquin College and the City of Ottawa's new transitway design to provide a safe and accessible crossing for both the students, transit users and citizens of the community.

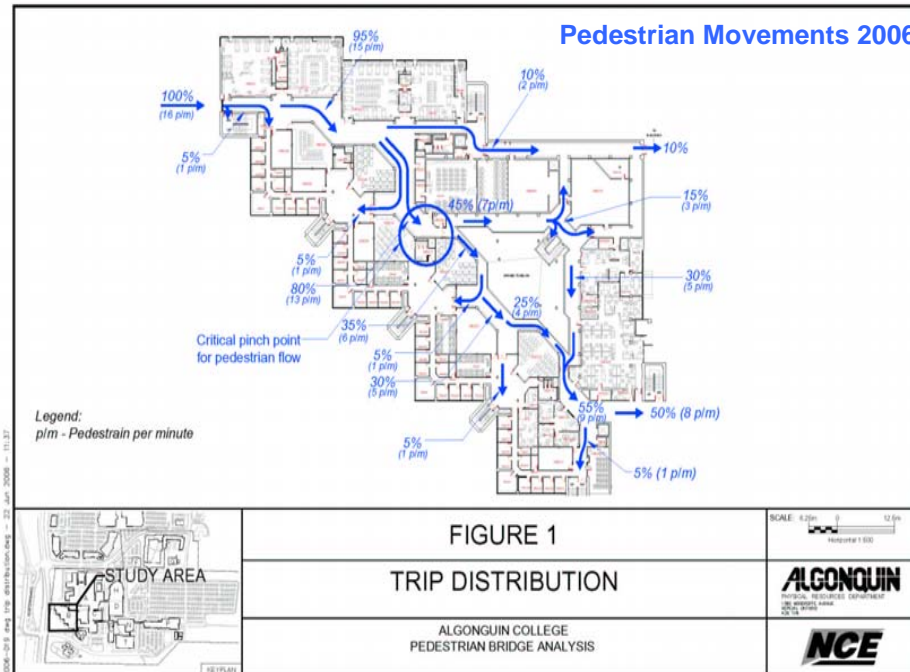
Background

- In 2001, NCE (National Capital Engineering) completes a VE study to examine the proposed Woodroffe Avenue pedestrian crossing as part of the College's development plans
- Algonquin College has experienced significant growth and is expanding to accommodate its largest in-house student population of 16,000
- Algonquin College Campus population saw a 4% growth in 2008

Background

- Algonquin College has redevelopment plans and expansion plans to accommodate future growth
- 2006, Pedestrian Crossing study was completed by NCE to assess the pedestrian circulation of Algonquin College
- Origin-Destination Survey revealed more than 800 people/hour cross Woodroffe Avenue at College Avenue intersection between Baseline Transit Station and Algonquin Campus

Pedestrian Movements through Algonquin College



Background

- Students cross in a large groups
- Chain link fence was erected in the median of the Woodroffe Avenue to direct pedestrians to the intersection/walk signal
- Serious and urgent safety issues for the College and community

Safety & the Woodroffe Avenue |Pedestrian Bridge

- Woodroffe Avenue is a high volume north south divided arterial roadway in Ottawa
- Intersection at College Avenue and Woodroffe Avenue is at pedestrian capacity during peak volumes
- An 800 estimated transit users/students per hour are crossing at this intersection during the during the peak times
- Woodroffe Avenue Pedestrian Bridge will assist the transit users/students travel safely
- across Woodroffe Avenue



Southwest Transitway Extension Baseline Road to Norice Street

Phase I – Relocate the Baseline Transit Station – facilitates construction of the SWT Extension and the construction of the ACCE building (April 2009-Sept. 2009)

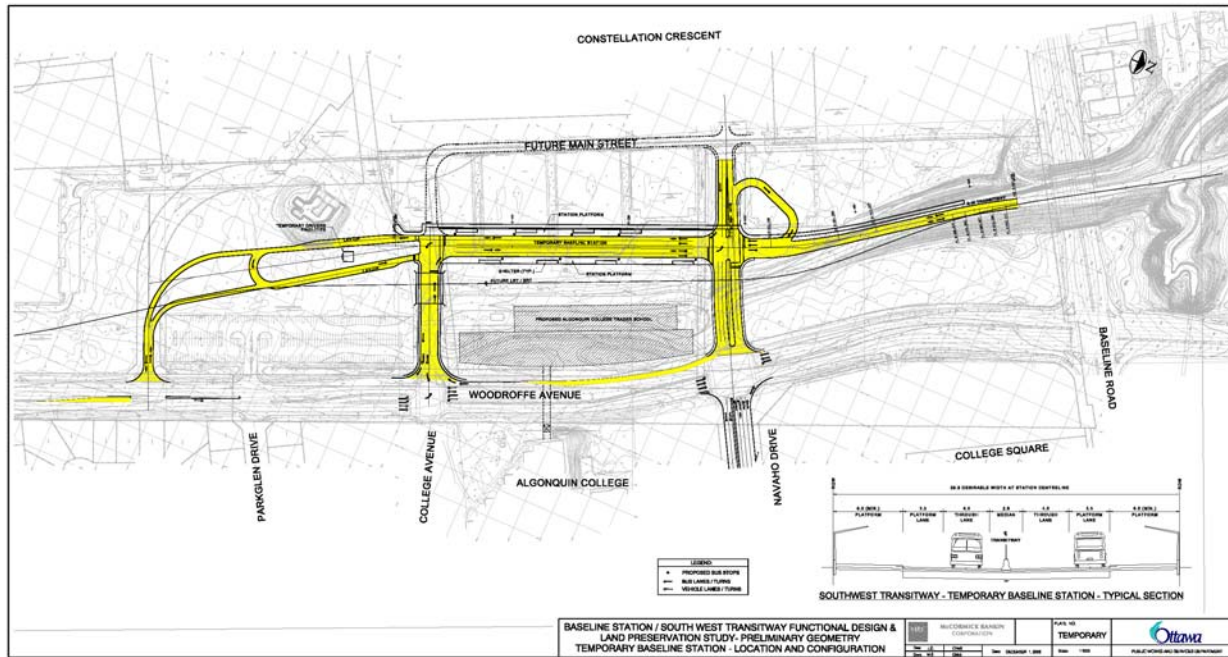
Phase II – Construct the SWT tunnel between College Avenue and Navaho Drive, College Avenue u/p and Navaho u/p (November 2009-March 31, 2011)

Phase III – Construction of the Baseline Transit Station (College) and the SWT Extension (2011-2013)

Phase IV – 2015 – Installation of the Light Rail Transit technology in the grade separated Southwest Transitway corridor

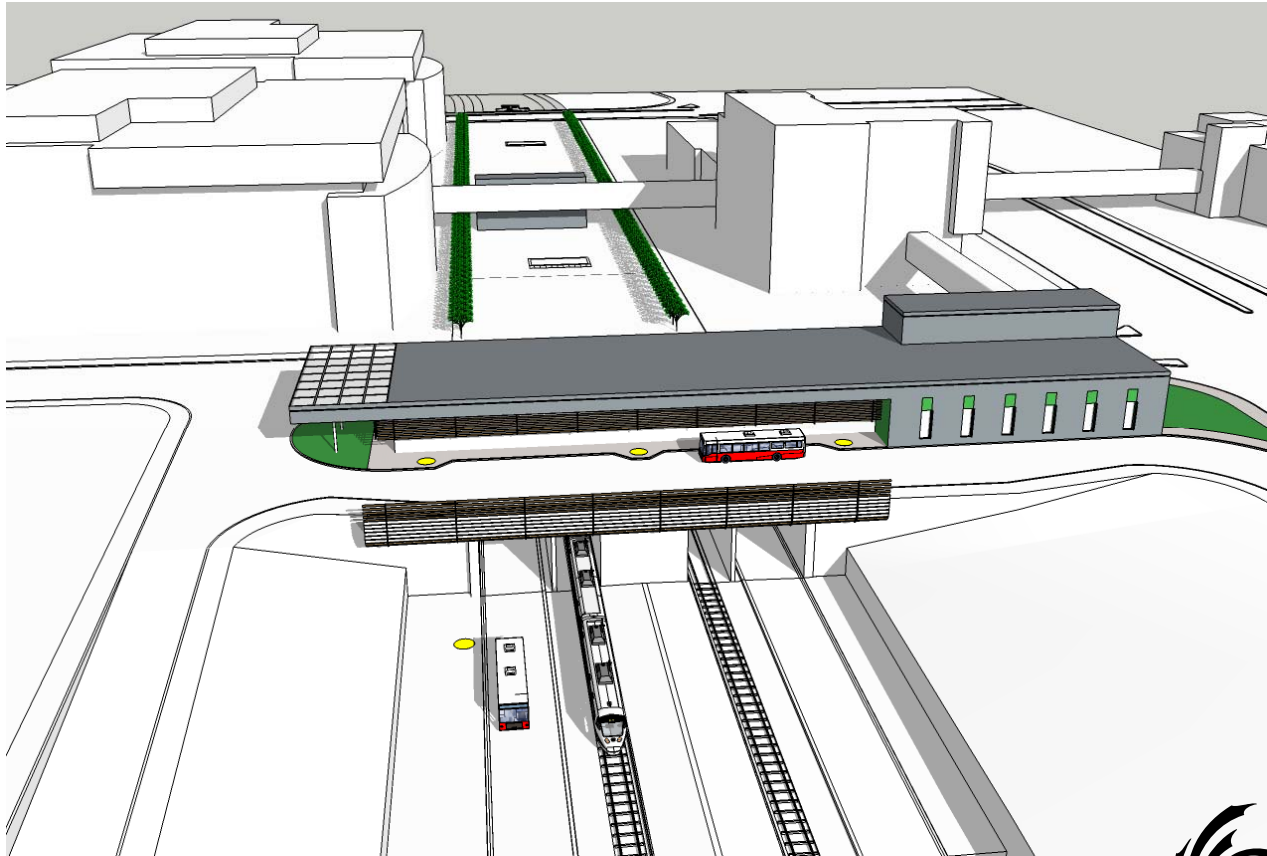


Phase I: The Relocated Baseline Transit Station

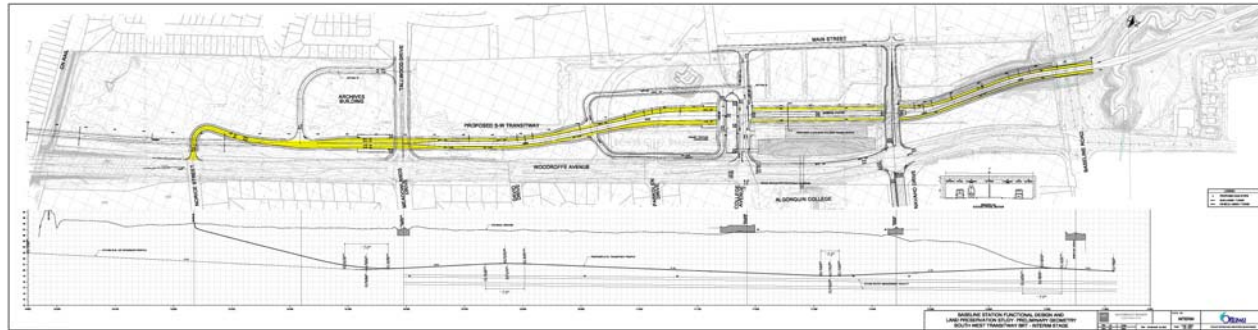


Phase II: SWT Civil Works

November 2009- March 2011



The Southwest Transitway Extension (Baseline to Norice)



CentrepoinTE Development Plan

CENTREPOINTE TOWN CENTRE - DEVELOPMENT PLAN CONCEPT

NOVEMBER 2008

KEY INITIATIVES



DEVELOPMENT PLAN CONCEPT



KEY USES



Purpose of the January 2009 VE Study

- To provide recommendations for an east-west link across Woodroffe Avenue to safely move students, local residents, community visitors and Transitway users.

Progress Meeting Presentation

Woodroffe Ave/Algonquin
College Pedestrian Link
Value Engineering Study

Steve Taylor, P.Eng., M. Eng., CVS
Paul Clarke

This Presentation...

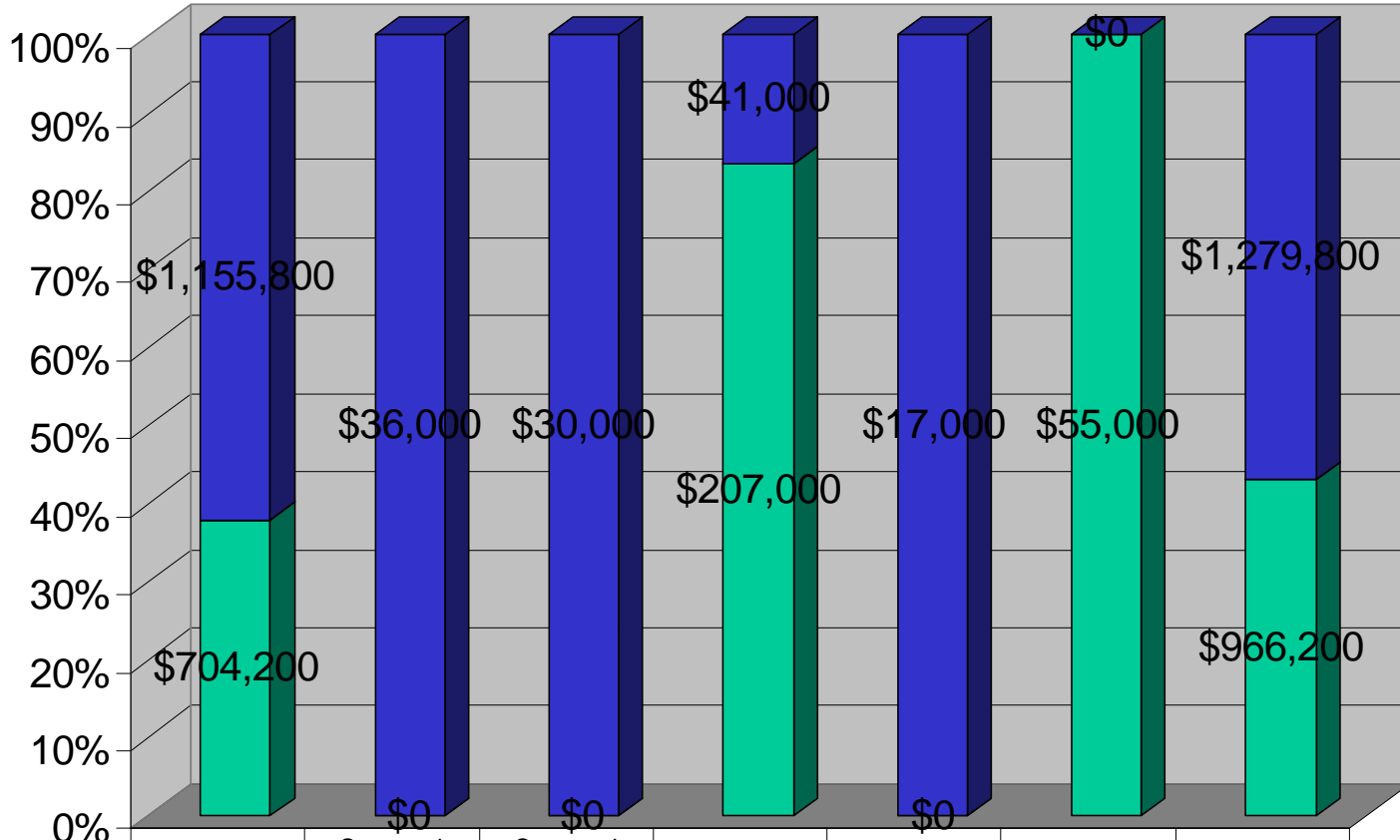
- Overview of the Workshop
- Developed Ideas
- Next Steps and Recommended Idea

VE Workshop – January 19,

- VE Study Team: 2009
 - Facilitator: Steve Taylor, CVS
 - Independent Technical Specialists (GENIVAR)
 - Design Team (GRC Architects, MRC, and Morrison Hershfield)
 - City of Ottawa
 - Algonquin College

Cost Sharing Agreement (2006)

Cost Sharing Data (2006)



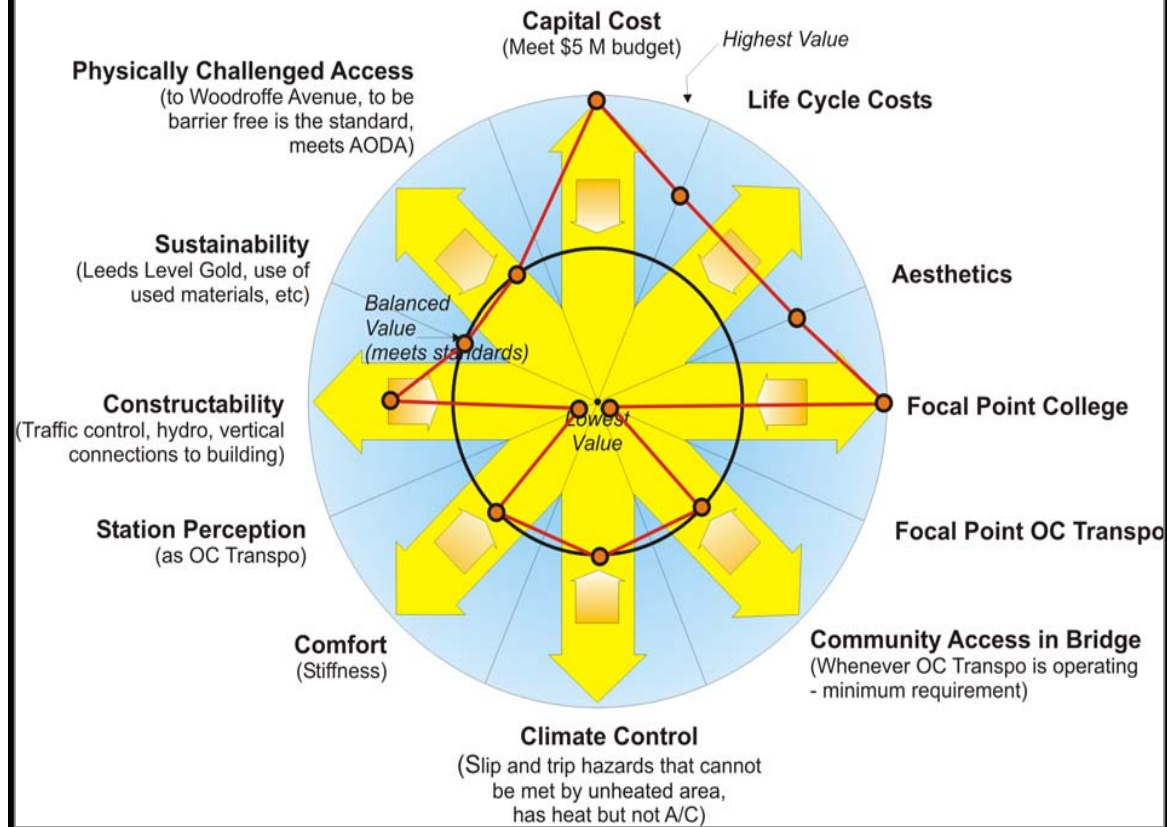
■ City of Ottawa
■ Algonquin

■ City of Ottawa	\$1,155,800	\$36,000	\$30,000	\$41,000	\$17,000	\$0	\$1,279,800
■ Algonquin	\$704,200	\$0	\$0	\$207,000	\$0	\$55,000	\$966,200

Total = \$2,246,000

WOODROFFE AVENUE PEDESTRIAN LINK VALUE ENGINEERING STUDY

QUALITY MODEL



Item	Service Life					
	8 years	10 years	15 years	25 years	50 years	75 years
Structure*					✓	✓
Roof				✓		
HVAC				✓		
Equipment (cameras, phones)		✓				
Windows			✓			
Finishes	✓					
Elevators			✓			
Signage		✓				
Lighting	✓					

*Structure – 75 years bridge code
50 years building code

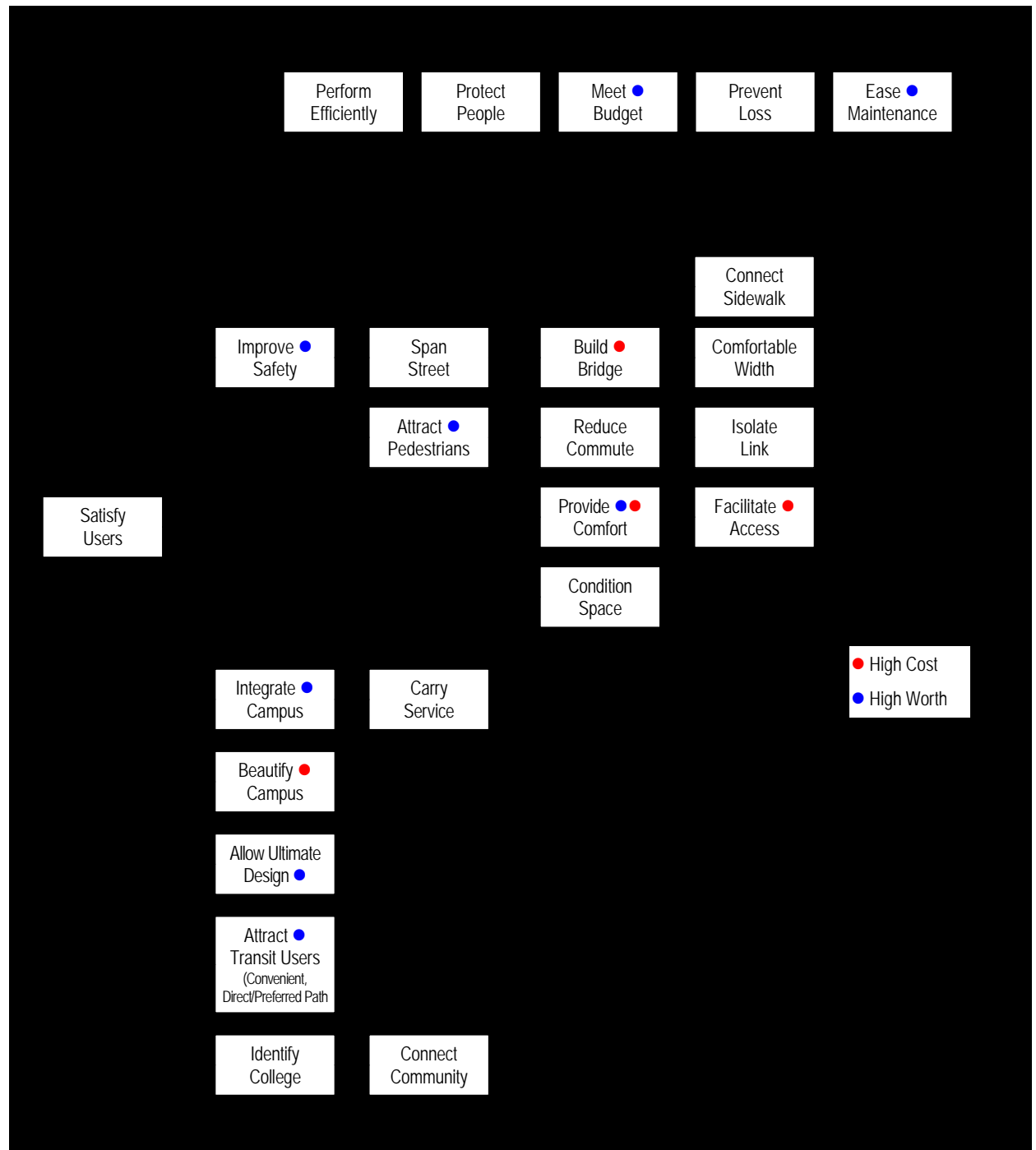
Project Functions

- Highest Order Goal
 - Satisfy Users
- Other High Order Goals
 - Perform Efficiently
 - Protect People
 - Meet Budget
 - Prevent Loss
 - Ease Maintenance
- Basic Functions
 - Improve Safety
- Supporting Functions
 - Integrate Campus
 - Beautify Campus
 - Allow Ultimate Design
 - Attract Transit Users
 - Identify College

FAST Exercise

- Prioritized Functions
- Cost / Worth analysis to focus on budget
- Defines what owner needs and is willing to fund
- Focuses Team on what “has’ to be delivered

FAST Diagram



Creative Phase

- Ideas Generated 115
- Ideas Short Listed 23
- Ideas Developed 20
 - Completed by GENIVAR staff post-workshop

Categories

- Improve Safety
- Build Bridge
- Electrical
- Beautify Campus
- Attract Transit Users
- Facilitate Access
- Meet Budget
- Ease Maintenance
- Other

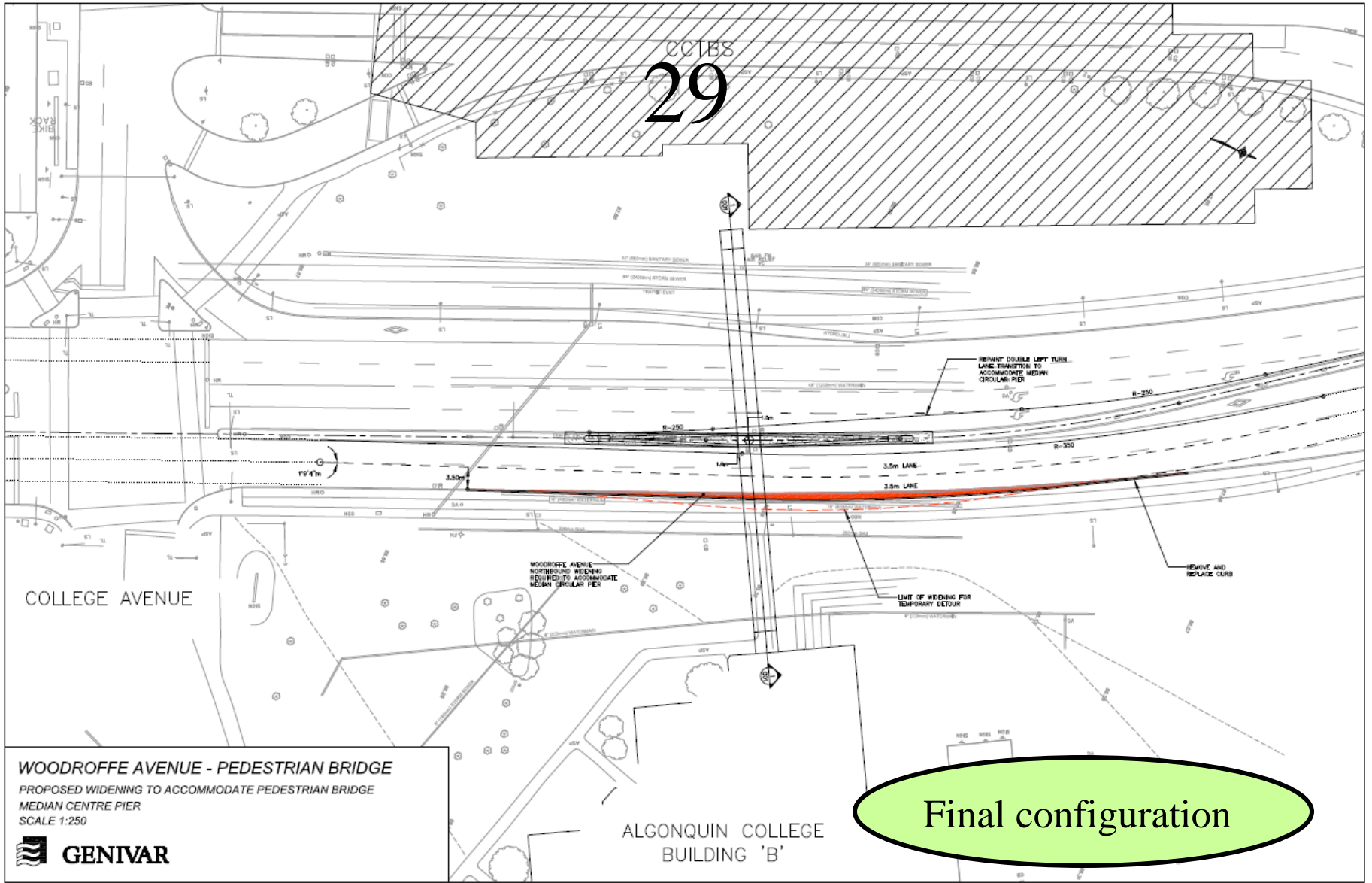
Next Steps

- Finalize VE proposals
- Draft & Final Report
- Proceed with design for recommended ideas:
 - BB-09 Support west end of CCTBS structure
 - BC-04 Use a defining structure type
 - BC-07 Maintain CCTBS architecture through bridge
 - MB-17 Eliminate new stairwells/elevators from the bridge and utilize from within College Bldg

Build a Bridge

- BB-03 Skew the angle of the bridge to provide a more southerly link to the proposed transit station location
- BB-09 Support west end on the ACCE (Algonquin College Centre for Construction Excellence) structure

CCTBS
29



Final configuration



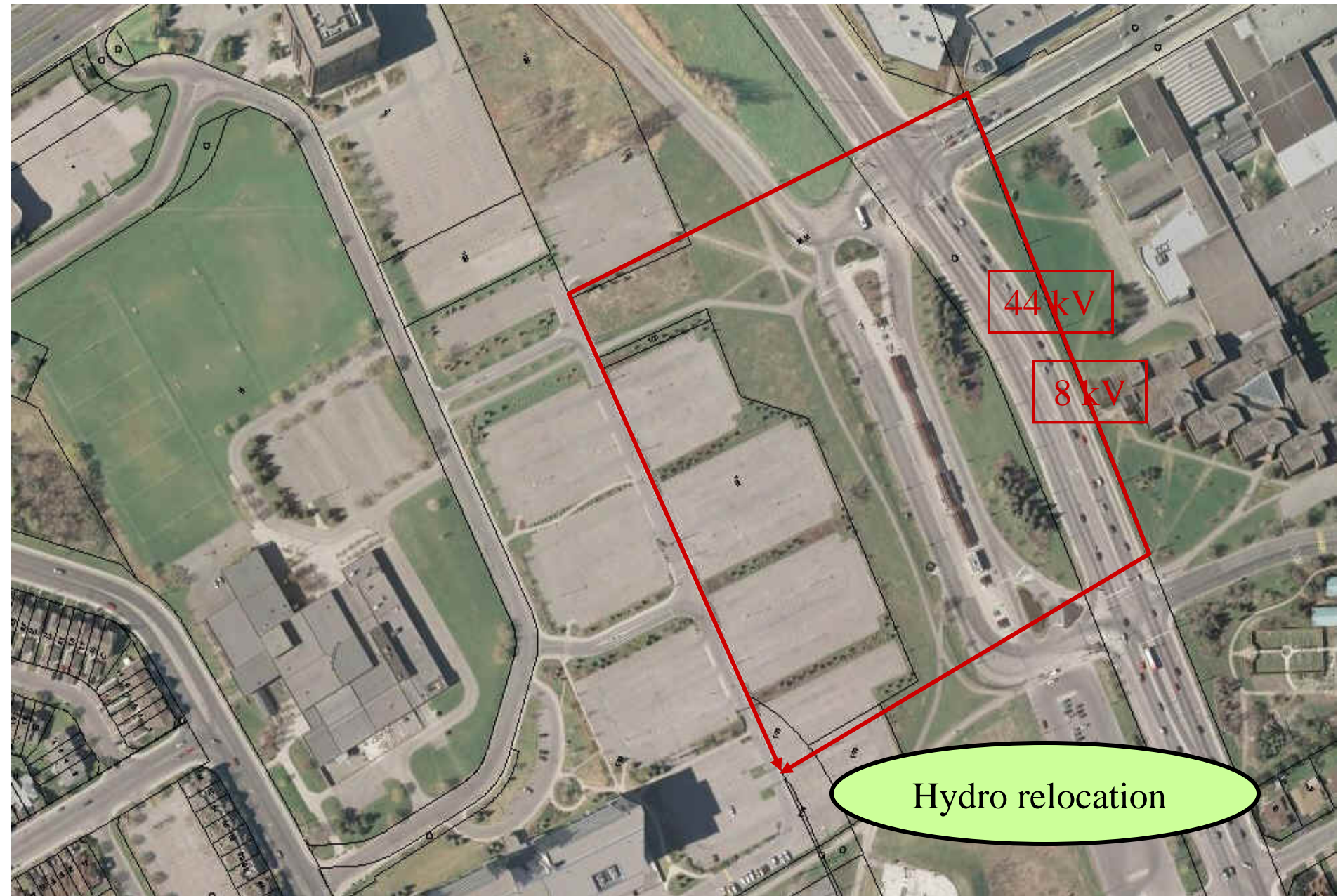
Hydro Utility Relocation (E-01, E-02)

- VE session of January 19, 2009 made Hydro Ottawa aware of all the development plans for the CentrepoinTE Town Center Development
- Hydro Ottawa temporarily relocated the 8kV line on a temporary pole line in July 2009
- Hydro Ottawa will relocate 8kV line into the duct structure of the College and Navaho bridge ducts for the permanent condition



Hydro and Communication Utility Relocation (E-01 and E-02)

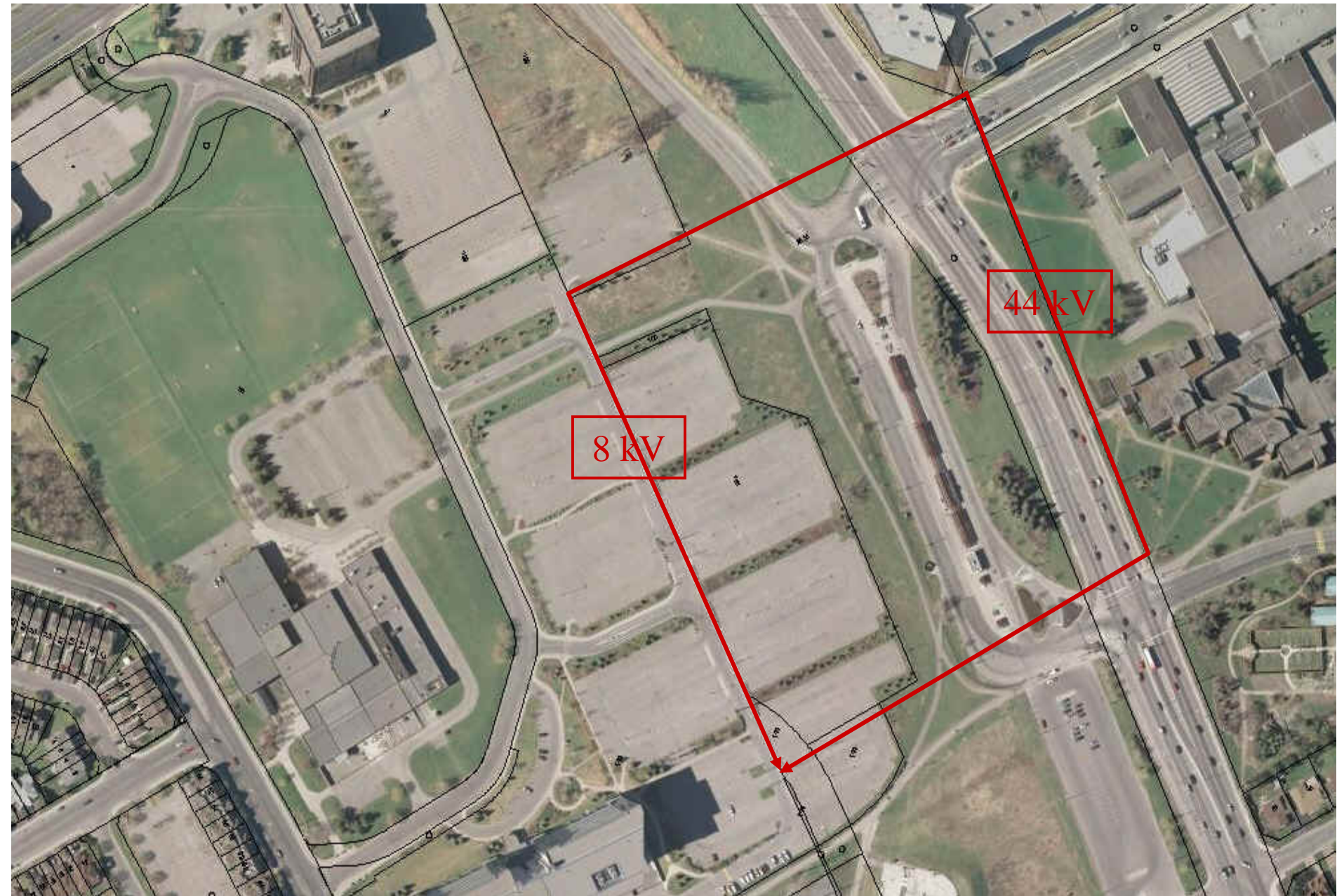
- 44 kV line will be dead ended at College/Woodroffe intersection and Woodroffe /Navaho intersection
- 44 kV line to be placed permanently in duct structures of Navaho and College bridges
- Communications cables to be buried underneath the ground



44 kV

8 kV

Hydro relocation



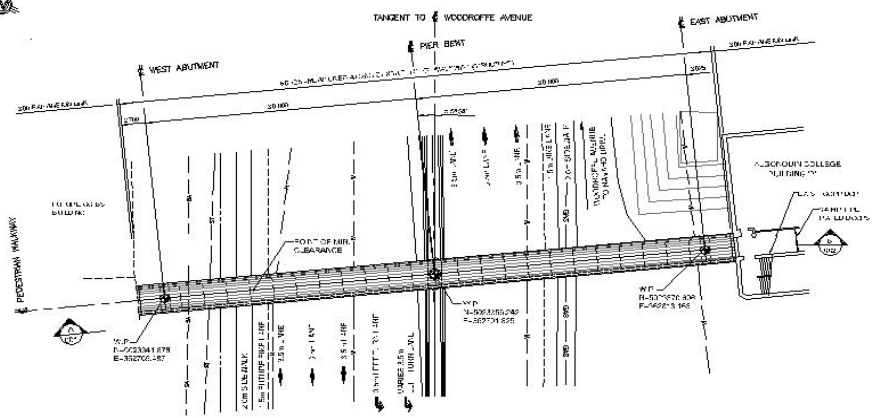
8 kV

44 kV

Maintain the ACCE Architecture Through the
Bridge (BC-07) &
Use a Defining Structure Type
(B-04)



Take all Pedestrians to Level 2 (ATU-08) –
Level 2 Plan with Algonquin College



PLAN OF PEDESTRIAN WALKWAY

- SCOPE OF WORK**
- 1. TO ALL EXISTING UTILITIES
 - 2. TO ALL EXISTING
 - 3. TO ALL EXISTING
 - 4. TO ALL EXISTING
 - 5. TO ALL EXISTING
 - 6. TO ALL EXISTING
 - 7. TO ALL EXISTING
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 - 9. TO ALL EXISTING
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 - 18. TO ALL EXISTING
 - 19. TO ALL EXISTING
 - 20. TO ALL EXISTING

**WOODROFFE AVENUE
PEDESTRIAN BRIDGE
ALGONQUIN COLLEGE**

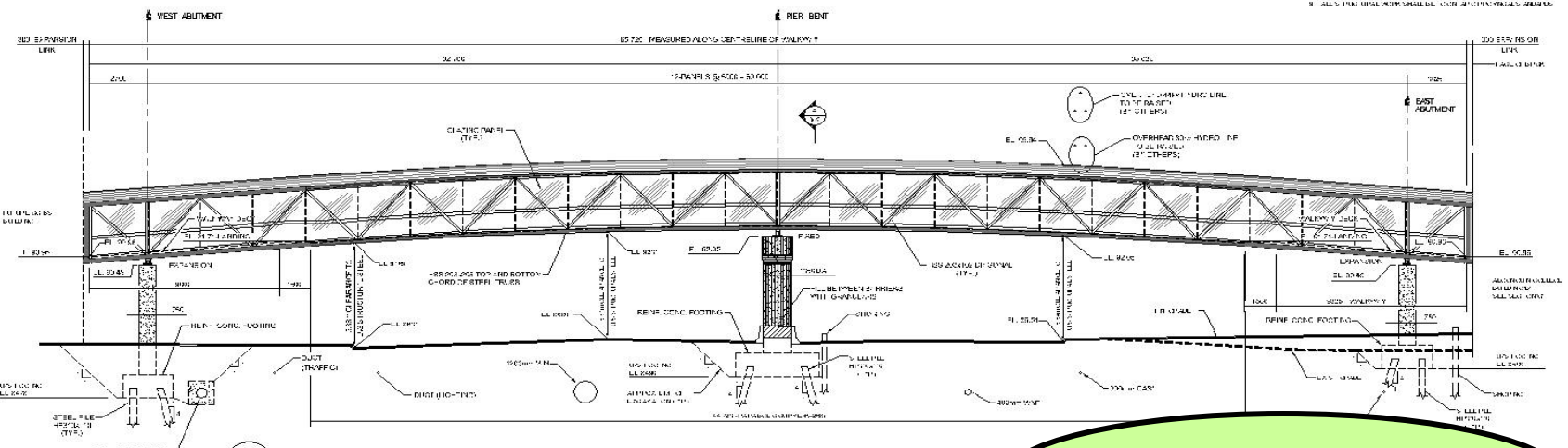
**GENERAL ARRANGEMENT
PLAN AND ELEVATION**

Project No. 15305-07-001
Sheet 1 of 2

DATE	BY	CHKD	APP'D
15-03-07	J. [Name]	[Name]	[Name]

GENERAL NOTES:

1. ALL DIMENSIONS SHALL BE UNLESS OTHERWISE SPECIFIED.
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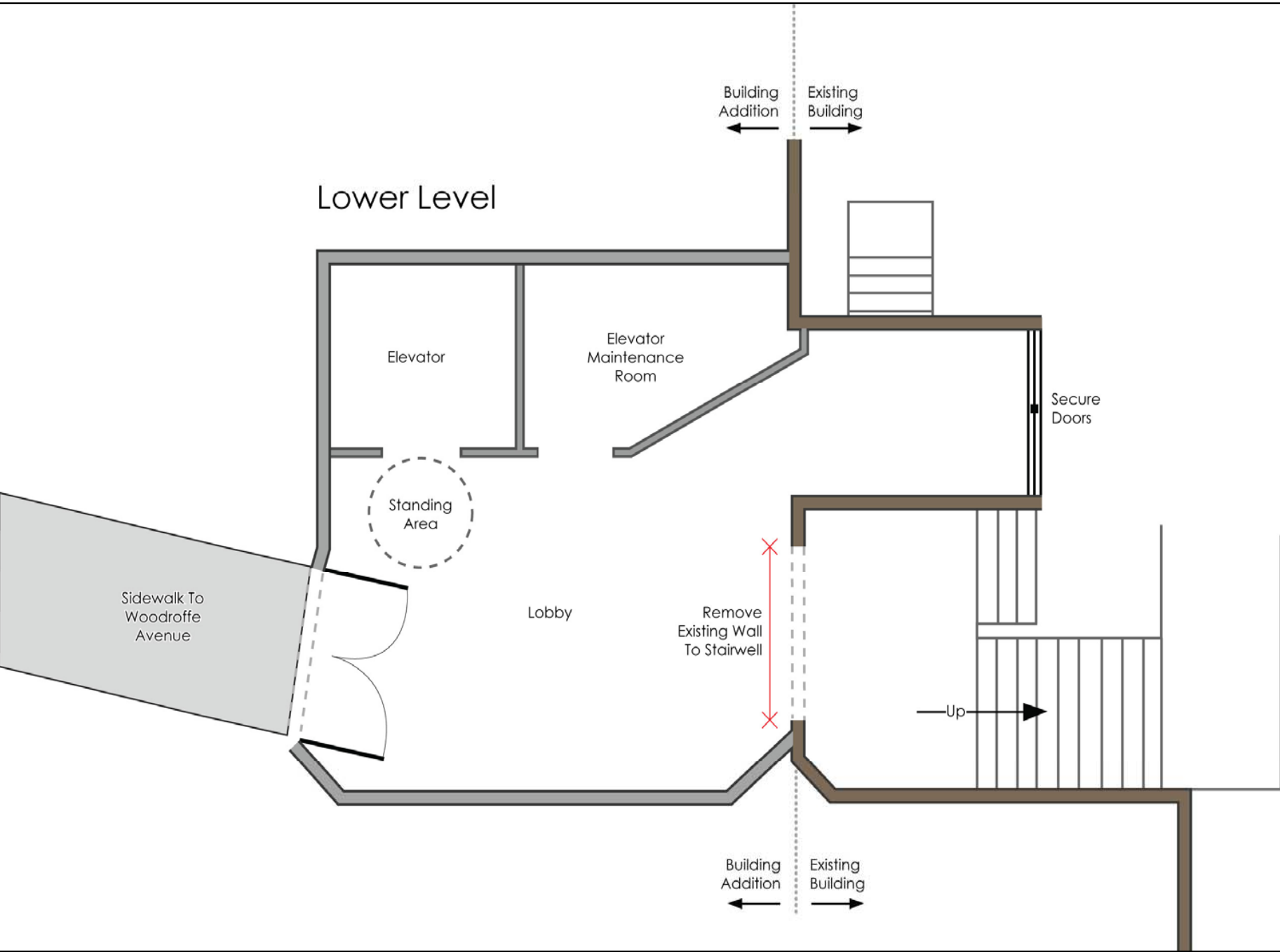


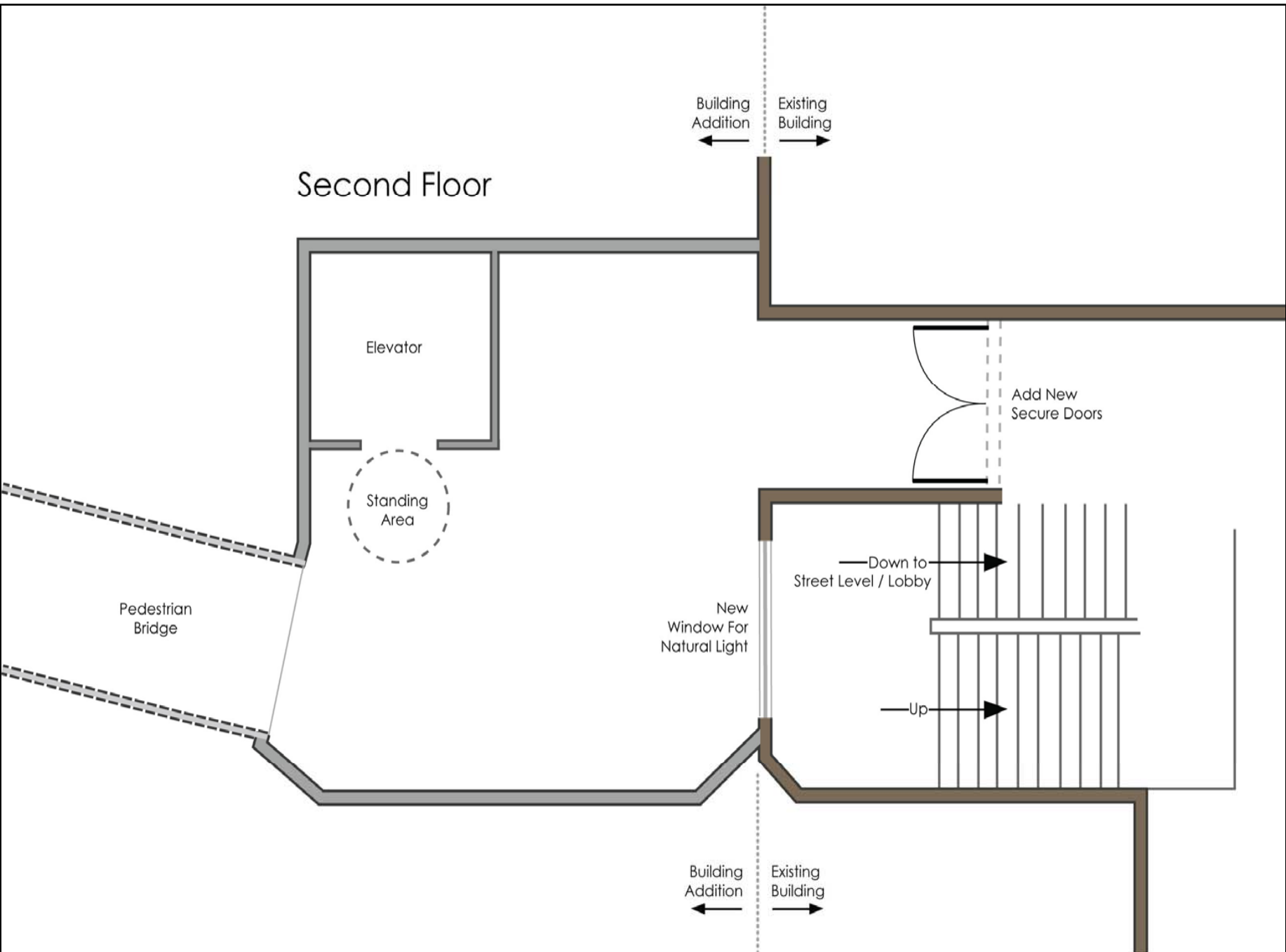
ELEVATION A

General Arrangement

Facilitate Access

- The Woodroffe Pedestrian Bridge is owned by the City of Ottawa. Algonquin College will maintain the Woodroffe Pedestrian Bridge
- It is open to the public the same hours as OC Transpo and Algonquin College



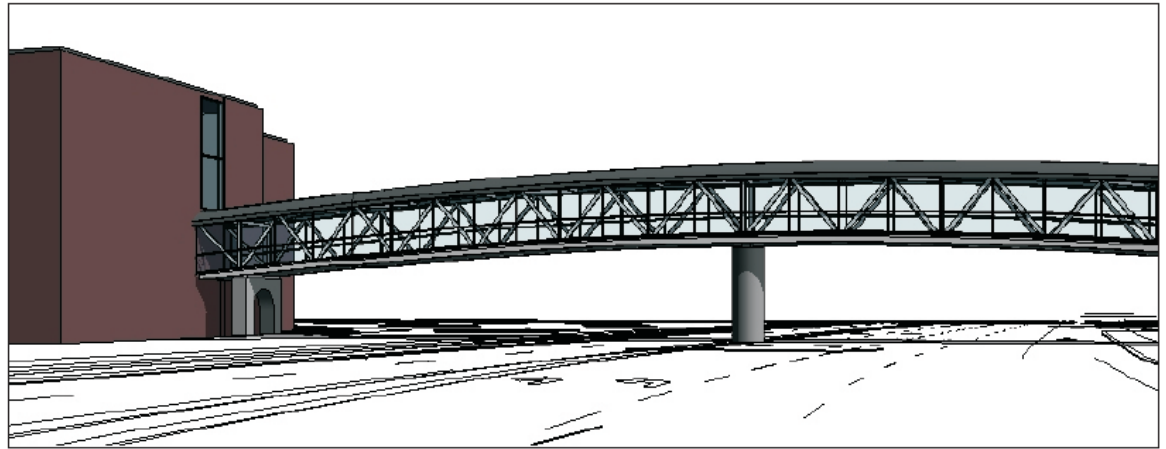


Meet Budget

- MB-17 Eliminate new stair wells and/or elevators from the bridge and utilize from within the College Building
- Building modifications were made to Building B of Algonquin College to access their elevator
- Using an existing elevator saved \$ 0.5-0.75 million dollars



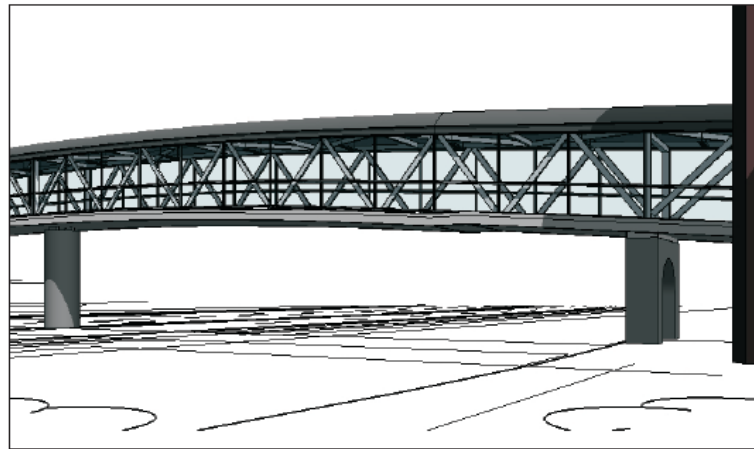
BRIDGE ENTRANCE - DAY VIEW



FROM WOODROFFE SOUTH



BRIDGE ENTRANCE - NIGHT VIEW



FROM BUILDING B SIDEWALK

References

- Value Engineering Report for the Algonquin College/Woodroffe Avenue |Pedestrian Link by Genivar, January 2009 prepared for the City of Ottawa/Algonquin College