

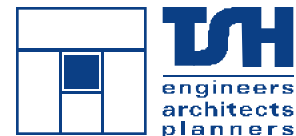
Kawartha Lakes Road 24 Bridge Class Environmental Assessment

Public Information Centre #1

Bobcaygeon Service Centre

April 16th, 2008

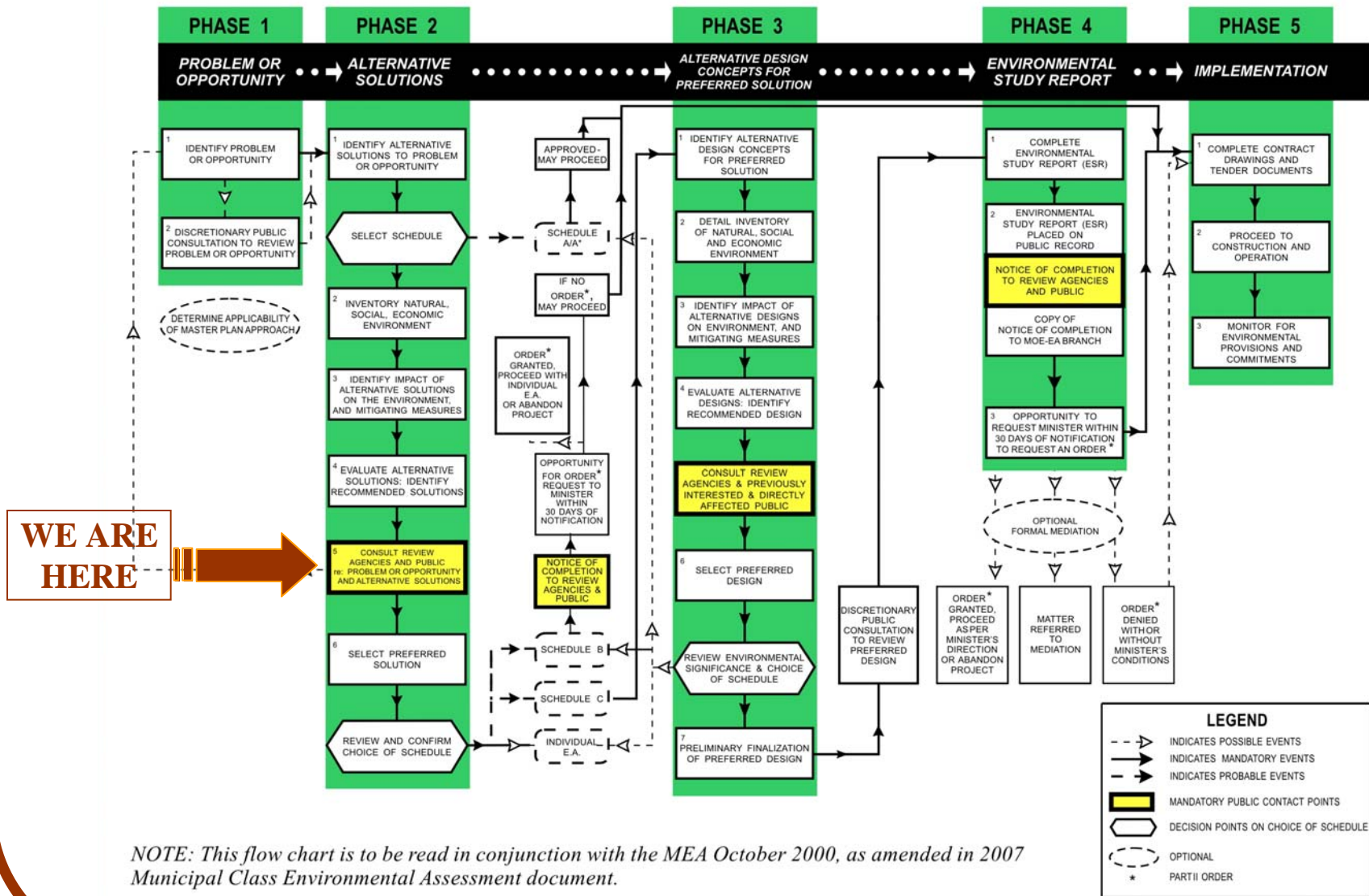
3:00-5:00pm & 7:00-9:00pm



Welcome!

- Welcome to Public Information Centre (PIC) #1 for the Kawartha Lakes Road 24 Bridge Class Environmental Assessment (EA)
- The purpose of PIC #1 is to present:
 - a description of the Class EA process
 - a summary of the study area and existing conditions
 - a summary of the problems and opportunities
 - a description of the alternative solutions assessed (i.e. do nothing, rehabilitate the bridge, pedestrian/cyclist only bridge, remove the bridge, replace the bridge) and the preferred alternative solution
 - a presentation of the design alternatives (i.e. alignment, structure types), assessment criteria and the preferred design alternative
 - a summary of the future activities to be completed as part of the EA Study.
- **Your comments are important to us.** Following your review of the information, please complete one of the comment forms and place it in the box provided or send it back to the address on the form prior to **April 30th, 2008.**

Municipal Class EA Planning & Design Process



NOTE: This flow chart is to be read in conjunction with the MEA October 2000, as amended in 2007 Municipal Class Environmental Assessment document.

Problem Statement

- The existing City of Kawartha Lakes Road 24 Bridge substructure and steel guide rail system does not meet bridge code requirements and has deteriorated to a condition that renders it unsafe for vehicular traffic and is a long-term liability to the City if no action is taken to repair or replace the structure
- The bridge has been closed since August 2007 due to vehicular safety concerns
- Rehabilitation of the existing bridge will be problematic due to code requirements and cost

Study Purpose and Background

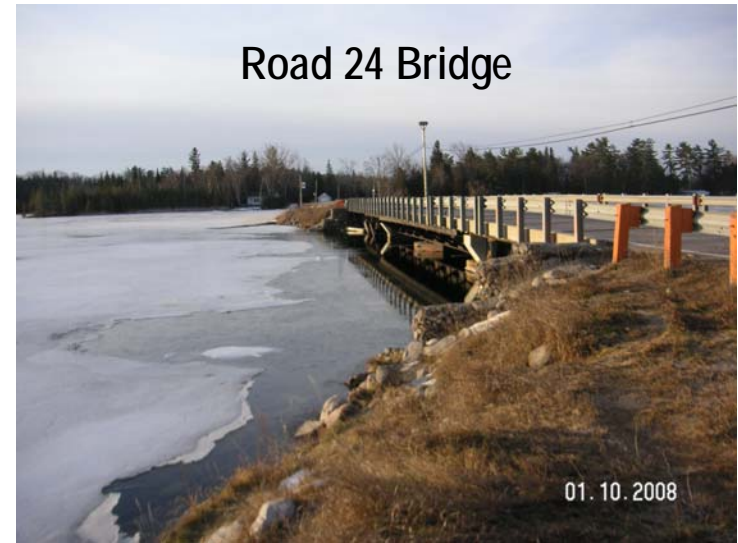
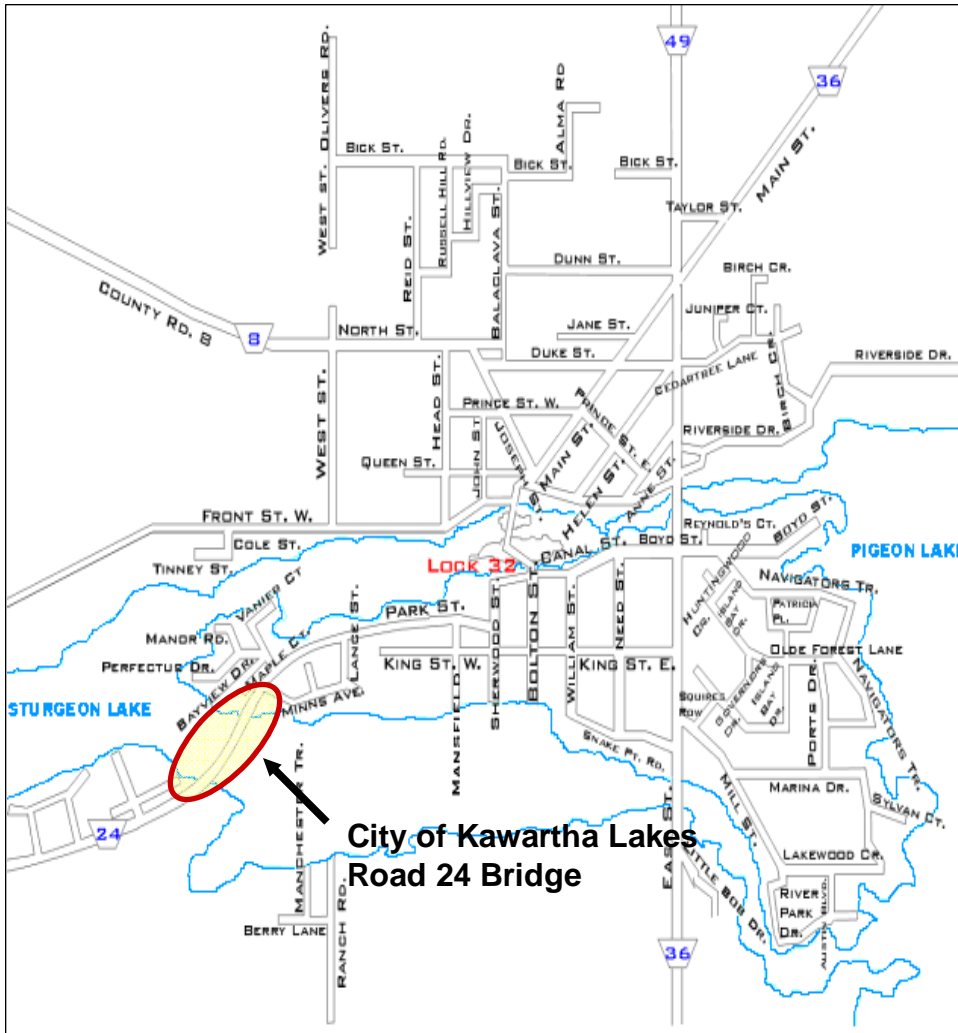
Study Purpose

- The purpose of this Class Environmental Assessment Study is to identify the preferred solution to address the deteriorated condition of the City of Kawartha Lakes Road 24 Bridge over Sturgeon Lake and prepare a preliminary design for the preferred solution

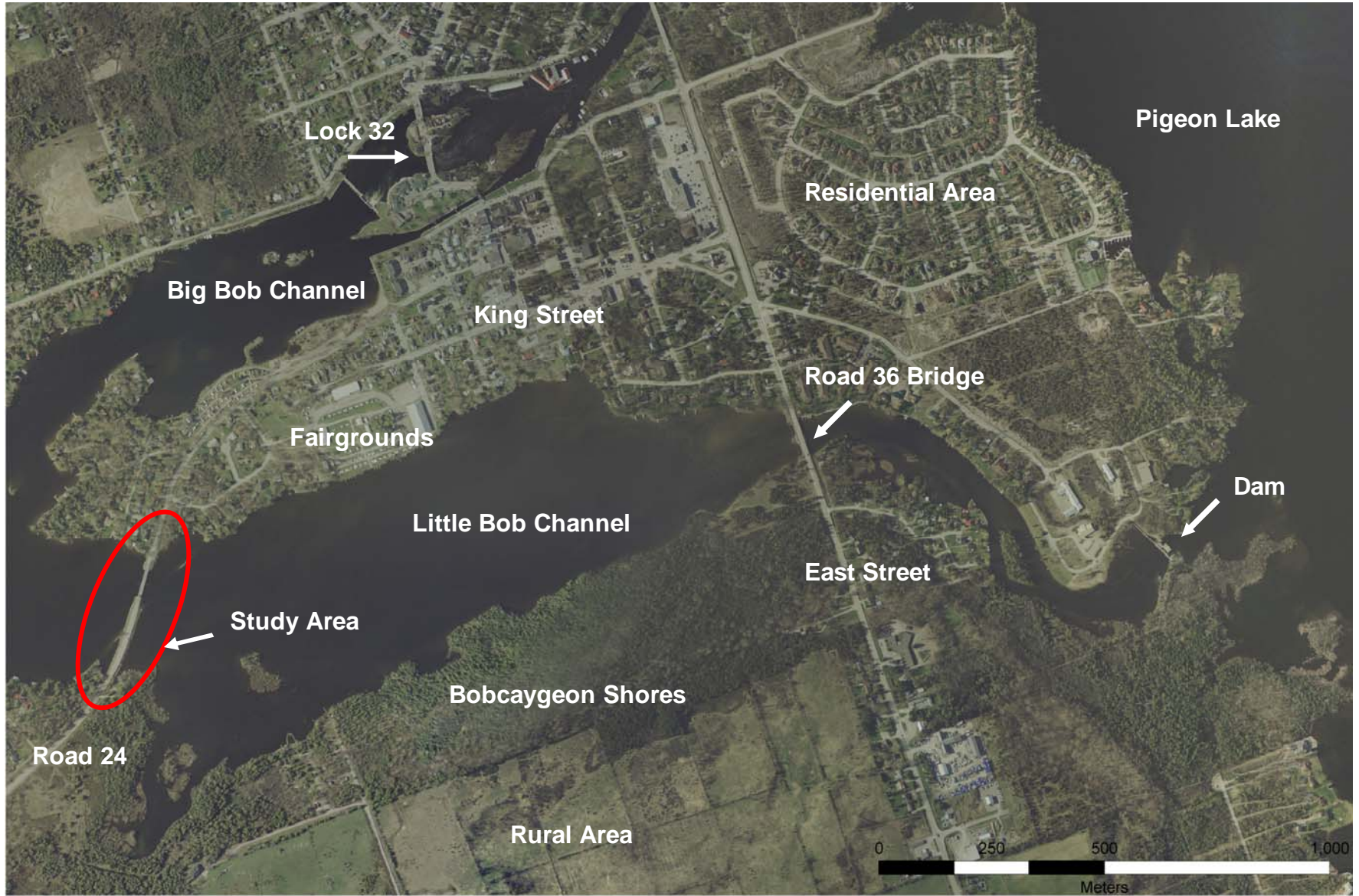
Study Background

- October 2007 – Bridge Inspection Report
 - The study investigated the structural condition and safe loading capacity of the Road 24 Bridge and identified several deficiencies
 - The report recommended structure replacement at an estimated cost of \$2,765,000
 - The bridge is currently closed to traffic due to safety concerns

Study Area

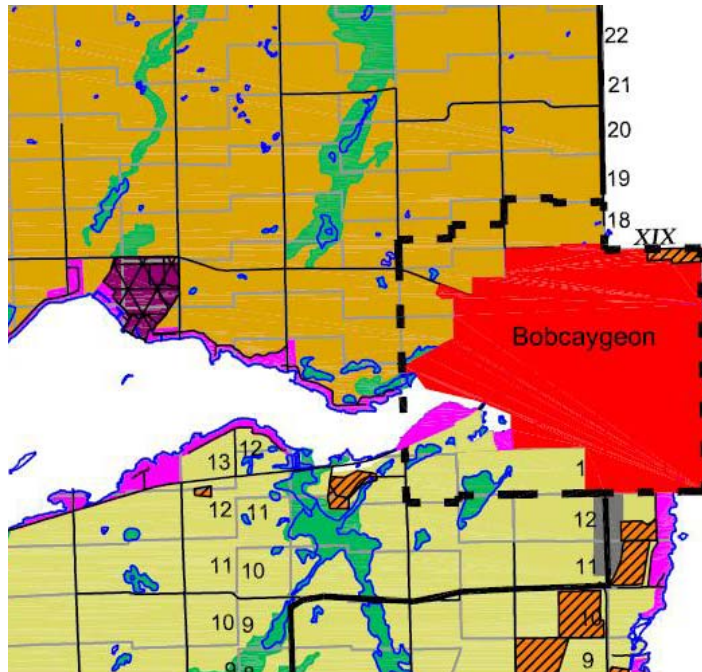


Existing Conditions



2002 Aerial Photography

Social Environment & Existing Land Uses

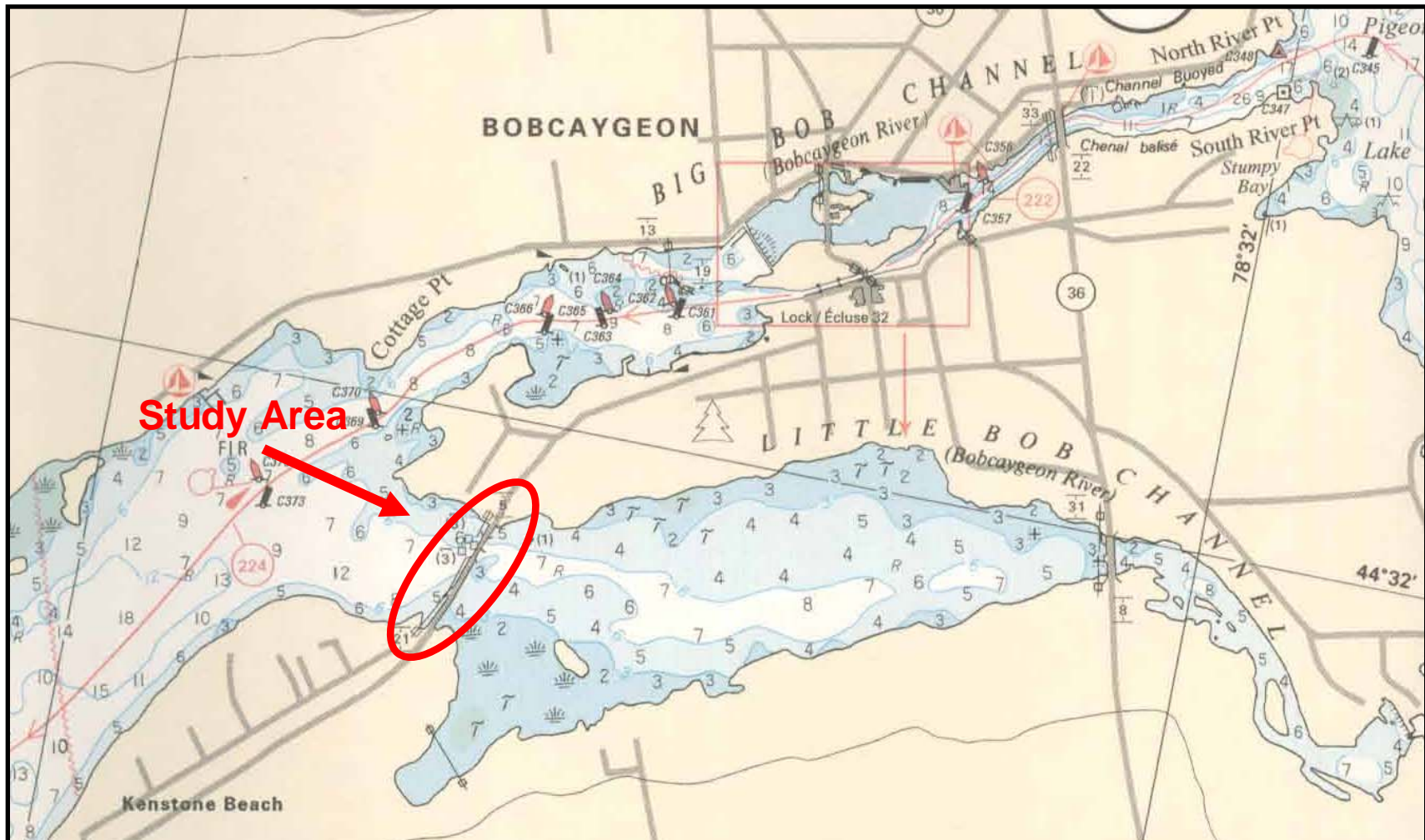


Land Use Designations

Prime Agricultural	Industrial
Rural	Pit
Countryside	Quarry
Environmental Protection	Rural Estate
Urban	Resort Estate
Hamlet	Mobile Home Park
Waterfront	Longford Reserve
Highway Commercial	Open Space
Tourist Commercial	Development Plan
	Roads
	Settlement Boundary

- The land within and around the study area is dominated primarily by established low density urban residential uses, with some cottages and summer homes
- A recreational area with a small trailer park (Bobcaygeon Beach Park) is located east of the study area along Park Street
- A mixture of commercial uses are located along Bolton Street and King Street east of the study area
- There are no institutional uses, agricultural land uses or industrial uses within or near the study area
- An overhead Bell pole line is located north of and parallel to the Road 24 Bridge
- There are no current local planning issues or planning initiatives underway in the study area

Depths of Little Bob Channel/Sturgeon Lake



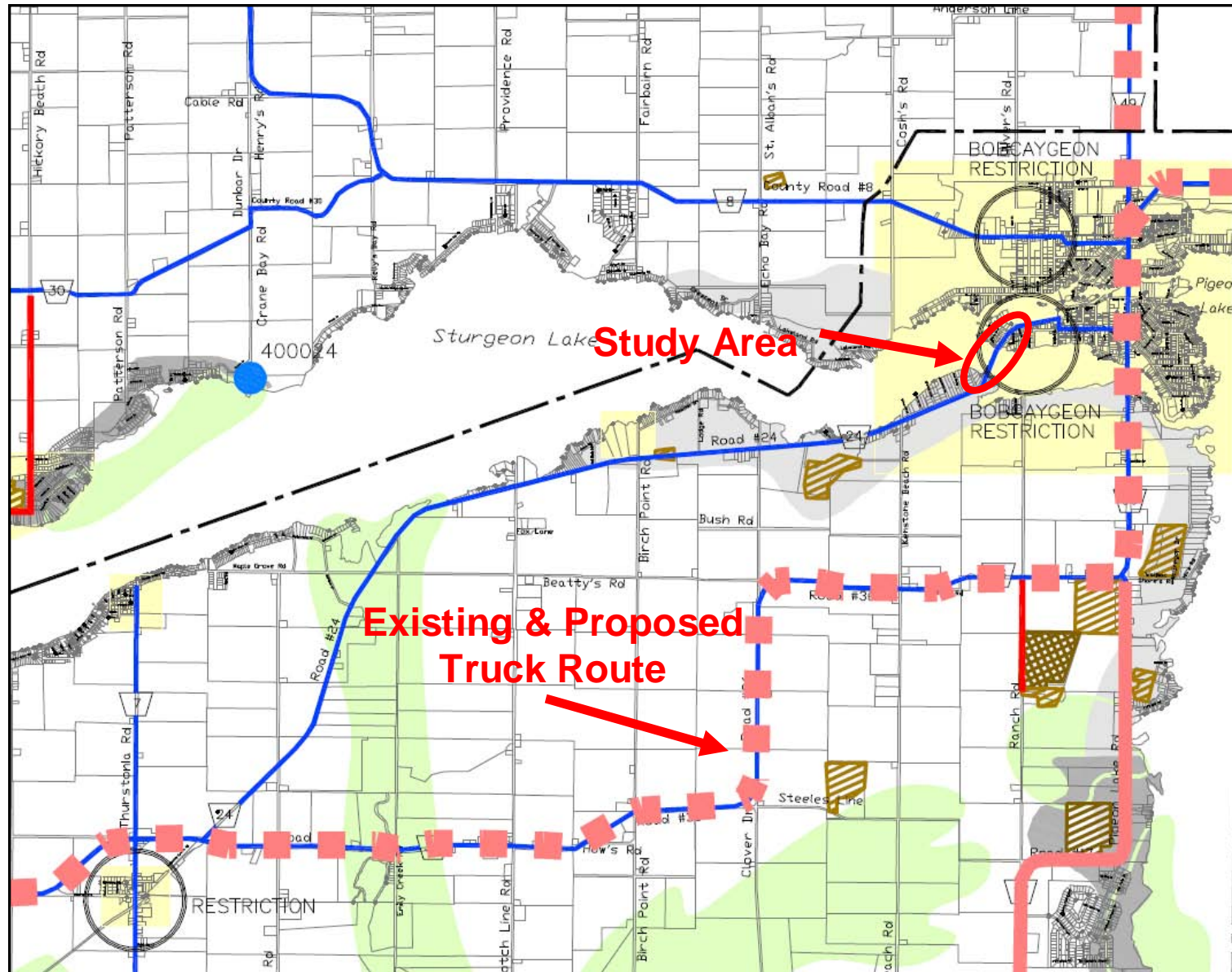
Source: Surveyed by the Canadian Hydrographic Service, 1965, 1966, 2001 and 2005. Trent-Severn Waterway Chart 2025, portion of Sheet 1 of 3

Preliminary Vertical Navigational Clearance

OPTION	VERTICAL NAVIGATIONAL CLEARANCE	MINIMUM UNDERSIDE OF STRUCTURE ELEVATION	BOAT MAKE AND MODEL ACCOMMODATED	BOAT DRAFT	
				Drive-Up	Drive-Down
1.	1.70m (status quo)	249.71m	<ul style="list-style-type: none"> • Fasdeck Regal 2220 – top down • Chaparral 220 – top down • Chaparral 246 – top down • Chaparral Sunesta 224 – top down • Chaparral Sunesta 244 – top down 	0.4m 0.4m 0.4m 0.4m 0.4m	0.8m 0.8m 0.8m 0.8m 0.8m
2.	2.0m	250.01m	<ul style="list-style-type: none"> • Regal 2450 – top up • Regal 2250 – top up • Versailles Prince Craft 26 – top down 	0.4m 0.4m 0.4m	0.8m 0.8m 0.8m
3.	2.75m	250.76m	<ul style="list-style-type: none"> • Versailles Prince Craft 26 – top up • Chaparral Sunesta – 244 with wakeboard tower • Chaparral Sunesta – 224 with wakeboard tower • Chaparral SSi Bow Rider – 220 with wakeboard tower • Chaparral SSi Bow Rider – 246 with wakeboard tower 	0.4m 0.4m 0.4m 0.4m 0.4m	0.8m 0.8m 0.8m 0.8m 0.8m

- Notes:
- 1) Trent-Severn, Sturgeon Lake operating levels range from 247.73m to 247.76m above sea level, 1978 GSC. Minimum underside of structure elevation based on high water level of 247.76 m.
 - 2) Freeboard of 250mm added for minimum underside of structure elevation.
 - 3) For Larson 27 boat, vertical clearance of 3.1 metres required, with arch. Arch cannot fold down on this model. Boat draft of 0.6 m with Drive-Up and 1.1m with Drive-Down.
 - 4) Throttling-Up could push boats down an extra 0.5m for all boats.

Existing and Proposed Truck Route




Built Heritage Resources

Category 21.21.07 Photograph A-21835
Subject Canadian Pacific Ry pile-trestle and swing-span over the Little Bob River, 1/2 mile south of Bobcaygeon, Ont., viewed from the north-east. Mile 38.2 Bobcaygeon Subdivision. (Length 483', height 15'6')

Source CP Engineering
Photographer J. W. Heckman
Date June 25, 1910
Prev Neg No. (E) 3244/52
Credit CP Corporate Archives

PS Negative
Remarks:




Canadian Pacific
Corporate Archives
Public Relations and Advertising
Montreal, Canada H3C 3E4

Adv 70

Category 21.22.02 Stations "B" Photograph A-21836
Subject Canadian Pacific Ry station at Bobcaygeon, Ont., viewed from the north-west. Mile 38.7 and terminus of the Bobcaygeon Subdivision.

Source CP Engineering
Photographer J. W. Heckman
Date June 25, 1910
Prev Neg No. (E) 3245/51
Credit CP Corporate Archives

PS Negative
Remarks:



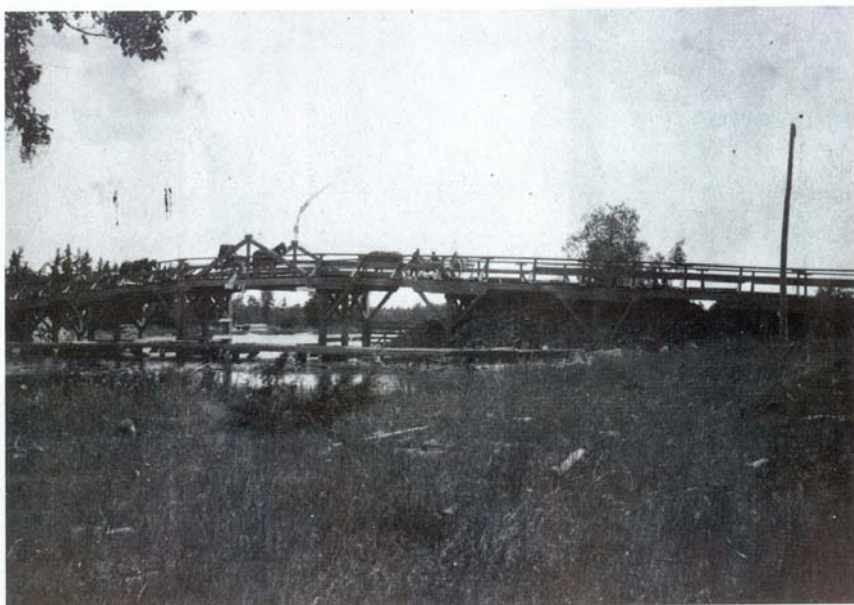
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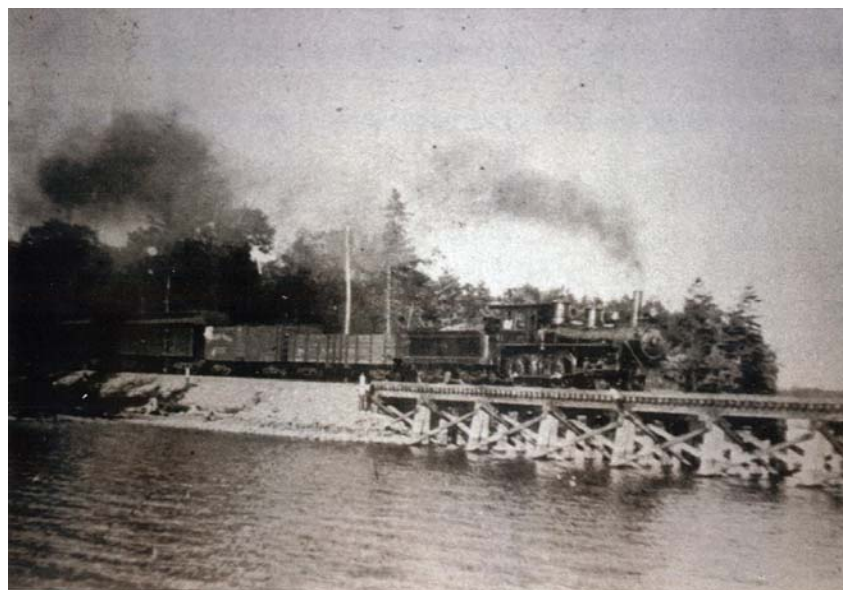
- Original structure built in 1904 as a railway swing bridge
- Track was abandoned in 1961 by CPR
- Converted to a single lane road bridge in 1963 when acquired by Verulam Township
- Bridge was widened to two lanes in 1973
- Swing bridge section is not operable however mechanism is still in place
- The first train arrived in Bobcaygeon on July 28, 1904

Heritage Photos

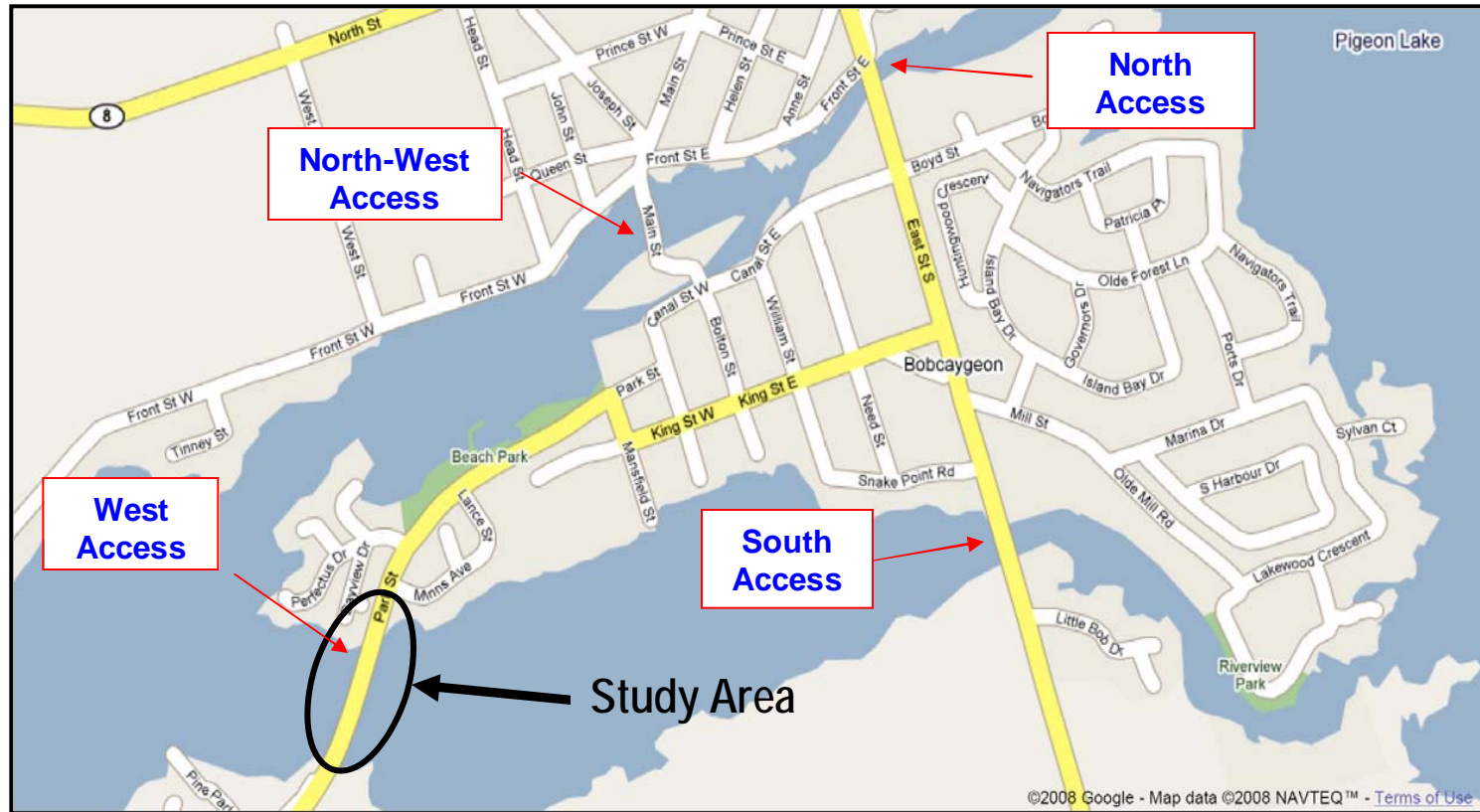
Photos Courtesy of:
Mr. Harry Van Oudenaren



This was the first bridge over the Little Bob River, on Highway 36. Notice how this bridge was built on a bill so that it was high enough for boats with lumber or logs to pass under on their way to the sawmill by the Little Bob



Existing Transportation Facilities



City of Kawartha Lakes Road 24 / Park Street

- Designated as a rural two lane arterial road - 6.5 m wide with 2.5 m wide shoulders
- Posted speed limit is 60 km/h along County Road 24, 50 km/h along Park Street

King Street

- 6.5 m wide rural two lane arterial road
- Posted speed limit is 50 km/h and on-street parking is permitted

Existing Physical Conditions

City of Kawartha Lakes Road 24 Bridge (#24112)

- Constructed in 1904 over the Little Bob Channel of Lake Sturgeon
- Ten span, structural steel girder and timber girder bridge with a concrete deck and an asphalt wearing surface
- Bridge deck accommodates two traffic lanes and no sidewalks
- The bridge is currently closed - does not meet the requirements of the bridge code and rehabilitation required is extensive
- Bridge is one of four accesses to the Village of Bobcaygeon



Alternative Solutions

The following alternative solutions were identified and assessed:

Do Nothing

- This alternative has been included to provide a base to which the other alternatives can be compared. Under this alternative, no measures to improve the condition of the structure are considered and the bridge remains closed

Rehabilitate the Bridge

- Replace the bridge superstructure and repair the abutments and piers to restore the structural adequacy
- Provide a deck cross section consistent with current standards (sidewalk/bike path included)

Pedestrian/Cyclist Bridge

- Keep the existing bridge and restrict use to only pedestrians and cyclists
- No motor vehicles would be permitted

Remove the Bridge

- Remove existing bridge, leaving no connection for City of Kawartha Lakes Road 24

Replace the Existing Bridge

- Replace existing bridge with new bridge that complies with acceptable design standards (including the provision of sidewalk/bike path)

Assessment of Alternative Solutions

Transportation/Natural Environment

	Do Nothing	Rehabilitate the Existing Bridge	Existing Bridge for Pedestrians and Cyclists Only	Remove the Bridge	Replace the Existing Bridge
<i>Description of Alternatives</i>	<i>No improvements made within the Study Area. No measures to improve the condition of the structure are considered and the bridge remains closed.</i>	<i>Replace the bridge superstructure and repair abutments and piers to restore the structural adequacy. Provide a deck cross section consistent with current standards.</i>	<i>Keep the existing bridge and restrict use only to pedestrians and cyclists. Motor vehicles would not be permitted.</i>	<i>The existing bridge (except piers and abutments) would be removed, leaving no connection for City of Kawartha Lakes Road 24.</i>	<i>Replace existing bridge with new bridge complying with acceptable design standards and requirements.</i>
Transportation					
Traffic Operations and Capacity <ul style="list-style-type: none"> Potential to accommodate long-term vehicular demands 	Long-term vehicular demands can be accommodated Negative impact on the traffic operations on local streets due to increase in traffic infiltrations	Long-term vehicular demands can be accommodated Positive impact on the traffic operations on local streets due to significant reduction in traffic infiltrations	Long-term vehicular demands cannot be accommodated Negative impact on the traffic operations on local streets due to increase in traffic infiltrations	Long-term vehicular demands cannot be accommodated Negative impact on the traffic operations on local streets due to increase in traffic infiltrations	Long-term vehicular demands can be accommodated Positive impact on the traffic operations on local streets due to significant reduction in traffic infiltrations
Travel Safety <ul style="list-style-type: none"> Potential to effect travel safety 	Local roads will experience vehicular traffic infiltrations causing some safety concerns to local residents	Positive affect on travel safety	Local roads will experience vehicular traffic infiltrations causing some safety concerns to local residents	Local roads will experience vehicular traffic infiltrations causing some safety concerns to local residents	Positive affect on travel safety
Pedestrian / Cyclist Access <ul style="list-style-type: none"> Potential to accommodate pedestrian and cyclist access Potential to effect pedestrian/cyclist safety 	Access to the bridge is prohibited via physical barriers The existing steel rail system across the bridge does not meet current Canadian Highway Bridge Design Code for geometric standards for pedestrians or vehicular impact which makes it unsafe for pedestrians and cyclists	Pedestrians and cyclists permitted to access the bridge Negative impact to safety of pedestrians/cyclists since there are no dedicated bike lanes or sidewalks	Pedestrians and cyclists permitted to access the bridge exclusively Positive impact to safety of pedestrians/cyclists	Pedestrian and cyclist access eliminated Impact to safety concerns for pedestrians/cyclists eliminated	Pedestrians and cyclists permitted to access the bridge Positive impact to safety of pedestrians/cyclists with dedicated bike lanes and sidewalks
Response times / Access for Emergency Vehicles <ul style="list-style-type: none"> Potential effect on response / accessibility times of emergency vehicles 	Negative impact on emergency response time	Positive impact on emergency response time	Negative impact on emergency response time	Negative impact on emergency response time	Positive impact on emergency response time
Natural Environment					
Fisheries <ul style="list-style-type: none"> Potential effects to fisheries 	Minimal/no impacts	Minimal/no impacts	Minimal/no impacts	Site restoration could bring about improvements to riparian habitat and hence result in further improvements to aquatic habitats	Potential impacts to fish habitat No long term residual effects with mitigation
Vegetation/Woodlots <ul style="list-style-type: none"> Potential effects to vegetation and woodlots 	Minimal/no impacts	Minimal/no impacts	Minimal/no impacts	Minimal/no impacts	Some potential loss of mature individual tree specimens - can be mitigated with planting of native trees
Wildlife <ul style="list-style-type: none"> Potential effects to natural wildlife habitat and corridors Potential effects of noise on wildlife Potential effects of lighting on wildlife 	Minimal/no impacts	Minimal/no impacts	Minimal/no impacts	Minimal/no impacts	Short-term potential impacts are predictable but impacts to wildlife and their habitat can be mitigated - no long term residual effects anticipated
Water Resources <ul style="list-style-type: none"> Potential effects on natural runoff and stormwater Potential effects to hydraulics and hydrology 	Minimal/no impacts to contaminants/stormwater Potential for bridge deterioration to deposit debris in the water	Contaminants/stormwater impacts can be managed/mitigated	Least potential for contaminant runoff through elimination of vehicular traffic crossing bridge; winter maintenance operations would continue and impacts can be mitigated	Least potential for contaminant runoff through elimination of traffic crossing bridge and winter maintenance operations Piers and abutments are creosoted timber therefore cut off just below streambed level and left in place to avoid contaminating the water and streambed soil with creosote	Agency regulations will guide hydraulic design Contaminants/stormwater impacts can be managed/mitigated

Assessment of Alternative Solutions

Social, Cultural & Economic Environments

	Do Nothing	Rehabilitate the Existing Bridge	Existing Bridge for Pedestrians and Cyclists Only	Remove the Bridge	Replace the Existing Bridge
<i>Description of Alternatives</i>	<i>No improvements made within the Study Area. No measures to improve the condition of the structure are considered and the bridge remains closed.</i>	<i>Replace the bridge superstructure and repair abutments and piers to restore the structural adequacy. Provide a deck cross section consistent with current standards.</i>	<i>Keep the existing bridge and restrict use only to pedestrians and cyclists. Motor vehicles would not be permitted.</i>	<i>The existing bridge (except piers and abutments) would be removed, leaving no connection for City of Kawartha Lakes Road 24.</i>	<i>Replace existing bridge with new bridge complying with acceptable design standards and requirements.</i>
Social Environment					
Noise Impacts • Potential effects to noise sensitive areas (i.e. residential areas)	Potential for reduction in noise related impacts due to traffic reduction	Potential for short-term noise related impacts due to construction	Potential for reduction in noise related impacts due to traffic reduction	Potential for reduction in noise related impacts due to traffic reduction	Potential for short-term noise related impacts due to construction
Property Impacts • Potential effects on buildings and properties within study area (i.e. residential, commercial, etc.) • Potential effects to property owners within and near study area to access the Village of Bobcaygeon	No affect on buildings and properties anticipated Negative impact to vehicular access to Village of Bobcaygeon for property owners within and around the study area	No affect on buildings or properties anticipated Positive impact to vehicular access to Village of Bobcaygeon for property owners within and around the study area	No affect on buildings and properties anticipated Negative impact to vehicular access to Village of Bobcaygeon for property owners within and around the study area	Potential property effects for cul-de-sacs Negative impact to vehicular access to Village of Bobcaygeon for property owners within and around the study area	No affect on buildings and properties anticipated Positive impact to vehicular access to Village of Bobcaygeon for property owners within and around the study area
Aesthetics • Potential effects to aesthetics of the study area	No affect as the appearance of the bridge/surrounding area would not change	Minor changes to the appearance of the bridge	No affect as the appearance of the bridge/surrounding area would not change	Most potential to restore the natural aesthetics of the study area	Appearance of the bridge would change Some potential loss of mature trees will change appearance of landscape - can be mitigated with planting of native trees
Cultural Environment					
Heritage Resources • Potential to displace or disrupt built heritage and cultural heritage landscape within the study area, including the existing bridge	Further deterioration of existing heritage components of the 1904 swing bridge structure will occur	Minor potential to disturb the remaining heritage character of the existing bridge. Modifications to the original 1904 structure have occurred over the years	Minor potential to disturb the remaining heritage character of the existing bridge due to on-going maintenance requirements. Modifications to the original 1904 structure have occurred over the years	Original 1904 bridge structure would be removed	Original 1904 bridge structure would be removed
Archaeological Resources • Potential to disturb archaeological resources within the study area	No impact to archaeological resources	Detailed surveying may be required to help identify possible archaeological remains may be required	No impact to archaeological resources	Detailed surveying may be required to help identify possible archaeological remains may be required	Detailed surveying may be required to help identify possible archaeological remains may be required
First Nations • Potential effects to First Nations land claims	No impact to First Nations land claims	Consultation with First Nations on-going	Consultation with First Nations on-going	Consultation with First Nations on-going	Consultation with First Nations on-going
Economic Environment					
Municipal Services/Utilities • Potential effects to municipal services and/or utilities within the study area	No impacts on utilities or services	No impacts on utilities or services	No impacts on utilities or services	No structure to link utility plant for crossing water channel	Ability to coordinate with utility companies to link plant across the bridge if necessary
Construction/Maintenance Costs • Costing trends associated with construction and maintenance	No direct construction cost Bridge deterioration will require on-going maintenance	Major costs to rehabilitate the existing bridge On-going bridge maintenance with relatively high costs due to bridge rehabilitation	Moderate costs to upgrading the steel rail to meet current bridge safety standards Bridge deterioration will require on-going maintenance	Minor costs to remove the existing bridge and construct culs-de-sac for existing road	Major costs to replace the existing bridge compared to rehabilitation/removal On-going bridge maintenance with low costs due to bridge construction
Property Impacts • Potential for property acquisition	No additional property required	No additional property required	No additional property required	Potential for property acquisition for cul-de-sacs	Potential for property acquisition
RECOMMENDATION	DO NOT CARRY FORWARD AS PREFERRED SOLUTION	DO NOT CARRY FORWARD AS PREFERRED SOLUTION	DO NOT CARRY FORWARD AS PREFERRED SOLUTION	DO NOT CARRY FORWARD AS PREFERRED SOLUTION	CARRY FORWARD AS PREFERRED SOLUTION

Summary of Evaluation of Alternative Solutions

Do Nothing

- This alternative does not address traffic access issues or bridge code deficiencies

Rehabilitate the Bridge

- Would provide a temporary improvement to existing structure at a considerable cost; does not address access and safety of pedestrians/cyclists

Pedestrian/Cyclist Bridge

- This alternative addresses access and safety of pedestrians/cyclists but not emergency vehicle response time, vehicular access to Village of Bobcaygeon

Remove the Bridge

- This alternative does not address emergency vehicle response time, vehicular access to Village of Bobcaygeon and pedestrian and cyclist access eliminated, potential to improve natural environment features

Replace the Bridge

- This alternative best addresses the problem statement at a moderate cost compared to rehabilitation/removal by providing:
 - Road network continuity and mobility for local and seasonal traffic
 - An increase in capacity and emergency route alternatives
 - A safe sidewalk and bike lane for pedestrians and cyclists
 - Improved operating conditions on adjacent roads including City of Kawartha Lakes Road 36

Preliminary Recommended Solution

Based on an evaluation of available information, the preliminary recommended solution is to replace the existing bridge with a new bridge:

- Bridge and substructure (abutments/pier) to be removed to footings
- Provide for 70 km/h design speed
- Three span structural steel girder construction
- Two 3.5m lanes, 1.5m cycle-lane and a 2m shared cycle-lane (north side)
- The road would remain closed during construction of the new bridge

The preferred solution will be confirmed once all comments from review agencies and the public are received

Preliminary Alternative Design Concepts

Alternative 1-A

- New structure constructed along existing alignment
- 3 span structural steel girder bridge; 70m long
- Approximate section depth 1.565m
- Navigational channel located in centre span

Alternative 1-B

- Same as Alternative 1-A but with navigational channel located in the west span, subject to outcome of soundings survey

Alternative 2

- New structure constructed along existing alignment
- Single span structural steel girder bridge; 70m long
- Approximate section depth 1.965m

Alternative 3

- New structure constructed along existing alignment
- Single span structural steel girder bridge; 55m long
- Approximate section depth 2.565m

Preliminary Assessment Criteria for Design Alternatives

The following criteria and factors will be used in the assessment/evaluation of design alternatives:

Transportation

- Traffic operations and accommodation of future travel demand
- Travel safety
- Accommodation of cyclists, pedestrians, and emergency services
- Access to properties

Natural Environment

- Watercourses/Fisheries
- Vegetation/Woodlots
- Wildlife
- Water Resources (stormwater/hydrology)

Social Environment

- Noise impacts
- Property impacts
- Aesthetics

Cultural Environment

- First Nations, heritage and archaeological resources

Economic Environment

- Impacts to municipal services/utilities
- Construction/maintenance costs
- Property impacts

Measures to mitigate impacts will be identified as the study progresses

Next Steps

- Consider input from public and agency consultation and confirm the preferred alternative solution
- Further evaluate alternative design concepts
- Present the analysis and recommended design alternative at PIC #2 (May/June 2008)
- Refine the recommended design alternative based on input received
- Confirm the preferred design
- Complete the Environmental Study Report (ESR)
- File the ESR for 30 day public and agency review period (August, 2008)

*We encourage you to provide us with your comments.
Thank you for participating in this public meeting.*