

COUNTY OF LAMBTON

BEAR CREEK BRIDGE

WELCOME



PUBLIC OPEN HOUSE

JULY 28th, 2018



BMROSS
engineering better communities

MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT

SUMMARY OF CLASS EA PROCESS:

- PLANNING AND DESIGN PROCESS FOR MUNICIPAL WATER, WASTEWATER, AND ROAD PROJECTS
- CONDUCTED TO EVALUATE THE POTENTIAL IMPACTS OF THE PROJECT ON THE NATURAL, CULTURAL, SOCIAL, ECONOMIC, AND BUILT ENVIRONMENTS

STUDY PHASES:



SCOPE OF THIS STUDY:

- RECONSTRUCTION OR ALTERATION OF A STRUCTURE OR THE GRADING ADJACENT TO IT WHEN THE STRUCTURE IS OVER 40 YEARS OLD, WHICH AFTER APPROPRIATE EVALUATION IS FOUND TO HAVE CULTURAL HERITAGE VALUE (Determination of cultural heritage value will be in accordance with a screening checklist developed with the Ministry of Tourism and Culture (MTC) and posted on the MEA website).
 - SCHEDULE B PROJECTS APPROVED SUBJECT TO COMPLETION OF PHASES 1 AND 2 OF THE CLASS EA PROCESS
- GENERAL STUDY COMPONENTS:
 - DEFINE PROBLEM / OPPORTUNITY;
 - IDENTIFICATION OF ALTERNATIVE SOLUTIONS;
 - CONSULTATION WITH THE PUBLIC / REVIEW AGENCIES;
 - SELECTION OF A PREFERRED ALTERNATIVE;
 - EVALUATION OF ALTERNATIVES / IMPACT MITIGATION;
 - PREPARATION OF ENVIRONMENTAL SCREENING REPORT ; AND
 - FINAL PUBLIC NOTIFICATION.

CLASS EA ALTERNATIVES

ALTERNATIVE 1: REPLACEMENT

- REPLACE WITH NEW CONCRETE BEAM BRIDGE
- RECONSTRUCT ROAD APPROACHES TO MATCH

ALTERNATIVE 2: REHABILITATION

- BASED ON THE CURRENT CONDITION OF THE BRIDGE, TOO MANY KEY STRUCTURAL ELEMENTS HAVE DETERIORATED TO COMPLETE A REHABILITATION OF THE STRUCTURE

ALTERNATIVE 3: REPAIR

- PREVIOUS REPAIRS HAVE ADDRESSED DETERIORATION WHICH IS TYPICAL FOR THIS TYPE OF STRUCTURE
- GIVEN THE AGE OF THE CROSSING AND DETERIORATION OF KEY STRUCTURAL ELEMENTS, REPAIRS ARE NO LONGER FEASIBLE FOR THIS STRUCTURE

ALTERNATIVE 4: DO NOTHING

- RETENTION OF THE EXISTING BRIDGE WILL NOT ADDRESS THE DEFICIENCIES OF THE EXISTING STRUCTURE



EVALUATION OF BRIDGE ALTERNATIVES

PURPOSE:

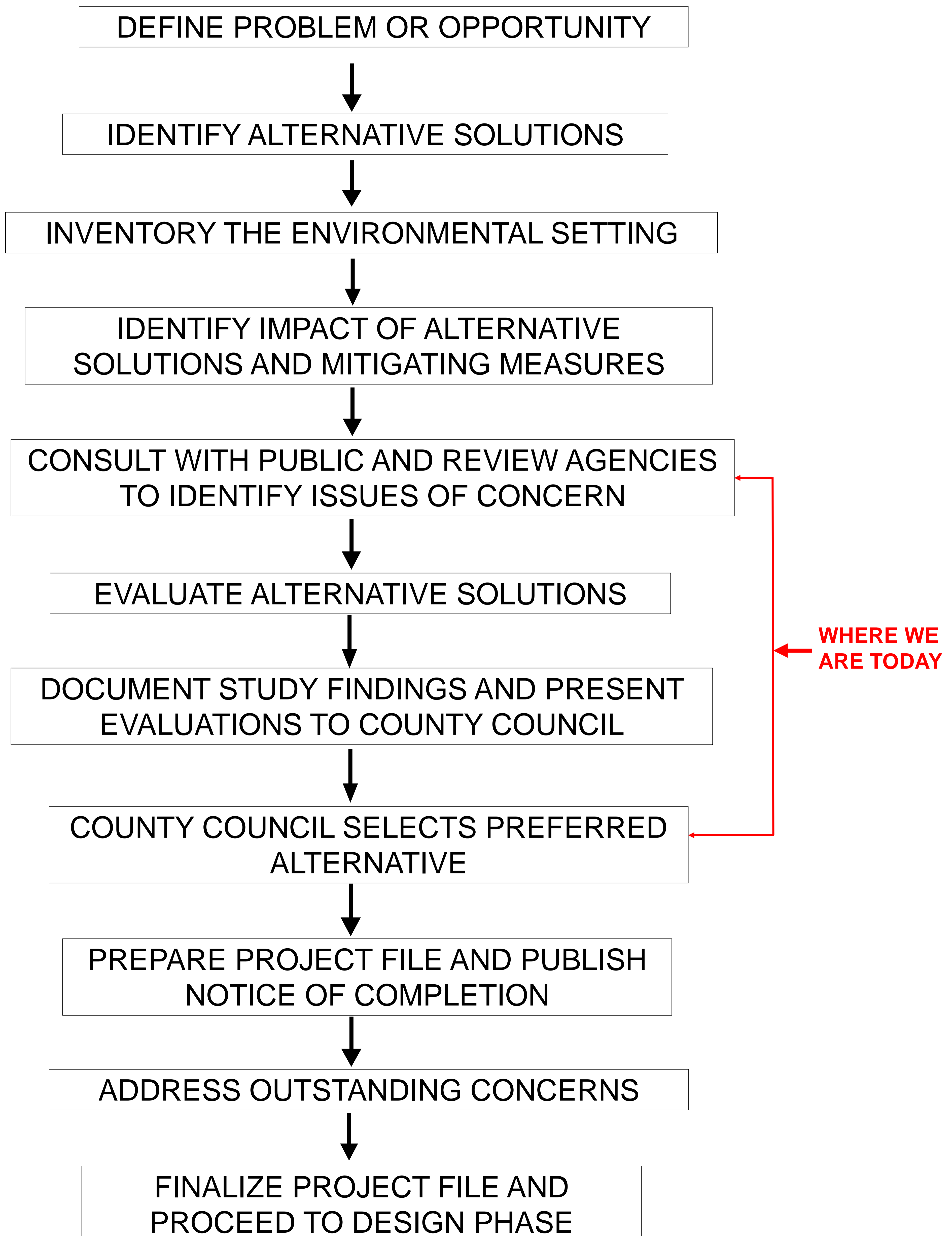
- SYSTEMATICALLY EVALUATE THE IMPACT OF IMPLEMENTING EACH OF THE ALTERNATIVES ON VARIOUS COMPONENTS OF THE ENVIRONMENT (SOCIAL/CULTURAL/ENVIRONMENTAL/ ECONOMIC AND TECHNICAL).
- MITIGATION MEASURES WILL BE IDENTIFIED TO MINIMIZE THE POTENTIAL IMPACTS OF IMPLEMENTATION



KEY CONSIDERATIONS:

- INPUT FROM CONSULTATION PROGRAM (LOCAL RESIDENTS, REVIEW AGENCIES, STAKEHOLDERS, ABORIGINAL)
- HABITAT DISRUPTION/ REMOVAL
- IMPACT ON EXISTING RESIDENTS
- TRANSPORTATION CONCERNS
- RECREATIONAL IMPACTS
- AGRICULTURAL COMMUNITY AND BUSINESS OWNERS
- CULTURAL HERITAGE
- CAPITAL AND OPERATIONAL COSTS

SUMMARY OF THE CLASS EA SCHEDULE B PROCESS



BEAR CREEK BRIDGE

- SINGLE SPAN CONCRETE BOWSTRING ARCH BRIDGE
- CONSTRUCTED IN 1930 & 1931
- ONLY ONE OF THIS STYLE REMAINING IN LAMBTON COUNTY



DEFICIENCIES:

- CRACKING ON UNDERSIDE OF SOUTH ARCH NEAR MID-SPAN
- MULTIPLE CRACKS AND SPALLING ON NORTH ARCH
- SPALLING WITH EXPOSED REBAR ON UNDERSIDE OF DECK
- CRACKING AND SPALLING AT BASE OF COLUMNS THROUGHOUT
- SEVERE SPALLING ON FLOOR BEAMS AT EAST ABUTMENT
- MEDIUM TO WIDE CRACKING ON UNDERSIDE OF FLOOR BEAM AT WEST ABUTMENT



EXPOSED REBAR



SPALLING ON NORTH ARCH

CULTURAL HERITAGE EVALUATION

PURPOSE:

- TO EVALUATE WHETHER THE STRUCTURE REPRESENTS A BUILT HERITAGE RESOURCE OR IS PART OF A CULTURAL HERITAGE LANDSCAPE OF CULTURAL HERITAGE VALUE.
- TO IDENTIFY THE POTENTIAL IMPACTS OF THE PROPOSED UNDERTAKING ON THE STRUCTURE, AND RECOMMEND APPROPRIATE MITIGATION STRATEGIES.

METHODOLOGY:

- THE REPORT WAS PREPARED ACCORDING TO GUIDELINES IN THE ONTARIO MINISTRY OF TOURISM, CULTURE, AND SPORT'S *ONTARIO HERITAGE TOOLKIT*.
- THE FOLLOWING TASKS WERE UNDERTAKEN:
 1. PREPARATION OF LAND USE HISTORY OF THE AREA.
 2. A REVIEW OF THE LAMBTON COUNTY OFFICIAL PLAN, THE ONTARIO HERITAGE TRUST PROPERTIES DATABASE AND THE CANADIAN REGISTER OF HISTORIC PLACES.
 3. A SITE INVESTIGATION, TO DOCUMENT THE EXISTING CONDITIONS OF THE BRIDGE AND STUDY AREA.
 4. EVALUATION OF THE BRIDGE STRUCTURE AND LANDSCAPE, USING *ONTARIO REGULATION 9/06, CRITERIA FOR DETERMINING CULTURAL HERITAGE VALUE OR INTEREST*.
 5. EVALUATION OF THE PROPOSED UNDERTAKING, POTENTIAL IMPACTS AND POTENTIAL MITIGATION OPTIONS.

CULTURAL HERITAGE EVALUATION

RESULTS:

- THE STRUCTURE WAS DETERMINED TO HAVE CULTURAL HERITAGE VALUE DUE TO THE FOLLOWING:
 - REPRESENTATIVE EXAMPLE OF AN EARLY/MID 20TH CENTURY BOWSTRING ARCH BRIDGE, A RELATIVELY RARE EXAMPLE OF THIS STYLE IN LAMBTON COUNTY
 - BEAR CREEK BRIDGE IS PHYSICALLY, FUNCTIONALLY, VISUALLY, AND HISTORICALLY LINKED TO ITS SURROUNDINGS. LINKED TO EARLY DEVELOPMENT IN THE AREA AND THE EGREMONT ROAD, AN EARLY TRANSPORTATION CORRIDOR IN LAMBTON COUNTY

CHARACTER-DEFINING HERITAGE ATTRIBUTES:

- CONCRETE BOWSTRING ARCH DESIGN:
 - SYMMETRICAL ARCHES ON THE NORTH AND SOUTH SIDE
 - CONCRETE PANELLING SET INTO THE ARCHES
 - VERTICAL CONCRETE POSTS UNDER THE BOWSTRING ARCHES
 - CONCRETE GUARDRAILS WITH INSET CONCRETE PANELS (CIRCA 2004)
 - CANTILEVERED CONCRETE SIDEWALK



VIEW SHOWING SYMMETRICAL ARCHES AND CONCRETE SIDEWALK



VIEW SHOWING CONCRETE PANELING SET INTO ARCHES

CULTURAL HERITAGE EVALUATION

OPTIONS TO ADDRESS IMPACTS:

➤ THREE OPTIONS HAVE BEEN IDENTIFIED TO ADDRESS IMPACTS:

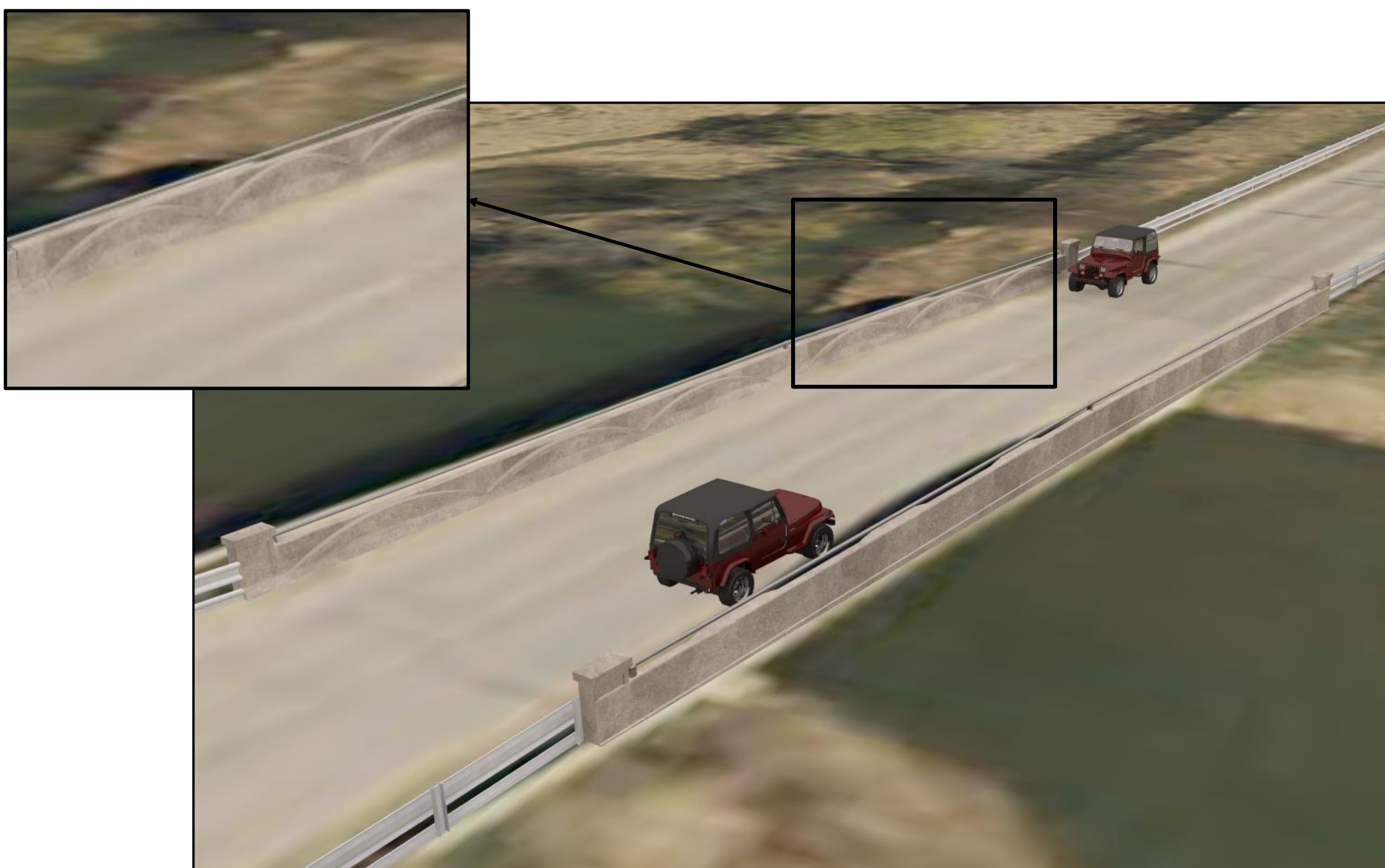
1) CONSERVATION PLAQUE ERECTED AT FIRE HALL DETAILING BRIDGE HISTORY AND SIGNIFICANT CULTURAL FEATURES

2) REPLICATION OF SYMMETRICAL ARCHES



SAMPLE OF PLAQUE
SIMILAR TO WHAT IS
PROPOSED FOR BEAR
CREEK BRIDGE

3) ARCH SHAPE INSET INTO BRIDGE PANELS



PROJECT TIMELINES

JANUARY 2018 - PROJECT INITIATED

JANUARY 2018 – INITIAL CONSULTATION EFFORTS

- CORRESPONDENCE SENT TO:
 - ADJACENT PROPERTY OWNERS
 - ABORIGINAL COMMUNITIES
 - PROVINCIAL AND FEDERAL REVIEW AGENCIES

JANUARY 2018- NOTICE OF STUDY COMMENCEMENT

- NOTICE PLACED IN NEWSPAPERS FOR TWO CONSECUTIVE WEEKS

MAY 2018-CULTURAL HERITAGE EVALUATION REPORT

- REQUIRED BY MINISTRY OF TOURISM CULTURAL AND SPORT, DUE TO THE AGE OF THE CROSSING (> 40 YEARS)
- ASSESSMENT COMPLETED BY AECOM USING MINISTRY GUIDELINES

JULY 2018 – SPECIES AT RISK (SAR) ASSESSMENT

- HABITAT AT THE BRIDGE SITE EVALUATED FOR PRESENCE OF SAR

JULY 2018 - PUBLIC OPEN HOUSE

- OBTAIN INPUT FROM RESIDENTS ON THE CLASS EA ALTERNATIVES
- PRESENT RESULTS OF ON-SITE INVESTIGATIONS

FALL/WINTER 2018 - FINALIZE CLASS EA

- NOTICE OF COMPLETION PUBLISHED IN LOCAL PAPER
- SCREENING REPORT AVAILABLE FOR PUBLIC REVIEW

SPRING 2019 – INITIATE CONSTRUCTION

- ROAD CLOSED TO TRAFFIC IN JULY WITH DETOUR ROUTES IDENTIFIED
- CONSTRUCTION TO BE COMPLETED BY DECEMBER 15, 2019

SPECIES AT RISK

- AN EVALUATION FOR THE PRESENCE OF SIGNIFICANT SPECIES AND THEIR ASSOCIATED HABITATS HAS BEEN INCORPORATED INTO THE PROJECT PLANNING PROCESS
- PROTECTION FOR SPECIES AT RISK (SAR) AND THEIR ASSOCIATED HABITATS IS GOVERNED BY FEDERAL AND PROVINCIAL LEGISLATION
- BASED ON INPUT FROM THE MINISTRY OF NATURAL RESOURCES AND FORESTRY, A NUMBER OF SPECIES AT RISK ARE POTENTIALLY LOCATED WITHIN THE STUDY AREA:
- THE TABLE BELOW SUMMARIZES THE SPECIES AT RISK THAT ARE POTENTIALLY PRESENT WITHIN THE TOWNSHIP OF WARWICK AND THEREFORE THE PROJECT AREA:

SAR SPECIES	STATUS	HABITAT POTENTIAL?	CONFIRMED JULY 17, 2018
ACADIAN FLYCATCHER	ENDANGER	NO	
BARN OWL	ENDANGERED	YES	NO
BARN SWALLOW	THREATENED	YES	YES
BOBOLINK	THREATENED	YES	NO
CERULEAN WARBLER	THREATENED	NO	
CHIMNEY SWIFT	THREATENED	NO	
EASTERN MEADOWLARK	THREATENED	YES	NO
LEAST BITTERN	THREATENED	YES	NO
PROTHONOTARY WARBLER	ENDANGERED	NO	
YELLOW-BREASTED CHAT	ENDANGERED	NO	
AMERICAN GINSENG	ENDANGERED	NO	
GOLDENSEAL	THREATENED	YES	NO
AMERICAN BADGER	ENDANGERED	NO	
EASTERN SMALL-FOOTED MYOTIS	ENDANGERED	YES	NO
LITTLE BROWN MYOTIS	ENDANGERED	YES	NO
NORTHERN MYOTIS	ENDANGERED	YES	NO
ROUND PIGTOE	ENDANGERED	YES	NO
SALAMANDER MUSSEL	ENDANGERED	YES	NO
EASTERN FOXSNAKE	ENDANGERED	YES	NO
EASTERN HOG-NOSED SNAKE	THREATENED	NO	
QUEENSNAKE	ENDANGERED	NO	
AMERICAN CHESTNUT	ENDANGERED	NO	
BUTTERNUT	ENDANGERED	NO	
EASTERN FLOWERING DOGWOOD	ENDANGERED	NO	
BLANDING'S TURTLE	THREATENED	YES	NO
SPOTTED TURTLE	ENDANGERED	YES	NO

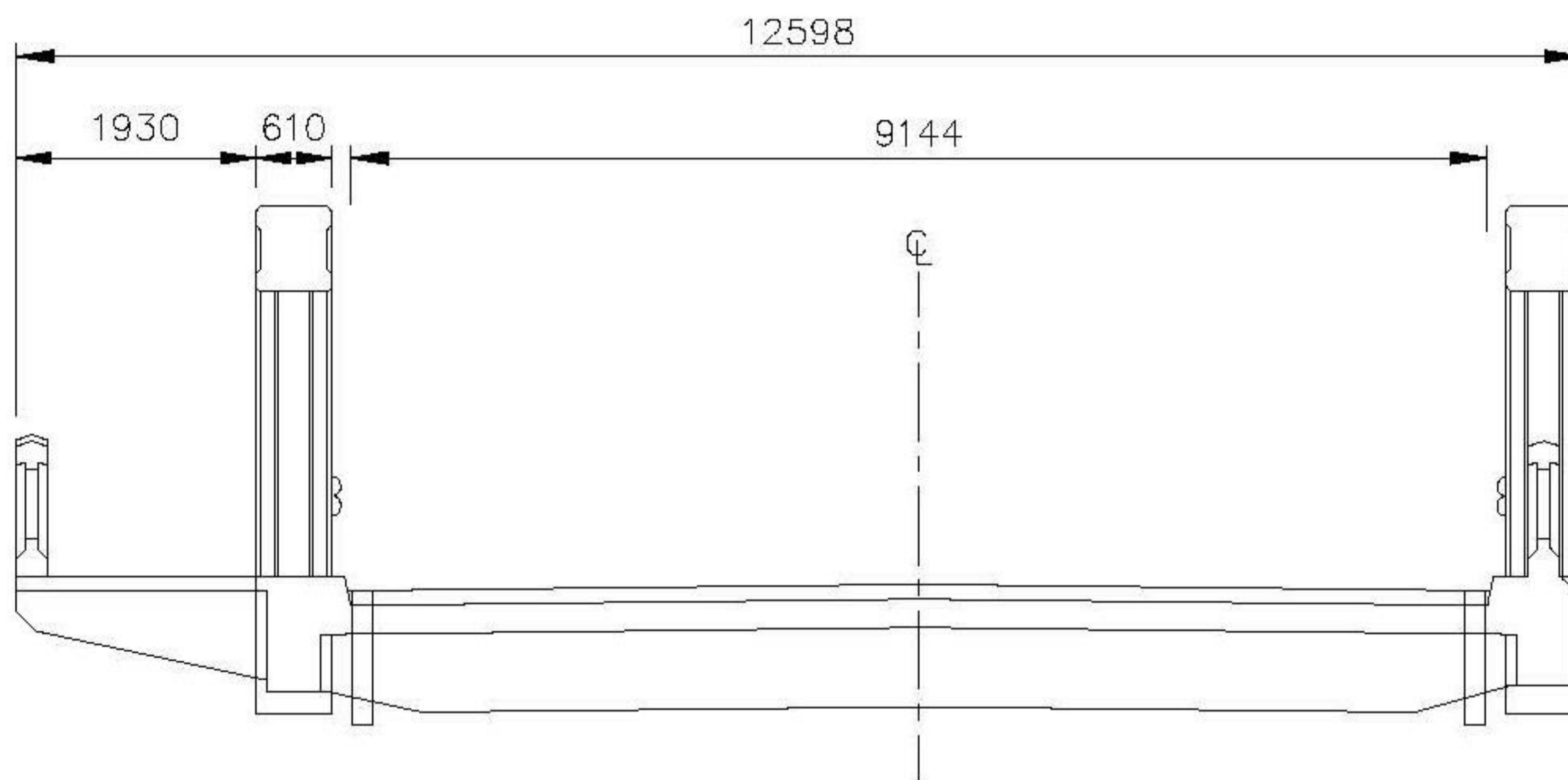
CONSULTATION

- THE TABLE BELOW OUTLINES THE FEEDBACK FROM REVIEW AGENCIES, ABORIGINAL COMMUNITIES, AND ADJACENT PROPERTY OWNERS RECEIVED, TO DATE:

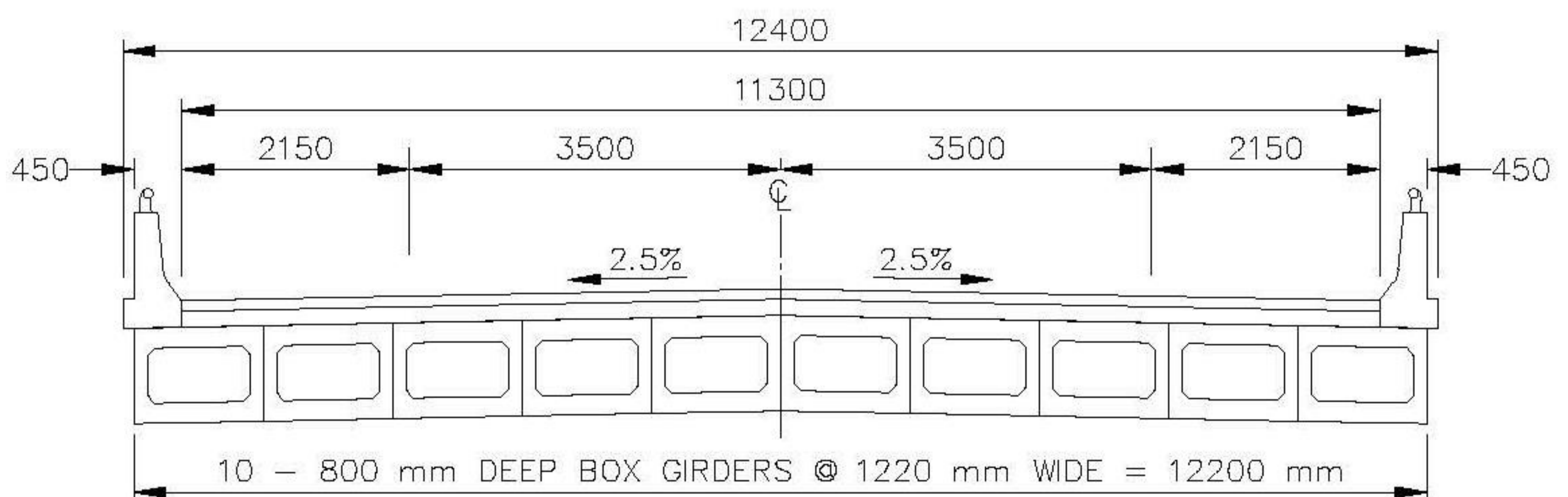
NAME	COMMENTS
HISTORIC SAUGEEN METIS (HSM)	<ul style="list-style-type: none"> PROJECT IS LOCATED OUTSIDE OF THEIR TRADITIONAL TERRITORY NO CONCERNS
AAMJIWNAANG FIRST NATION (AFN)	<ul style="list-style-type: none"> CONCERNED WITH ROAD MORTALITIES AND WOULD LIKE TO KNOW THE PLANS TO REDUCE/MITIGATE IMPACTS ON WILDLIFE ANY HABITAT AREAS THAT HAVE BEEN DISTURBED OR REMOVED BE RESTORED, WHERE POSSIBLE INTERESTED IN ARCHEOLOGICAL AND SPECIES AT RISK STUDIES. ASKED THAT MONITORS BE ON SITE DURING COMPLETION OF STUDIES
MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE (MOECC)	<ul style="list-style-type: none"> ENSURE CONSULTATION WITH FIRST NATION AND METIS PROJECT MUST HAVE CONSIDERATION FOR SOURCE WATER PROTECTION POLICIES AND CONSIDER IMPACTS ASSOCIATED WITH CLIMATE CHANGE
MINISTRY OF NATURAL RESOURCES AND FORESTRY (MNRF)	<ul style="list-style-type: none"> ADVISED THAT THERE MAY BE PETROLEUM WELLS IN THE VICINITY REFERRED TO THE PUBLIC LANDS ACT AND LAKES AND RIVERS IMPROVEMENT ACTS, PROJECT MAY BE AFFECTED NOTED SPECIES AT RISK POTENTIALLY PRESENT AT THE BRIDGE SITE
ST. CLAIR REGION CONSERVATION AUTHORITY	<ul style="list-style-type: none"> STUDY AREA REGULATED BY SCRCA UNDER ONTARIO REGULATION 171/06 ADVISED THAT THE BRIDGE IS LOCATED WITHIN ADJACENT LANDS TO A SIGNIFICANT WOODLAND AND PROVINCIALY SIGNIFICANT WETLAND
WARWICK FIRE DEPARTMENT	<ul style="list-style-type: none"> CONCERNED WITH DELAYS TO THEIR EMERGENCY RESPONSE TIMES MOST FIRE CALLS OCCUR IN THE WINTER AND ARE RELATED TO HIGHWAY ACCIDENTS ON 402. HAVING DIRECT ACCESS TO THE 402 WOULD HELP
WARWICK GAS & VARIETY	<ul style="list-style-type: none"> CONCERNED WITH HOW BRIDGE CLOSURE COULD IMPACT BUSINESS DEPENDS ON THROUGH TRAFFIC FOR BUSINESS TOURIST TRAFFIC IN THE SUMMER IS A MAJOR SOURCE OF INCOME IMPACTS TO RESPONSE TIME FOR THE FIRE DEPARTMENT
HYDRO ONE NETWORKS	<ul style="list-style-type: none"> A HONI 3-PHASE 4.8/8.32kV POLE LINE IS LOCATED PARALLEL TO BRIDGE/ ROADWAY APPROX. 8m SOUTH OF SOUTH FACE OF BRIDGE A HONI 1-PHASE 4.8kV LINE CROSSES ROAD FROM S. SIDE TO N. SIDE APPROX. 5m WEST OF CONCRETE RAILING ON WEST SIDE OF BRIDGE

PREFERRED ALTERNATIVE

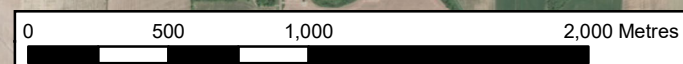
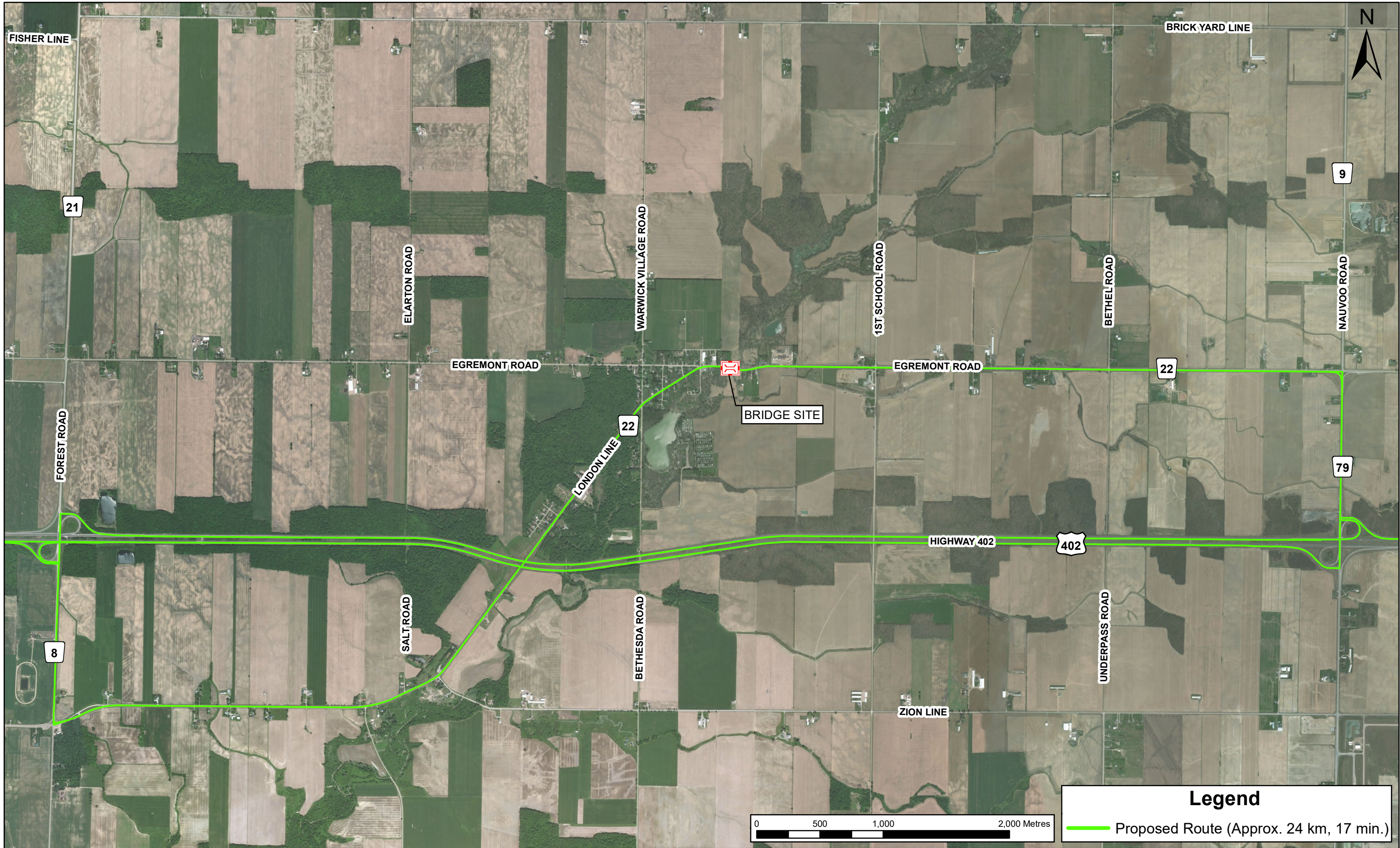
- REPLACEMENT OF THE EXISTING CROSSING WITH A NEW BRIDGE IN THE SAME LOCATION, HAS BEEN IDENTIFIED AS THE PRELIMINARY PREFERRED ALTERNATIVE BY THE COUNTY



Existing Deck Section – 9.144m wide deck



Existing Deck Section – 11.3m wide deck



Legend

— Proposed Route (Approx. 24 km, 17 min.)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



COUNTY OF LAMBTON
CLASS EA FOR THE BEAR CREEK BRIDGE
PROPOSED DETOUR ROUTE
 EGREMONT ROAD - 200m EAST OF LONDON LINE

DATE JULY 2018	PROJECT No. BR1279
SCALE 1 : 27 000	FIGURE No. 1