



August 8, 2013
Our File: 112006-3

MEMO

TO: Karen Landry, CAO/Clerk, Township of Puslinch
Don Creed, Director of Public Works and Parks, Township of Puslinch

FROM: Steve Conway, Gamsby and Mannerow Limited

RE: Cooks Mill Road Bridge Repairs, Contract No. P-13-01

COOK'S MILL BRIDGE

Cooks Mill Road Bridge was constructed in 1958. The bridge underwent a major rehabilitation in 1993 which included repairs to the original concrete abutments and centre pier and construction of a new I-beam type structure, concrete deck and steel box-beam guiderails along the bridge deck. Design for the 1993 reconstruction was completed by W.E. Kelly and Associates.

Gamsby and Mannerow Limited (G&M) has been conducting biannual inspection on bridges throughout Puslinch Township since 2007 and Cook's Bridge was included in these inspections. The inspections were carried out according to the Ontario Structure Inspection Manual (OSIM) to ensure that a comprehensive standard was used to consider all elements of the structures meet the performance and safety standards set by the Province.

The 2007 inspection report for this structure noted severe spalling and loss of a section at the concrete abutments and centre pier and recommended that concrete repairs be undertaken within a 1-5 year timeframe. Additionally, it was noted that girders are exhibiting severe corrosion at the south east corner of the structure with light-to-medium rusting in other areas. It was further recommended that the rust be removed and the girders be repainted. Similar recommendations were provided in 2009 and 2011 inspection reports, with the additional recommendation to repave the roadway approaches and provide guiderail and end treatments.

PROJECT TIMELINES

- March 2012 - Township retained G&M to design bridge rehabilitation, secure approvals and prepare tender for culvert replacement, bridge repairs, guiderail installation and road resurfacing
- December 2012 - Received Grand River Conservation Authority approval for culvert replacement and bridge repairs

people engineering environments

Gamsby and Mannerow Limited . Guelph, Owen Sound, Listowel, Kitchener, Exeter

650 Woodlawn Rd W., Block C, Unit 2, Guelph, ON N1K 1B8 519-824-8150 fax 519-824-8089 www.gamsby.com

- April 10, 2013 - Tender project
- April 22, 2013 - Award to Drexler Construction Limited
- May 15, 2013 - Pre-Construction meeting
- Early June 2013 - Township provided Notice of Construction notice, delivered to residents and construction signage erected advising them of upcoming construction project
- June 25, 2013 - Site Meeting #1 (onsite)
- July 2, 2013 - Commenced construction with minor clearing and culvert removal
 - The abutting landowner (north side of culvert) was concerned that a tree that was removed may have been located on his property and provided a copy of his property survey for our review. During this review it was determined that the north side of culvert and the tree that was removed was on the Township Right-of-Way (ROW). The same plan did indicate that the bridge abutments may encroach on the ROW.
 - Once the ROW limit issue was brought to our attention, G&M contacted Black, Shoemaker, Robinson and Donaldson Limited (BSRD) to review the ROW limits in the vicinity of the Cooks Mill Bridge.
- July 9, 2013 - Site Meeting #2 (on site)
 - The site meeting including discussions with abutting local residents who have objected to the proposed installation of guiderails and are not consenting to any encroachment on their properties.
 - The abutting landowner (south side of culvert) expressed concern about encroachment of a section of gabion basket at approximately 0+150. It was determined that the west section of the gabion basket at this location was inadvertently installed off the ROW onto private property. The gabion basket was subsequently removed and relocated to within the ROW.
- July 15, 2013 - G&M sent an email and sketch to the abutting landowner (south side of culvert) showing the revised gabion basket location.
- July 18, 2013 - Received draft survey (Attachment 1) from BSRD confirming that the north ends of the east and west bridge abutments are outside the Township ROW.
- July 25, 2013 - Provided sketch (Attachment 2) for discussion to Township and Township lawyer for review with our recommendation for property requirements for existing abutments, gabion baskets and future maintenance
- August 7, 2013 - Received additional comments from BSRD that the private property limits end where they contact the existing concrete bridge abutments. Therefore the existing concrete abutments are not located on private property. However, the existing gabion baskets related to the bridge structure are on private property and the proposed guiderail would still need to cross the ROW limit in order to be attached to the existing bridge railing system.

GUIDERAIL REQUIREMENTS

Abutting neighbours object to the proposed guiderail installation on the bridge approaches and guiderail installation on the adjacent Cooks Mill Culvert.

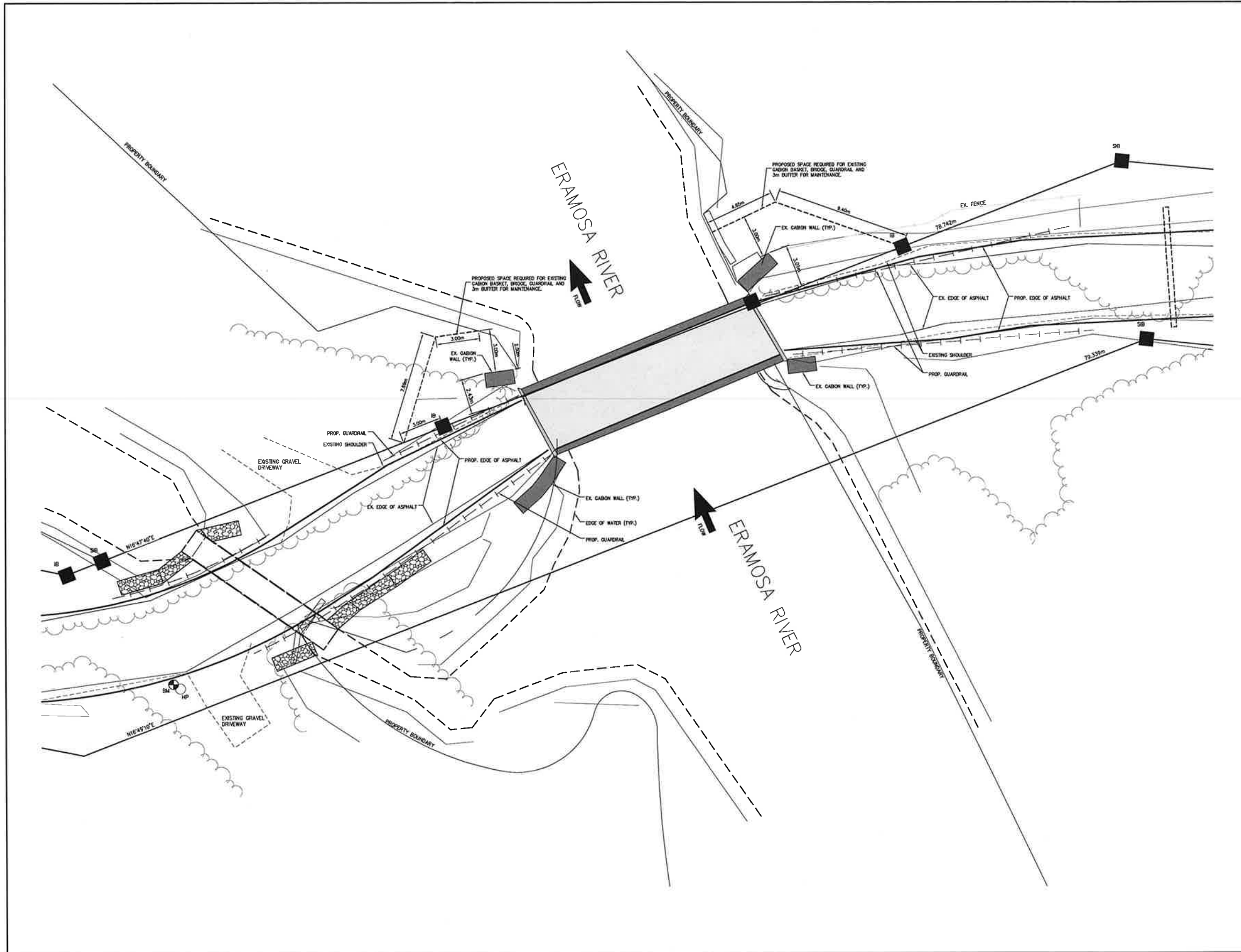
Guiderail installation was recommended by G&M in accordance with provincial standards for road safety and traffic hazard mitigation, in particular the Ministry of Transportation's (MTO) Roadside Safety Manual and the Transportation Association of Canada (TAC) Design Guide (1999).

At this location, traffic hazards include the presence of a steep embankment, adjacent body of water with a drop exceeding 1.0 m and manmade obstacle (existing bridge guiderail). The above standards for road design indicate that where a traffic hazard cannot be removed, then shielding of the hazard is necessary. It is our opinion that guiderail installation, as included in our design, is necessary to meet provincial engineering standards.

We would recommend that Cook's Mill Bridge remain closed until guiderails are installed or a temporary solution is found if delays in securing the required lands occur. We have identified a potential temporary solution to install a temporary guiderail to avoid the property line encroachment but we require a meeting with the fencing contractor to confirm the feasibility of the solution.

Attachments:

- Attachment 1 - Draft Plan of Survey, Cooks Mill Road, Black, Shoemaker, Robinson and Donaldson Limited
- Attachment 2 - Bridge Layout, Drawing A, Gamsby and Mannerow Limited



- NOTES :
1. TOPOGRAPHIC INFORMATION COMPLETED BY GAM APRIL 2012.
 2. EROSION CONTROL MATTING TO BE INSTALLED ALONG DISTURBED BANKS UPON COMPLETION OF WORK.
 3. NO WORKS PERMITTED WITHIN THE ERAMOSA RIVER BETWEEN MARCH 5 THROUGH TO JUNE 30.

BENCH MARKS :

SITE BM: NAIL IN FIRST HYDRO POLE WEST OF COOK'S BRIDGE, ON SOUTH SIDE OF COOK'S MILL ROAD
 ELEV. = 314.402m

THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS AND, WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED.

BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR ANY DAMAGE TO THEM.

ONLY DRAWINGS INCLUDING A PROFESSIONAL ENGINEER'S STAMP BEARING A SIGNATURE AND DATE ARE TO BE CONSIDERED VALID AND TRUE.

NO.	MM/DD/YY	REVISION DESCRIPTION	CH'D

G Gamsby and Mannerow
 ENGINEERS

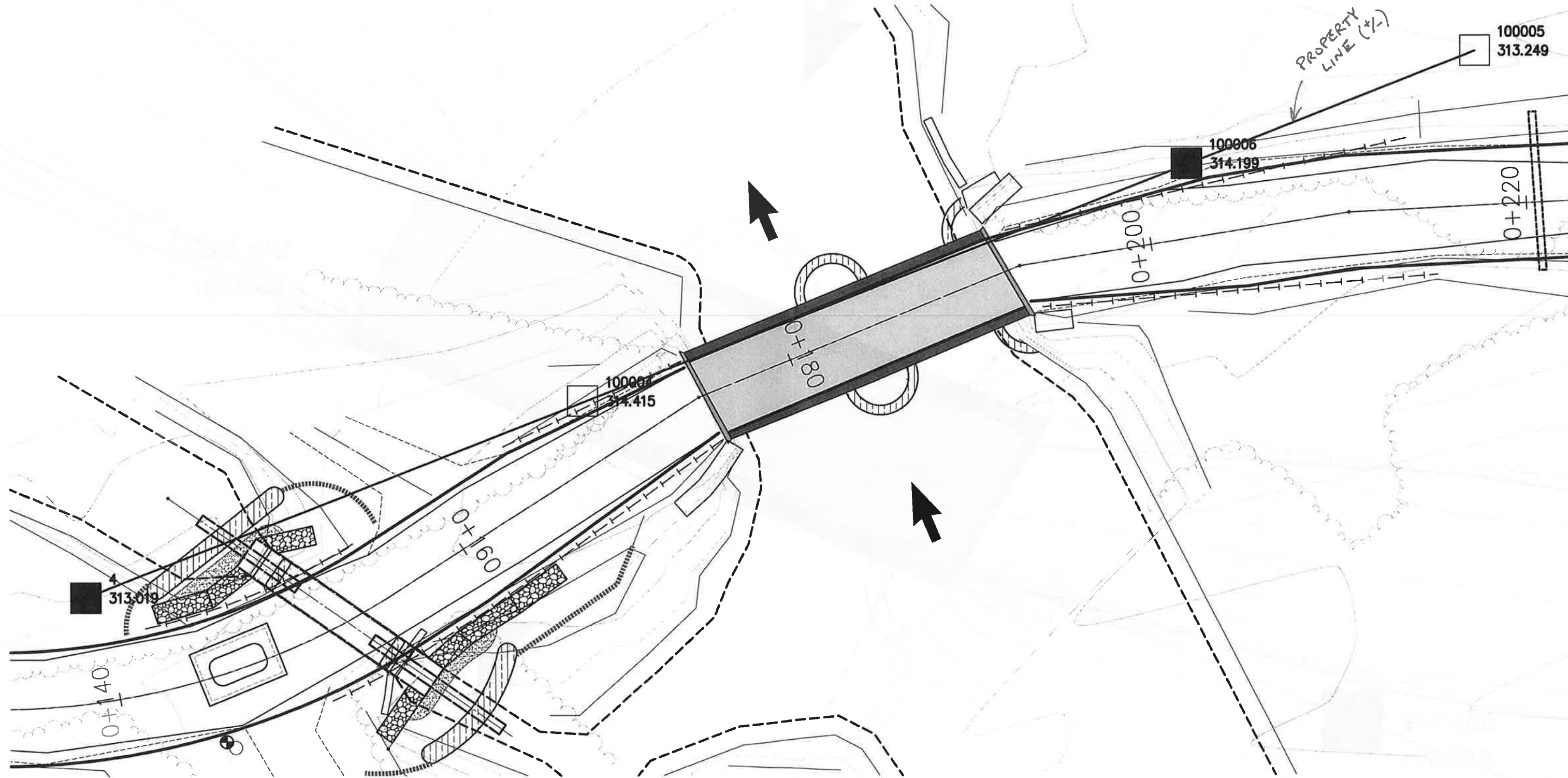
QUELPH - OWEN SOUND - LISTOWEL - KITCHENER - EXETER
 650 WOODLAWN ROAD WEST, BLOCK C, UNIT 2
 QUELPH ONTARIO N1K 1S8
 TEL: 519-824-8192 WWW.GAMBY.COM

TOWNSHIP OF PUSLINCH
COOK'S MILL ROAD
RESURFACING, BRIDGE REPAIRS
& CULVERT REPLACEMENT
CONTRACT # P13-01

BRIDGE LAYOUT

DESIGNED BY :	APPROVED BY :	PROJECT NO. :	DRAWING NO. :
		112006-3	
		DATE :	SCALE :
		JULY 2013	1:125

COOK'S MILL
112006-3

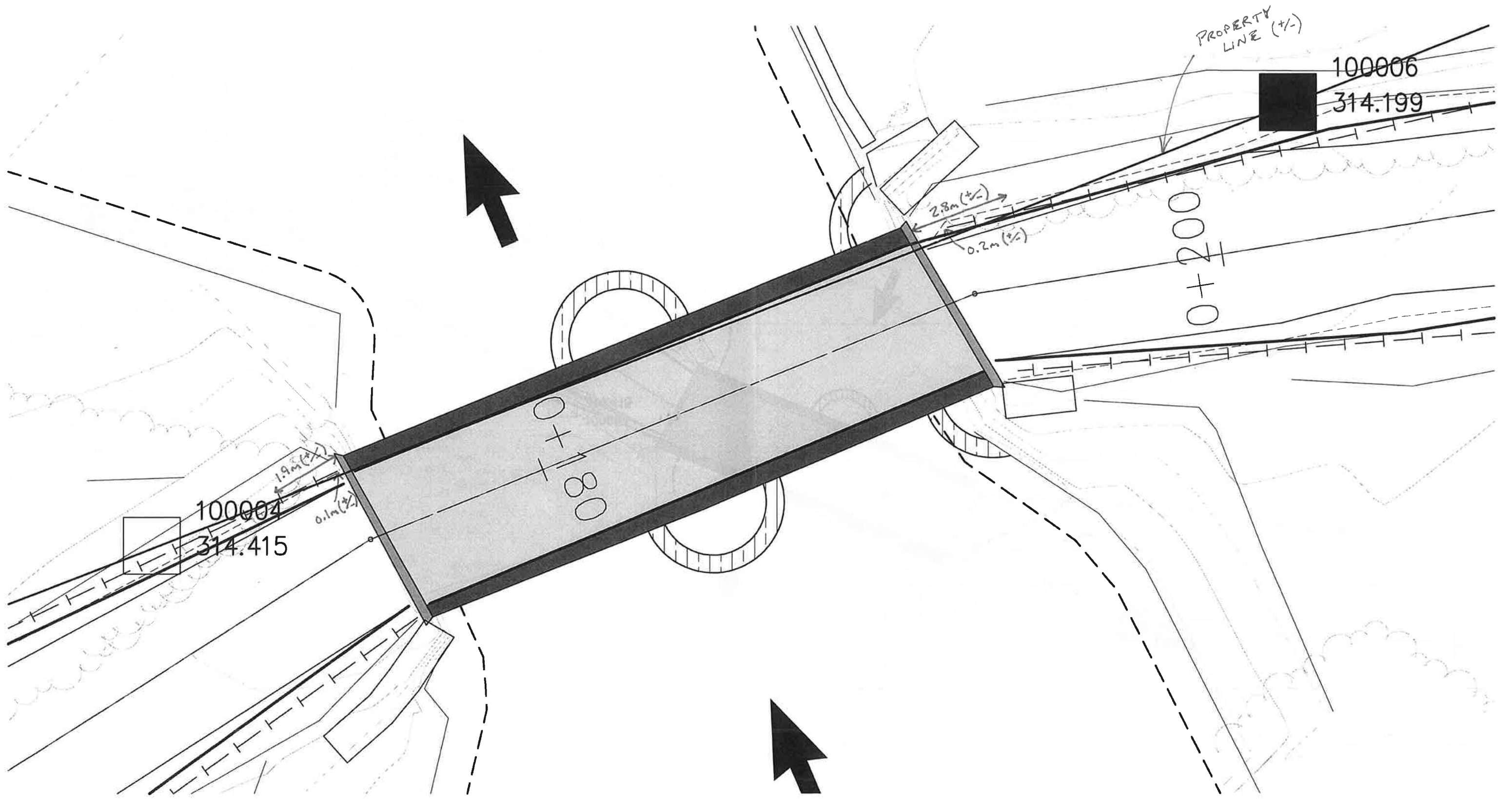


10m

1:200

COOK'S MILL

112006-3



5m

1:100