McElhanney

BEST MANAGED COMPANIES

# Lions Park Bridge – Demolition Plan Memo

Date: September 30, 2022 | Revision 0

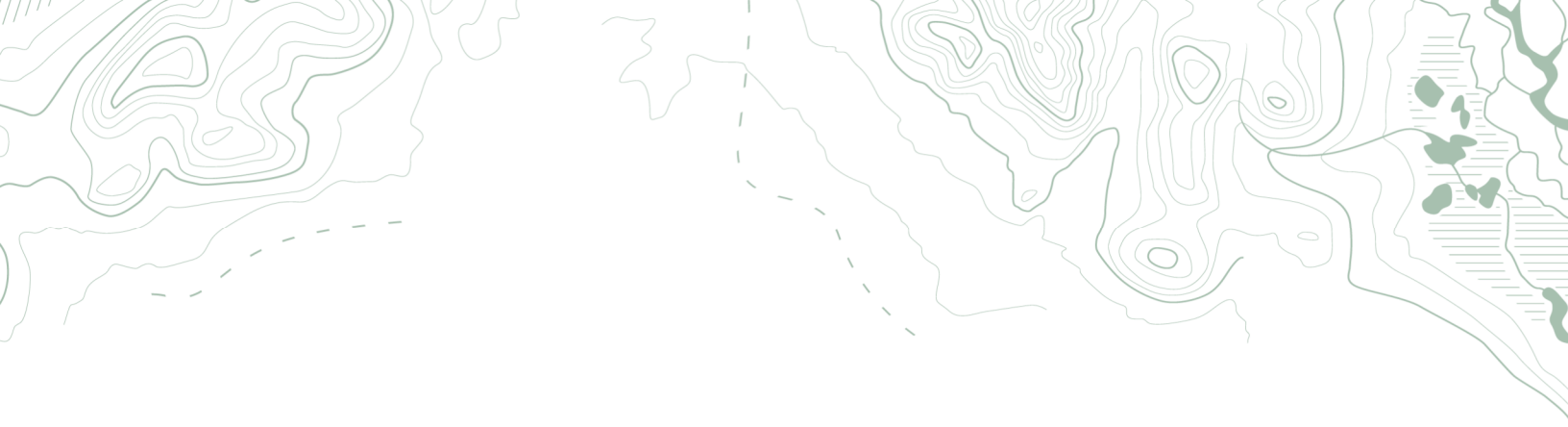Submitted to: Town of Edson
Prepared by McElhanney

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Our file: 3511-11865-00

# Your Challenge.
# Our Passion.

# Contents

# Appendices

# 1. Introduction

Lions Park Bridge is a three-span wood structure on timber and concrete foundations located at the trailhead to the Town's walking trail system. The bridge crosses over Poplar Creek, a Class C watercourse with a Restricted Activity Period (RAP) of September 1 to July 15 in accordance with the Water Act Code of Practice. The structure is in very poor condition and is currently closed to public access.

The Town of Edson (the Town) has retained McElhanney Ltd. (McElhanney) to provide structural engineering services for the deconstruction of the Lion's Park Bridge. Structural engineering services include preparation of a site overview drawing and a demolition procedure. The intent of this memo is to describe the sequence of deconstruction activities and the restoration of the crossing location for the Town of Edson.

*Figure 1: Project Location*
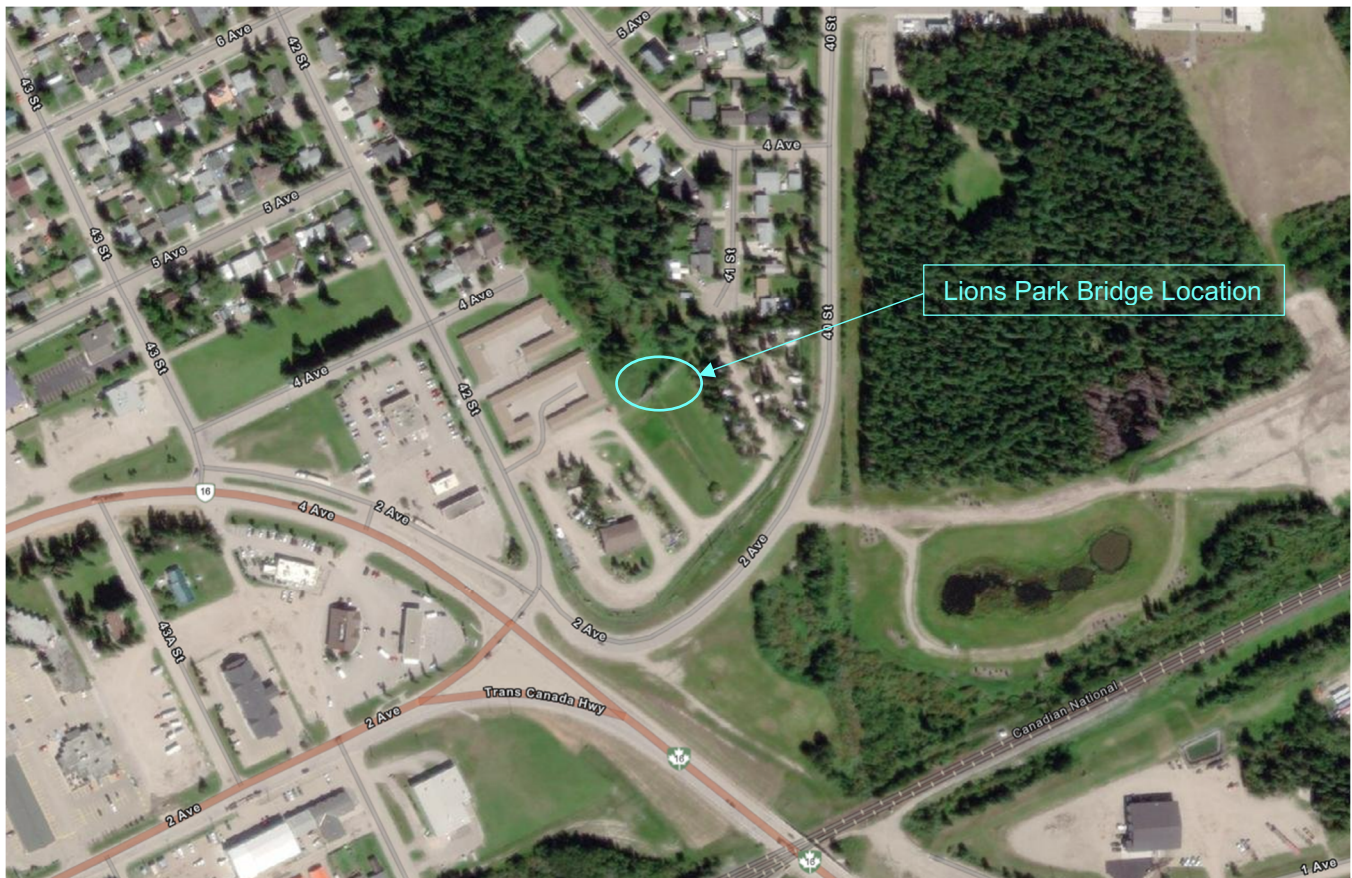
# 2. Expected Construction Activities

The expected construction activities for demolition of the existing structure are as follows:

- Remove the Lions Park pedestrian bridge and all of its components including piers, abutments, and concrete foundations.

- Waste materials as a result of demolition are to be sorted and sent to an appropriate waste receiving facility. Chemically treated wood to be disposed of in a Class I or Class II landfill. Prior landfill operator permission is required.

- Bank remediation will be done following deconstruction in accordance with environmental and project requirements.

# 3. Methodology

The Contractor shall submit a Traffic Accommodation Strategy (TAS) Plan in accordance with Alberta Transportation manual "Traffic Accommodation in Work Zones and its Urban Supplement" and an Environmental Construction Operations (ECO) Plan in accordance with Alberta Transportation manual "Environmental Construction Operations Plan (ECO Plan) Framework" to the Town for review minimum 2 weeks prior to the start of work.

Laydown areas adjacent to the bridge will be required for the Contractor to set-up and to place materials as deconstruction occurs. The Contractor shall coordinate the location and access to the laydown areas with the Town and Lions Park Campground.

An existing site sketch including photos of the structure and proposed laydown areas is attached in *Appendix A* for reference.

## 3.1. GENERAL NOTES

- Construction shall comply with all applicable federal, provincial, and municipal regulations and bylaws.

- All permits and regulatory approvals to be in place prior to start of construction. Demolition work is to comply with Best Management Practices.

- Construction shall be carried out in a manner that maintains water quality. Any cutting or sawing of chemically treated wood shall be done within an appropriate containment area.

- Operate machinery in a manner that minimizes disturbance to the banks of the watercourse.

- All handrails and fall arrest systems shall be designed in accordance with the applicable health and safety regulations/standards (designed by the Contractor).

- All crane and/or lifting rigging is to be determined on site by the Contractor. It is the Contractors responsibility to ensure that the rigging has sufficient strength, follows standard industry practice, and is secure such that components will not be dropped during lifting. The strength and stability of all bridge components during all operations of deconstruction is the Contractor's responsibility.

- It is the Contractors responsibility to ensure that the crane and/or excavator capacities are not exceeded. As the length of reach is reduced, the equipment has more capacity to lift bundled items or pier bent assemblies. The payload for each lift is to be determined on site by the Contractor.

## 3.2. BRIDGE DECONSTRUCTION

The suggested bridge deconstruction sequence is outlined below. If an alternative construction methodology is preferred by the Contractor, the Contractor shall submit their proposed methodology to the Town for review minimum 2 weeks prior to the start of work.

- Install a debris containment platform or net beneath the bridge to prevent debris from falling into Poplar Creek during demolition.

- Set up a Creosote Containment Area in the laydown area or any areas where sawing, cutting, or drilling of chemically treated timber is to occur. The Creosote Containment Area shall be constructed to prevent the release of contaminants or debris to the surrounding environment.

- Demolition shall begin towards the middle of the bridge.

- Provide safe access to the bridge deck and fasteners.

- Remove bridge rails, bridge rail posts, and decking planks.

- Once decking is removed, provide safe access to exposed sub deck.

- Detach sub deck ties from stringers and stringers from bearing seats/caps. Lift ties and stringers to the laydown area. An appropriate fall arrest system or alternative access will be required to connect the rigging to the ties and stringers. Temporary bracing (if required) to hold pier columns in place during stringer removal is to be determined on site by the Contractor.

- Detach bearing seats/caps and cap beams from the columns.

- Detach columns and piers from concrete foundations including any cross bracing.

- All materials will be lifted to the laydown area and the Creosote Containment Area (as applicable) for processing and then transported for disposal.

## 3.3. FOUNDATION REMOVAL

All foundation removal work will be completed above the high water mark. Refer to the Qualified Aquatic Environment Specialist report for environmental considerations and best management practices for working around water. Foundation removal shall include the following:

- Demolish and remove concrete pier footings.

- Cut and remove timber abutment and wingwall piles to minimum 0.5m below finished grade.

- Demolish and remove concrete and timber abutment walls and wingwalls.

## 3.4. SITE RESTORATION

The following site restoration shall be completed:

- Grade existing bridge approaches to achieve a maximum slope of 2:1. No grading of the creek banks is expected. Dispose of all surplus excavated materials.

- Restore all disturbed areas to a condition similar to the natural ground.

- Place minimum 50mm thickness of topsoil on all disturbed areas.

- Seed placed topsoil using an approved reclamation grass seed mixture.

- Maintain effective erosion and sediment control measures until complete re-vegetation of disturbed areas is achieved.

# 4. Closing

The above methodology has been prepared by McElhanney for the benefit of the Town of Edson. The information and data contained herein represent McElhanney's best professional judgement in light of the knowledge and information available to McElhanney at the time of preparation.

McElhanney denies any liability whatsoever to other parties who may obtain access to this memo for any injury, loss or damage suffered by such parties arising from their use of, or reliance upon, this document or any of its contents without the express written consent of McElhanney and the Town of Edson.

We thank you for the opportunity to work on this project. Please do not hesitate to contact us if you have any questions.

Yours truly,


Prepared by:                                                    Reviewed by:




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# APPENDIX A – EXISTING SITE SKETCH
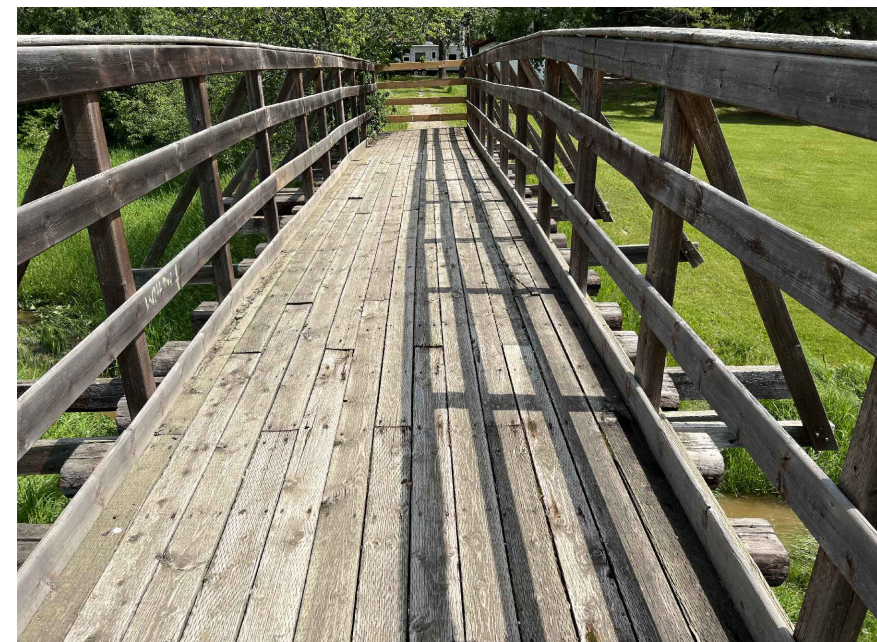
PHOTO 1


PHOTO 5


PHOTO 2


PHOTO 6


PHOTO 3


PHOTO 7


PHOTO 4



PHOTO 6 - ABUTMENT

PROPOSED LAYDOWN AREA B

PHOTO 2 - DECK AND RAILING

PHOTO 7 - EX TIMBER RETAINING WALLS TYP
PHOTO 3 - DECK CONFIGURATION
PHOTO 4 - PIER BEARING AND CAPBEAM
PHOTO 1 - EX 15.1m TIMBER BRIDGE
PHOTO 5 - PIER FOOTING

POPLAR CREEK

PROPOSED LAYDOWN AREA A

EXISTING SITE PLAN
SCALE 1:250

Scale
0    1:250    10

ORIGINAL DWG SIZE: ANSI D (22" x 34")

Client

Edson

McElhanney

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LIONS PARK BRIDGE
EXISTING SITE

Drawing No.
SK001

Project Number
3511-11865

Rev.
0

| Rev | Date | Description | Drawn | Design | App'd |
|-----|------|-------------|-------|--------|-------|
| 0 | 2022-09-29 | ISSUED FOR INFORMATION | SJ | SS | CA |

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