

September 22, 2022

Town of Drumheller
Resiliency and Flood Mitigation Office
224 Centre Street
Drumheller, Alberta
T0J 0Y4

Deighen Blakely, P.Eng.
Project Director

Dear Ms. Blakely:

Newcastle Flood Mitigation Barrier
Pre-Disturbance Wildlife Sweep

1 INTRODUCTION

Klohn Crippen Berger Ltd. (KCB) is pleased to provide the above referenced pre-disturbance wildlife sweep conducted on September 19, 2022, to support the Town of Drumheller with respect to clearing vegetation for the installation of a flood mitigation barrier at the Newcastle area (the Project). A site plan of the Project is provided as Appendix I.

2 SITE DESCRIPTION

Habitat within the Project area consisted predominantly of grasses and shrubs, though some large trees were encroaching into the footprint of the berm. The proposed berm area (Appendix I) had been previously cleared of trees (Appendix II, Photo 1). Much of the area adjacent to the project area is treed, consisting predominantly of mature trees. Park areas are mowed and contain no understory, whereas riparian habitat contained a thick shrubby understory (Appendix II, Photos 2 and 3). Recreational walking/biking paths typically run alongside of the proposed berm development area, especially within the Newcastle Beach Recreation Area (Appendix II, Photo 4).

3 FEDERAL AND PROVINCIAL REGULATIONS

Clearing land cover during the nesting season of birds and mammals may lead to contraventions of the *Wildlife Act* of Alberta, the federal *Migratory Birds Convention Act*, and the federal *Species at Risk Act*. Under Section 36(1) of the *Wildlife Act*, a person or corporation cannot molest, disturb, or destroy a house, nest, or den of wildlife. Under Sections 5.1(1) and (2) of the *Migratory Birds Convention Act*, a person or corporation cannot deposit a substance or a combination of substances that are harmful to migratory birds. Under Section 12.1(h) a person or corporation cannot kill, capture, injure, take, or disturb migratory birds or damage, destroy, remove, or disturb nests.

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Finally, Section 32(1) of the *Species at Risk Act* provides protection to Endangered or Threatened aquatic and terrestrial species at risk from being killed, harmed, captured, harassed, possessed, or collected. In addition, the Act also prohibits the destruction of the residence of a listed species. Regulatory approvals are not available to permit contraventions to these Acts. Therefore, it is the responsibility of those wanting to clear land cover during the breeding season of wildlife to ensure active nests and dens are not disturbed or destroyed during clearing activities.

During the breeding period of wildlife, nest/den searches must be conducted by qualified biologists of the proposed project area to identify important wildlife features (e.g., nests, dens, and hibernacula) that must be avoided during construction (AEP 2021)¹. Any occupied nests/dens found are to be identified and a setback distance, as recommended by regulators, is to be applied that will prevent the destruction or disturbance of the nest/den for a duration that improves the opportunity for the successful completion of the breeding activity.

4 METHODS

During the wildlife sweep, the biologist walked slowly and scanned for nests constructed in shrubs and grasses and to watch for birds exhibiting behaviors that would indicate a nearby, active nest (e.g., broken wing display; aggressive defense of an area; and or birds carrying food, nesting materials, and or fecal sacs), as well as any burrows, beddings, tracks, or other signs of the presence of small mammals and/or ungulates. Trees located adjacent to the Project area were also checked for raptor nests, as the Project work (both vegetation clearing and general construction noise) would have the possibility of disturbing birds with nests adjacent to the area to be cleared. While conducting the sweep the biologist looked for signs of occupied dens including but not limited to the presence of animal, evidence of territorial displays, fresh feces, signs of digging/excavation and/or tracks (AEP 2021¹). While walking, the biologist scanned the ground for amphibian and snakes.

5 RESULTS

The area swept was clear of occupied nests on September 19, 2022. Birds observed in the area appeared to be flocking and exhibiting migratory movements and not nesting behavior. These observations are consistent with typical bird behavior at this time of year.

Multiple areas over the entire extent of the Project area had deer feces present. A mule deer (*Odocoileus hemionus*) doe and her fawn were observed in the thick shrubs, approximately 20 m east of the berm footprint in the Newcastle Beach Recreation Area (Figure 1). The pair of deer appeared to be very tolerant of human activity (Photo 5). Nine species of birds and two squirrel species were also observed during the survey (Table 5.1). Many of the individual birds were observed at bird feeders located at along residential properties that back onto the berm footprint.

¹ Alberta Environment and Parks. 2021. Wildlife Sweep Conditions in the Master Schedule of Standards and Conditions Facts About Wildlife Sweep Conditions for Public Lands Disposition. Edmonton, AB.

Figure 1. Area swept for nests and wildlife



A report of a possible bat sighting near the south-west ball diamond in the Newcastle Beach Recreation Area was investigated. No observations of bats were noted during the survey. Given the time of year, and depending on the species, bats should have migrated from the area or returned to their hibernacula in preparation for the overwintering period. The recreation area does not contain bat hibernacula habitat.

Table 5.1 Incidental Observations

Common Name	Scientific Name	Count
House Sparrow	<i>Passer domesticus</i>	46
American Robin	<i>Turdus migratorius</i>	11
American Crow	<i>Corvus brachyrhynchos</i>	8
Black-capped Chickadee	<i>Poecile atricapillus</i>	6
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	6
Turkey Vulture	<i>Cathartes aura</i>	4
White-breasted Nuthatch	<i>Sitta carolinensis</i>	1
Orange-crowned Warbler	<i>Vermivora celata</i>	1
Belted Kingfisher	<i>Megaceryle alcyon</i>	1
Red Squirrel	<i>Tamiasciurus hudsonicus</i>	1
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>	1

Two members of the Calgary Zoo were observed walking along the berm footprint east of the Newcastle Beach Recreation Area. It was presumed they were salvaging sage from the berm construction area.

6 RECOMMENDATIONS

The peak of breeding activity for most birds occurs between late May and July. With development occurring outside this window, it is unlikely new nests will become active in 2022, and therefore the risk is considered negligible. With respect to the deer, there is substantial riparian habitat north of the berm footprint which will allow the deer to escape from the disturbance of construction. Caution should be taken when developing grassy areas suitable for bedding that no young are present. If the site activity is shutdown for more than 7 days, another pre-disturbance wildlife sweep should be conducted before work resumes.

7 CLOSING

This report is an instrument of service of Klohn Crippen Berger (KCB). The report has been prepared for the exclusive use of the Town of Drumheller (Client) for the specific application to the Flood Mitigation Project, and it may not be relied upon by any other party without KCB's written consent.

KCB has prepared this report in a manner consistent with the level of care, skill and diligence ordinarily provided by members of the same profession for projects of a similar nature at the time and place the services were rendered. KCB makes no warranty, express or implied.

Use of or reliance upon this instrument of service by the Client is subject to the following conditions:

1. The report is to be read in full, with sections or parts of the report relied upon in the context of the whole report.
2. The observations, findings and conclusions in this report are based on observed factual data and conditions that existed at the time of the work and should not be relied upon to precisely represent conditions at any other time.
3. The report is based on information provided to KCB by the Client or by other parties on behalf of the client (Client-supplied information). KCB has not verified the correctness or accuracy of such information and makes no representations regarding its correctness or accuracy. KCB shall not be responsible to the Client for the consequences of any error or omission contained in Client-supplied information.
4. KCB should be consulted regarding the interpretation or application of the findings and recommendations in the report.
5. This report is electronically signed and sealed and its electronic form is considered the original. A printed version of the original can be relied upon as a true copy when supplied by the author or when printed from its original electronic file.

If you should have any questions, please do not hesitate to contact Jason Duxbury at (780) 733-4586.

Yours truly,

KLOHN CRIPPEN BERGER LTD.



Jason Duxbury, PhD., P.Biol., R.P.Bio
Senior Wildlife Biologist, Regulatory Approvals & Permitting Team Lead

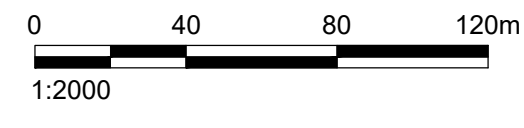
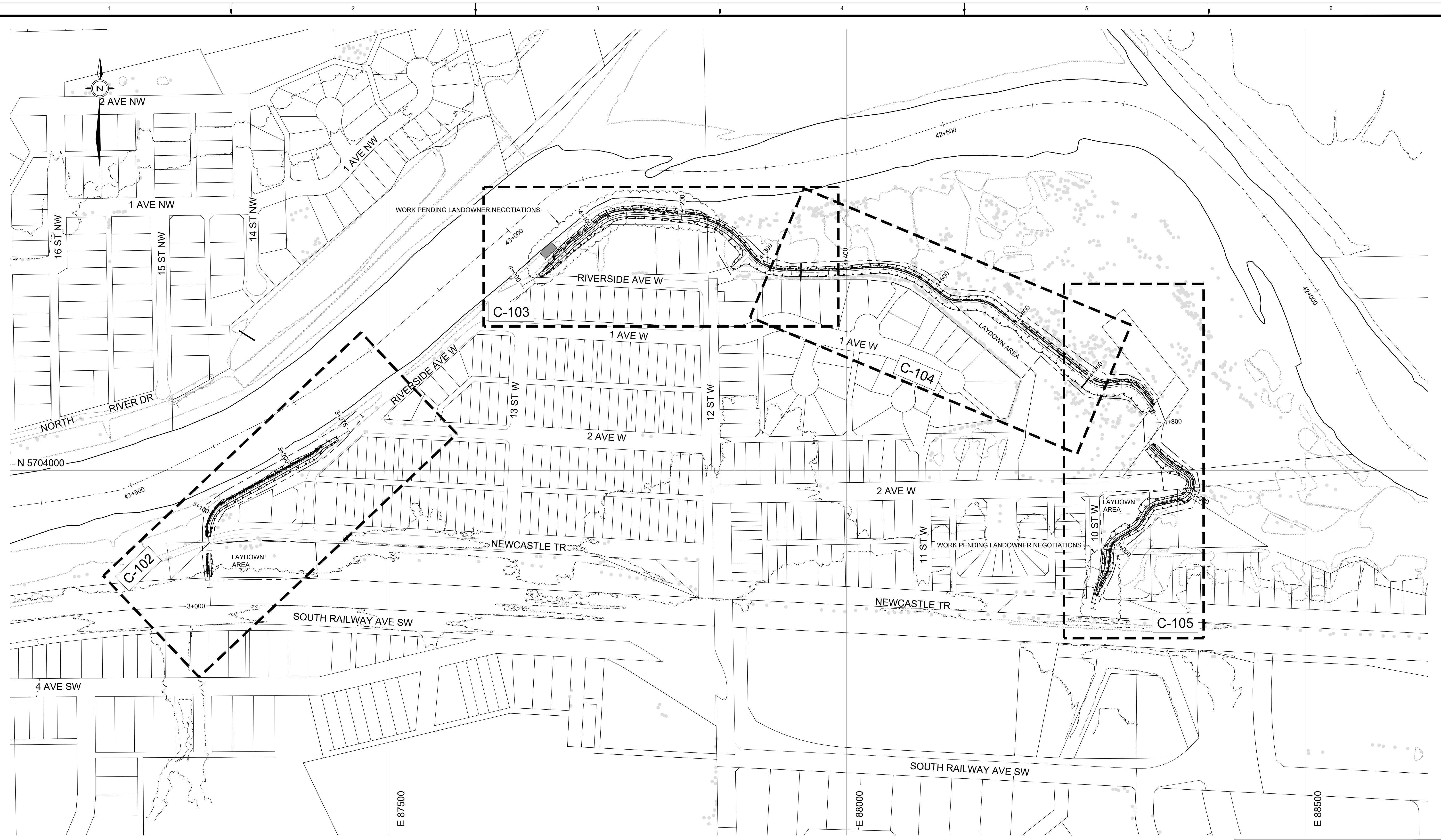
ATTACHMENTS

Appendix I Site Plan
Appendix II Site Photographs

APPENDIX I

Site Plan

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 At Full Size, this border measures 320 mm x 80 mm
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PLAN
SCALE = 1:2000

THIS DRAWING MAY HAVE BEEN REDUCED.
ALL SCALE NOTATIONS INDICATED (i.e. 1:1000 etc)
ARE BASED ON 22" X 34" FORMAT DRAWINGS



Rev	Date	Des	Dwn	Chk	Description
0	2022-08-15	SH	SH	RC	ISSUED FOR CONSTRUCTION

Rev	Date	Des	Dwn	Chk	Description

DRUMHELLER RESILIENCY & FLOOD MITIGATION OFFICE
NEWCASTLE PROJECT

GENERAL ARRANGEMENT PLAN AND PROJECT SITE LIMITS

Project No. 22.06.20B Drawing No. Rev. 0
Group CIVIL C-101

APPENDIX II

Photographs

Appendix II - Photographs

Photo 1 Stumps remaining from prior tree clearing.



Photo 2 Dense understory in riparian areas.



Photo 3 Mowed park area.



Photo 4 Hiking and biking trail next to existing berm.



Photo 5 Mule deer doe and fawn.

