

## Memo

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**To:** Deighen Blakely  
**Company:** Town of Drumheller  
**From:** Luke Visser, B.Sc., P.Biol.  
**CC:** Holly Dodds, M.Sc., P.Biol., RPBio (Wood)  
**Date:** 13 September 2022  
**Ref:** CW238404  
**Re:** **Willow Estates Dike Pre-Construction Survey (Wildlife Sweep)**

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### 1.0 INTRODUCTION

Wood Environment & Infrastructure Solutions Canada Limited (Wood) was retained by the Drumheller Resiliency and Flood Mitigation Office (Town of Drumheller) to undertake a pre-construction survey (wildlife sweep) in support of site clearing and development activities proposed to begin September 2022 along the Red Deer River, adjacent to the community of Willow Estates in Drumheller, Alberta. The proposed works include clearing/grubbing, new dike construction and associated infrastructure development surrounding Willow Estates (**Figure 1**).

The proposed dike and expansion area (the Project) has a direct footprint of roughly 2.8-hectares and a combined search area of approximately 23-hectares when including the surrounding 100-metre buffer.

Wildlife sweeps of the proposed development and adjacent areas are required on public lands prior to construction to identify the presence of significant wildlife habitat features (e.g., nests, dens) (AEP 2021). The following conditions under the MSSC (AEP 2021) apply, among others, to the proposed works on public lands:

- 1600 The Disposition Holder must conduct a complete and [sic] immediate wildlife sweep\* of the Lands subject to the disposition prior to any activity, as per the "Wildlife Sweep Protocol".
- 1601 The Disposition Holder must submit observations from a wildlife sweep\* to the Fisheries and Wildlife Management Information System (FWMIS) and notify the issuing Regulatory Body in writing upon request that the wildlife sweep\* was completed.
- 1602 The Disposition Holder must incorporate a buffer\* zone of a minimum width of 100 m undisturbed vegetation, where an established buffer\* does not already exist for any and all key habitat features including, but not limited to leks\*, nests, dens and houses identified in the wildlife sweep\*.

Further to the provincial sweep requirements, the federal *Migratory Birds Convention Act* (MBCA) protects migratory birds, their nests, and eggs on both public and private lands. Although proposed construction timing does not fall within the standard migratory breeding bird window for the Drumheller area, a recent (July 2022) update to the MBCA regulations necessitate the survey for the unoccupied nests of certain species (e.g., Pileated Woodpecker (*Dryocopus pileatus*), herons) in order to achieve compliance with the MBCA. Certain unoccupied nests of migratory birds (18 species listed in Schedule 1 to the Migratory Birds Regulations) cannot be destroyed without prior registration and confirmation of non-occupancy over three (3) consecutive years.

## 2.0 METHODS

Wildlife sweeps were conducted in accordance with the Alberta Environment and Parks wildlife sweep Protocols (GOA 2020). The Wildlife Sweep Protocol requires that a walkthrough of the proposed disturbance sites and minimum surrounding 100-metre buffer area be completed to identify important wildlife features that must be avoided during associated activities (**Figure 2**).

Wildlife sweeps targeted areas where higher likelihood of encounter with wildlife features was possible. Areas where the likelihood of encounter with wildlife habitat features are higher typically include upland habitats, areas with mature trees, areas with fallen trees having large root-wads, and areas that are not seasonally inundated or classified as a type of wetland. Wood reviewed available aerial imagery to establish areas with potential for wildlife habitat features; this preliminary assessment supported the refinement of suitable habitat and targeted areas to focus on during the wildlife sweeps.

Where habitat was considered suitable for important wildlife features, crews walked linear transects using a weave pattern to maximize detection of features. Transects were spaced approximately 5-10 metres apart. An additional high-level (visual) search of accessible areas within 1,000-metres of the proposed footprint was completed for wildlife features with greater than 100-metre buffers (e.g., colonial nesting birds, select raptor nests).

Crews looked for features such as piles of brush, uprooted trees, pushed-up mounds/soil hummocks, and areas with topographic relief (Tietje and Ruff 1980; Hodder et al. 2014). These features are important because they form the majority of habitat associated with dens. Any hole with den potential was investigated for size and depth. Crews also looked for stick nests, nesting cavities, signs of mineral licks, and other significant features such as wildlife trees (e.g., snags with woodpecker activity).

GPS tracks of the wildlife sweep walkthrough were collected by field staff using Avenza Maps.

### **Wildlife Sweep Timing**

Wildlife sweeps should be completed as close to the first day of construction as possible to ensure no nests or dens were created on the lands under disposition between the sweep and start of construction (AEP 2020). The wildlife sweep was completed on 02 September 2022. The standard recommendation by AEP is that sweeps be conducted within 10 days of the initiation of the proposed activities.

## **Field Personnel**

The following qualified personnel participated in the wildlife sweeps at the Project site:

- Luke Visser, B.Sc., P.Biol.
- Alannah Gallo, B.Sc., P.Biol.

## **3.0 RESULTS**

### **3.1 Sweep Conditions**

Wildlife sweeps were conducted on 02 September 2022 between 11:00 and 15:00. Average sweep conditions consisted of temperatures ranging from 20°C to 26°C, sunny skies with light wind and no precipitation.

### **3.2 Sweep Results**

The development and buffer areas shown on **Figure 2** were surveyed. Habitat consisting of mature poplar forest and dense riparian shrub were thoroughly swept for wildlife features.

No sign or cavities were indicative of Pileated Woodpecker presence or nesting; activity of smaller woodpecker species (e.g., Downy Woodpecker (*Dryobates pubescens*), Hairy Woodpecker (*Dryobates villosus*), Northern Flicker (*Colaptes auratus*)) were observed throughout the mature forested areas. Care should be taken during vegetation removals to allow non-nesting migratory birds (e.g., woodpeckers) to disperse from the area.

Significant wildlife features (occupied dens) were identified during the wildlife sweep: two beaver (*Castor canadensis*) lodges and recent beaver activity were observed along the southwest banks of the Red Deer River outside of the immediate Project footprint (**Figure 2**). One bank lodge was identified as active but was located nearly 500-metres outside of the 100-metre buffer area, while the second bank lodge was found just outside of the proposed Project footprint; however, it was dilapidated and determined to be inactive. Beavers are listed as fur-bearers under the Alberta *Wildlife Act* and are provincially secure; they cannot be trapped/harmed/killed and their lodges cannot be destroyed without a damage control license on public lands within Alberta.

Many wildlife species are discrete and will not display or become agitated during sweeps. To this extent, we recommend that those completing removals are made aware of the potential for encounter with nesting/denning animals and/or wildlife not previously documented by Wood biologists; if detected, work in the area should stop until consultation with the appropriate environmental contact is completed. While this wildlife sweep was completed in accordance with best practices and industry requirements, there is the potential that individuals or features may not have been captured. To this extent, being mindful of the potential presence of wildlife in the area and stopping work if a wildlife feature is detected or wildlife is observed in distress in the vicinity of the works constitutes further best practice and will assist the Project in maintaining regulatory compliance with the *Wildlife Act* and the MBCA.

#### 4.0 CLOSURE

This report is based on circumstances and conditions available at the time of the assessment. Wood has performed its services in a manner consistent with the standard of care and skill ordinarily exercised by members of the profession practicing in Alberta at the time that the services were performed.

Wood trusts that this report meets your current needs. Should you have any questions or require further clarification, please contact the undersigned at your convenience.

Yours truly,

**Wood Environment & Infrastructure Solutions Canada Limited**

Reviewed by:



Luke Visser, B.Sc., P.Biol.  
Wildlife Biologist



Holly Dodds, M.Sc., P.Biol., RPBio., EP  
Senior Wildlife Biologist

LV/HD/jm

## 5.0 REFERENCES

Government of Alberta (GOA). 2020. *Wildlife Sweep Protocols – Sensitive Species Inventory Guidelines*. Alberta Environment and Parks. 3 pp.

Government of Alberta (GOA). 2021. *Master Schedule of Standards and Conditions*. Alberta Environment and Parks. ii + 118 pp.

Hodder, D.P., C.J. Johnson, R.V. Rea, and A. Zedrosser. 2014. *Application of a Species Distribution Model to Identify and Manage Bear Den Habitat in Central British Columbia, Canada*. *Wildlife Biology* 20:238-245.

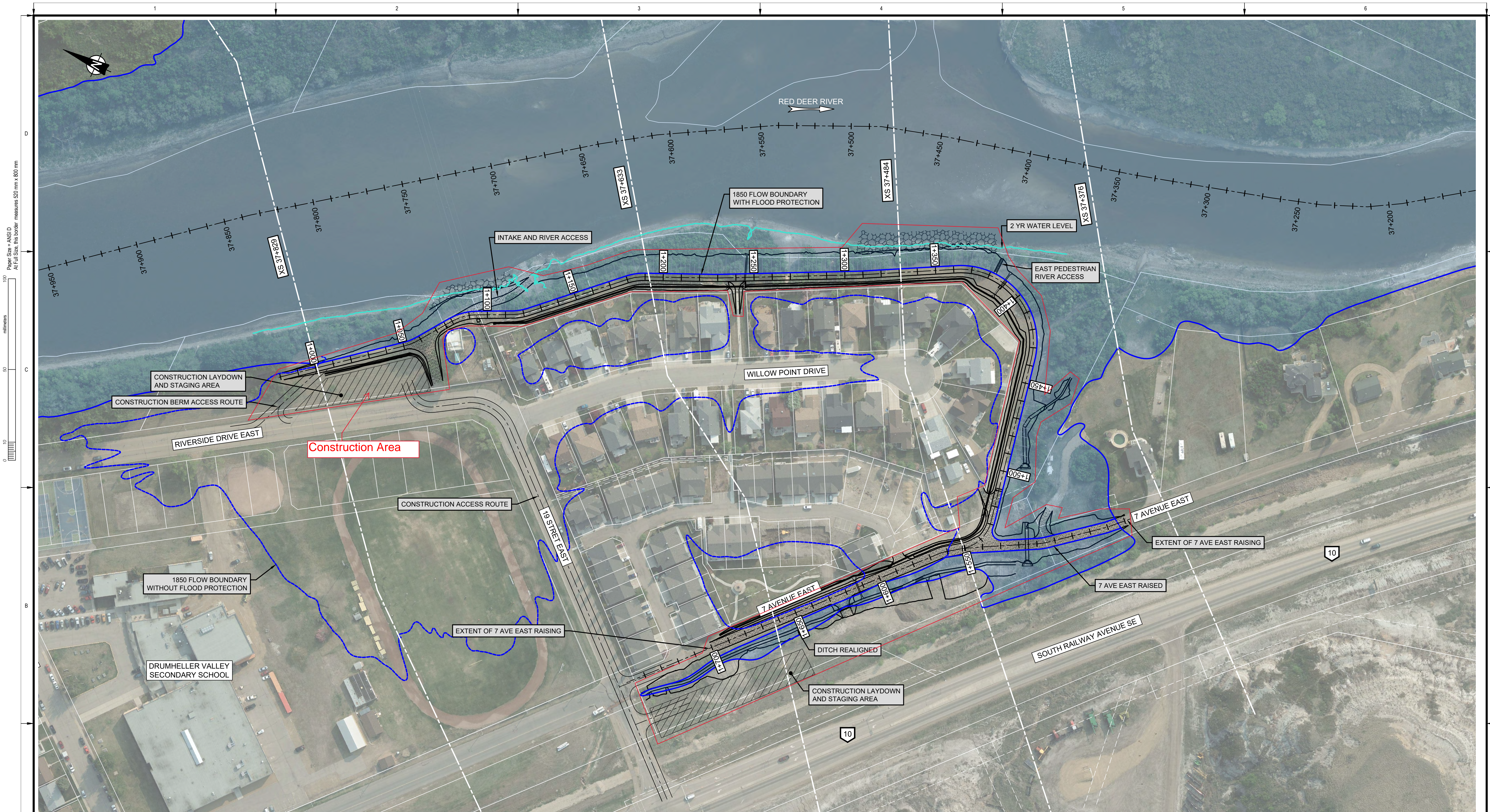
Tietje, W.D. and W.L. Ruff. 1980. *Denning Behaviour of Black Bears in Boreal Forest of Alberta*. *The Journal of Wildlife Management* 44(4): 858-870.



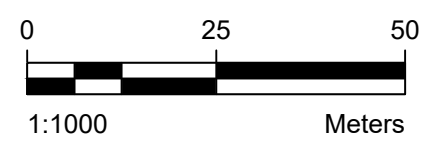
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**Figures**





**NOT FOR CONSTRUCTION**



**wood.**

Rev	Date	Des	Dwn	Chk	Description
0	2021-10-05	SW	JH	LM	ISSUED FOR REVIEW
1	2022-04-27	SW	JH	LM	ISSUED FOR REGULATORY REVIEW
2	2022-06-17	SW	JH	LM	ISSUED FOR TENDER

**DRUMHELLER RESILIENCY & FLOOD MITIGATION OFFICE  
RESILIENCY AND FLOOD MITIGATION PROGRAM**

**WILLOW ESTATES  
PLAN**

Project No. **CW2384**  
Group **WILLOW ESTATES**

Drawing No.

**C-111** Rev. **2**

Active Bank Lodge



Inactive Bank Lodge

