

Site Location Study

Riverside Trail Realignment

Final Report v. 2



Prepared for:
City of Edmonton, Integrated Infrastructure Services
Edmonton, Alberta

Under Contract to:
EDA Planning + Urban Design Inc.
Edmonton, Alberta

Project Number EP-893
15 September 2020

Prepared by:
**Spencer Environmental
Management Services Ltd.**
Edmonton, Alberta



SPENCER ENVIRONMENTAL

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William Packolyk, BLA, AALA, BCSLA
Landscape Architect
EDA Planning + Urban Design
5307 – 47 Street NW
Edmonton, Alberta T6B 3T4

15 September 2020
EP893

Dear Mr. Packolyk,

**Re: Site Location Study Pursuant to Bylaw 7188 for Riverside Trail Realignment -
FINAL REPORT v.2**

As requested, please find enclosed a pdf copy of the above-mentioned final Site Location Study (SLS) v.2 for submission to City Planning for City Council approval pursuant to Bylaw 7188. Hard copies of the report will be prepared on request.

An Environmental Impact Assessment (EIA) has been completed for the proposed project and is provided under separate cover.

Please contact either of the undersigned if you require additional information.

Sincerely,

**Spencer Environmental
Management Services Ltd.**

Stephanie Jean, M.Sc., BIT
Environmental Scientist

Andra Bismanis, M.Sc., P.Biol.
Vice-President, Science Practice



cc: Ted Muller, EDA Planning + Urban Design

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1.0 INTRODUCTION AND PROJECT LOCATION

Riverside Trail is an existing granular trail located on City of Edmonton-owned lands in the North Saskatchewan River Valley (NSRV), extending from the east end of the Riverside Golf Course to Rowland Road (Dawson Bridge) (Figure 1, Appendix A). This trail forms part of the City's river valley trail system and is currently temporarily closed due to riverbank slumping. Despite being closed, the public continues to use the trail.

The City of Edmonton proposes to realign and rehabilitate portions of Riverside Trail where slope failure along the south bank of the North Saskatchewan River (Plates 1 and 2) have created public safety concerns. Seven (7) locations along a 700 m section of trail were identified for realignment or rehabilitation and an additional three (3) low spots were identified for upgrading in that section of trail (Plate 3) (Figure 2, Appendix A).



Plate 1. Slope failure of the south bank of the NSR along Riverside Trail (Location 1) (22 April 2020).



Plate 2. Slope failure of the south bank of the NSR along Riverside Trail (Location 6) (22 April 2020).



Plate 3. A low area in the trail identified for upgrading (Upgrade Location 1) (22 April 2020).

Riverside Trail is wholly located within the boundaries of the City of Edmonton's North Saskatchewan River Valley Area Redevelopment Plan (ARP) (Bylaw 7188) (Figure 1, Appendix A). Consultation with City Planning indicated the proposed project meets the definition of a major facility pursuant to the ARP and therefore triggers the need for a Site Location Study (SLS) and Environmental Impact Assessment (EIA) (under separate cover), and requires City Council to deem the location essential and approve the SLS and EIA. Section 3.5.1 of the ARP states that major public facilities shall not be constructed or expanded unless their location within the River Valley is deemed essential and approved by City Council.

This document represents that SLS in support of the proposed Riverside Trail realignment and upgrading project. The report format and content follow a project-specific Terms of

Reference developed through scoping discussions held with a City Ecological Planner, informed by a technical briefing and anticipated project activities and as required, discussing the social, financial, environmental and institutional constraints that make a river valley location essential. In addition, a separate EIA has been prepared for the proposed project (Spencer Environmental 2020).

2.0 RIVERSIDE TRAIL REALIGNMENT PROJECT SCOPE

2.1 Project Description

This project addresses a total of seven (7) trail slump locations. Five sections are to be realigned, two sections are to remain in place with safety concerns addressed through installation of a guardrail. Two of the realigned trail sections will also have guardrails (Table 1) (Appendix B). There are an additional three (3) low spots along the trail that have been identified for upgrading (Appendix B).

Table 1. Riverside Trail rehabilitation components for each location.

Location #	Realignment (Length)	Fence Line Adjustment (Length)	Revegetation	Guardrail Installation (Length)	Upgrading (Length)
1	✓ (96 m)		✓		
2	✓ (54 m)		✓		
3	✓ (48 m)	✓ (37 m)	✓		
4	✓ (33 m)	✓ (25 m)	✓	✓ (10 m)	
5				✓ (15 m)	
6	✓ (31 m)	✓ (25 m)	✓	✓ (15m)	
7				✓ (25 m)	
Upgrade 1					✓ (10 m)
Upgrade 2					✓ (45 m)
Upgrade 3					✓ (20 m)

Trail and Fence Line Realignments

Trail realignment is proposed for trail locations 1, 2, 3, 4 and 6, for lengths ranging from 31 m to 96 m (Table 1). The new trail sections will be 1.5 m wide granular trails and will require a 3.5 m wide clearing width (Appendix B).

At some locations, the existing Riverside Golf course fence line must be adjusted to accommodate trail realignment (Table 1). Those locations will include installation of new sections of 2 m high black vinyl coated chain link fence along the existing grey chain link fence.

For locations requiring trail realignment, the section of existing trail will be decommissioned and revegetated to discourage use by recreationalists.

Guardrails

New wooden guardrails, ranging in length from 10 m to 25 m, are proposed for trail locations 4, 5, 6 and 7 along the downslope edge of the granular trail (Appendix B). Guardrails will be constructed on screw piles and will be 1.2 m in height.

Trail Upgrading

Trail upgrading at three low spots (Figure 2, Appendix A) will comprise clearing, scarifying and compaction of the existing 1.5 m trail surface prior to placement of filter fabric and geogrid followed by the addition of 150 mm of granular material. Trail edges will be rehabilitated/graded as needed to ensure surface drainage does not flow over the top-of-bank toward the river.

The majority of tree/vegetation removal for the proposed project will be completed by the City of Edmonton Forestry Department in fall/winter 2020/21 before construction begins in spring 2021 (May). Some selective vegetation removal may need to be completed by the contractor in consultation with City Forestry once construction begins.

2.1 Landscaping

Existing trail sections proposed to be decommissioned will be revegetated with native trees and shrubs to discourage use by recreationalists (Table 1). In areas where the golf course fence line is adjusted (Table 1), a naturalized screen will be planted along the golf course side of the fence, setback by approximately 2 m where possible. Native trees and shrubs will be used to create these screens.

2.2 Construction Schedule

Construction is anticipated to begin in spring of 2021 (May). City of Edmonton Forestry will complete tree clearing for the project in late fall 2020/early winter 2021. Tree clearing will take place before 15 February to avoid disturbance to breeding owls.

2.3 Construction Laydown Area and Access

A fenced construction laydown area will be established in the Riverside Golf Course overflow parking lot located on the south side of Rowland Road. Construction access to the trail rehabilitation sites will be along the existing Riverside Trail that extends from the overflow parking lot, under Dawson Bridge and north along the top-of-bank to the rehabilitation locations. Small-sized equipment will be used to access the project area and to undertake the trail rehabilitation and upgrading activities. The active construction area along the trail will continue to be closed to recreationalists and will be fenced for security purposes during construction.

3.0 RIVERSIDE TRAIL LOCATION ANALYSIS AND JUSTIFICATION

3.1 *Alternative Location Review*

Riverside Trail is located entirely within the boundaries of the North Saskatchewan River Valley Area Redevelopment Plan (NSRV ARP) (Bylaw 7188) (Figure 1, Appendix A). As the proposed project comprises realignment and upgrading of sections of an existing trail that the City wishes to maintain and that connects to the NSRV network including shared-use pathways (SUPs), it could not reasonably function elsewhere. No alternatives, therefore, were considered outside the ARP boundary.

3.2 *River Valley Dependencies*

Riverside Trail is an existing trail in the City's river valley trail system, offered as a means of facilitating access to this area of the valley. The proposed project represents select minor realignments and upgrading of existing infrastructure in response to public safety concerns. Therefore, the project must be located in the river valley.

3.3 *Overview of Bylaws/Plans/Policies*

The proposed project is consistent with the following City plans: Draft City Plan; Breathe – Edmonton's Green Network Strategy; Ribbon of Green Master Plan

4.0 CONSTRAINTS ANALYSIS

Following is an analysis of the social, financial, environmental and institutional opportunities and constraints that make this project's location within Bylaw 7188 boundaries essential.

4.1 Social

The Riverside Trail provides recreationalists access to the NSRV and connects to other NSRV SUPs. The proposed project intends to improve trail conditions on this popular trail so that trail integrity is maintained, and the trail may be safely re-opened for recreational use.

4.2 Financial

Riverside Trail rehabilitation will be financed through the City's Open Space: River Valley System Renewal capital profile. There are no financial constraints that influence this project.

4.3 Environmental

The final project design was influenced by the local river valley environment. Planning attempted to minimize the length of new trail segments to reduce costs and disturbance to the natural environment, while respecting the constraints presented by site topography.

4.4 Institutional

City of Edmonton operates and maintains the City-owned river valley trail system, including the Riverside Trail, in the NSRV ARP. Trail realignment was also influenced by the adjacency of the established Riverside Golf Course.

5.0 SUMMARY AND CONCLUSION

As documented in this Site Location Study, Riverside Trail is existing infrastructure within the Bylaw 7188 boundaries. This project comprises trail realignment and upgrading of the existing trail at seven select slump locations and three low spot locations to improve trail integrity and public safety. Since the proposed project comprises realignment and upgrading of an existing river valley trail that the City wishes to maintain and that connects to the NSRV network, including SUPs, it could not reasonably function elsewhere outside the ARP boundary. Owing to its dependency on the river valley, therefore, the project must be located within the Bylaw 7188 boundaries. Based on the information collected and analyzed in this report, we are confident that the proposed project conforms to the goals, and applicable objectives and policies of the North Saskatchewan River Valley Area Redevelopment Plan (Bylaw 7188).

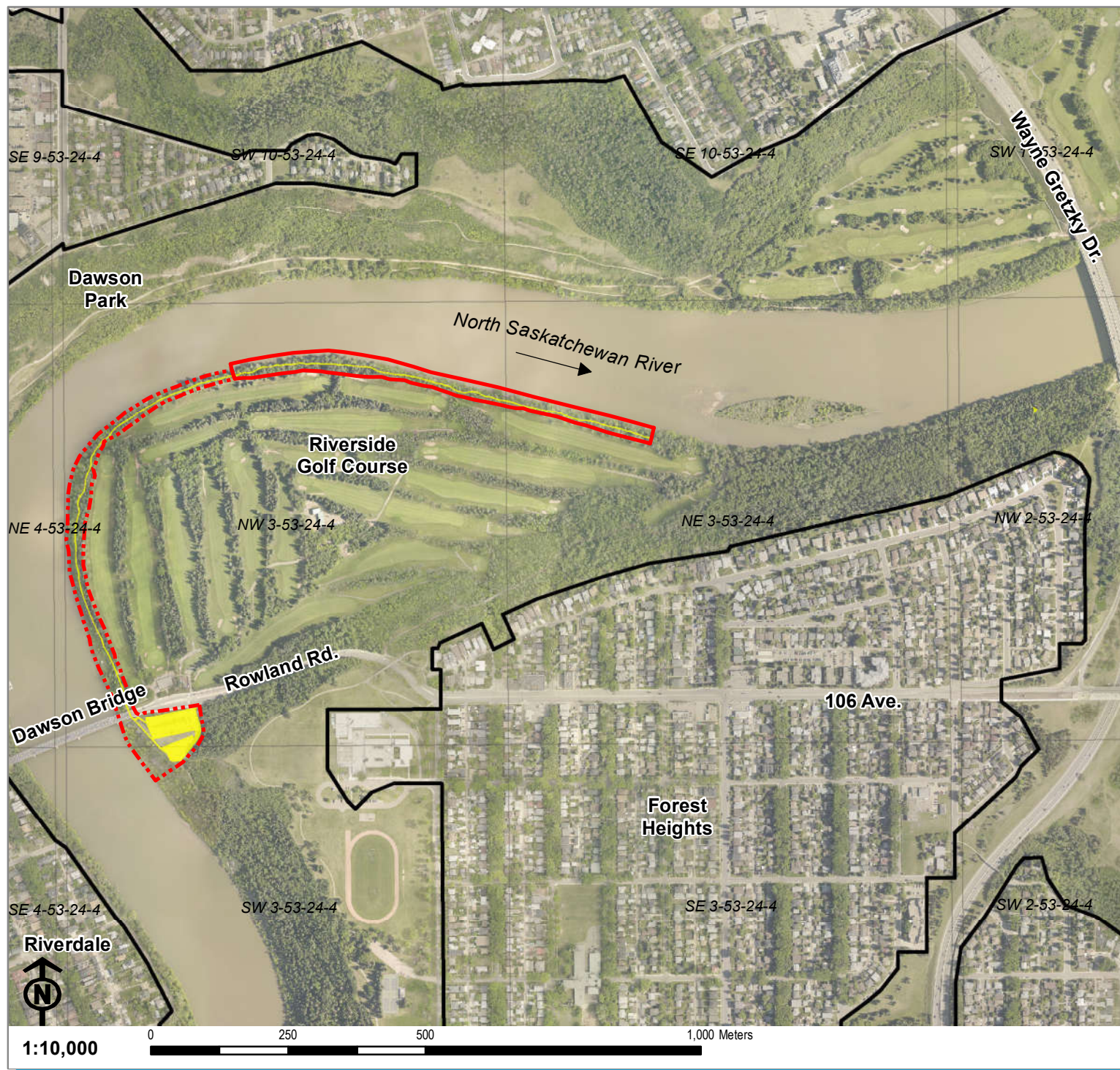
6.0 REFERENCES

6.1 *Literature Cited*

Spencer Environmental Management Services Ltd. 2020. Environmental Impact Assessment Pursuant to Bylaw 7188: Riverside Trail Realignment Draft Report. Prepared for the City of Edmonton. Edmonton, Alberta.

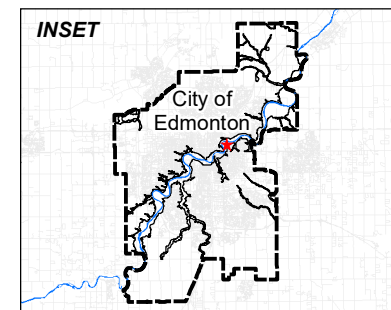
Appendix A: Figures

Figure 1.
Project Overview
Riverside Trail
Realignment
and Upgrading



Legend

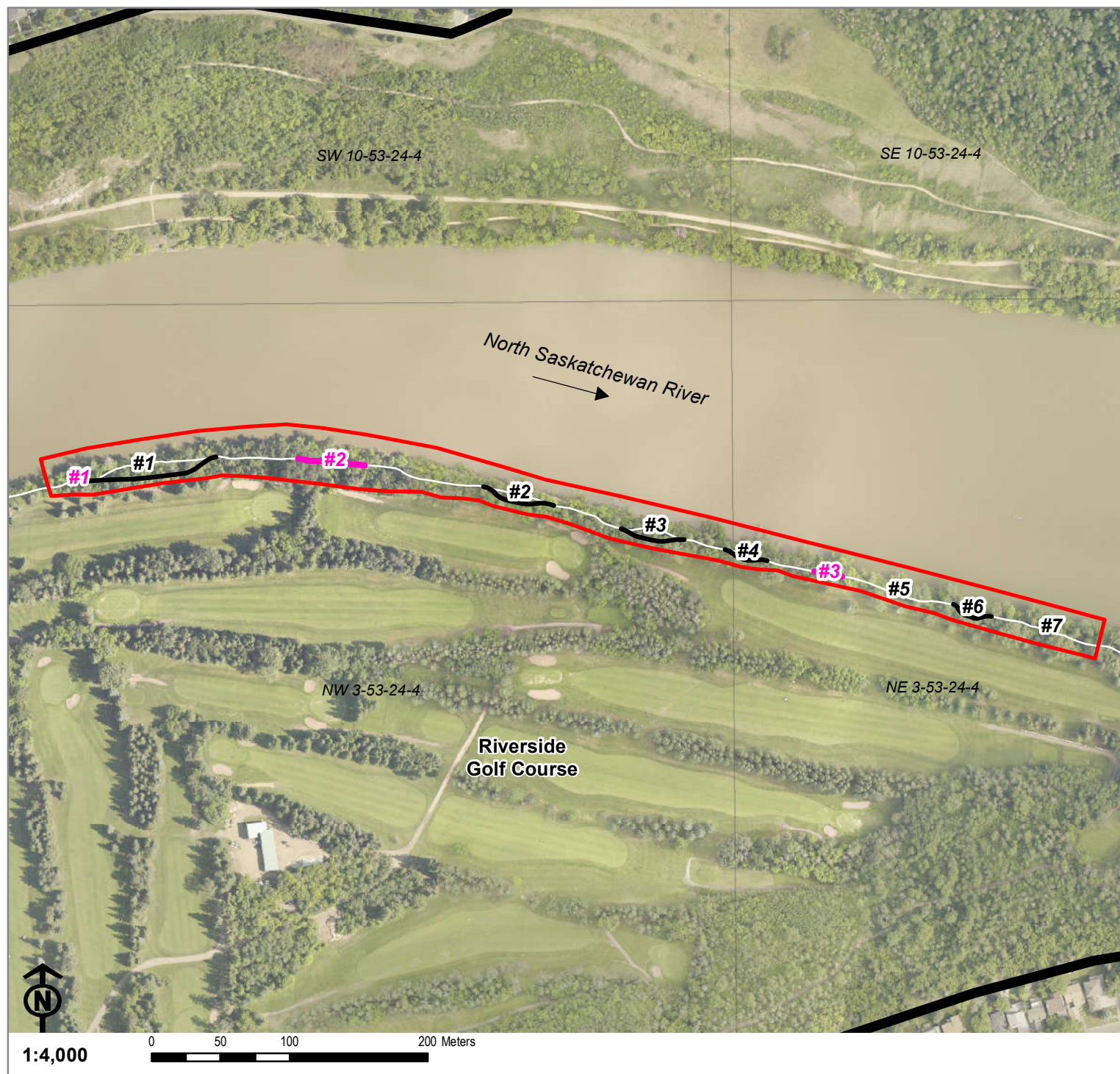
- Local Study Area
- Expanded Study Area
- Bylaw 7188 Boundary (COE, 2010)
- Proposed Construction Laydown & Access Route



Map Date: 3 July 2020
 Mosaic Imagery Date: May-July 2019

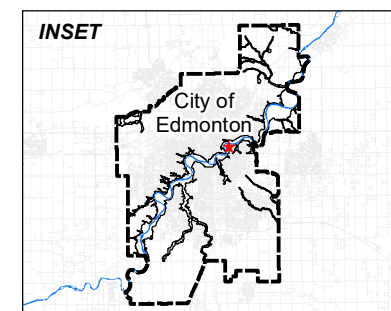


Figure 2a.
Site Overview
Riverside Trail
Realignment
and Upgrading



Legend

- Local Study Area
- Bylaw 7188 Boundary (COE, 2010)
- #1 Proposed Trail Realignment Location
- #1 Proposed Trail Low Point Upgrade Location
- Existing Trail Centerline



Map Date: 3 July 2020
 Mosaic Imagery Date: May-July 2019

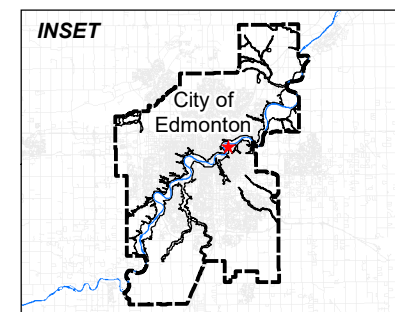


Figure 2b.
Trail Realignment
Riverside Trail
Realignment
and Upgrading



Legend

- Local Study Area
- #1 Proposed Trail Realignment Location
- #1 Proposed Trail Low Point Upgrade Location
- Existing Trail Centerline
- Proposed Trail Clearing Width (3.5m)*
- Indirect Construction Impact (5m Setback)
- Proposed Fence Removal
- Proposed Fence Relocation
- Existing Fence
- Proposed Guard Rail
- Proposed Naturalized Vegetation
- Contours (COE, 2018)

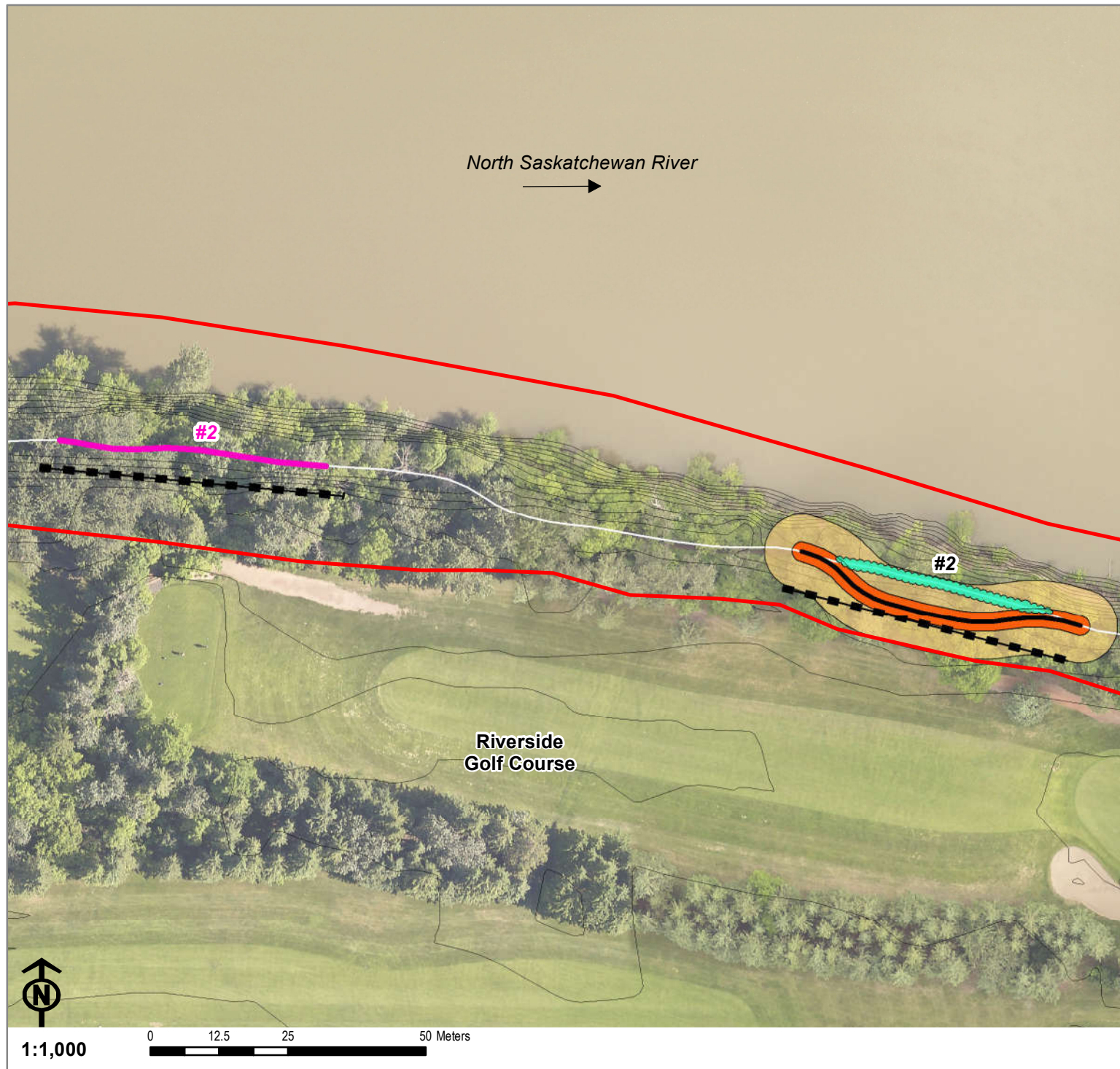


Map Date: 27 August 2020
Mosaic Imagery Date: May-July 2019



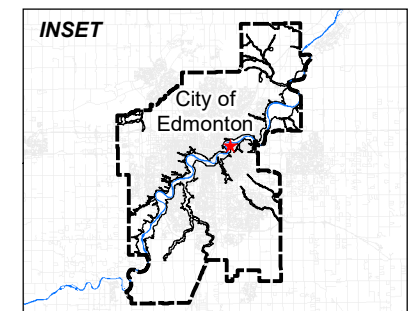
*Conceptual design provided by EDA Planning + Urban Design (2020).

Figure 2c.
Trail Realignment
Riverside Trail
Realignment
and Upgrading



Legend

- Local Study Area
- #1 Proposed Trail Realignment Location
- #1 Proposed Trail Low Point Upgrade Location
- Existing Trail Centerline
- Proposed Trail Clearing Width (3.5m)*
- Indirect Construction Impact (5m Setback)
- Proposed Fence Removal
- Proposed Fence Relocation
- Existing Fence
- Proposed Guard Rail
- Proposed Naturalized Vegetation
- Contours (COE, 2018)

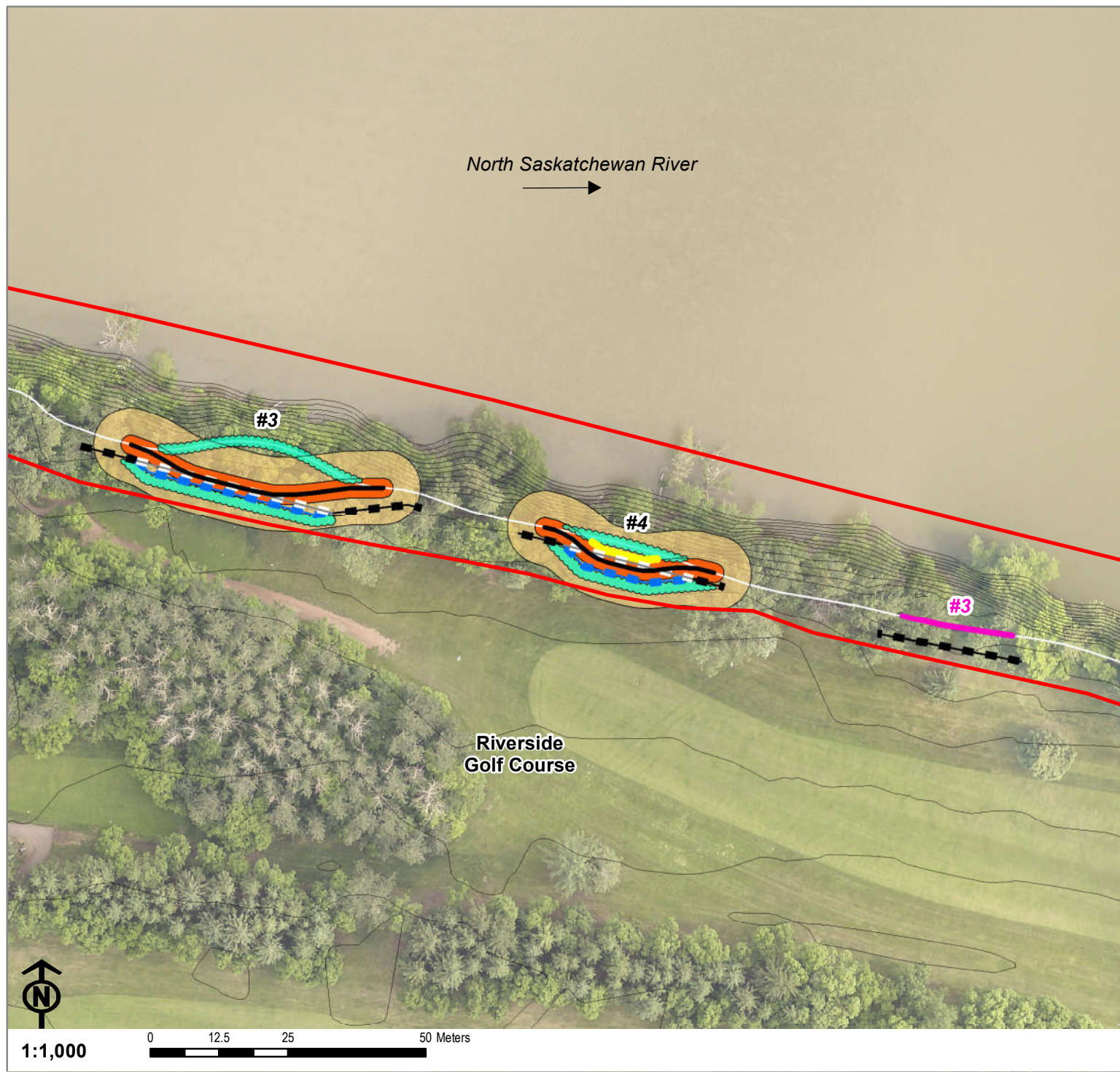


Map Date: 27 August 2020
Mosaic Imagery Date: May-July 2019



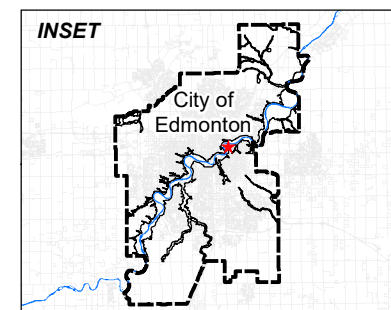
*Conceptual design provided by EDA Planning + Urban Design (2020).

Figure 2d.
Trail Realignment
Riverside Trail
Realignment
and Upgrading



Legend

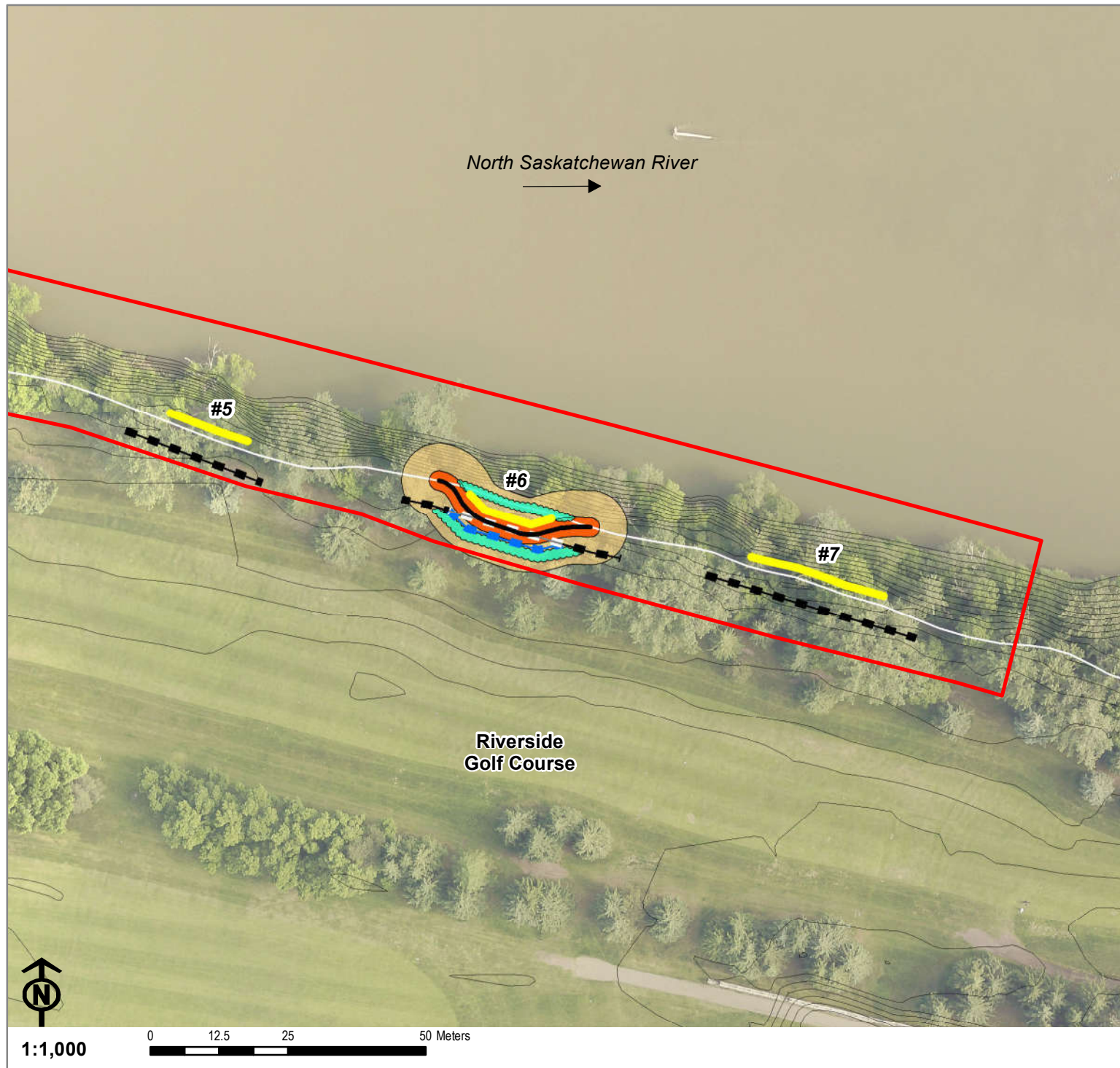
- Local Study Area
- #1 Proposed Trail Realignment Location
- #1 Proposed Trail Low Point Upgrade Location
- Existing Trail Centerline
- Proposed Trail Clearing Width (3.5m)*
- Indirect Construction Impact (5m Setback)
- Proposed Fence Removal
- Proposed Fence Relocation
- Existing Fence
- Proposed Guard Rail
- Proposed Naturalized Vegetation
- Contours (COE, 2018)



Map Date: 27 August 2020
Mosaic Imagery Date: May-July 2019

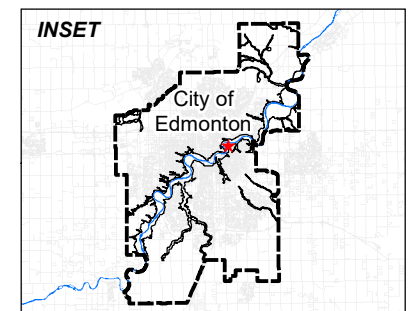


Figure 2e.
Trail Realignment
Riverside Trail
Realignment
and Upgrading



Legend

- Local Study Area
- #1 Proposed Trail Realignment Location
- #1 Proposed Trail Low Point Upgrade Location
- Existing Trail Centerline
- Proposed Trail Clearing Width (3.5m)*
- Indirect Construction Impact (5m Setback)
- Proposed Fence Removal
- Proposed Fence Relocation
- Existing Fence
- Proposed Guard Rail
- Proposed Naturalized Vegetation
- Contours (COE, 2018)

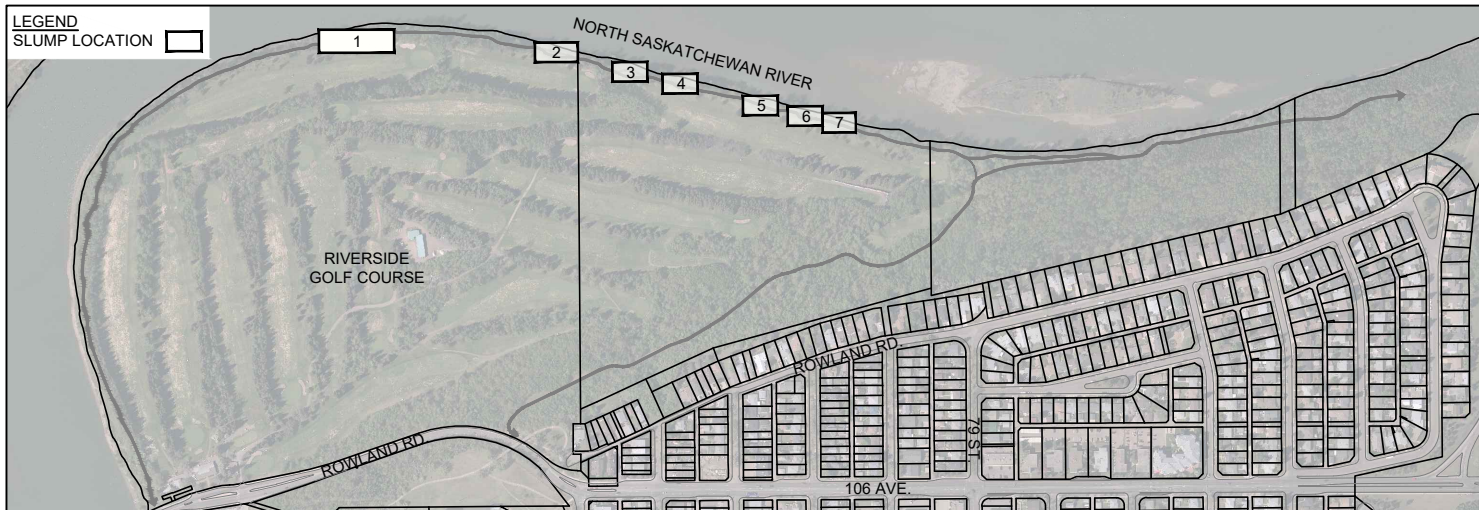


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Mosaic Imagery Date: May-July 2019

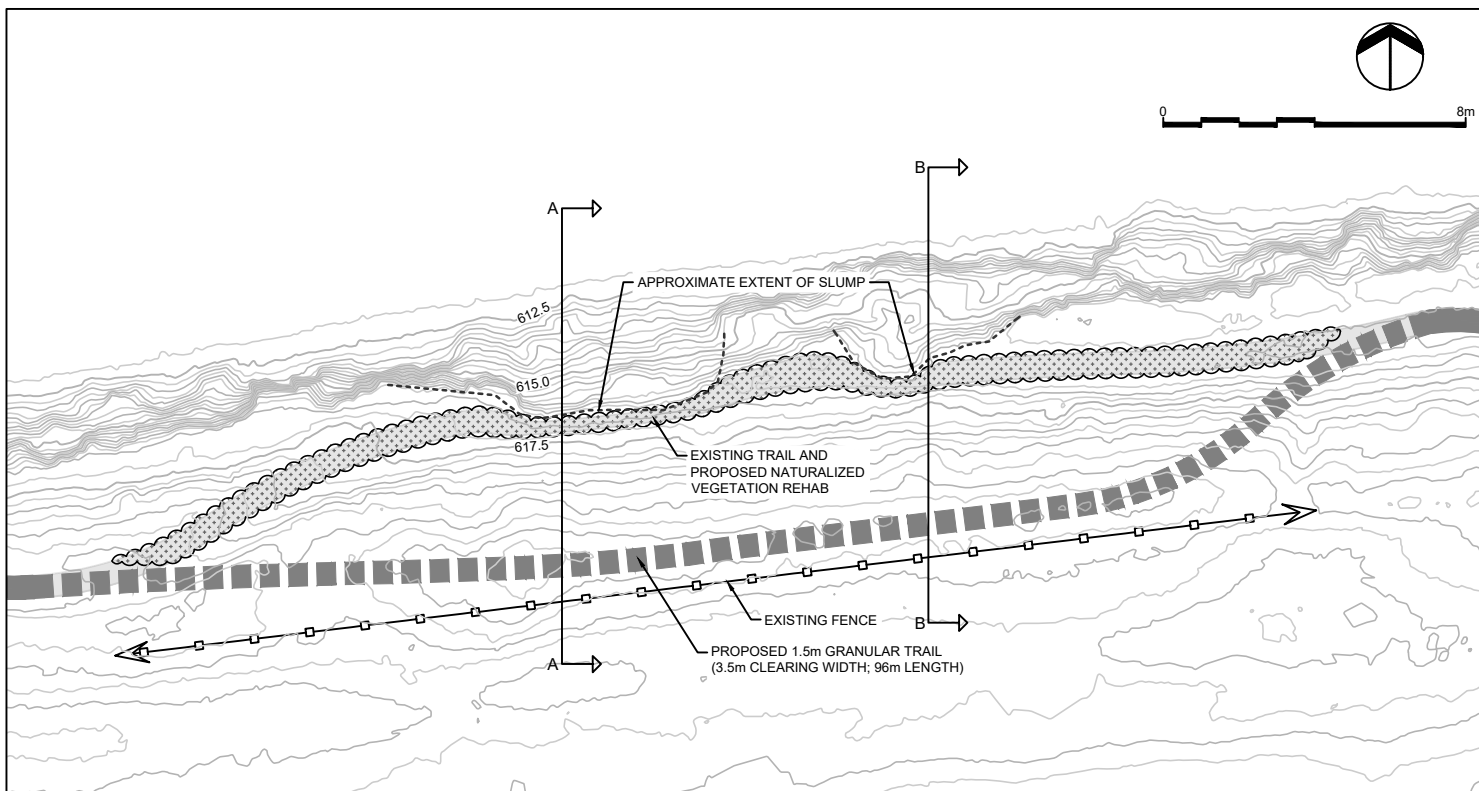


*Conceptual design provided by EDA Planning + Urban Design (2020).

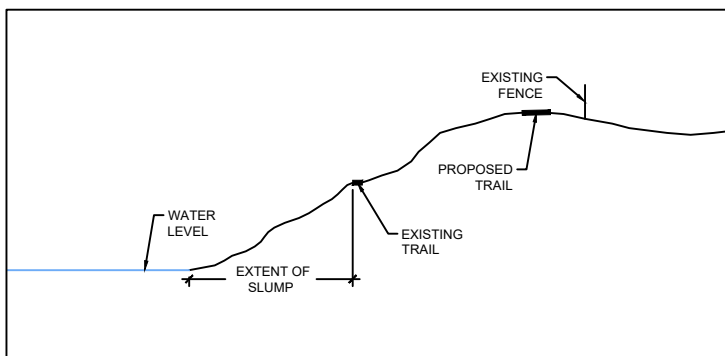
Appendix B: Conceptual Design (EDA 2020)



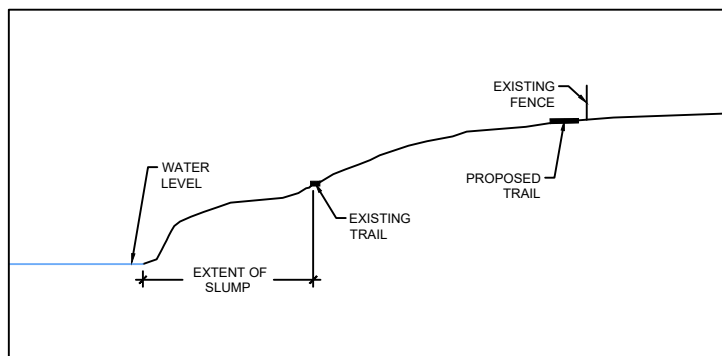
KEY PLAN (NOT TO SCALE)



SITE PLAN



SECTION A

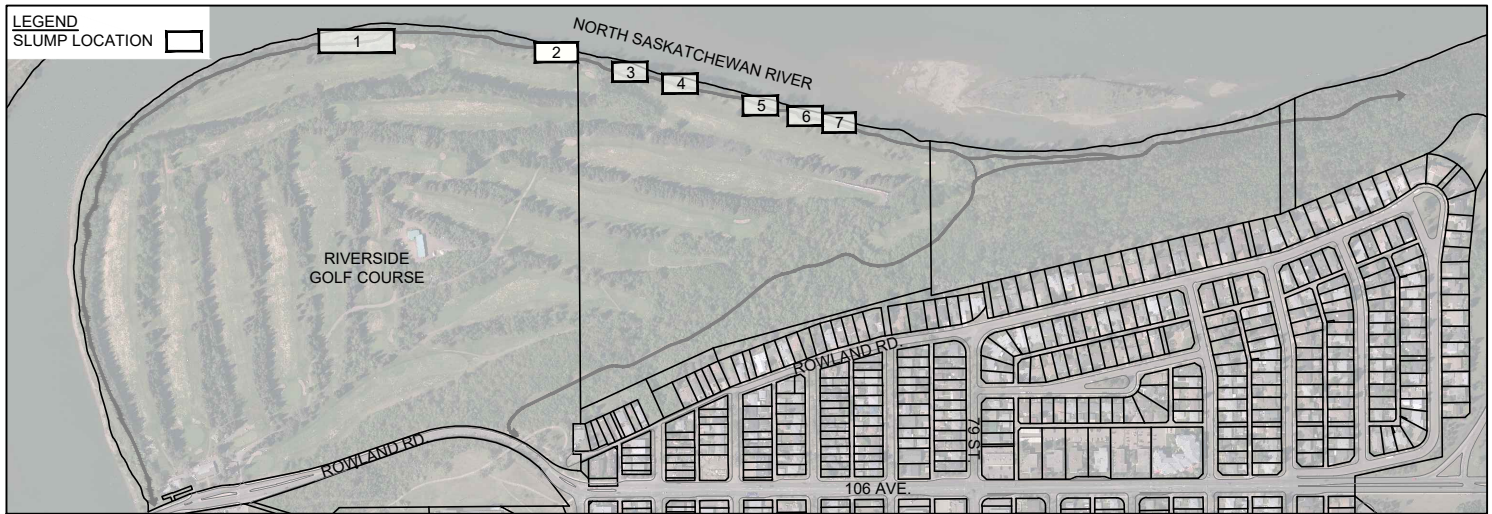


SECTION B

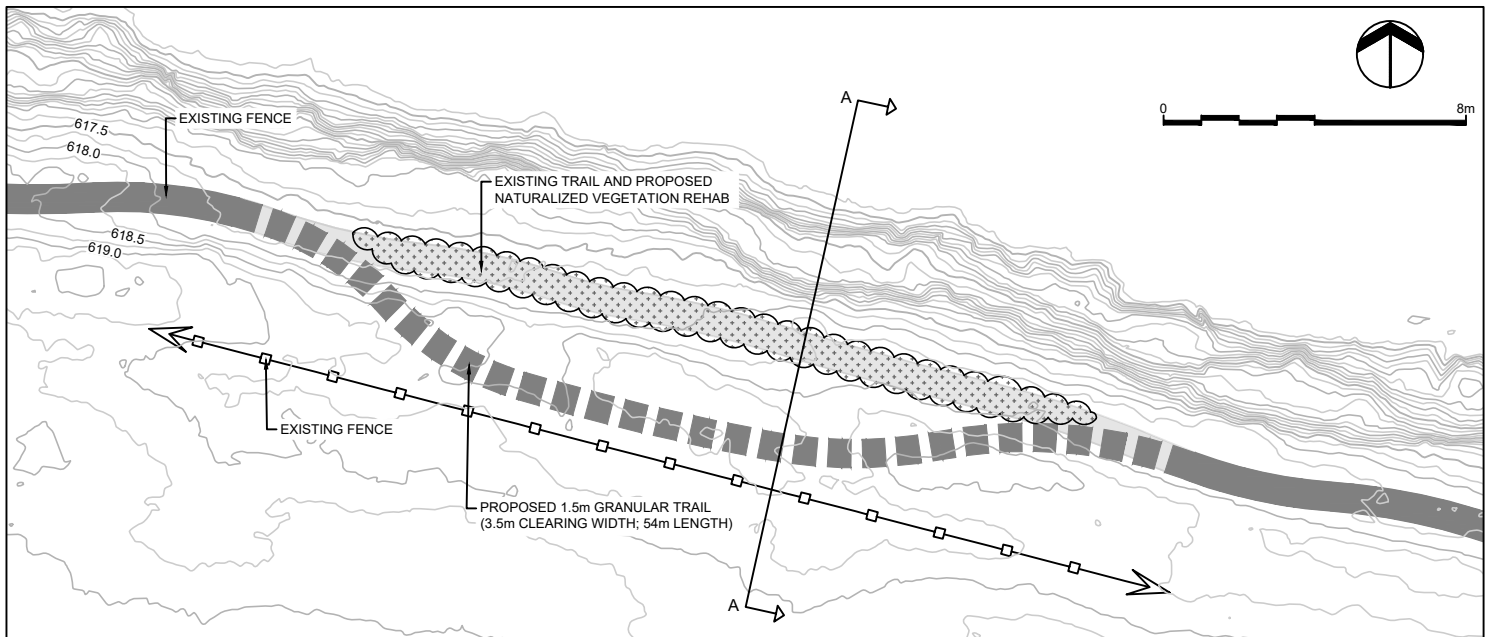
RIVER SIDE TRAIL RE-ALIGNMENT

LOCATION 1 OPTION: TRAIL RELOCATION TO AVOID SLUMPING BANK

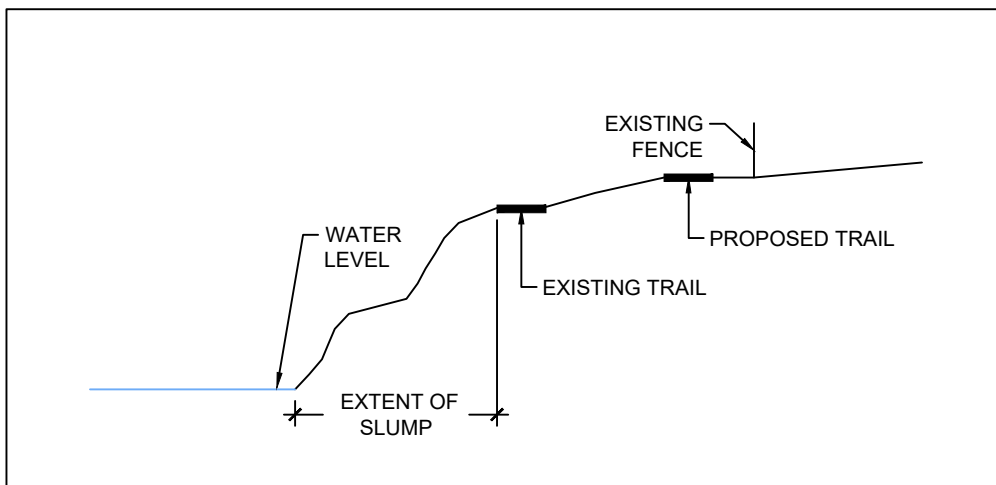
THURBER SITE 1



KEY PLAN (NOT TO SCALE)



SITE PLAN

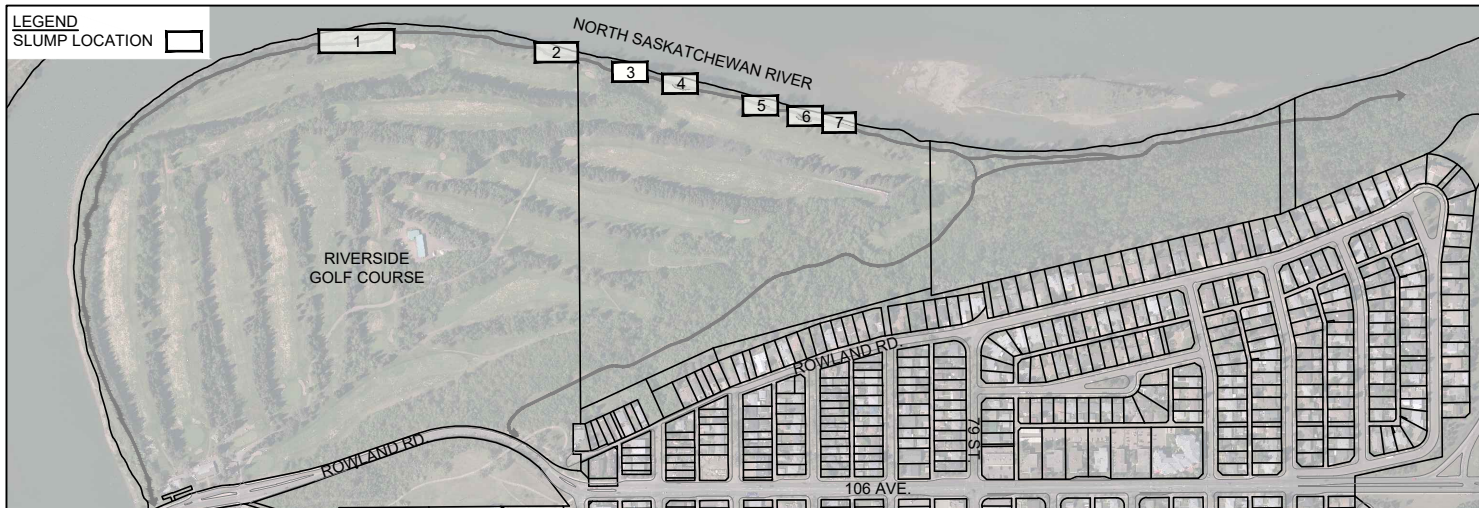


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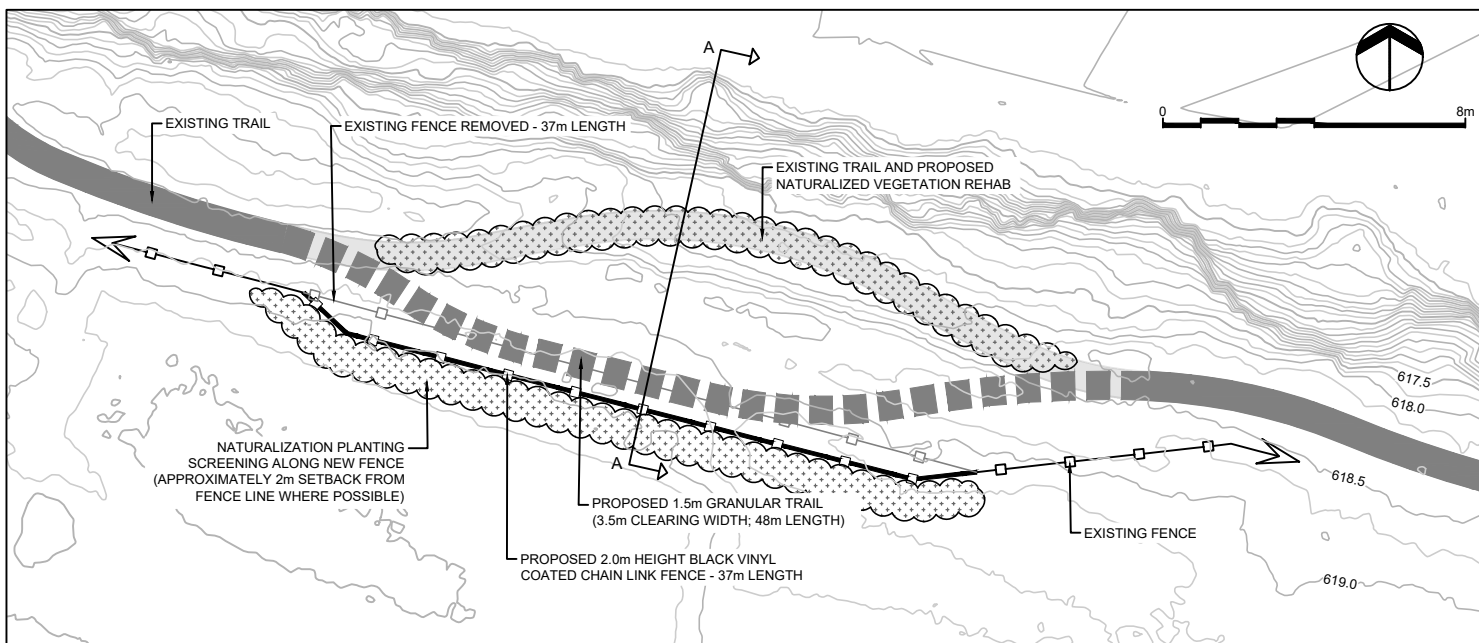
RIVER SIDE TRAIL RE-ALIGNMENT

LOCATION 2 OPTION: TRAIL RELOCATION TO AVOID SLUMPING BANK

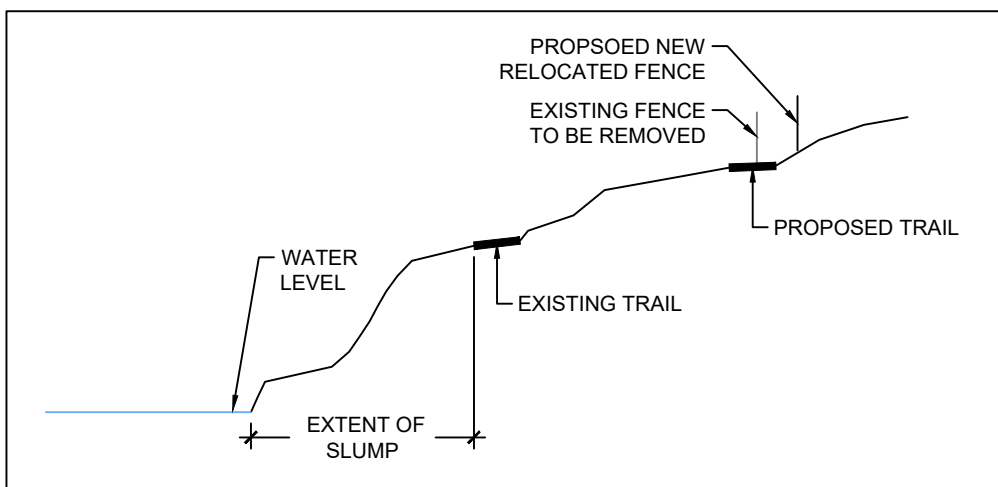
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KEY PLAN (NOT TO SCALE)



SITE PLAN

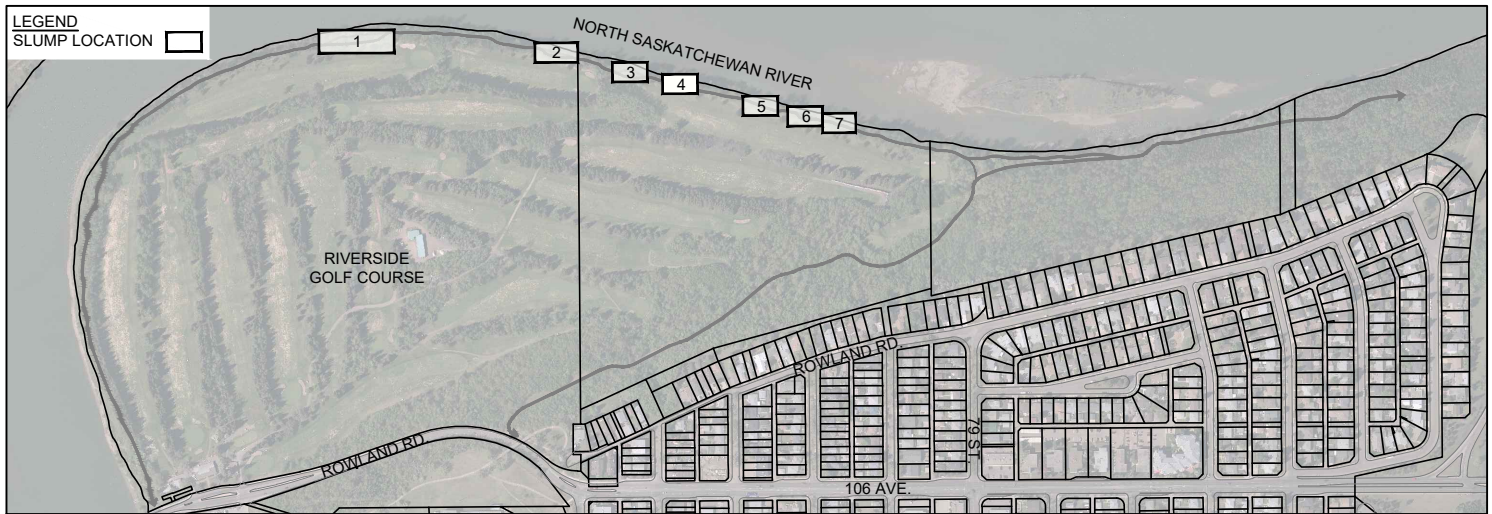


SECTION A

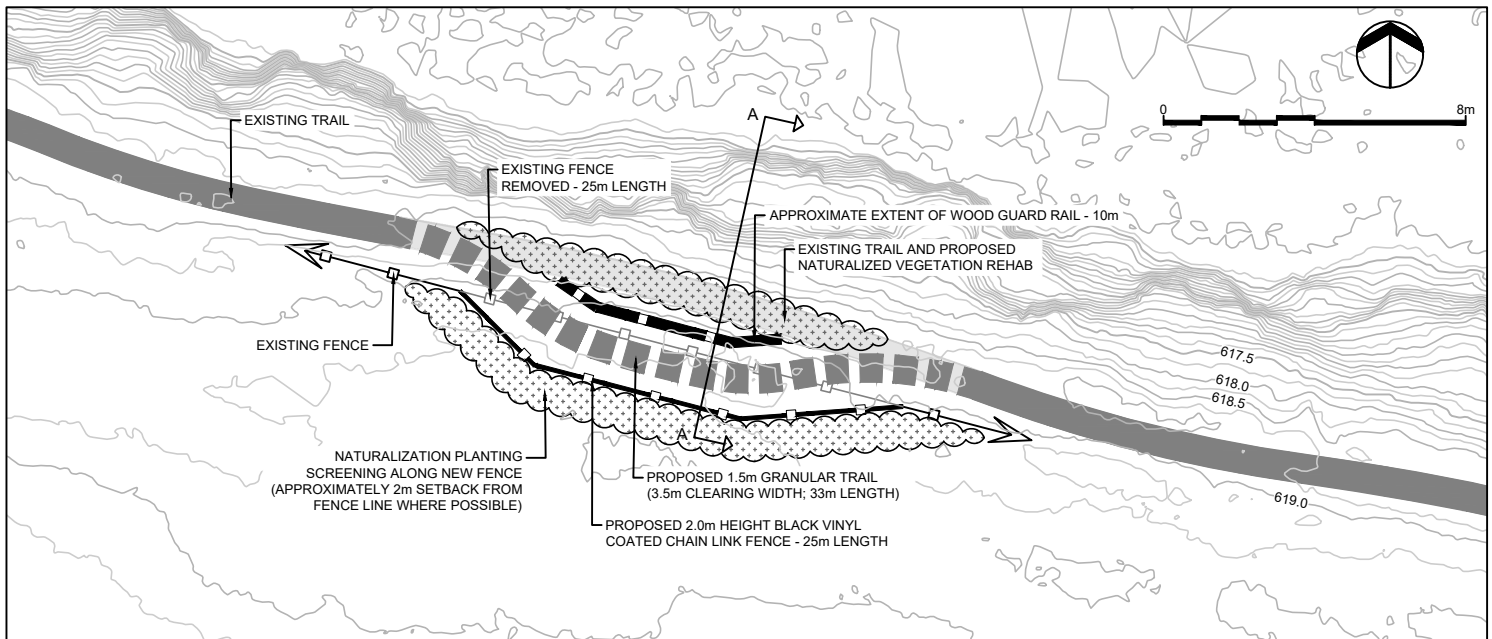
RIVER SIDE TRAIL RE-ALIGNMENT

LOCATION 3 OPTION: TRAIL RELOCATION TO AVOID SLUMPING BANK

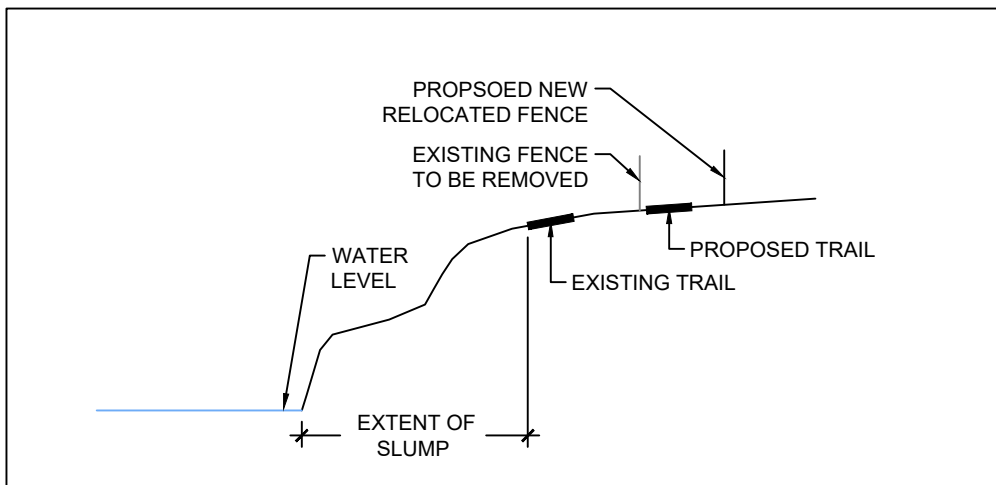
THURBER SITE 8



KEY PLAN (NOT TO SCALE)



SITE PLAN

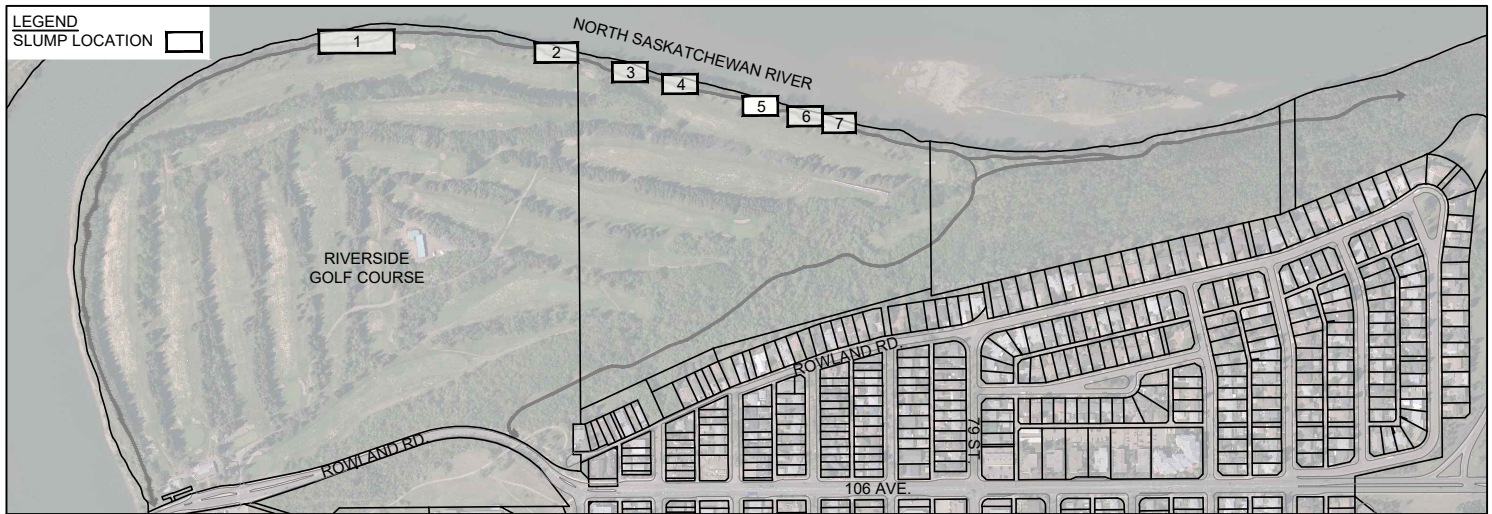


SECTION A

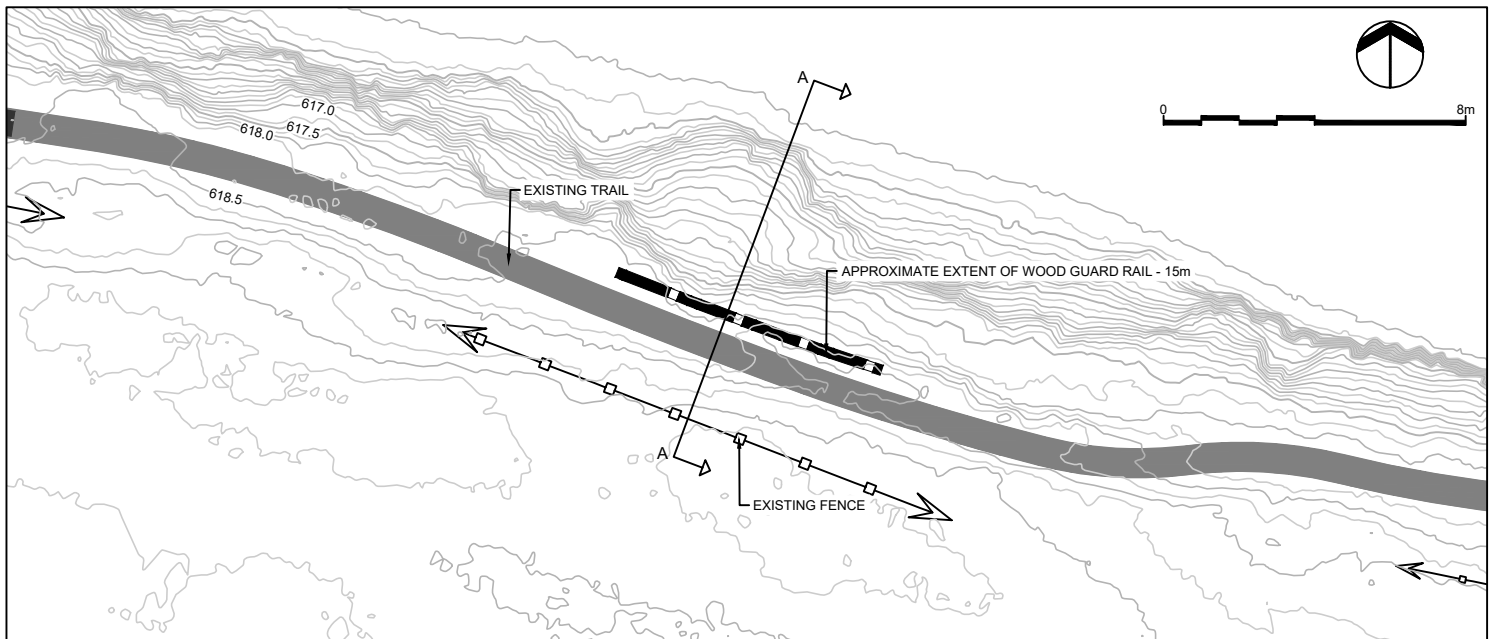
RIVER SIDE TRAIL RE-ALIGNMENT

LOCATION 4 OPTION: TRAIL RELOCATION TO AVOID SLUMPING BANK

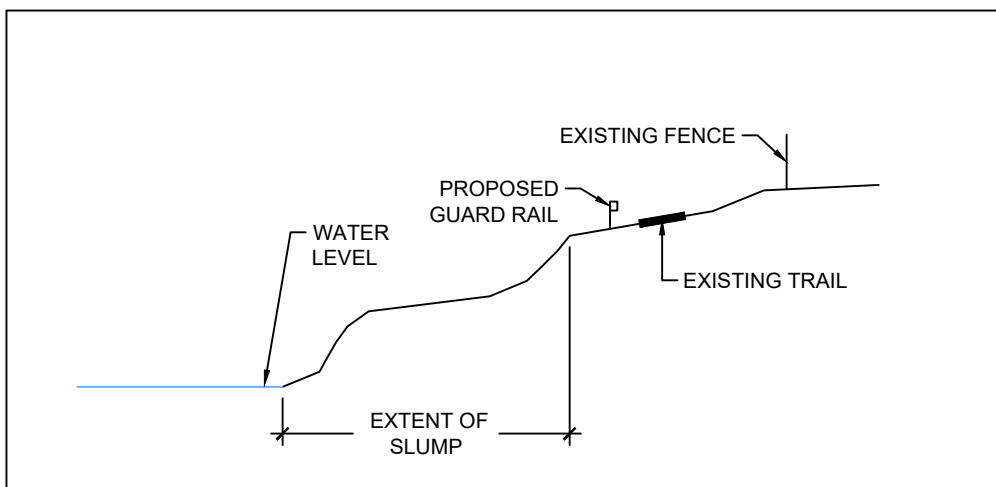
THURBER SITE 9



KEY PLAN (NOT TO SCALE)



SITE PLAN

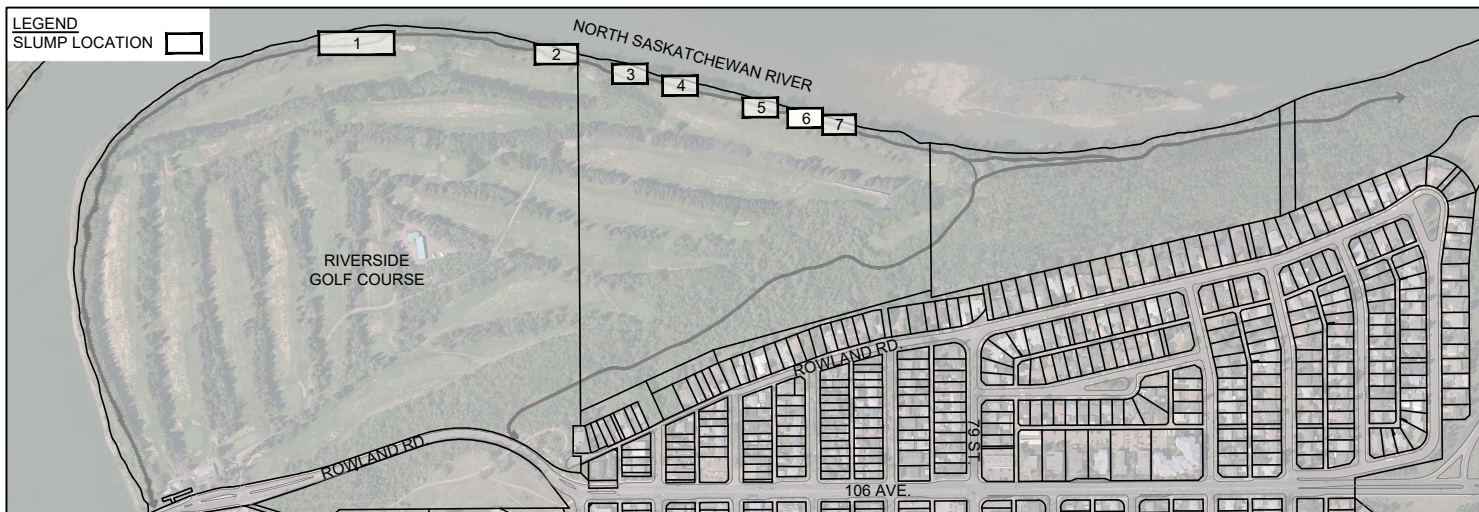


SECTION A

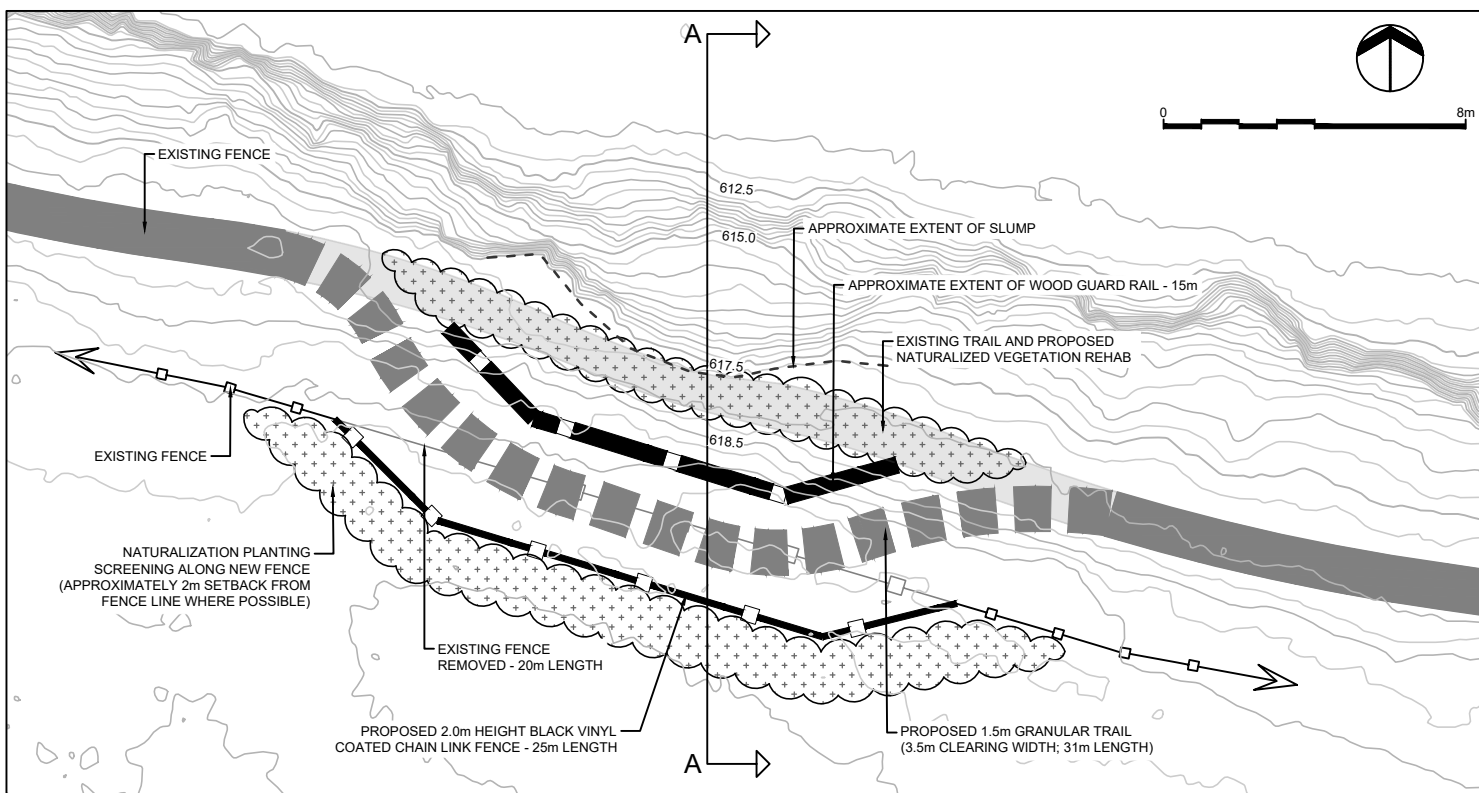
RIVER SIDE TRAIL RE-ALIGNMENT

LOCATION 5 OPTION: TRAIL RELOCATION TO AVOID SLUMPING BANK

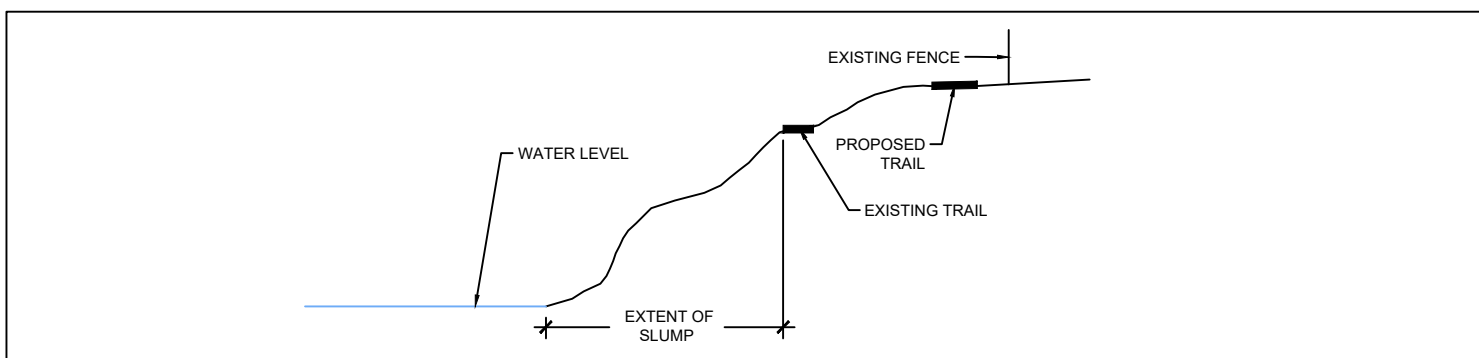
THURBER SITE 10



KEY PLAN (NOT TO SCALE)



SITE PLAN

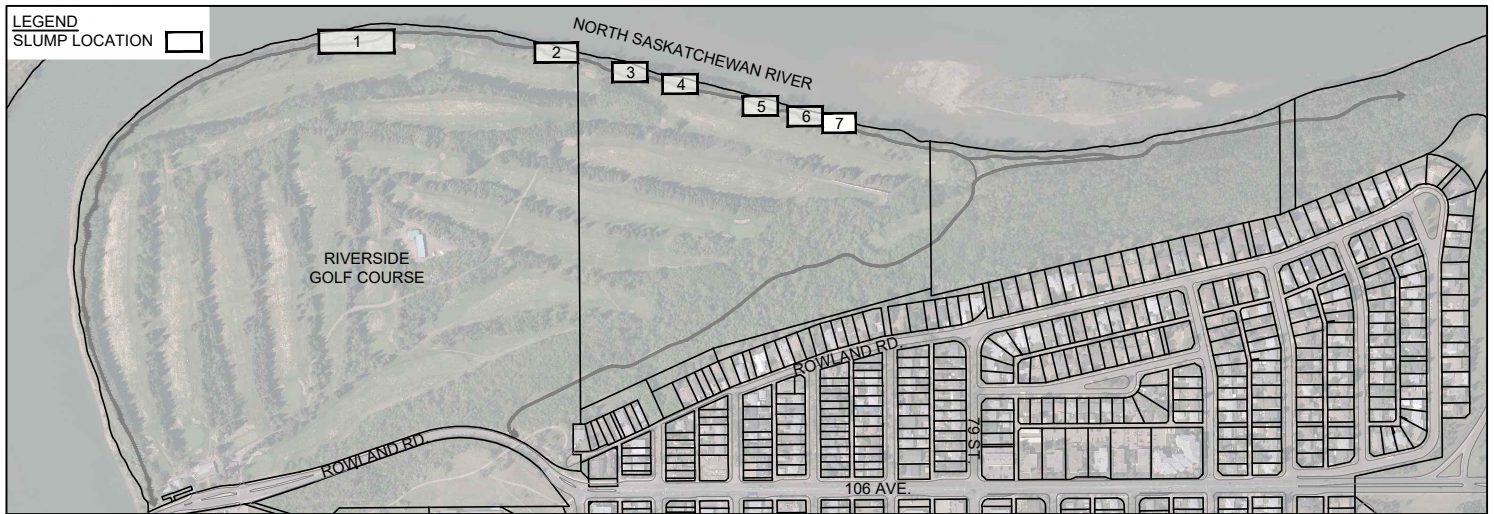


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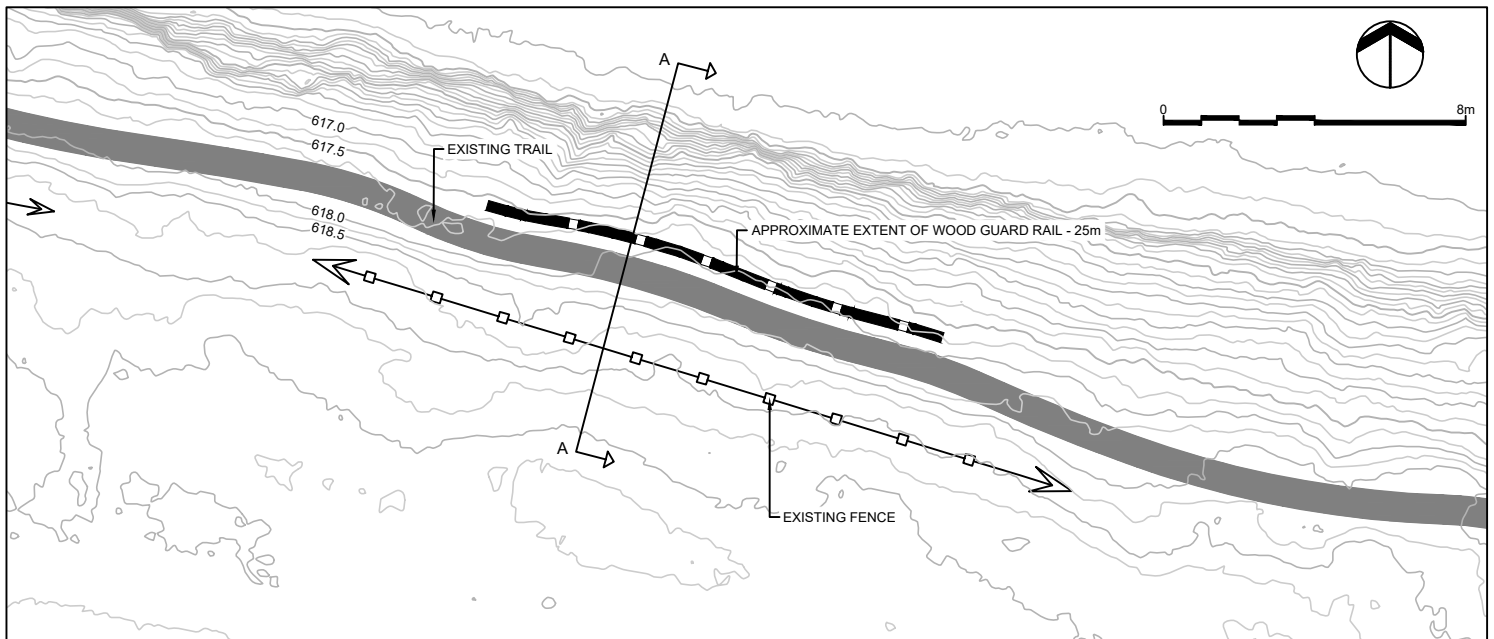
RIVER SIDE TRAIL RE-ALIGNMENT

LOCATION 6 OPTION: TRAIL RELOCATION TO AVOID SLUMPING BANK

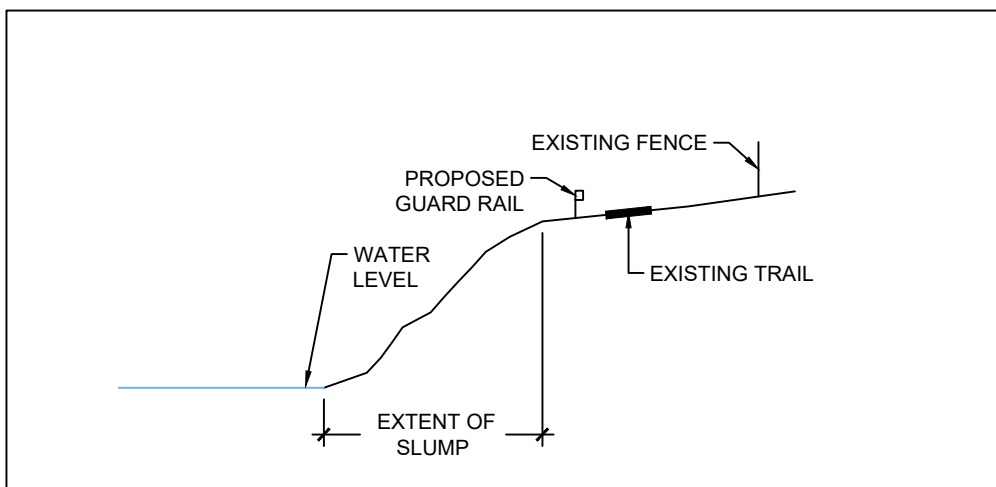
THURBER SITE 2



KEY PLAN (NOT TO SCALE)



SITE PLAN

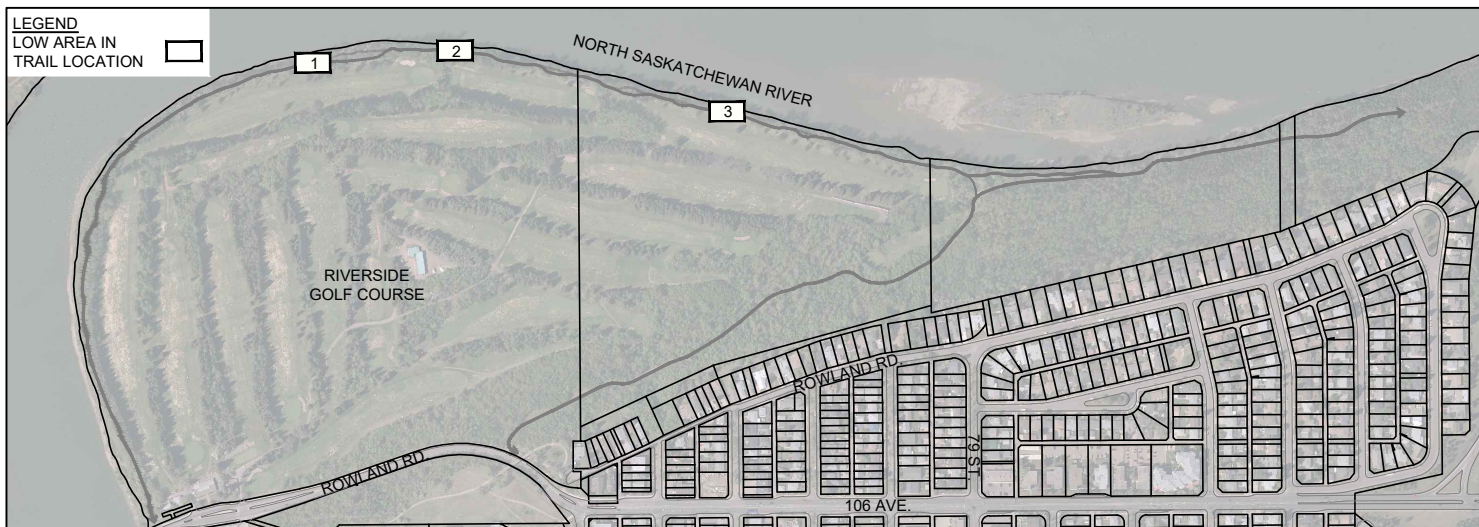


SECTION A

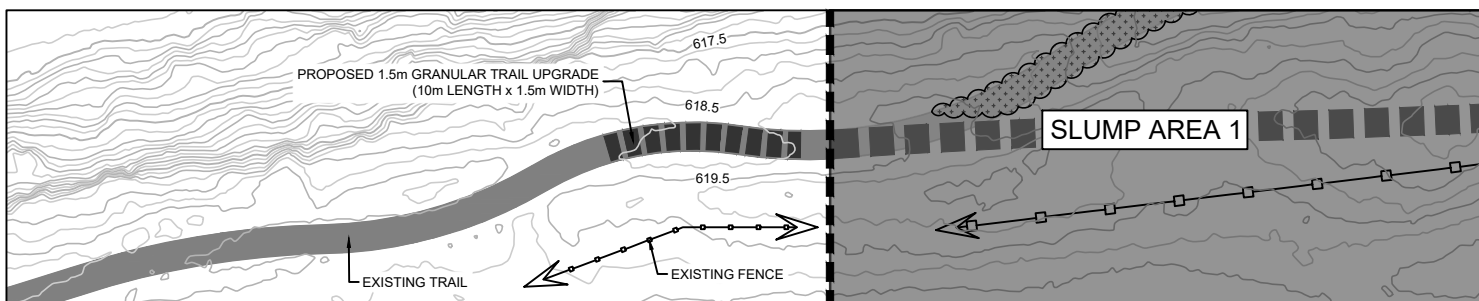
RIVER SIDE TRAIL RE-ALIGNMENT

LOCATION 7 OPTION: PROPOSED GUARD RAIL

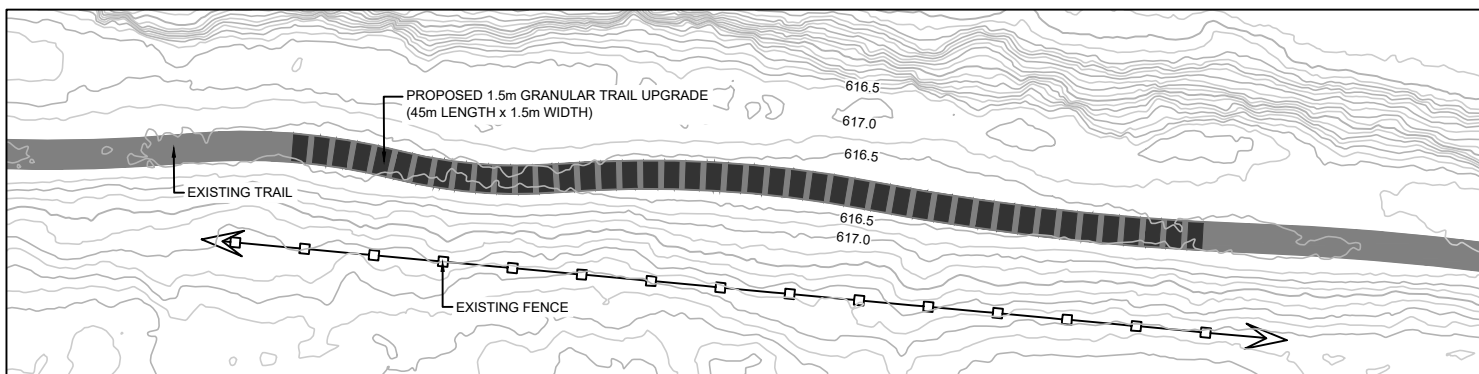
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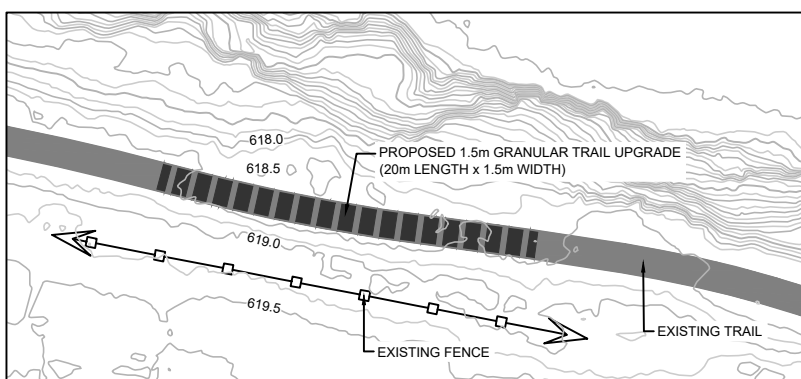
KEY PLAN (NOT TO SCALE)



LOW AREA IN TRAIL LOCATION 1 - 10m LENGTH X 1.5m WIDTH



LOW AREA IN TRAIL LOCATION 2 - 45m LENGTH X 1.5m WIDTH
THURBER SITE 6



LOW AREA IN TRAIL LOCATION 3 - 20m LENGTH X 1.5m WIDTH

GENERAL NOTES

- CLEAR AND COMPACT EXISTING TRAIL SURFACE, SUPPLY AND INSTALL FILTER FABRIC AND GEOGRID ON TOP OF EXISTING SURFACE, ADD 150mm OF NEW GRANULAR MATERIAL AND COMPACT, EDGE OF TRAIL REHABILITATION ACCORDINGLY



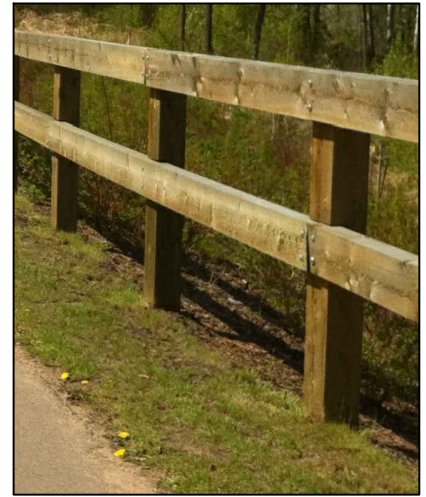
RIVERSIDE TRAIL RE-ALIGNMENT TRAIL UPGRADE OPTIONS: LOW POINTS IN TRAIL



GRANULAR TRAIL
1.5m WIDTH



BLACK VINYL COATED
CHAIN LINK FENCE
2.0m HEIGHT



WOODEN GAURD RAIL
1.2m HEIGHT



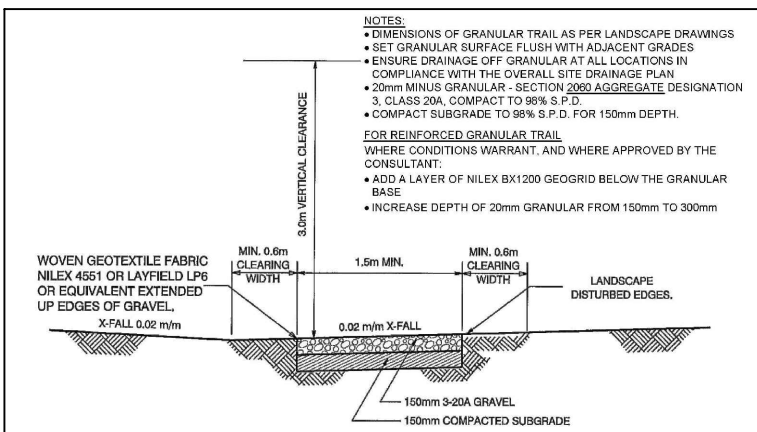
NATURALIZATION VEGETATION
TREE IN 20 GALLON POT



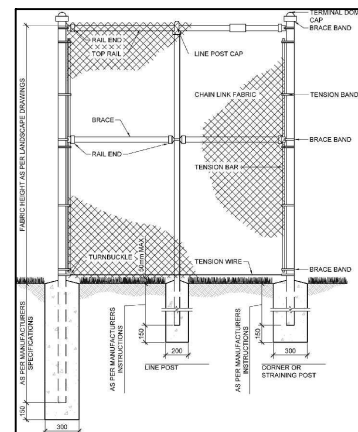
NATURALIZATION VEGETATION
SHRUB IN 20 GALLON POT



EXAMPLE OF NATURALIZATION
VEGETATION REHAB



PROPOSED GRANULAR TRAIL DETAIL



PROPOSED CHAIN LINK
FENCE DETAIL

RIVERSIDE TRAIL RE-ALIGNMENT MATERIAL EXAMPLES