

## Conceptual Options for Daylighting Mill Creek

This attachment summarizes the key features of the three conceptual daylighting options developed as part of the Mill Creek Daylighting technical feasibility study.

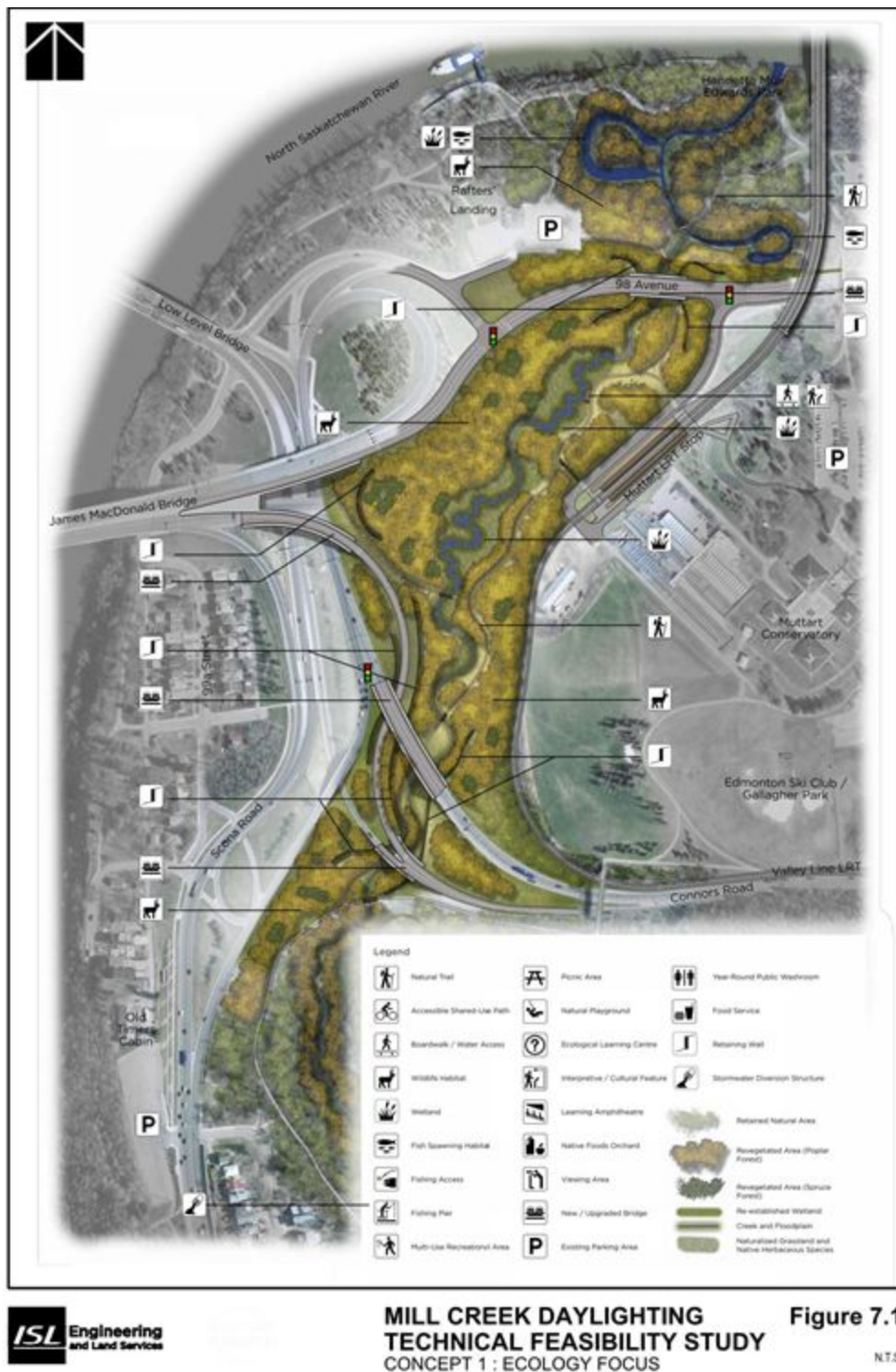
### Conceptual Option One: Ecology Focus

The Ecology Focus concept maximizes ecological connectivity between Mill Creek Ravine and the North Saskatchewan River and supports the highest levels of biodiversity of the three concepts. The trail network connects major destinations and amenities in the area, such as the Muttart LRT Stop. Recreational opportunities focus primarily on low impact activities, and built features or amenities are minimized, in order to provide the most natural corridor and use experience.

Key features of this concept include:

- Widest, highest-functioning ecological corridor of the three conceptual options support the highest levels of habitat diversity and plant, animal, and fish biodiversity.
- This option provides the highest number of wetlands, greatest aquatic biodiversity, most abundant and diverse fish habitat, and the richest aquatic food chain.
- Roadway crossings and habitat are designed to facilitate the greatest degree of movement for fish and terrestrial wildlife, while also accommodating cycling and pedestrians.
- The trail network connects major destinations and amenities in the area, but limits the number of crossings across the creek.
- Recreational opportunities are limited to low impact activities, such as walking, running, cycling, and wildlife watching.
- The roadway network is consolidated and modified between the James MacDonald Bridge, Connors Road, and 98 Avenue, allowing for an increase in open space between roads.

Figure 1. Ecology Focus conceptual option.



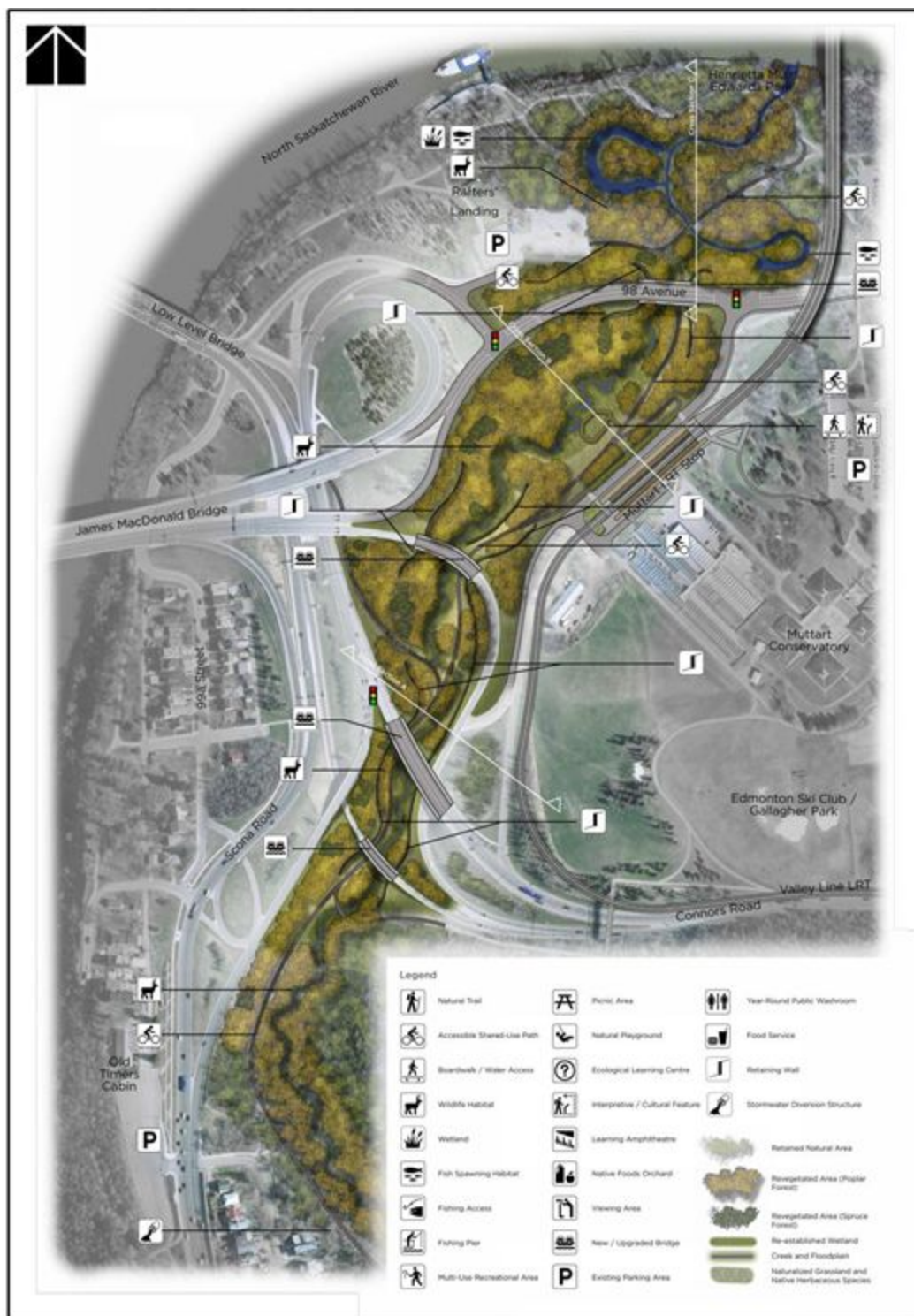
Conceptual Option Two: Trail Connectivity Focus

The Trail Connectivity Focus concept emphasizes travel efficiency for a variety of transportation modes through the area and between Mill Creek and nearby destinations. Traveling efficiency for cyclists and pedestrians is accommodated through clear sightlines and a trail network designed for higher travelling speeds. Minimal changes to the existing roadway network result in little or no change to current traffic patterns or routes.

Key features of this concept include:

- Linear trails and clear sightlines along trails improve travel efficiency for cyclists.
- New trail connections are created at multiple points along the creek, and several creek crossings help facilitate east-west movement through the area.
- Natural habitat, such as aquatic habitat for fish and terrestrial wildlife movement corridors, is provided, but habitat diversity is moderate and the naturalized corridor is narrower than the other concepts due to the preservation of existing roadway alignments. High human activity and infrastructure in the area may reduce use of the area by local wildlife.
- Recreational opportunities are limited to activities such as walking, running, cycling, and picnicking.
- Existing road connections are maintained, with the exception of the James MacDonald Bridge to 98 Avenue connection. Consolidating the roads connecting James MacDonald Bridge to 98 Avenue reduces the number of bridges and the extent of retaining walls required. Road underpass dimensions accommodate cyclists, pedestrians, and some wildlife.

Figure 2. Trail Connectivity Focus conceptual option.





Conceptual Option Three: Destination Park Focus

The Destination Park Focus concept provides a central focus area adjacent to the Muttart LRT Stop and creates a continuous urban park space stretching from Mill Creek Ravine to Gallagher, Henrietta Muir Edwards, and Louise McKinney parks. Built features and amenities such as a plaza, an ecological learning centre, a natural play area, boardwalks, and a small boat launch support a variety of programmed and recreational activities such as fishing, canoeing, kayaking, walking, running, and cycling.

Key features of this concept include:

- A plaza and amphitheatre provide spaces for performances and displays.
- Open, grassed central areas provide space for casual sports and recreation, while picnic spots, fire pits, and shelters provide opportunities for picnics and gatherings.
- An ecological learning centre and access to the water's edge provide an interactive experience for visitors.
- Piers and docks facilitate access for fishing and non-motorized boating.
- Year-round public washroom facilities, and food and beverage services, establish the plaza as a stopping point for people enjoying a longer journey through the River Valley.
- The trail network connects major destinations and amenities in the area, such as the Muttart LRT Stop, and creates multiple crossing points across the creek.
- Natural habitat, such as aquatic habitat for fish and terrestrial wildlife movement corridors, is provided but is the least abundant of the three concepts. High human activity in the area and a diversity of built features may deter some wildlife species from inhabiting the ravine.
- Numerous recreational, educational, and cultural opportunities are supported.
- This concept presents the most extensive re-design of the road network by consolidating traffic over fewer bridges. Controlled intersections replace free-flow lanes to enable road lane consolidation. This allows for a wider corridor and more open land for park space. All underpass dimensions accommodate cyclists, large wildlife, and the creek.

Figure 3. Destination Park Focus conceptual option.

