Edmonton Energy and Technology Park
Report Summary: Desktop Ecological Network Report EETP Chemical Precinct (DRAFT)

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Consultant:	Spencer Environmental Management Services Ltd.
Commissioned by:	The City of Edmonton
Primary sector of interest:	General Industry

Overview

Objectives of this study are to assess various features of the ecological network within the petrochemical precinct of the Edmonton Energy and Technology Park (EETP), recommend a configuration for an ecological network within the precinct, identify anticipated ecological impacts of the proposed development and outline mitigation measures and measures required to ensure the network remains sustainable. The study area includes the precinct and a 500-metre buffer around the perimeter.

This report was used to identify areas which were carved out of the proposed rezoning parcels to allow for future delineation of natural areas. This is necessary for the preservation of highly valued ecological features and networks and their incorporation into future development plans.

Conclusions

Current ecological overview

- The EETP petrochemical precinct covers about 1,700 hectares (ha). The study area, with its buffer, covers 3,089 ha.
    - The report identified 284 natural features covering about 15% of the study area; 377.62 ha may warrant retention and another 33.26 ha may warrant an attempt to retain the features.
    - Almost half (44%) of the natural habitat is contained within eight large core areas. The core areas are not large enough to support populations of large mammals but may support some deer and coyotes.
- Thirty-four habitat patches and 46 linear corridor features are considered of high ecological network value. Of these, 53 are important because of their location partially or wholly contained in the North Saskatchewan River Valley Area Redevelopment Plan (NSRV ARP).
- The ecological functions in the study area are already highly compromised.
- Some areas currently not natural features would improve the connectivity of the established pathways if they were retained. These include those that provide hydrological connectivity, open space linkage and some adjacent features that fall under the “attempt to retain” category.

Impact of industrial development

- The loss of any natural features within the industrial development area is unlikely to impact any species that are already rare in the area.
- Within the specific areas proposed as part of a rezoning application there are 85 natural features covering 97.16 ha. Of that area, 62.38 ha are recommended to retain or attempt to retain.
- The conversion of existing cropland to industrial development likely will have major impacts on the ecological network. The current cropland does not provide habitat for many plant and animal species; however, it allows for the movement of many wildlife species, flow of seeds, etc.

Recommendations

- The recommended ecological network is structurally connected, functional and resilient and is based on the following criteria:
    1. Retain features such as major ecological pathways required for structural connectivity of the primary ecological network.
    2. Attempt to retain features not required for structural connectivity but that would provide valuable secondary pathways if retained.
    3. Do not retain features excluded from the recommended network.
- The proposed road network should minimize the number of crossings of the NSRV ARP and should avoid bisecting any natural features to be retained.
- Chemical plants should require a minimum 30-metre green space buffer around their perimeter.
- All retained and constructed wetlands should be buffered by a minimum of 30 metres.

Highlights

- The 284 natural features, including 175 habitat patches and 109 linear corridors, occur throughout the precinct with notable clusters inside the North Saskatchewan River Valley Area Redevelopment Plan (NSRV ARP) boundary and in the northwest corner of the precinct.
- The 20 woodland areas within the study area are scattered across the area. All are small, less than 3.5 ha and many are located near houses or agricultural buildings.
- Wetlands, with 98 identified, are the most common habitat patch feature in the study area.
- Of the 109 identified linear features, 78 are shelterbelts. The remaining 31 linear features are drainages, most associated with the Horsehill Creek drainage system and related tributaries.
- Horsehill Creek and its tributaries have helped sustain a connected ecological network. Additional ecological corridors and stepping stones are located across the landscape. The scattered stepping stones and shelterbelt corridors provide many secondary ecological pathways across the agricultural areas.

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