NATURAL HABITAT

theme overview
planning & design decisions
goals

create multi-functional green spaces with significant ecological value

maintain connectivity between, and access to, natural habitat areas and greenspace

detailed design tasks
fostering sustainable living

The loss of land to development fragments the regional ecosystem. This undermines the ability of any species to survive in an urban context, and reduces the integration of naturalized areas into our communities. Sustainable urban neighbourhoods strive to provide and protect a layered, blended, and green network. This interconnected system of naturalized spaces includes recreational areas, parks, and a range of habitat areas that support a diversity of native species and complement surrounding land uses.

theme overview

why is this theme important?

As development paves over natural vegetation, insects, amphibians, birds, and animals are displaced. Their ability to feed themselves, find shelter, and move thoughout the landscape is greatly reduced. Preserving biodiversity and natural habitats will ensure the protection of resources including air, water, soil and vegetation; all of which function together to sustain the health of a community. Biologically diverse natural areas create stable ecological systems which in turn moderate larger systems like temperature and climate, and provide us with an enduring supply of food, clean water and air.

Connectivity between habitat areas is key to sustaining them. Trails and greenways can play a key role in enhancing the natural habitat network within the site by increasing the usability of existing open space and natural resources, connecting wildlife habitat, and enhancing opportunities for passive forms of recreation such as walking and cycling for residents.

why is natural habitat important to emerald hills urban village?

The Edmonton region lies within the "Central Prairie Parkland" subregion. Species in and around this area include foxes, coyotes, skunks and deer, birds, butterflies, dragonflies, and associated wetland species such as reptiles, amphibians and invertebrates. Much of Strathcona County lies within the boundaries of the Beaver Hills Moraine, which supports a variety of important environmental features and animal species, including important wildlife corridors.

While no species or habitat of ecological significance can currently be identified on the site, any loss of land to development fragments the overall regional ecosystem and lessens the ability of any species to survive in an urban context. For this reason, planning and design should maximize the amount of green space and should strive to incorporate high quality, connected habitat areas which support a diverse variety of native species.

Designing quality natural habitat areas also supports the desire in Strathcona County to provide parks and recreational areas for its residents. From young to old, there is a need for a diverse range and variety of parks and recreational opportunities in both urban and rural areas of the County. It is important when developing parks and recreational areas, to ensure that they complement the surrounding land uses and the environment.

how can emerald hills urban village impact on this theme?

Incorporating a variety of natural habitat restoration and conservation strategies into community building from the very beginning can create an interconnected green network that supports the long term diversity of plant and animal species. A successful long-range planning strategy involves integrating priority habitat areas and linkages to create a "spatial habitat network" that informs land use configurations.

Emerald Hills Urban Village has an opportunity to create a natural habitat design that can act as a model for future developments in the region.

summary table of goals and strategies for natural habitat

goals	charrette process strategy
Create multi-functional green spaces with significant ecological value.	Layer and blend a palette of native vegetation throughout the Village.
Maintain connectivity between, and access to, natural habitat areas and greenspace.	Provide green corridors that link habitat areas and greenspace within and beyond the Village.

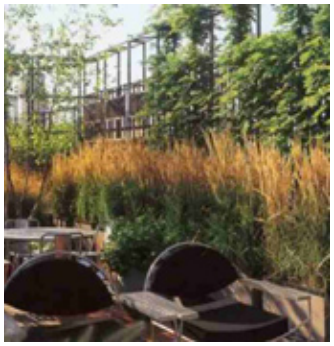
planning & design decisions

general intent of this strategy / In order for open spaces to function as habitat, a multi-storey approach to vegetation needs to be incorporated. Landscaping can incorporate diverse native vegetation species in order to ensure the health of the ecosystem.

East-West greenway provides an ecological corridor (Sketch taken from design charrette).

Native vegetation is layered into the landscaping.

Public-private interfaces are delineated through landscaping.



Blend native species into public places.

Native vegetation in the commercial parking field.

goal / create multi-functional green spaces with significant ecological value.

strategy / layer and blend a palette of native vegetation throughout the village.

area i: institutional, residential, commercial
- Native and edible vegetation is integrated in courtyards and/or other habitat pockets.
- Public / private interfaces are delineated through landscaping.
- Buildings are articulated in response to a natural edge to allow for infiltration of vegetation.
- Green and landscaped roofs provide additional habitat area.

area ii: residential, commercial
- Native and edible vegetation is integrated in courtyards and/or other habitat pockets.
- Public / private interfaces are delineated through landscaping.
- Buildings are articulated in response to a natural edge to allow for infiltration of vegetation.
- Where appropriate, green and landscaped roofs provide additional habitat area.

area iii: residential, commercial
- Central open space is landscaped with native and edible species.
- Natural habitat is integrated with open space at many scales, allowing human spaces to support habitat, and vice versa.
- Public / private interfaces are delineated through landscaping.
- Central green space connects with both North-South and East-West greenways to provide habitat connectivity throughout the site.
- North-South greenway provides additional linear habitat corridor space and offers greenspace linkage to stormwater management pond on hospital site.
- Community gardens provide additional opportunities for habitat space and social interaction.

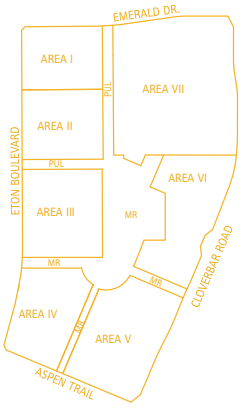
municipal reserve & public utility lot
- Central open space is landscaped with native and edible species.
- Natural habitat is integrated with open space at many scales.
- Central green space connects with both North-South and East-West greenways to provide habitat connectivity throughout the site.
- East-West greenway provides a significant ecological corridor incorporating overstorey (trees), understorey (shrubs) and undercover to provide a layering effect.
- North-South greenway provides additional linear habitat corridor space and offers greenspace linkage to stormwater management pond on hospital site.
- Community gardens provide additional opportunities for habitat space and social interaction.

area iv: residential
- Native and edible vegetation is integrated in yards or courtyards and/or other habitat pockets.
- Public / private interfaces are delineated through landscaping.
- Where appropriate, green and landscaped roofs provide additional habitat area.

area v: residential
- Native and edible vegetation is integrated in yards or courtyards and/or other habitat pockets.
- Public / private interfaces are delineated through landscaping.
- Where appropriate, green and landscaped roofs provide additional habitat area.

area vi: residential, commercial
- Native and edible vegetation is integrated in courtyards and/or other habitat pockets.
- Public / private interfaces are delineated through landscaping.
- Buildings are articulated in response to a natural edge to allow for infiltration of vegetation.
- Where appropriate, green and landscaped roofs provide additional habitat area.

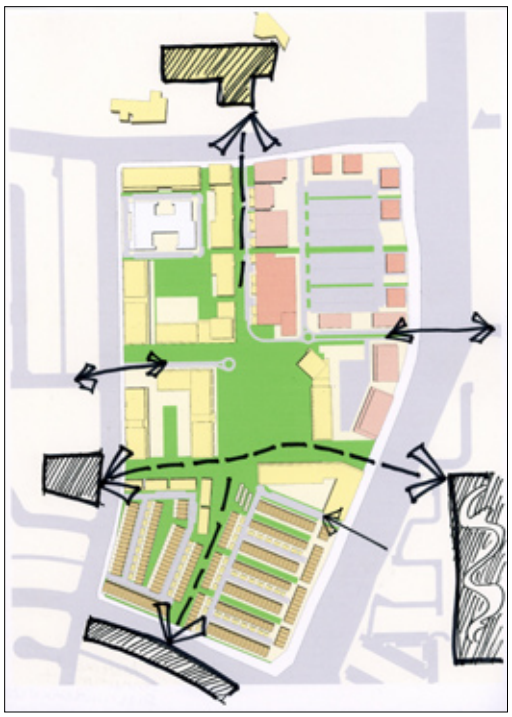
area vii: commercial, residential
- Native vegetation is used in the commercial parking field to increase the canopy cover and provide habitat for birds and insects.



planning & design decisions

general intent of this strategy / Green corridors provide a mechanism through which habitat patches of varying sizes can be knit together, thereby enhancing access to natural habitat areas for both humans and wildlife.

Green corridors are noted as key method of linking habitat areas (Sketch taken from design charrette).



Green corridors linking habitat areas and greenspaces.

Landscaping delineates interface with public areas.

Green corridor linkages can be continued across roadways to ensure connectivity.

goal / maintain connectivity between, and access to, natural habitat areas and greenspace.

strategy / provide green corridors that link habitat areas and greenspace within and beyond the village.

area i: institutional, residential,commercial
- East-West greenway on southern edge connects to North-South corridor, linking to the central green space as an amenity.
- Landscaping treatments delineate public/ private interfaces to maintain habitat connectivity.

area ii: residential, commercial
- Courtyard opens onto East-West greenway in Area I, linking to the central green space as an amenity.
- Landscaping delineates public /private interfaces to maintain habitat connectivity.

area iii: residential, commercial
- Courtyard opens onto East-West ecological corridor in Municipal Reserve, linking to the central green space as an amenity.
- Landscaping delineates public /private interfaces to maintain habitat connectivity.

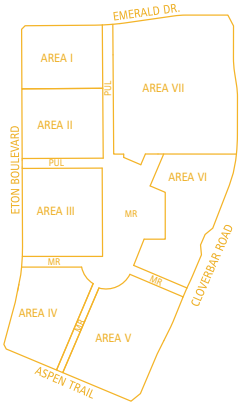
municipal reserve & public utility lot
- North-South corridor provides a spine that connects all public and private natural habitat areas.
- East-West ecological greenway provides direct link to park area to the West in Emerald Hills and indirect link along Cloverbar Road to the conservation area in Summerwood.

area iv: residential
- Landscaping treatments delineate public/ private interfaces to maintain habitat connectivity.
- Native planting in yards supplement public habitat areas, contributing to greenspace of the whole site.

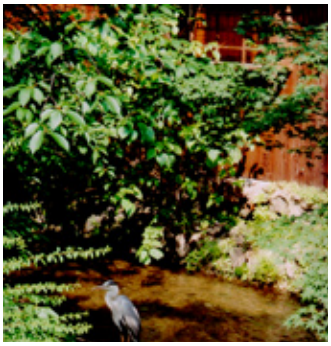
area v: residential
- Landscaping treatments delineate public/ private interfaces to maintain habitat connectivity.
- Native planting in yards supplement public habitat areas, contributing to green space of the whole site.

area vi: residential, commercial
- Landscaping treatments delineate direct interface with central open space to maintain habitat connectivity and open space access.

area vii: commercial, residential
- Landscaping treatments delineate public/ private interfaces to maintain habitat connectivity.
- Commercial and work-live uses access the North-South greenway to link to the central open space.
- The northeast corner of the central green is combined with a plaza or gathering area with habitat value.



Small spaces can provide habitat such as this design which provides butterfly habitat and stormwater infiltration.



Include a palette of native vegetation that will promote local biodiversity.

Outdoor spaces can contribute to overall ecology of the Village.

detailed design tasks

general intent / This section highlights design tasks flagged during the charrette process as needing to be addressed during the detailed design process. LEED for Neighbourhood Development prerequisites and credits are to be satisfied.

detailed design tasks

- Maintain perspective of restoring and/or mitigating environmentally damaged areas such as restoring topsoil.
- Determine a palette of native plant species that will promote local biodiversity.
- Ensure private outdoor space contributes to overall ecology of the Village.
- Determine potential of all buildings for integrating green and/or landscaped roofs.
- Explore the "Transfer of Land Credits" with developers.
- Linkages across roadways to surrounding neighbourhoods needs to be considered in design of green corridors.
- It is important to protect the connectivity of the east/west ecological corridor by limiting the number of formal pedestrian crossings.
- Ensure the Village's green spaces are highly connected to enhance ecological functions such as habitat value and stormwater management. Paved areas and pathways should be carefully considered.

related leed-neighbourhood development credits

- LEED ND SSL Prerequisite 3: Imperiled Species and Ecological Communities (Option 2)
- LEED ND SSL Prerequisite 5: Farmland Conservation (Option 2)

See www.usgbc.org for more information.

fostering sustainable living

general intent / The detailed design decisions that enable sustainable development at Emerald Hills Urban Village must also foster sustainable living. The Strategies and Initiatives/Activities identified below represent an initial framework and point of departure for generating a Fostering Sustainable Living Program at the Urban Village. They are intended to provide the integrated design team with the sustainable living lens that is to be applied to all detailed design decisions. It is recognized that these lists will evolve and be refined as the detailed design for the Urban Village emerges.

Country Lanes take advantage of marginal street spaces such as narrow lanes.

strategies

- Assemble a municipal Ecoteam that includes the County, NGOs, the community - see Environment Canada's Tools of Change.
- Develop a program that encourages interaction with the natural environment and promotes stewardship.
- Replant key plants lost due to development in partnership with local NGO or progressive nursery.
- Educate residents creating value-added planted areas and identifying and preventing the spread of invasive plants.
- Permanent easement or other legal means to protect greenspace not designated as Municipal Reserve such as community gardens.
- Review/adopt lighting standards to reduce light pollution.

Partner with local organization to restore or enhance natural spaces.

initiatives / activities

- Select an Emerald Hills Environmental Steward and Ecoteam representative.
- Work with partners to create a Biodiversity Action Plan to consider Village, neighbourhood, and regional initiatives.
- Partner with local NGOs such as Evergreen to create interactive, enhanced natural habitat spaces.
- Adopt of rare or threatened plant species for the Village.
- Create a Village "Broom Bash" event aimed at invasive species removal.
- Initiate a "Country Lanes" program to take advantage of marginal street spaces such as narrow lanes.
- Establish a Village Demonstration Garden with webcam links to Village Intranet.
- Form a Village Bird-watching Club with sightings listed on Village Intranet.
- Develop a bird feeder, and bat and bee box program to enhance the natural environment.
- Host walking tours/expeditions to local and regional ecological habitats.
- Develop a 'Living Naturally at the Village' section in resident's Intranet handbook.

Compost Demonstration Garden.