



# ROLLING TRAILS

## AREA REDEVELOPMENT PLAN

JULY 2020





**ROLLING TRAILS**  
AREA REDEVELOPMENT PLAN



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# ROLLING TRAILS

AREA REDEVELOPMENT PLAN



# 1 Introduction

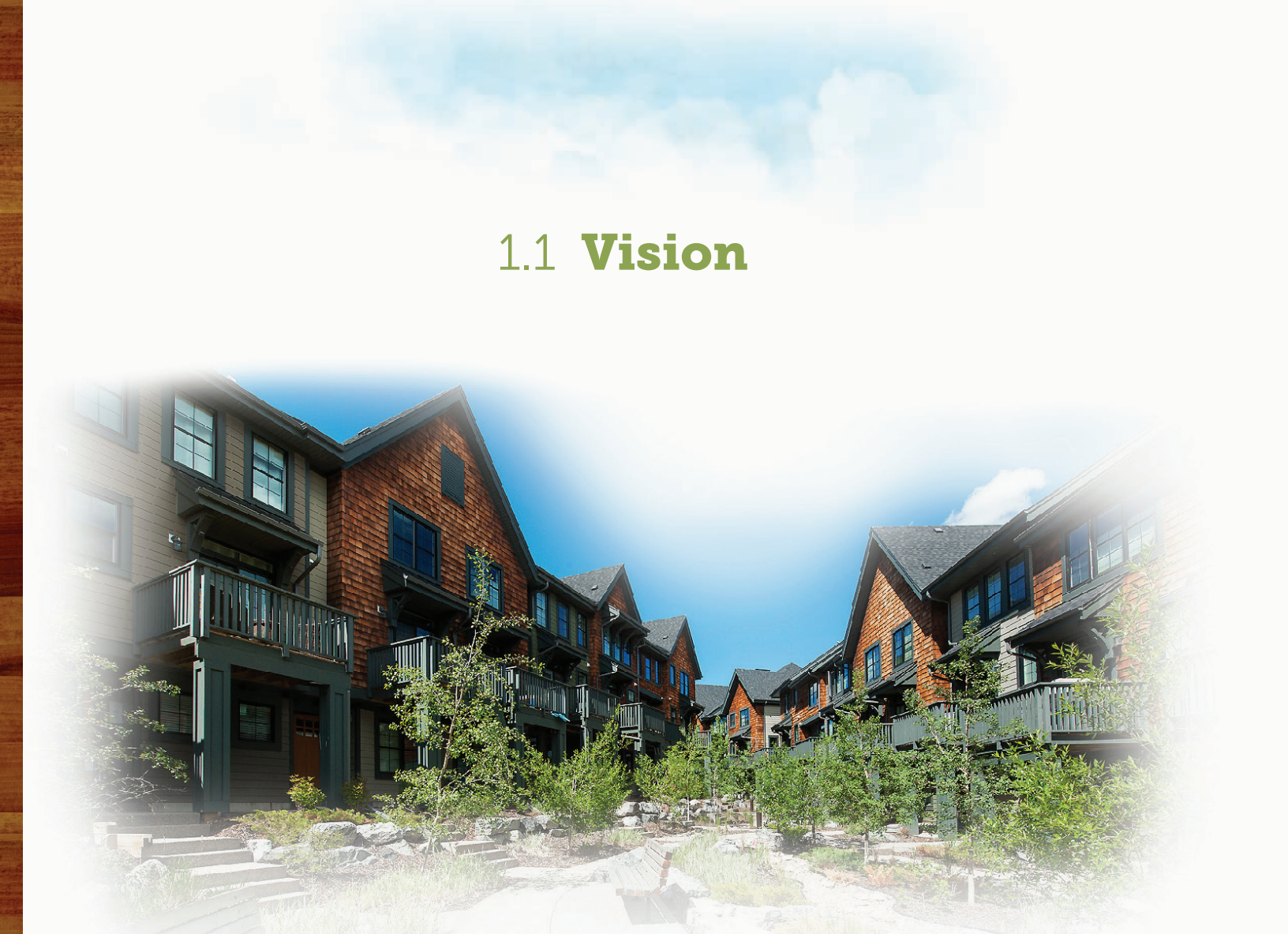
The Rolling Trails Area Redevelopment Plan (ARP/Rolling Trails) comprises the communities of Rolling Range Estates and Towers Trail which are located in the southwest portion of the Town of Cochrane (the Town). The Plan Area is bounded by Highway 22 to the east, the community of Fireside to the south and Towers Trail to the west. The topography of the Plan Area is best described as knob and kettle with rolling hills and pockets of smaller wetlands. The two communities include 43 different properties where 40 are large country residential lots, one is an electrical substation and two are owned by the Town of Cochrane. These two communities were annexed by the Town in 2004 and are identified to accommodate future urban redevelopment and possible commercial, institutional and business uses in the Town's Municipal Development Plan.

Rolling Trails is a unique area that affords a distinct redevelopment opportunity unlike anything else in Cochrane. The knob and kettle terrain means that redevelopment will have to respond to this exceptional topography through alternative development patterns. The moderate size of the country residential lots allows for landowners or boutique developers/builders to offer innovative design solutions, housing products and services. With the support of the majority of the land owners, the Rolling Trails ARP was prepared to guide the redevelopment of individual Plan Area parcels overtime to achieve an innovative and comprehensively planned urban community that is integrated with the rest of Cochrane.





## 1.1 Vision



The vision for Rolling Trails is a community that has organically redeveloped over time into four quality urban neighbourhoods that are distinct yet complimentary, sensitive to their surroundings, responds to the local topography, conveys a sense of place, integrates local services and employment and offers homes that enhance Cochrane's housing mix. The result is a place that embodies western heritage, where multiple generations live together harmoniously and appreciate the unique geography of the area and the amenities that are only a short walk away.





## 1.2 Principles

The following principles provide a guide for the redevelopment of Rolling Trails:

1



### Innovation

A flexible and innovative approach is applied at the detailed design stage to generate the most appropriate solutions to respond to the fragmented nature of the Plan Area, uncertainty of development timing and potential market shifts in order to achieve Rolling Trails' long term vision.

2



### Organic Design

Rolling Trails gradually transitions into an urban community where redevelopment has responded to its unique topographical and redevelopment situation.

3



### Sense of Place

Thoughtful design elements are incorporated into each neighbourhood to create a sense of place while also tying the community together in terms of character and theming.

4



### Integration of Commercial, Business and Community Services

A commercial and business node is incorporated into Rolling Trails to provide residents with convenience shopping and employment within close proximity of their homes.

5



### Market Based Housing

Housing is provided that addresses market demand and underserved segments of Cochrane.

6



### Pedestrian and Transit Friendly

The strategic location of transit stops and the comprehensive pedestrian network ensures that residents are within a short walk of neighbourhood amenities and transit.

7



### Quality Focus

There has been a focus on the quality of the layout of neighbourhoods, the design of homes and the location of services to ensure a comfortable living environment within Rolling Trails while still meeting the sustainability targets and thresholds of the Town.

8



### Boutique Open Space

Each neighbourhood park has unique elements that have been designed to complement and align with surrounding development.

9



### Sensitive Redevelopment

Redevelopment has been undertaken in a manner that is respectful of its surrounding neighbours while also allowing for urban forms to arise.

# 2

# Context



## 2.1 Site Description

The Plan Area contains approximately 144.06 hectares (355.98 acres) of land consisting of two historical country residential subdivisions, namely 'Rolling Range Estates' in the southern portion and 'Towers Trail' in the northern portion. Rolling Range Estates consists of twenty-seven parcels of land totalling approximately 76.00 hectares (187.79 acres) and Towers Trail consists of sixteen parcels of land totalling approximately 68.07 hectares (168.19 acres). These areas are described in the following table:

Table 1

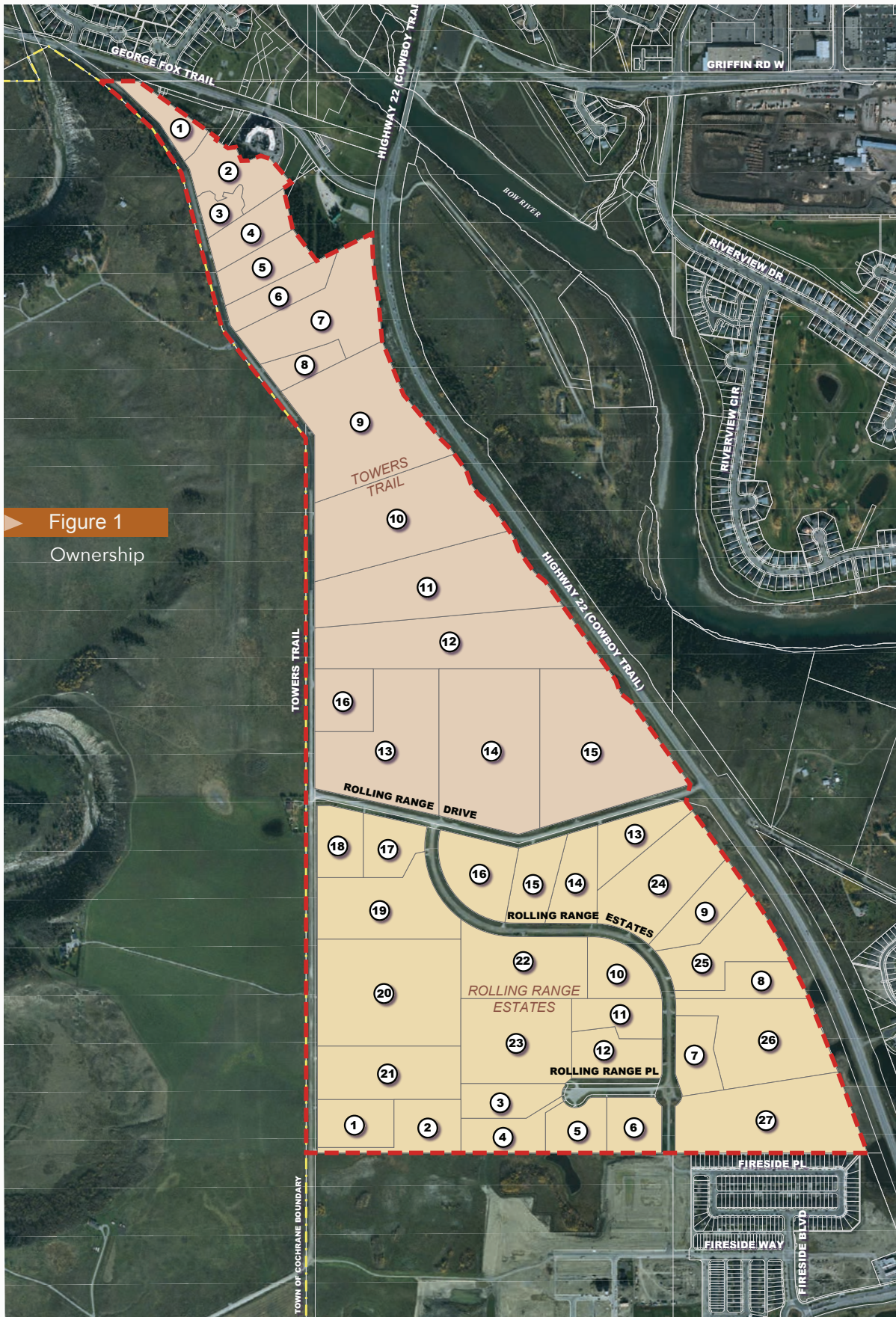
Ownership within Plan Area

Rolling Range Estates				
#	Ownership	Legal Description	Legal	
			Hectares (ha)	Acres (ac)
1	Private	Plan 9610569 Block 4	1.866	4.61
2	Private	Plan 9610569 Block 3	2.025	5.00
3	Private	Plan 9811998 Lot 18	1.60	3.95
4	Private	Plan 9811998 Lot 19	1.61	3.98
5	Private	Plan 9811998 Lot 20	1.60	3.95
6	Private	Plan 9811998 Lot 21	1.60	3.95
7	Private	Plan 9411966 Lot 15	1.62	4.00
8	Private	Plan 9111270 Lot 14	1.62	4.00
9	Private	Plan 0411781 Block 2 Lot 20	1.87	4.62
10	Private	Plan 0211697 Block 1 Lot 19	1.82	4.50
11	Private	Plan 0510106 Block 1 Lot 22	1.617	4.00
12	Private	Plan 0510106 Block 1 Lot 23	2.025	5.00
13	Private	Plan 9012373 Lot 12	1.86	4.60
14	Private	Plan 9412419 Lot 19	1.92	4.74
15	Private	Plan 9412419 Lot 18	1.78	4.40
16	Private	Plan 9412419 Lot 17	2.54	6.28
17	Private	Plan 9611502 Lot 21	1.619	4.00
18	Private	Plan 9611502 Lot 20	1.619	4.00
19	Private	Plan 8211052 Lot 3	4.46	11.03
20	Private	Plan 8011554 Lot 2	7.78	19.22
21	Private	Plan 9310444 Block 1	3.89	9.61
22	Private	Plan 0211697 Block 1 Lot 18	4.13	10.21
23	Private	Plan 9311545 Lot 17	5.01	12.39
24	Private	Plan 8610324 Lot 10	4.36	10.78
25	Private	Plan 0412781 Block 2 Lot 21	3.04	7.51
26	Private	Plan 9411966 Lot 16	4.90	12.11
27	Private	Plan 8310324 Lot 7	6.21	15.35
Sub-Total			76.00	187.79

Towers Trail				
#	Ownership	Legal Description	Legal	
			Hectares (ha)	Acres (ac)
1	Private	Plan 0812371 Block 1 Lot 14	1.163	2.87
2	The Town of Cochrane	Plan 1012041 Block 1 Lot 16ER	2.15	5.31
3	Private	Plan 1012041 Block 1 Lot 17	0.732	1.81
4	Private	Plan 9611679 Block 1 Lot 12	1.656	4.09
5	Private	Plan 9411880 Block 1 Lot 5	1.75	4.32
6	Private	Plan 9511364 Block 4	1.62	4.00
7	Private	Plan 959LK Block 3	4.584	11.33
8	Private	Plan 0112195 Block 5	1.036	2.56
9	Private	Plan 959LK Block 4	7.22	17.85
10	Private	Plan 959LK Block 5	7.22	17.85
11	Private	Plan 959LK Block 6	7.22	17.84
12	Private	Plan 301LK Block 7	7.23	17.87
13	The Town of Cochrane	Plan 301LK Block R10	6.52	16.11
14	Private	Plan 1674LK Block 9	8.05	19.90
15	Private	Plan 1674LK Block 8	8.05	19.88
16	Altalink	Plan 1112498 Area A	1.862	4.6
Sub-Total			68.07	168.19
TOTAL			144.06	355.98

Note: Areas based on land titles

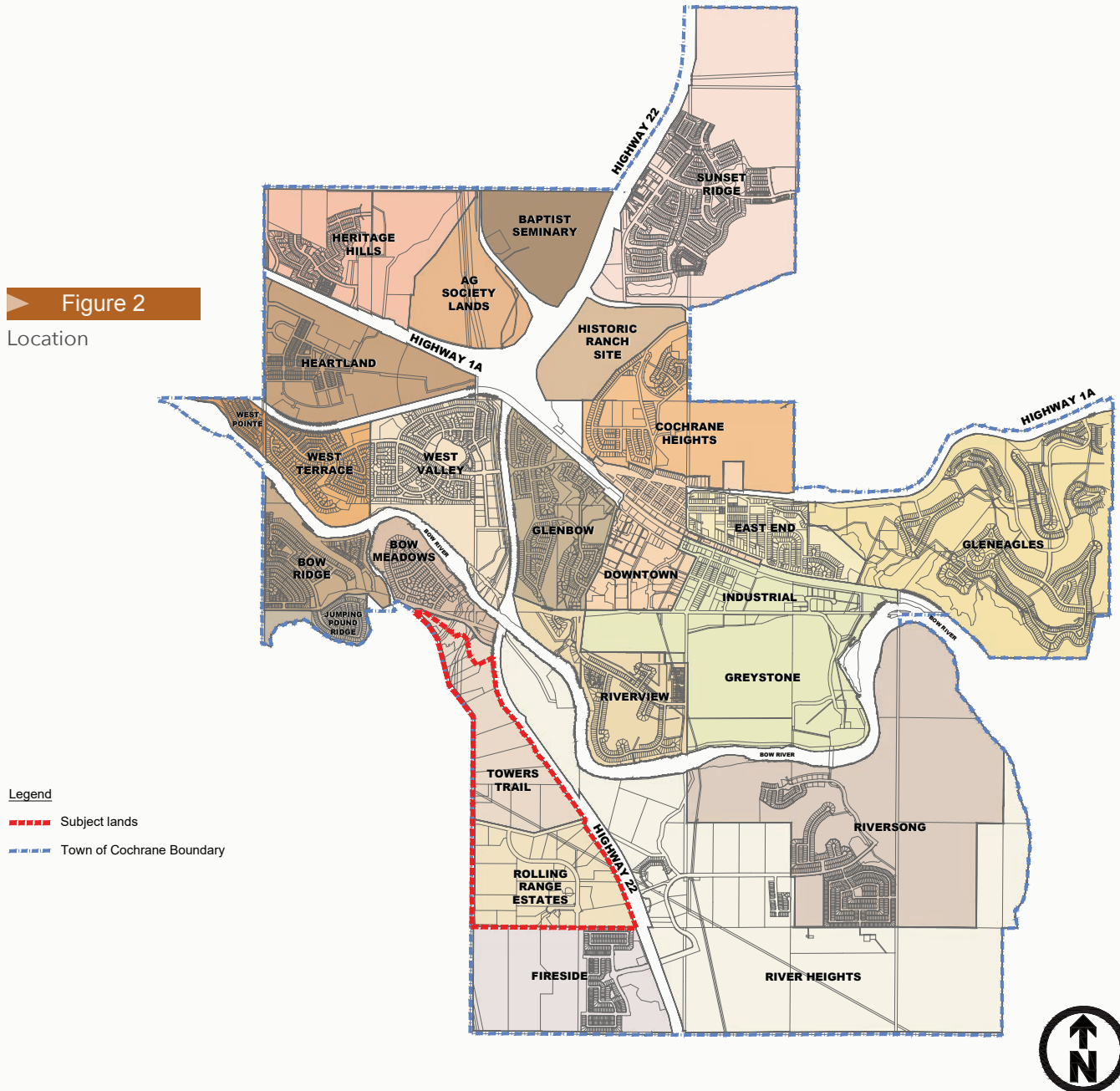




▶ Figure 1  
Ownership

## 2.2 Location

The Plan Area is located in the southwest portion of the Town of Cochrane as shown in **Figure 2 - Location**. The Plan Area is situated between Highway 22 to the east and Towers Trail road to the west. The surrounding Cochrane communities include Bow Meadows to the north, River Heights to the east, Fireside to the south and Rocky View County to the west.





## 2.3 Existing Conditions

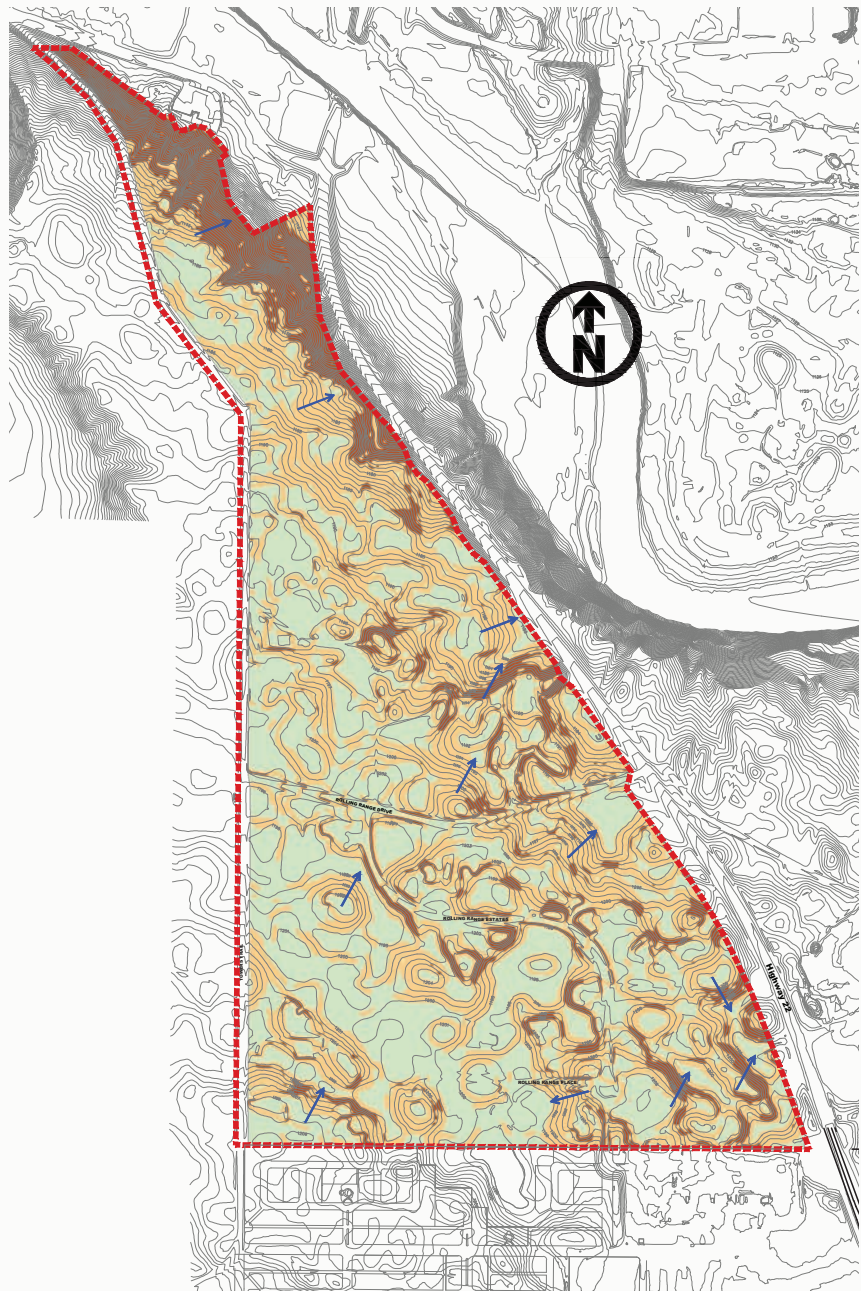
The Plan Area includes developed country residential estate lots ranging in size from 0.73 ha (1.81 ac) - 8.05 ha (19.90 ac) in size. The lands generally slope down towards the northeast in the direction of the Bow River with an escarpment running from the northwest to southeast in the northern portion of the Plan Area. The topography can be characterized as knob and kettle due to its rolling hills and depressions. In terms of soils, the exposed subgrade materials is composed of glacial clay till, with some cobbles to boulders and this material typically has a very stiff to hard consistency.

Eight distinct broad land cover types occur within the Plan Area including wetland, disturbed grassland, anthropogenic, treed aspen and treed spruce. No native grassland, or shrubland exist. The Plan Area includes 54 waterbodies including 48 wetlands that occur within or intersect the ARP boundary, four man-made ponds, and two dugouts. A total of 12.35 hectares of wetland area, or 8% of the total area, exists within the Plan Area. Minimal offsite drainage from the property occurs and most drainage is expected through wetland infiltration and evaporation.

Based on initial assessments, one portion of the Plan Area is considered to be an Environmentally Significant Area (ESA) and two are considered as Aquatic Environmentally Significant Areas (AESAs). The northeast-facing escarpment is a distinct and unique type within the region and the municipality that would qualify as an ESA. Two semi-permanent-freshwater shallow open water wetlands (WL16 & WL42) would qualify as AESAs for their higher ecological complexity and relative uniqueness in the area and the municipality.

Existing Topography

Figure 3



**Legend**

- Subject lands
- 0-5% Slope
- 6-15% Slope
- Greater than 15% Slope
- Site Slope Direction



Figure 4 Land Cover Types

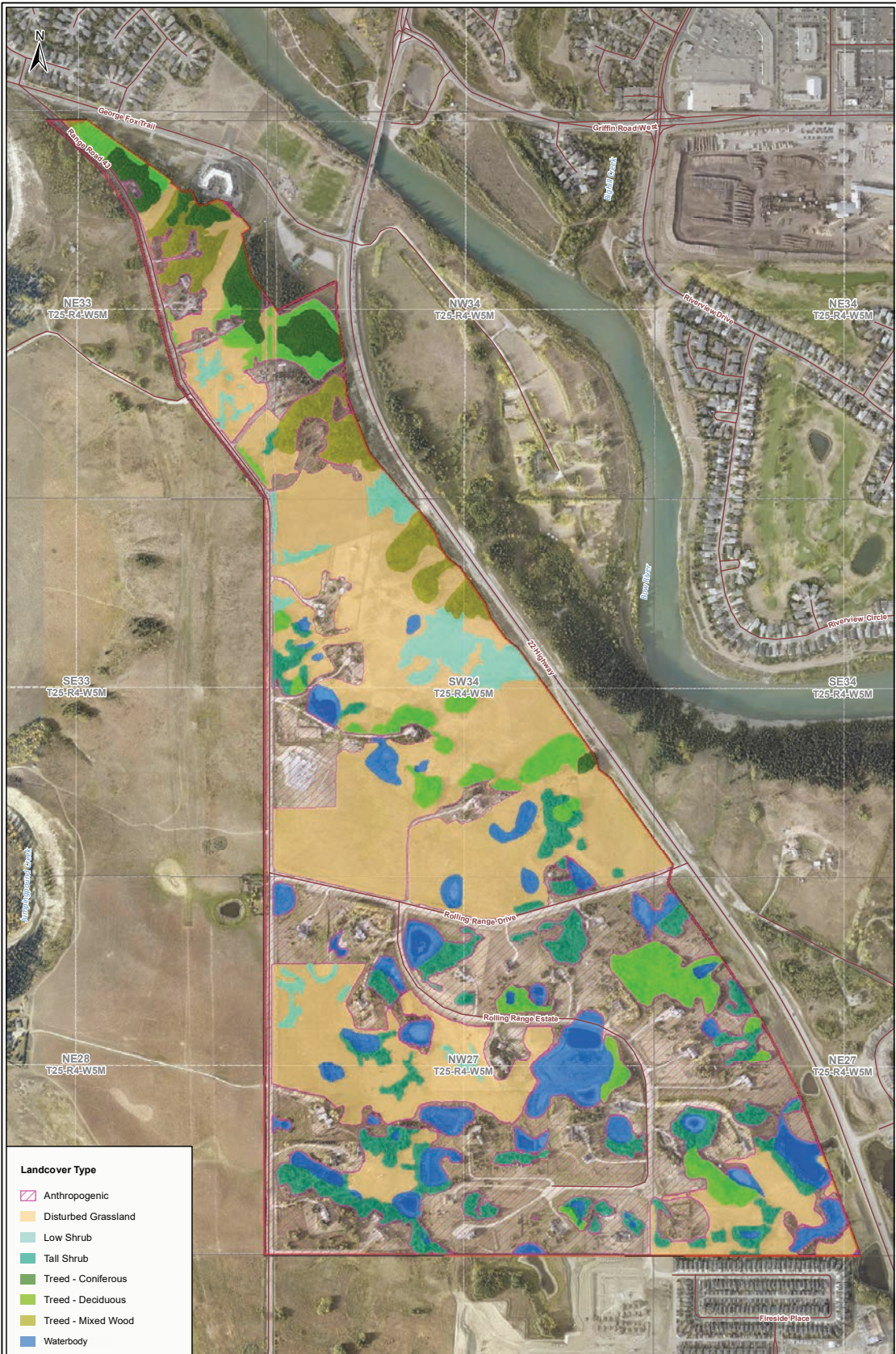
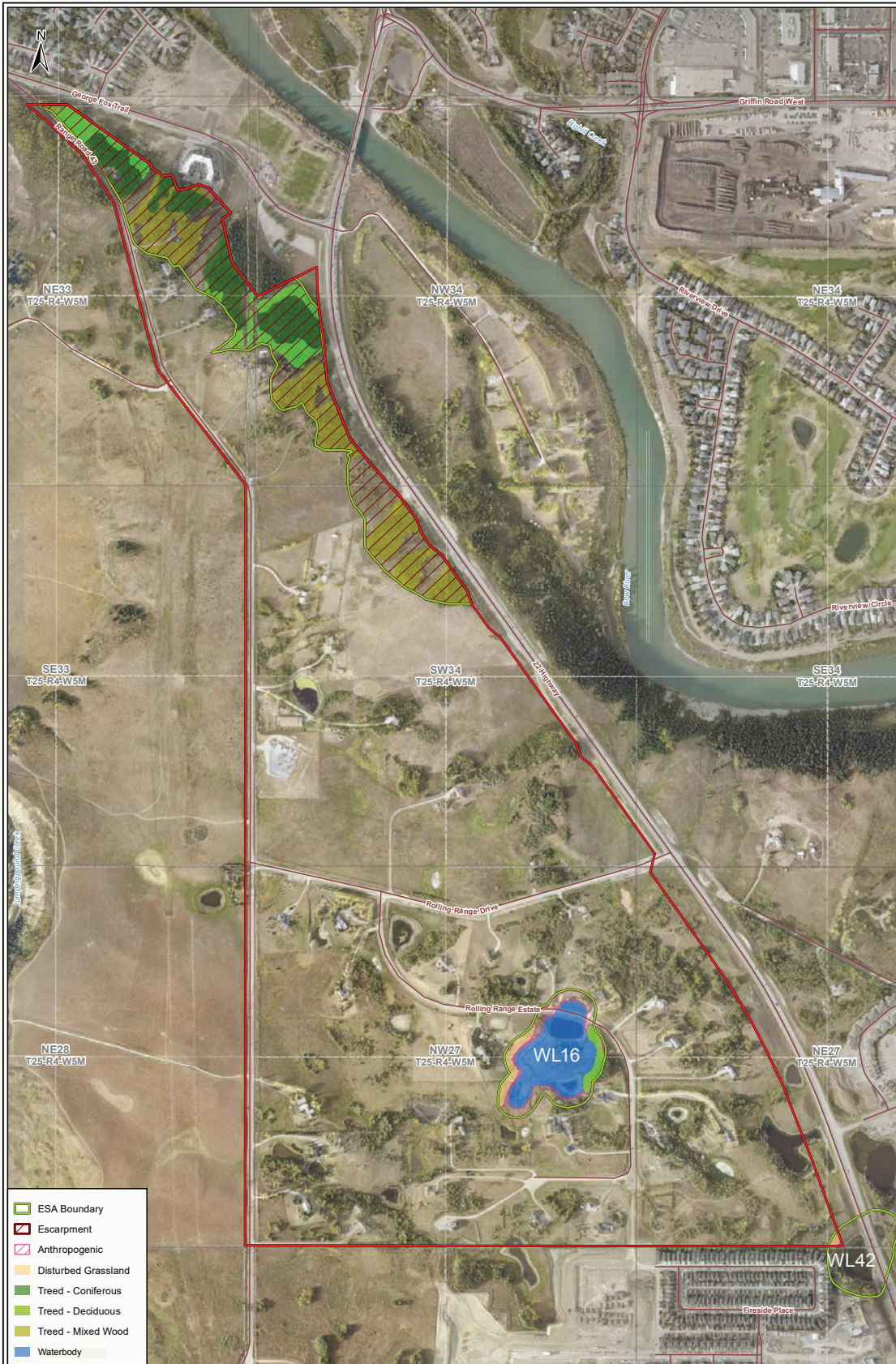




Figure 5 Environmentally Significant Areas

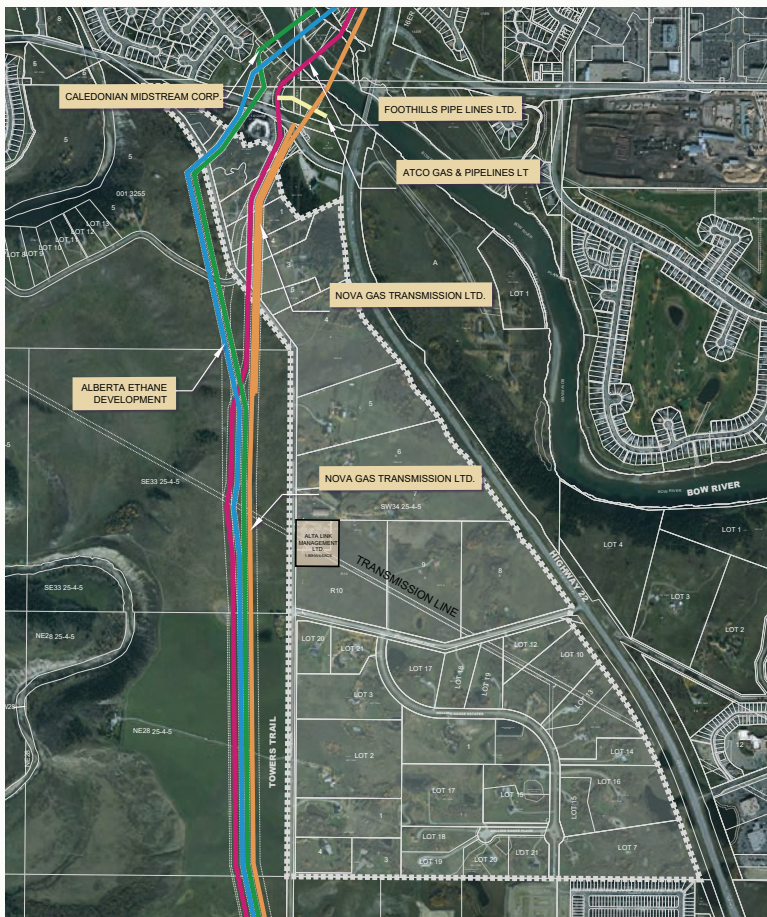




## 2.4 Existing Features

Most of the lots currently contain a residence with associated structures and improvements. Plan 1112498 Area A is owned by Altalink Management and consists of a substation site. Pipelines are in the NE and SE 33-25-4-W5M, SW and NW 34-025-4-W5M, NE28-25-4-W5M and the NW 27-25-4-W5M as shown on **Figure 6 - Existing Features**. There are two abandoned wells outside the subject site on the SW 27-25-4-W5M and the SE 28-25-4-W5M.

Figure 6 Existing Features



Highway 22 (Cowboy Trail) and Towers Trail provide the main access to the Plan Area while the following function as internal subdivision roads:

- Rolling Range Drive;
- Rolling Range Estates; and
- Rolling Range Place.

Table 2  
Existing Pipelines within the Plan Area

License #	Company Name	Substance	Status
7850-23	Caledonian Midstream Corp	HVP Products	Operating
14766-18	Alberta Ethane Development	HVP Products	Operating
35028-1	Atco Gas and Pipelines	Natural Gas	Operating
35028-2	Foothills Pipelines	Natural Gas	Operating
80006-3	Foothills Pipelines	Natural Gas	Operating
80096-25	Nova Gas Transmission	Natural Gas	Discontinued
80096-26	Nova Gas Transmission	Natural Gas	Operating
80096-30	Nova Gas Transmission	Natural Gas	Operating
80096-31	Nova Gas Transmission	Natural Gas	Operating

**Legend**

■■■■ Subject Lands



## 2.5 Surrounding Context

The following uses border the Plan Area:

- To the north of the Plan Area are the residential neighbourhoods of Bow Meadows and Bow Ridge, both accessed via George Fox Trail from Highway 22. The area immediately north of the Plan Area and south of George Fox Trail contain an apartment style development named Lofts on the Bow, and to the east is St. Peter's Lutheran Church
- Towers Trail road forms the boundary between the Town of Cochrane and Rocky View County. West of Towers Trail consists of agricultural land and acreage development including Jumping Pound Creek; this area also includes a residential subdivision with access to Towers Trail
- Across Highway 22 to the northeast of the Plan Area is the Bow River and the residential neighbourhood of Riverview and the future neighbourhood of River Heights; this area also includes St. Mary's Parish and various employment and commercial uses.
- South of the Plan Area is the residential neighbourhood of Fireside which is currently under development.

Figure 7 Surrounding Context



Legend

- Subject Lands
- - - Town of Cochrane Boundary



# Policy & Land Use Context

The following land use policy documents create the policy framework for the Rolling Trails ARP:

- The Calgary Metropolitan Regional Board - Interim Plan
- The Cochrane Municipal Development Plan (2008),
- Town of Cochrane/Rocky View County Annexation Agreement
- The Cochrane Sustainability Plan
- The Cochrane Open Space Plan
- The Integrated Neighbourhood Design Guidelines

Outside of policy, the Land Use Bylaw regulates development of the Plan Area. The following identifies the policy direction and requirements of each document with respect to the development of the Plan Area.

## 3.1 Policy Context

### The Calgary Metropolitan Plan

The Town of Cochrane is a member of the Calgary Metropolitan Region Board (CMRB). The Rolling Trails ARP is a statutory document and must be evaluated in accordance with the CMRB Interim Growth Plan (IGP) and the Interim Regional Evaluation Framework (IREF). The IGP provides guidance on Land Use, population and employment growth, and infrastructure planning related to matters of regional significance. The ARP must be submitted to the CMRB for review and approval.

### Municipal Development Plan

The Town of Cochrane's Municipal Development Plan (MDP), adopted by Council in October 2008 is a long-term strategy that establishes the overall pattern for land use, transportation and servicing in the Town. A main goal of the MDP is to allow for growth while maintaining Cochrane's small-town character. Policies under the MDP, require residential neighbourhoods to be complete communities that facilitate economic, social and recreational opportunities. New subdivisions are to meet a minimum residential density of 19.8 dwellings units per gross developable hectare (8.0 units per gross developable acre).

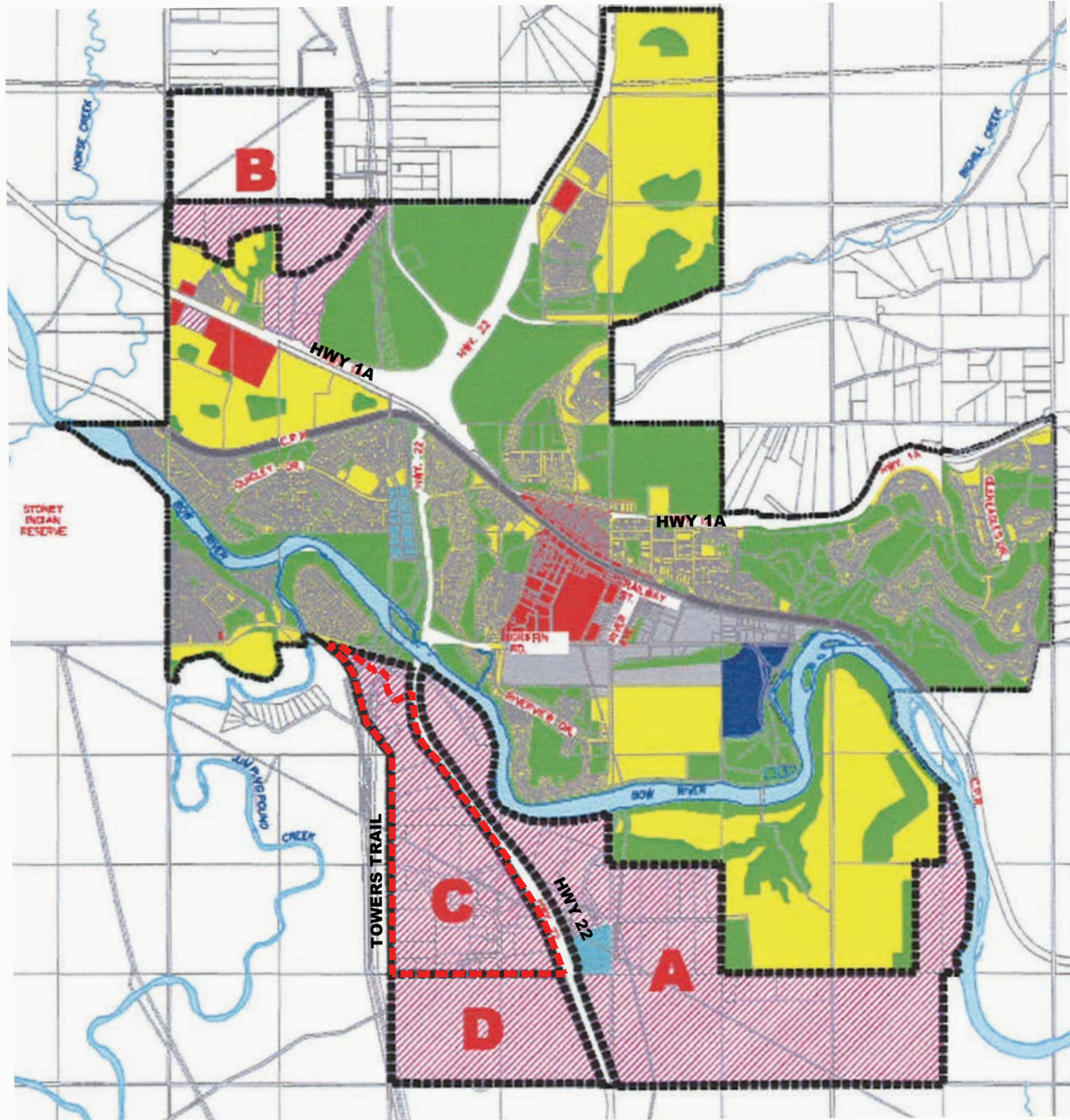
The Plan Area as shown in **Figure 8 - MDP Land Use Concept** is identified as 'Area C' and 'Pending Plan Area'. The following provides background on each area. As per policy 8.4.11 Area C, the Plan Area shall be: "...a comprehensively designed residential community with commercial and industrial uses in proximity to Highway 22 (p. 33)." In addition, the MDP encourages intensification and redevelopment of existing residential areas and the use of existing roads and utilities.

### Town of Cochrane/Rocky View County Annexation Agreement

The annexation of Rolling Range Estates and Towers Trail subdivisions by the Town of Cochrane from Rocky View County occurred in 2004. The lands were annexed for future urban growth. The annexation agreement between the two municipalities requires an urban overlay plan to be prepared before urban redevelopment can proceed.



Figure 8 MDP Land Use Concept



- Subject Lands
- Town Boundary
- Residential
- Commercial/Mixed Use
- Business Park
- Highway Commercial
- General Industrial
- Open Space & Public Service  
(Parks, Open Space, Educational, Recreational & Institutional)
- Land Use Pending
- Areas A, B, C & D

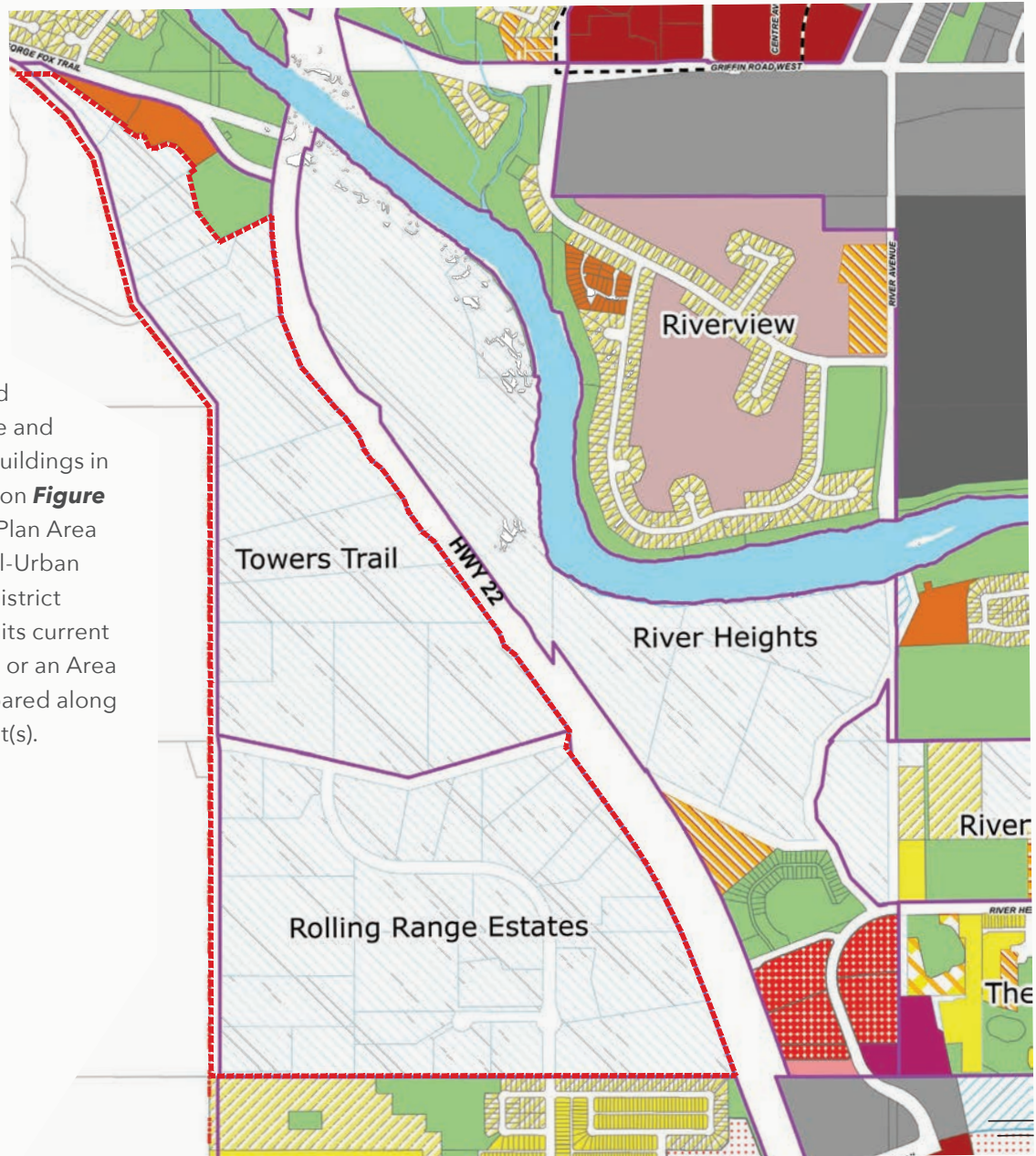




# 3.2 Land Use Context

Figure 9 Existing Land Use

The Town of Cochrane Land Use Bylaw regulates the use and development of land and buildings in the municipality. As shown on **Figure 9 - Existing Land Use**, the Plan Area is designated as Residential-Urban Reserve (UR-R). The UR-R District allows the area to continue its current uses until such time an ARP or an Area Structure Plan (ASP) is prepared along with the appropriate district(s).



ZONING CODES			
C - Local Commercial	C-R - Commercial-Residential Mixed Use	GE - Gravel Extraction	R-2 - Single and Two-Dwelling
CB - Central Business	C-REC - Recreational Commercial	M-1 - General Industrial	R-2X - Medium Density Multi-Unit Dwellings
C-HMU - Heritage Mixed Use	C-S - Service Commercial	M-BP - Business Park	R-3 - Multi-Unit Dwellings
C-HWY - Highway Commercial	C-SC - Shopping Center	PS - Public Service	R-4 - Residential Mid-Rise & Multi-Unit
	DH - Downtown Heritage District	R-1 - Single Detached Dwelling	R-CL - Cluster Residential
			R-M - High Density Multi-Unit Dwellings
			UR - Urban Reserve
			UR-R - Residential-Urban Reserve
			Neighborhood Boundary
			Special Parking Zone



## 3.3 Cochrane Sustainability Plan



The Cochrane Sustainability Plan (CSP) was adopted by Council in May 2009. The CSP was developed by the community using a collaborative approach. The CSP articulates a vision of a sustainable future based on public input along with a strategy. The strategy is organized under four headings that include thirteen 'Pathways to the Future' with targets under each. The CSP is intended to inform decisions of all Cochranites going forward. Of relevance to community development is the "Cochrane is a Complete Community" and the 'We Live Locally' headings. The associated 'pathways' include:

### Pathways



Associated with each 'pathway' are various targets intended to guide citizens towards a 'complete community' and 'living locally,' which include:

## Targets



Rolling Trails ARP is guided by the CSP when planning to infill an existing rural neighbourhood to live, work and play west of Highway 22.



# 3.4 Integrated Neighbourhood Design Guidelines

The Town of Cochrane Integrated Neighbourhood Design Guidelines (INDG) were approved on May 13, 2013. They provide guidance for how to properly integrate higher densities while ensuring the small-town character of the Town is maintained. The Guidelines encourage redevelopment that is compatible and sensitive to the overall context of an area. Development proposed in the Rolling Trails ARP will be evaluated against these Guidelines, in addition to the other policy documents and regulations, with the goal of achieving overall good design.

The INDG contains a series Design Principles which must be referenced in the development and design of Neighbourhood Plans. Key elements of the INDG which must be reflected in the Rolling Trail neighbourhood design includes:

- compatible commercial design that does not compete with destination retail in downtown Cochrane;
- the integration of mixed housing types within blocks;
- viewshed protection;
- proper transitions between neighbourhoods; and
- connected street and pathway design.



# 3.5 Cochrane Open Space Master Plan

The Town of Cochrane Open Space Master Plan (OSMP) was approved in November 2012. The Plan contains two parts: 1) the Open Space Master Plan and 2) the Riverfront Park Concept Plan. Riverfront Park is located across the Bow River to the northeast of the Plan Area. Overall, the Plan Area is identified as lacking access to public open space and community services. It is currently not well connected to the rest of the Town.





# 4

# Stakeholder & Public Engagement

## 4.1 Engagement Overview

It was recognized that preparing this ARP would require significant consultation and communication with landowners and the public. In this regard, one-on-one engagement with individual landowners within the ARP area started and has continued since March 2017. Six land owner meetings were also held between May 2017 and June 2019 to ensure ample opportunity for dialogue. Subsequent to these meetings, a public open house was organized.



**Table 3** *One-on-One Meetings between Canopy Lands, Land Owners & the Public*

Date	Event
May 4, 2017	Meeting with Area Landowners Public Meeting #1
June 7, 2017	Meeting with Area Landowners Public Meeting #2
June 6, 2018	Meeting with Area Landowners Public Meeting #3
Sept. 24, 2018	Meeting with Area Landowners Public Meeting #4
March 12-13, 2019	Meeting with Area Landowners Public Meeting #5
May 15, 2019	Meeting with Area Landowners Public Meeting #6
June 6, 2019	ARP First Open House
May 2017 - Present	Numerous One-on-One Engagement

## 4.1 Landowner Meetings

To gauge the interest in moving forward with an ARP process, multiple one-on-one meetings were conducted with Rolling Trail landowners. In addition, the Rolling Trails landowners were invited to several group meetings starting in May 2017. A number of items were presented and discussed with the landowners including:

- Desire for initiating urban planning process;
- Partnership options;
- The planning approval process and timing of development;
- Level of support from the Town;
- Serviceability of the Plan Area;
- Feasibility of upgrading the Highway 22 and Rolling Range Drive intersection;
- Guiding principles for development;
- Architectural controls; and
- Property values and taxes.

From this series of engagements, a public open house was organized with the general public.



## 4.2 Public Open House

### Open House at a Glance

On Thursday, June 6, 2019 Canopy Lands and B&A Planning Group held a public open house at St. Mary's Church in River Heights, Cochrane, AB. The purpose of the open house was to:

- ⊕ Share information about the ARP process and project context
- ⊕ Share the vision for the Plan Area
- ⊕ Present the draft land use, transportation and servicing concept plans
- ⊕ Discuss the community's ideas, questions and concerns
- ⊕ Collect input prior to presenting the vision to Council

Attendees viewed a series of information panels from Canopy Lands and members of the project team were available to answer questions and collect input from attendees. Feedback forms were available for attendees to fill out prior to leaving the event.



~80

ATTENDEES



14

INFORMATION  
BOARDS



5

FEEDBACK FORMS  
COLLECTED



~80

EMAIL SUBSCRIBERS  
TO DATE

# Open House Promotion

- ⊕ Project website (rollingtrails.ca) | Published May 17, 2019
- ⊕ Project Facebook page (@RollingTrailsARP) | Created May 17, 2019
- ⊕ Temporary signage on Highway 22 at Rolling Range Estates Drive | May 24 – June 7, 2019
- ⊕ Print advertisements
  - Cochrane Eagle | May 23 – June 6, 2019
  - Cochrane Times | May 22 – June 5, 2019
- ⊕ Invitations to landowners | May 15, 2019
- ⊕ Hand-delivered notifications | May 22, 2019
  - Toki Road residents
  - Lofts on the Bow
- ⊕ Email / social media invitations to adjacent Community Associations | May 22, 2019
- ⊕ Online event postings | May 22 – 27, 2019
- ⊕ Paid Facebook advertisement | May 22 – June 6, 2019



## Feedback Summary

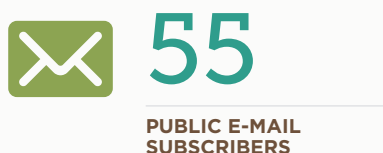
Comments from open house participants were gathered through verbal discussions and a review of the feedback forms. Participants identified interest in:

- ⊕ Information on how traffic will be managed as it relates to overall Town infrastructure, the Highway 22/Rolling Trails Drive intersection, shortcutting through the community and traffic speeds;
- ⊕ The creation of a walkable community that incorporates a pathway system;
- ⊕ An appropriate interface be established with the Fireside community;
- ⊕ The preservation of prominent landscape features and wetlands;
- ⊕ Rationale for why redevelopment is appropriate at this time;
- ⊕ Retaining the area in its current state;
- ⊕ Details regarding the housing and retail that will be offered;
- ⊕ Timing for redevelopment of the area; and
- ⊕ Guarantees that will be offered to ensure that the vision is achieved.

Comments from open house participants have been used to augment the information in this document to ensure it responds to the needs of Town citizens.

## 4.3 Overall Engagement Summary

The following provides an overall summary of the engagement efforts to ensure the alignment of the ARP with landowners and the citizens of Cochrane.







# Redevelopment Approach

The overall vision for Cochrane was synthesized through a review of the Town's various policy documents and discussions with land owners, the public and Council. Subsequently, a set of indicators were derived to measure the responsiveness the Plan to the Town's overall vision as demonstrated in the subsequent table. This analysis led to the generation of a set of guidelines to be followed in the redevelopment of the Plan Area that reflects the core values of the Town as presented on the proceeding pages.

▶ **Table 4** Alignment with Cochrane’s 2019 Vision and the Cochrane Sustainability Plan

Cochrane’s Vision	Measurables/Indicators	RT-ARP Response	Related Sustainability Pathways
<b>Identity</b>	<ul style="list-style-type: none"> <li>• small town values</li> <li>• western heritage charm</li> <li>• sense of arrival</li> <li>• wide-open spaces</li> </ul>	<ul style="list-style-type: none"> <li>✓ Organically derived re-development</li> <li>✓ Focus on pedestrian realm</li> <li>✓ Maintain significant environmental features</li> </ul>	13. We build Cochrane on the strengths of our natural and cultural heritage.
<b>Vibrant Economy</b>	<ul style="list-style-type: none"> <li>• thriving employment hubs</li> <li>• dynamic downtown core</li> <li>• innovative industry</li> <li>• business friendly approach</li> <li>• vibrant shops and restaurants</li> </ul>	<ul style="list-style-type: none"> <li>✓ Mixed-use centre</li> <li>✓ Retail &amp; employment</li> <li>✓ Pedestrian oriented &amp; larger format commercial/ office</li> <li>✓ Community amenities</li> </ul>	5. We consume the bounty of our local economy. 6. Our local economy is healthy and diverse. 7. Everyone has the opportunity to pursue their potential in Cochrane.
<b>Connectivity</b>	<ul style="list-style-type: none"> <li>• multi-modal transportation options</li> <li>• connections between communities</li> <li>• strong social networks and community spirit</li> </ul>	<ul style="list-style-type: none"> <li>✓ Sidewalks and pathways</li> <li>✓ Upgraded intersection with connections east</li> </ul>	11. Wherever you are in Cochrane, you’re close and connected. 12. There are diverse options for getting around.
<b>Liveability</b>	<ul style="list-style-type: none"> <li>• strong, resilient and robust community</li> <li>• diverse housing options</li> <li>• complete community amenities</li> </ul>	<ul style="list-style-type: none"> <li>✓ Residential, retail &amp; employment</li> <li>✓ Amenities to enhance social interaction</li> <li>✓ Address gaps in housing market</li> </ul>	8. We are a caring community that lives and celebrates together. 9. Everyone has a roof over their head. 10. There’s enough room for everything a community should have.
<b>Open Space &amp; Natural Areas</b>	<ul style="list-style-type: none"> <li>• dramatic landscape with rolling hills&amp; treed escarpments</li> <li>• connected and accessible network of natural areas</li> <li>• protected waterways</li> </ul>	<ul style="list-style-type: none"> <li>✓ Celebrate and capitalize on views and vistas</li> <li>✓ Connect existing community to the rest of Cochrane</li> <li>✓ Protect the escarpment</li> <li>✓ Conserve significant wetlands</li> </ul>	13. We build Cochrane on the strengths of our natural and cultural heritage.



The following provides an overview of the expected approach to the redevelopment of the Rolling Trails Plan Area:



**Mixed-Use:** A mixed-use centre is to be located near the intersection of Highway 22 and Rolling Range Drive. This mixed-use centre will mainly include commercial uses but may also include office, institutional, residential and compatible light industrial. The intent of the mixed-use centre is to provide local services to nearby residents and the surrounding area. The location of the mixed-use centre will take advantage of visibility from Highway 22.

#### Achieving Cochrane's Vision: Vibrant Economy



#### Strategic Location of Housing Intensities:

Higher density residential development is generally to be located on the east side of the Plan Area, in proximity to the mixed-use centre and Highway 22. The higher densities in these locations will help support the mixed-use centre while providing many residents with quick access to the rest of the Town. The provision of higher density housing in one portion will allow for low-rise dwellings to be offered in the remainder while meeting the Town's density requirements for the overall Plan Area.

#### Achieving Cochrane's Vision: Livability



#### Provision of Unique Housing Product:

The multiplicity of moderately sized lots existing in the Plan Area provides the opportunity for boutique builders to bring housing product that is unique to the Cochrane market. Specific housing forms sought and encouraged include rental apartments and townhouses, zero-lot-line dwellings, seniors housing, cluster development, cottage housing, auto-courts, wide-shallow lots and estate housing.

#### Achieving Cochrane's Vision: Identity, Livability



**Gradual Urbanization:** It is anticipated that the overall Plan Area will urbanize overtime. In this regard, certain lots are expected to move forward with redevelopment in the near future while others may remain as country residential in the longer term. In addition, there may be situations where only a portion of a lot is redeveloped and the original home is incorporated into the site design.

#### Achieving Cochrane's Vision: Identity



**Sensitive Design:** The surrounding context is to be considered when undertaking redevelopment whether it includes existing country residential lots or new development. Appropriate design features are to be incorporated into the proposed redevelopment to minimize impacts on the surroundings while also ensuring that there is a consistent theme throughout the Plan Area.

#### Achieving Cochrane's Vision: Identity



#### Comprehensive Transportation Network:

As development proceeds, access points will be established with surrounding parcels to ensure that a comprehensive transportation network is eventually established for Rolling Trails.

#### Achieving Cochrane's Vision: Connectivity

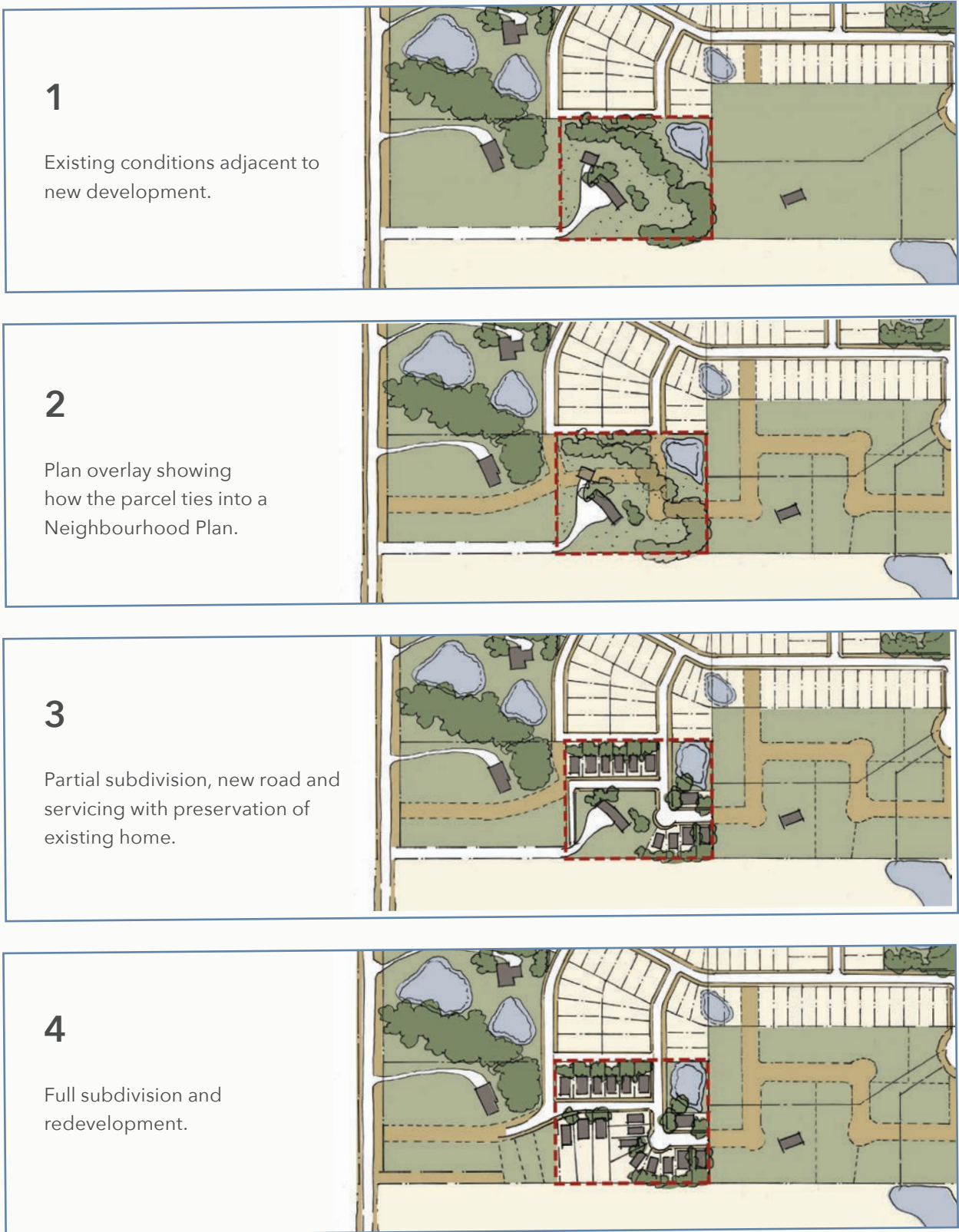


#### Working with the Landscape:

The redevelopment of the individual lots should take in consideration the knob and kettle topography, existing wetlands and prominent views and incorporate these features into the development where possible by preserving open space, using slope adaptive methods and establishing view corridors.

#### Achieving Cochrane's Vision: Open Space and Natural Areas

**Figure 10** Example Approach to Redevelopment





# Neighbourhood Areas



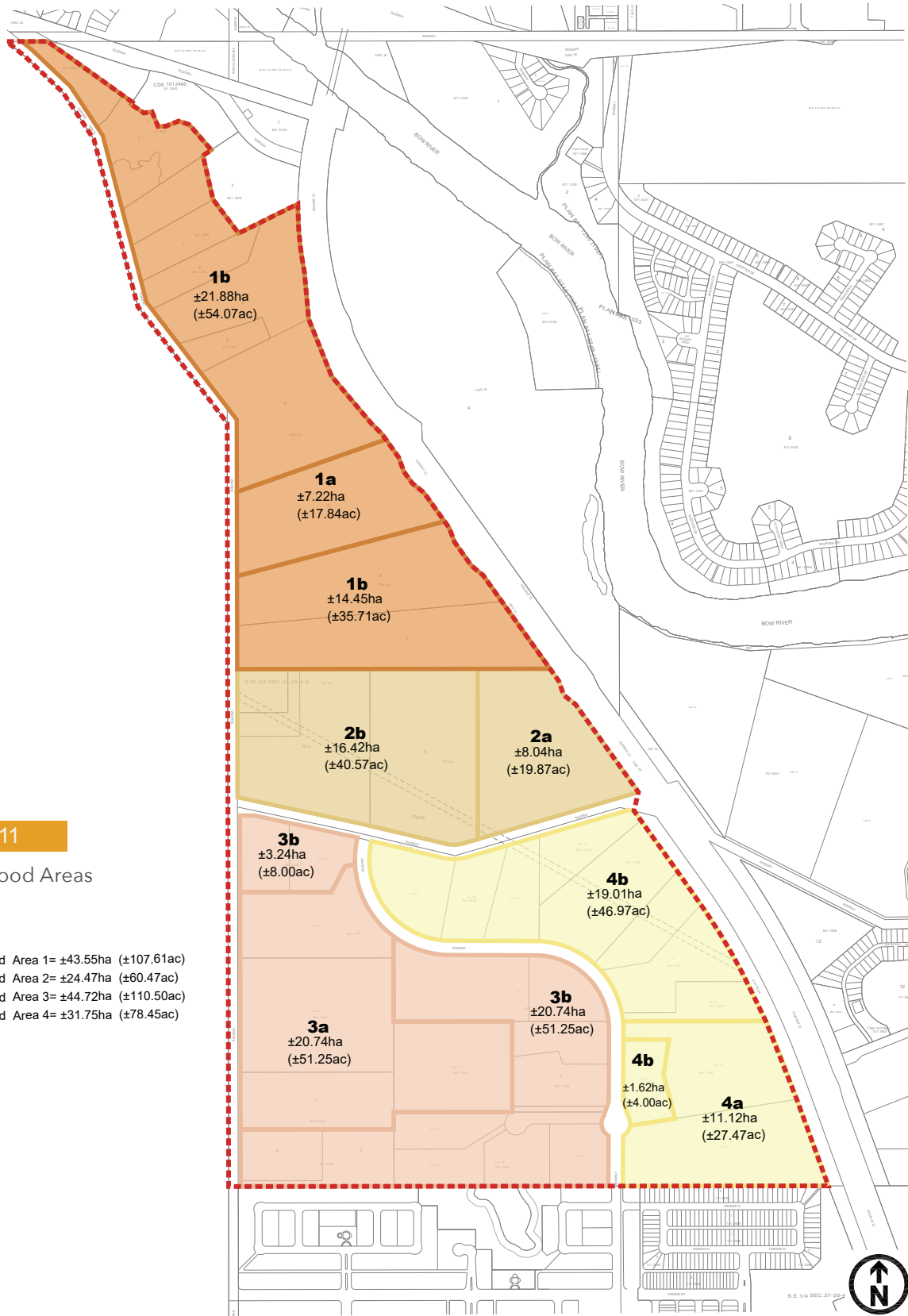
The Plan Area has been divided into four distinct neighbourhood areas based on ownership, topography, access and anticipated development. The size of each neighbourhood correlates with a 400m pedestrian shed which offers a guide for

ensuring that residents are within a five minute walk of neighbourhood amenities. The anticipated development for each area has been defined by synthesizing the direction of existing municipal land use policies, the desires of Plan Area land owners and the interests of the citizens of Cochrane. The anticipated character of each neighbourhood area is identified to ensure that the Plan Area includes the appropriate balance of housing, community services, connectivity and amenities and responds to the existing terrain. Before development proceeds within an area, a Neighbourhood Plan is to be submitted providing further details on expected development.

Based on the identified land uses zones, the projected population and employment for the Rolling Trails ARP is approximately 6,800 people and 650 jobs. This projection is based on:

- A gross developable residential density of 19.8 units per hectare (8 units per acre);
- An estimated gross developable residential area of 132 hectares (327 acres);
- 2.6 people per dwelling unit which is the average household size in Cochrane according to the latest Statistic Canada census data; and
- Approximately 8 hectares (20 acres) of commercial lands.

The following sections provide a summary of the land uses anticipated in the Plan Area and policies to guide development within each neighbourhood.



**Figure 11**

**Neighbourhood Areas**

- - - Subject Lands
- Neighbourhood Area 1= ±43.55ha (±107.61ac)
- Neighbourhood Area 2= ±24.47ha (±60.47ac)
- Neighbourhood Area 3= ±44.72ha (±110.50ac)
- Neighbourhood Area 4= ±31.75ha (±78.45ac)







Figure 12

Five Minutes Pedestrian Shed

- Neighbourhood Area 1
- Neighbourhood Area 2
- Neighbourhood Area 3
- Neighbourhood Area 4

The following provides overall direction with respect to development within the Plan Area. It is intended that the existing uses will continue until such a time as future redevelopment of the site is warranted. Redevelopment of the area is anticipated to mainly include:

- Higher density residential development on the eastern half of the Plan Area to take advantage of access to Highway 22, views towards the downtown and proximity to future commercial services;
- Lower density residential development on the western half of the Plan Area to ensure a diversity of housing product;
- A mixed use commercial development at the corner of Highway 22 and Rolling Range Drive;
- The protection of sensitive lands including the treed escarpment and semi-permanent freshwater ponds;
- The programming of dedicated Municipal Reserve and the Town’s MR lands for recreational purposes;
- The integration of utility right-of-ways into the open space and pedestrian network.

With respect to residential uses, flexibility will be required to ensure that housing product offered matches market exceptions at the time of redevelopment. In this regard, the housing provided in the area may include single-detached, duplexes, semi-detached dwellings and townhouses as well as more innovative forms that are not already available in Cochrane that are either laned or laneless product. Mid-rise buildings such as apartments, rental and seniors housing are allowed where there is an appropriate buffer and/or transition from low-rise development. The expected result is an attractive community offering a variety of housing product, amenities and local services.

It is highlighted that Rolling Trails is identified to “be a comprehensively designed residential community with commercial and industrial uses in proximity to Highway 22” by the Town’s Municipal Development Plan. To ensure the Plan Area redevelops into a comprehensive and complete urban community as envisioned by the Municipal Development Plan, to attract and sustain future commercial and to avoid further fragmentation, the subdivision of the existing parcels into smaller residential acreages is not afforded in this ARP.



## Policies

- 6.0.1** Amendments to the Land Use Bylaw shall generally comply with the **Land Use Concept - Figure 13**, recognizing that this Plan is intended to show the general nature of the land uses and is subject to refinement at the land use amendment stage.
- 6.0.2** Subdivision should generally comply with the **Land Use Concept - Figure 13** recognizing that this Plan is intended to show the general nature of the subdivision and is subject to change at the tentative plan stage.
- 6.0.3** The minimum gross residential density of the Plan Area should meet the 19.8 units per hectare (8.0 units per acre) target identified in the Town of Cochrane Municipal Development Plan.
- 6.0.4** The Higher Density Residential zone should achieve a gross residential density of 19.8 units per hectare (8.0 units per acre) or above. The Lower Density Residential Zone should achieve a gross residential density of 19.8 units per hectare (8.0 units per acre) or below.
- 6.0.5** A variety of housing types shall be allowed within each neighbourhood including single-detached, semi-detached, duplex, multiplex dwellings, townhouses, apartments, seniors housing and alternative housing forms. Alternative housing forms, such as wide-shallow lots, estate lots, zero-lot-line dwellings, cottage housing, live-work, co-operatives, rental, cluster development and auto-courts, may be allowed within each neighbourhood where integrated with surrounding development and deemed appropriate by Town.
- 6.0.6** Each redevelopment should take in consideration sectors in the housing market that is in limited supply or not available in Cochrane and incorporate such housing into the development where possible and there is market demand.
- 6.0.7** The incorporation of secondary and garden suites into single-detached, semi-detached and duplex developments are encouraged to enhance the diversity of dwelling types within the Plan Area where appropriate levels of parking is available.
- 6.0.8** An appropriate height transition shall be provided between different land uses to allow for the physical compatibility of various forms of development.
- 6.0.9** Small-scale commercial and institutional uses may be allowed within each neighbourhood where they serve the employment, retail, social, recreational and cultural needs of the local resident population, are compatible with the overall land use intentions for the neighbourhood as identified in this ARP and are in compliance with the Land Use Bylaw. Examples may include home businesses, corner stores, day homes, studios, local artisans and places of worship. Larger-scale commercial or institutional development are only allowed within the Mixed-Use and Flex zones.
- 6.0.10** Outdoor lighting for all development, including landscaping designs for public spaces, shall have regard to dark sky lighting principles and shall be consistent with the provisions in the Town of Cochrane Land Use Bylaw.
- 6.0.11** The Western Heritage Design Guidelines, or other applicable Council approved policy which may be in force at that time, should be adhered to while allowing for redevelopment and innovative design.
- 6.0.12** The Integrated Neighbourhood Design Guidelines, or other applicable Council approved policy which may be in force at that time, should influence and inform Neighbourhood Plans, land use amendments and development permit applications.
- 6.0.13** Uses adjacent to the public utility zone shall accommodate the existing electrical substation in order to allow for the continuation of its operation and maintenance.
- 6.0.14** Areas for Environmental Reserve, arterial roads and pipeline and powerline right-of-ways shall be subtracted from gross developable area when calculating the amount owing for development levies, Municipal Reserve dedication and residential densities.

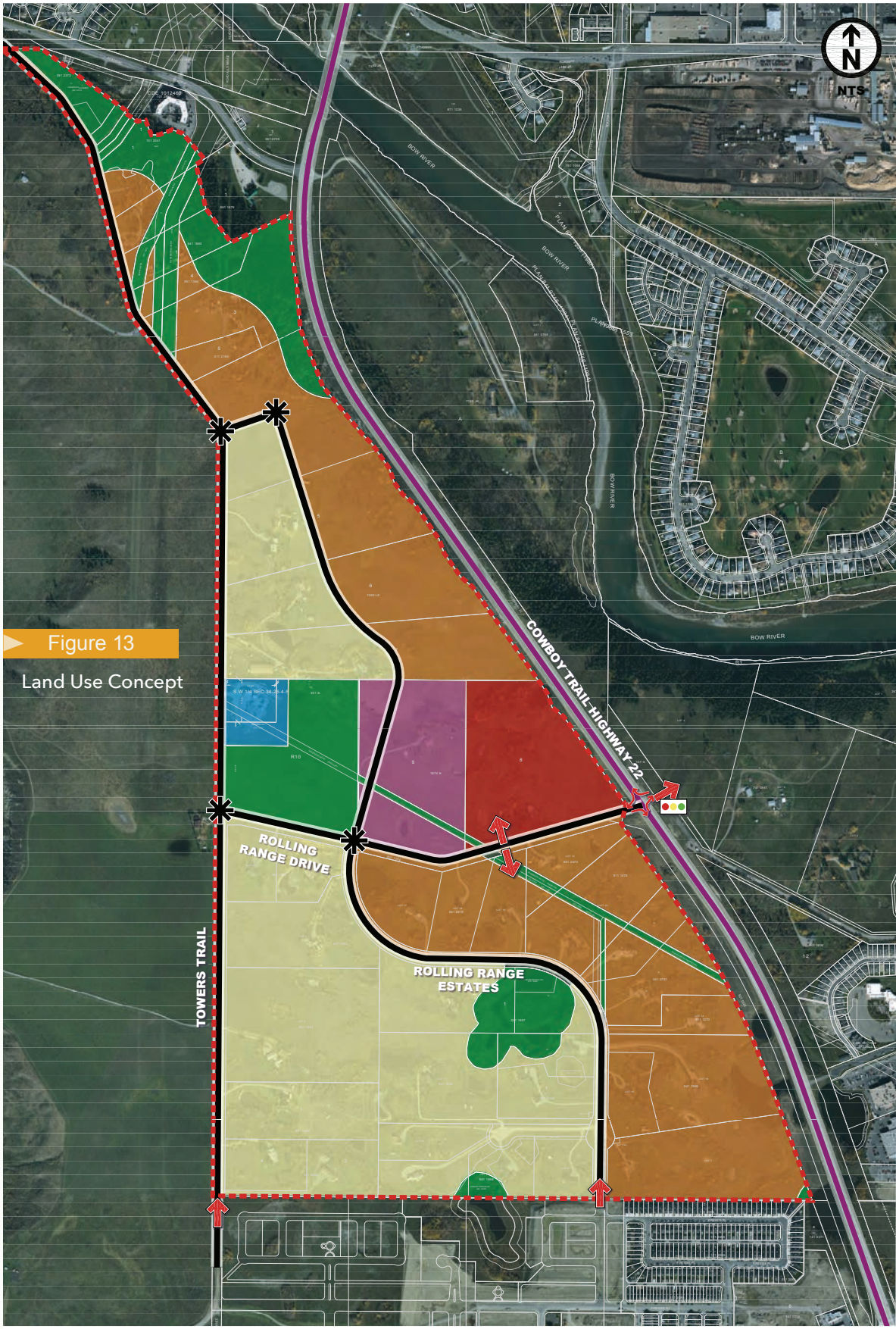


Figure 13  
Land Use Concept

Legend		Zones	
	Subject Lands Boundary		Lower Density Residential (8 upa or below)
	Higher Density Residential (8 upa or above)		Mixed Use
	Flex		Public Utility
	Open Space		Skeletal Road Network Intersection
	Access		All Turns
			Traffic Control
	Existing Highway		Skeletal Road Network

## 6.1 Neighbourhood Area 1

Neighbourhood Area 1 is characterized by country residential development and is bounded by Towers Trail to the west and Highway 22 and a treed escapement to the east. The location of the neighbourhood affords views towards Jumping Pound Creek and the Town Centre. Two pipeline right-of-ways run through the north portion of Neighbourhood.

The neighbourhood will include an area of higher density residential on the east side and lower density residential on the west side as identified in **Figure 13 - Land Use Concept**. What will differentiate this neighbourhood will be:

- The accommodation of prominent views;
- The integration of the pipeline right-of-ways;
- The preservation of the escapement;
- The extension of a central spine road through the neighbourhood; and
- The enhanced interface with Towers Trail, the north-south central spine road and Highway 22.

The neighbourhood has been divided into two subareas where subarea 1a is anticipated to be the first portion of the neighbourhood to move forward with residential development.

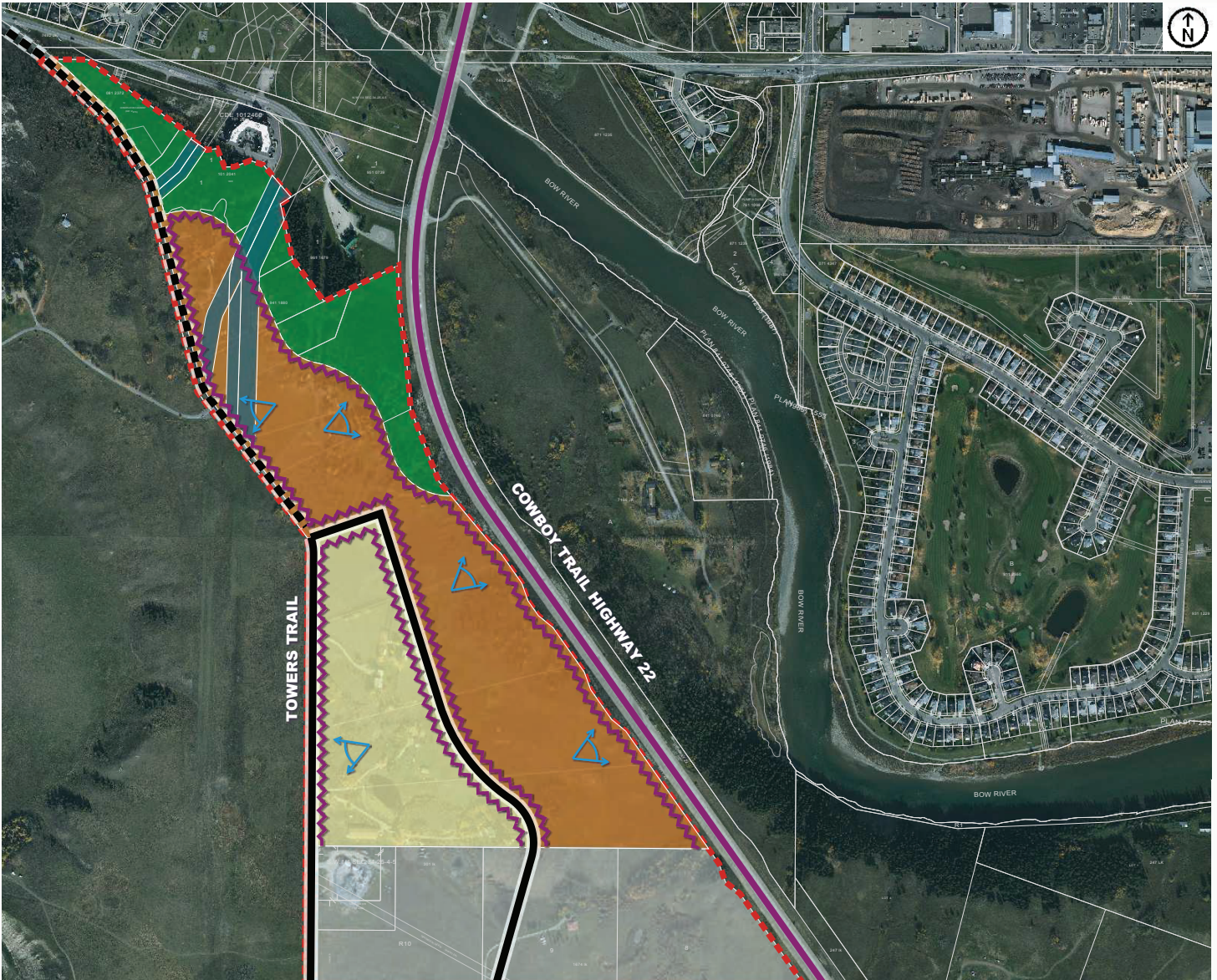
### Policies

- 6.1.1** Pipeline right-of-ways should be integrated into the design of individual developments and incorporate amenities such as pathways, dog runs, community gardens or other features where possible.
- 6.1.2** Development adjacent to the escapement should avoid disturbances and provide an appropriate interface with this natural area by, where possible, providing appropriate setbacks, matching existing grades, landscaping with native vegetation and/or using low or transparent fencing.
- 6.1.3** The layout of individual developments should establish view corridors and vantages point to accommodate publicly accessible views to the east and west through the strategic alignment of roads, open spaces, pathways and / or buildings.
- 6.1.4** Enhanced interface policies:
  - Development should establish an attractive interface with Tower Trails and the central spine road by fronting these roads with street oriented housing product, decorative fencing and/or enhanced landscaping.
  - Development adjacent to Highway 22 should present a positive appearance for drivers entering the Town through the provision of enhanced facades and landscaping.



Figure 14

Neighbourhood 1 Development Opportunities



Legend

- Subject Lands Boundary
- Existing Highway
- Skeletal Road Network
- Lower Density Residential (8 up or below)
- Higher Density Residential (8 up or above)
- Pipeline Right-of-ways
- Prominent Views
- Enhanced Interfaces
- Open Space

## 6.2 Neighbourhood Area 2

Neighbourhood Area 2 is characterized by an electrical substation and associated powerlines, Town of Cochrane MR lands and two country residential lots. The neighbourhood is bounded by Towers Trail to the west, Highway 22 to the east and Rolling Range Drive to the south. Redevelopment of the area is to be achieved through the integration of open space, residential development and commercial services while continuing to accommodate the electrical substation and associated powerlines that are situated in the area.

The mixed-use portion of the neighbourhood is expected to take advantage of its location at the corner of Highway 22 and Rolling Range Drive. The site will accommodate a variety of retailers to serve the daily needs of the community, provide for convenience shopping and offer goods and services to the surrounding region. In addition to commercial, the area may offer office space, institutional and hospitality uses and compatible light industrial such as technology businesses, local breweries, artisans, attached workshops and other non-polluting activities that increase employment. Higher density residential development such as townhouses, apartments, live-work, condos, villas and dwellings above retail may be incorporated into the development. The mixed-use zone should be designed as a comprehensive pedestrian-oriented mixed-use centre.

The open space portion of the neighbourhood are the Town's MR lands on the west side. These lands are to be programmed by the Town in the future based on the needs of the surrounding communities. The size and configuration of the site allows for the accommodation of a variety of different amenities such as a school, sportsfields, passive recreation, skateboard or bike park or an outdoor stage.

The centre of the neighbourhood is strategically located with future commercial development to the east, residential to the north and south and open space to the west. The buildout of the surrounding parcels are expected to highly influence the development that occurs at the centre of the neighbourhood and thus it is identified as a flex zone where commercial, residential or a combination of both uses may occur. Notwithstanding this flexibility, it is expected that the development that does result within the flex zone will complement and support the future commercial development and Town's MR lands and provide an appropriate transition between the two zones.

The neighbourhood has been divided into two subareas where sub area 2a is anticipated to be the first portion of the neighbourhood to move forward with commercial and potential residential development.

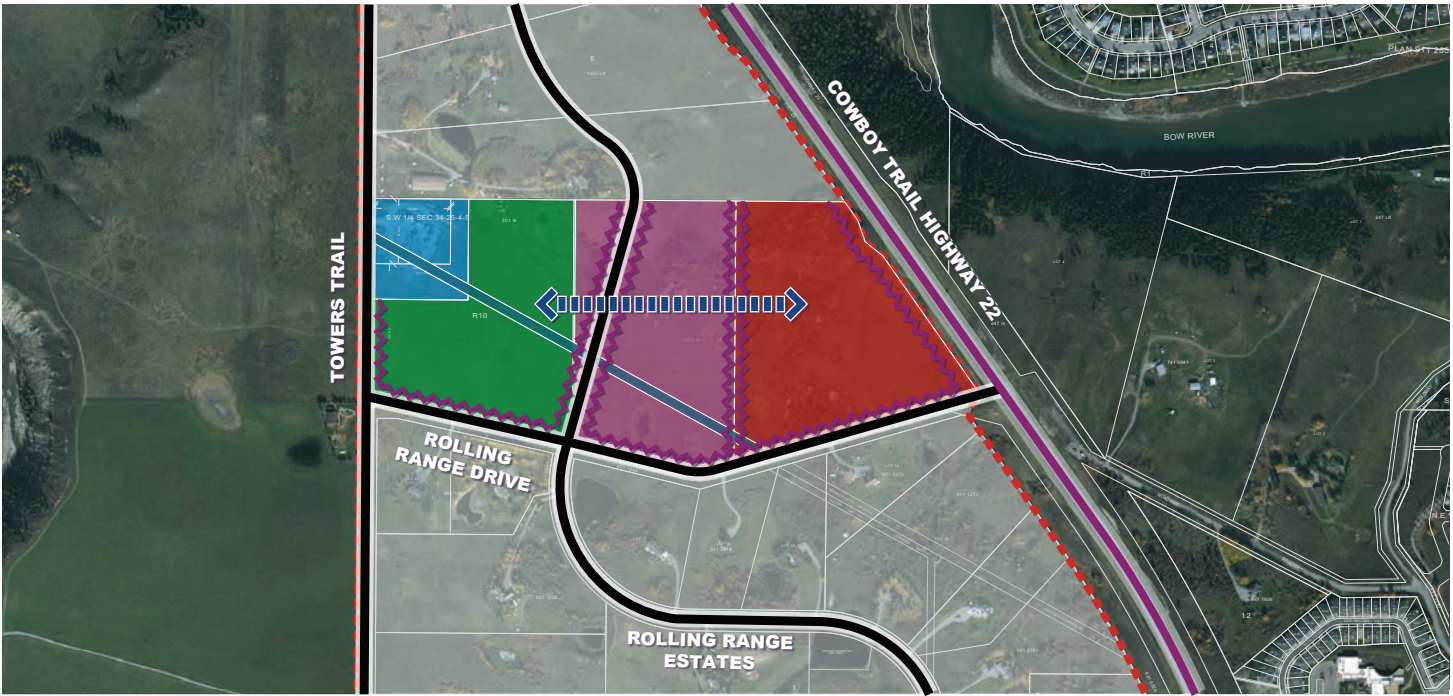


## Policies

- 6.2.1** Uses within the mixed-use zone should primarily include commercial uses but may also include compatible and complimentary businesses, institutional, higher-density residential development and light industrial development where no adverse pollution goes beyond a building's interior.
- 6.2.2** Direct east-west vehicular/pedestrian connections should be established between the mixed-use and the Towns' MR lands through the flex portion of the neighbourhood in order to achieve higher levels of connectivity.
- 6.2.3** Enhanced interface policies:
  - A compatible interface should be established between the mixed-use, Towns' MR lands and flex portions to ensure a complimentary design that offers synergies and creates an integrated appearance.
  - Development adjacent to Highway 22 should present a positive appearance for drivers entering the Town through the provision of enhanced facades and landscaping.
- 6.2.4** Uses within the flex zone may include lower or higher density residential, commercial, institutional or a combination of such uses.

Figure 15

Neighbourhood 2 Development Opportunities



Legend			
	Subject Lands Boundary		Public Utility
	Existing Highway		Power Line Right-of-ways
	Skeletal Road Network		Enhanced Interfaces
	Flex		Open Space
	Mixed Use		Vehicular / Pedestrian Connection



## 6.3 Neighbourhood Area 3

Neighbourhood Area 3 includes country residential lots that have access from Rolling Range Drive, Rolling Range Estates and Towers Trail. This Neighbourhood is also adjacent to the Fireside community. The location of the neighbourhood affords views towards to the west. A semi-permanent freshwater shallow open water pond is located in the eastern part of the neighbourhood area while a portion of a wetland extends up from the Fireside community into the southern part of Rolling Trails.

The neighbourhood will mainly include lower density residential as identified in **Figure 13 - Land Use Concept**.

What will differentiate this neighbourhood will be:

- The accommodation of prominent views;
- The preservation of the semi-permanent freshwater shallow open water pond and the Fireside wetland; and
- The enhanced interface with Towers Trail, Rolling Range Drive and Rolling Range Estates.

### Policies

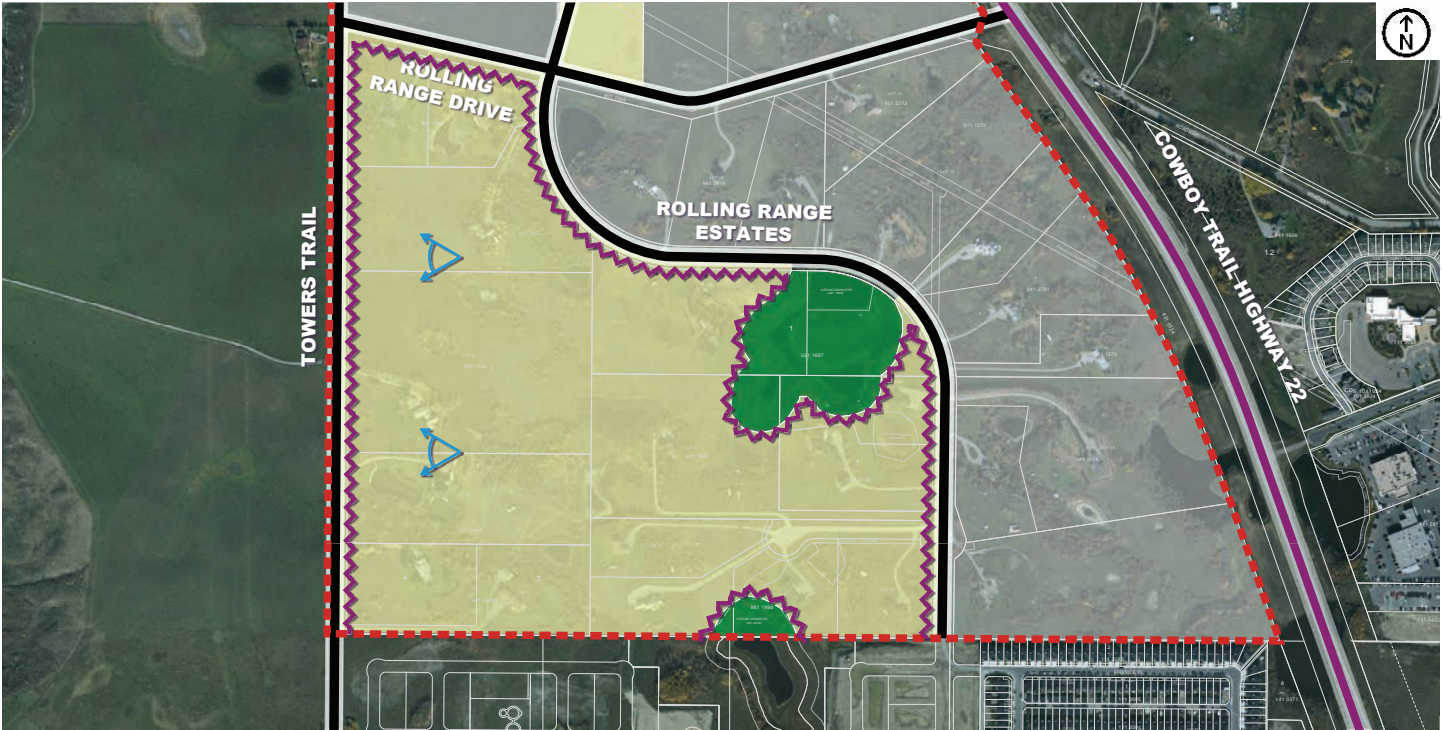
**6.3.1** The layout of individual developments should establish corridors and vantages point to accommodate publicly accessible views to the west through the strategic alignment of roads, open spaces, pathways and/or buildings.

**6.3.2** Enhanced interface policies:

- Development adjacent to the semi-permanent freshwater shallow open water pond and the Fireside wetland should provide an appropriate interface with these natural areas by, where possible, providing appropriate setbacks, matching existing grades, landscaping with native vegetation and using low and/or transparent fencing.
- Development should establish a positive interface with Rolling Range Drive, Rolling Range Estates and Towers Trail by fronting these roads with street oriented housing product, decorative fencing and/or enhanced landscaping.

Figure 16

Neighbourhood 3 Development Opportunities



- Legend**
- Subject Lands Boundary
  - Existing Highway
  - Skeletal Road Network
  - Lower Density Residential (8 upa or below)
  - Prominent Views
  - Enhanced Interfaces
  - Open Space

## 6.4 Neighbourhood Area 4

Neighbourhood Area 4 includes country residential lots that have access from Rolling Range Drive and Rolling Range Estates. A semi-permanent freshwater shallow open water pond is also located in the southeast portion of the neighbourhood area. The location of the neighbourhood affords views towards over Highway 22 and to the downtown. A set of powerlines runs across the neighbourhood from the north-west to the south-east. This Neighbourhood also adjacent to the Fireside community.

The neighbourhood will mainly include higher density residential as identified in **Figure 13 - Land Use Concept**. What will differentiate this neighbourhood will be:

- The accommodation of prominent views;
- The integration of the powerline right-of-ways;
- The preservation of the semi-permanent freshwater shallow open water pond; and
- The enhanced interface with Rolling Range Estates, Rolling Range Drive and Highway 22.

The neighbourhood has been divided into two subareas where subarea 4a is anticipated to be the first portion of the neighbourhood to move forward with residential development.

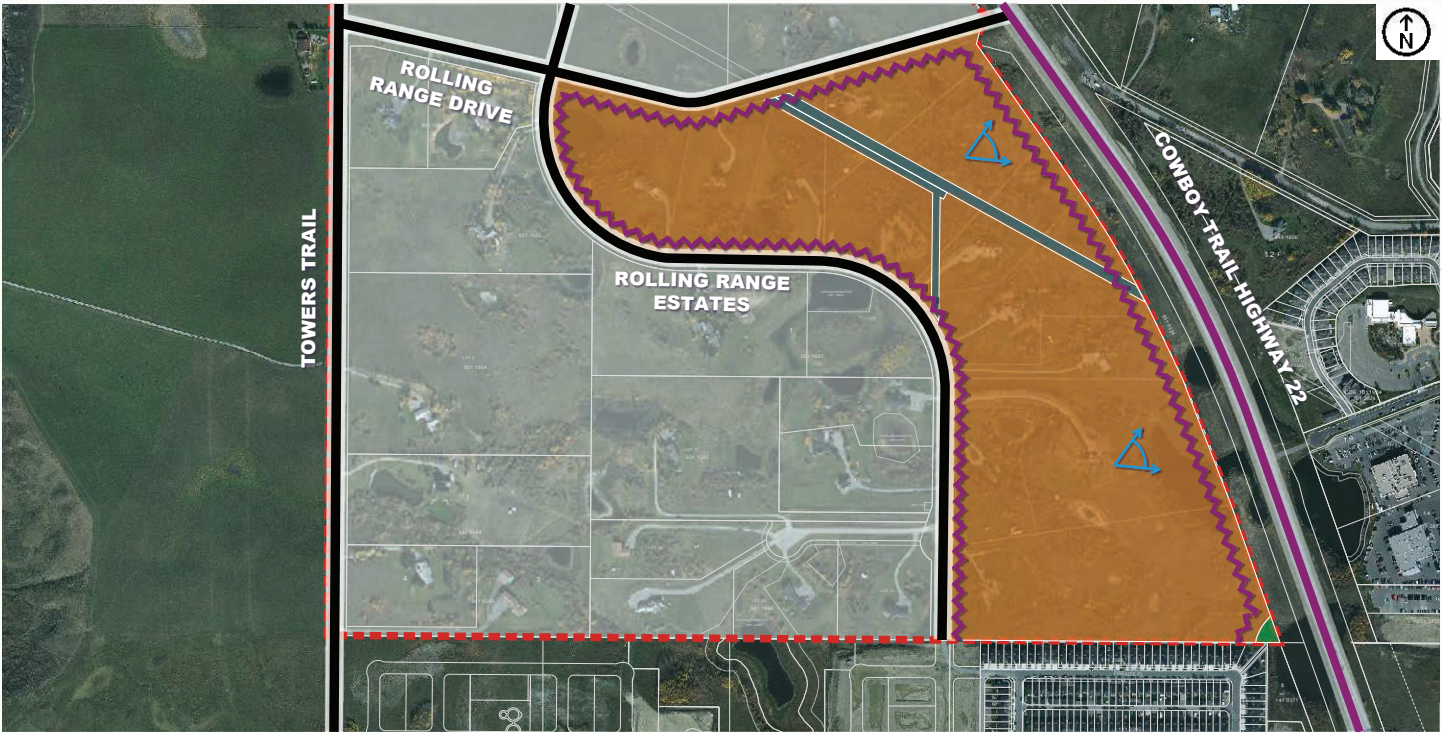
### Policies

- 6.4.1** Powerline right-of-ways should be integrated into the design of individual developments and incorporate amenities such as pathways, dog runs, community gardens or other features where possible. Where safe and acceptable to the utility company, the Town may consider proposals for development beneath the powerlines.
- 6.4.2** The layout of individual developments should establish corridors and vantage points to accommodate publicly accessible views to the east through the strategic alignment of roads, open spaces, pathways and/or buildings.
- 6.4.3** Enhanced interface policies:
- Development adjacent to the semi-permanent freshwater shallow open water pond should provide an appropriate interface with this natural area by, where possible, providing appropriate setbacks, matching existing grades, landscaping with native vegetation and using low and/or transparent fencing.
  - Development should establish a positive interface with Rolling Range Drive and Rolling Range Estates by fronting these roads with street oriented housing product and/or decorative fencing.
  - Development adjacent to Highway 22 should present a positive appearance for drivers entering the Town through the provision of enhanced facades and landscaping.



Figure 17

Neighbourhood 4 Development Opportunities



- Legend**
- - - Subject Lands Boundary
  - Existing Highway
  - Skeletal Road Network
  - Higher Density Residential (8 upa or above)
  - ▲ Prominent Views
  - ~ Enhanced Interfaces
  - ▲ Open Space
  - Power Line Right-of-ways

## 6.5 Requirements of a Neighbourhood Plan

The Rolling Trails ARP provides a vision and policies that when combined, set out how the Plan Area will develop in the future. The preparation and adoption of the ARP is however only one step in the planning process. The next level of planning that must occur prior to a land use amendment is a Neighbourhood Plan. The following policies identify the requirements for preparation of a Neighbourhood Plan.

### Policies

- 6.5.1** A Neighbourhood Plan area boundary should conform to the neighbourhood areas identified in **Figure 11 - Neighbourhood Areas**.
- 6.5.2** Neighbourhood Plan boundaries may be modified at the discretion of the Approval Authority without the requirement for an amendment to this Area Redevelopment Plan where considered appropriate.
- 6.5.3** Where only a portion of a neighbourhood area is considered in a Neighbourhood Plan, a shadow plan shall be provided that demonstrates how the remaining lands could conceivably be developed by identifying the possible location of uses, streets and open space. An area subject to a shadow plan may not proceed with a land use redesignation until the development intentions for that area are identified in accordance with this ARP through a Neighbourhood Plan amendment.
- 6.5.4** Land uses, transportation network and servicing within each neighbourhood should comply with the applicable policies in Section 6.0, Section 7.0 and Section 8.0 of this Plan.
- 6.5.5** Neighbourhood Plan applications shall adhere to the requirements of this ARP or provide rationale as to why specific requirements may not be applicable, subject to the approval of the Development Authority.
- 6.5.6** A Neighbourhood Plan shall address / provide:
- a. a future land use scenario including lot design and configuration;
  - b. parcel size and residential density;
  - c. the anticipated employment ratio per hectare, where applicable;
  - d. proposed open space, including active and passive open areas, natural areas and both pedestrian and bike linkages to other existing or potential adjacent developments;
  - e. Municipal Reserve, Environmental Reserve or Conservation Reserve dedications where applicable as well as other appropriate means of protecting environmentally significant areas and open space;
  - f. an overall landscaping concept for all public spaces, including, but not limited to: Municipal Reserves (including school sites), Environmental Reserves, Conservation Reserves, road right-of-ways, pathways and storm water features;
  - g. innovative and efficient means to provide access and internal road circulation over both the immediate and long term;

- h. road names and road cross sections in accordance with approved Town policy;
- i. measures to provide for the integration of the proposed development with existing development in a manner that respects adjacent land uses;
- j. any constraints to development, including but not limited to: geotechnical, environmental, and hydrogeological conditions; archaeological or historically significant features;
- k. design guidelines that identify how development is expected to interface with streets, parking areas and open spaces;
- l. non-standard street cross-sections and interim servicing solutions where applicable;
- m. development phasing, illustrating full build-out;
- n. water and wastewater servicing strategies, including identification of rights-of-way required for connection to Town systems;
- o. transit plan showing future routing and transit stops;
- p. demonstrates engagement with affected community stakeholders, including community organizations, and social service agencies; and
- q. The Integrated Neighbourhood Design Guidelines or other applicable Council approved policy which may be in force at that time.
- r. A letter from Canopy Lands confirming payment of applicable cost recoveries for ARP consultant and application fees as per Policy 6.5.8.
- s. any other matter the Municipality deems necessary.

**6.5.7** The following studies and reports shall be submitted in support of a Neighbourhood Plan Application and prepared in accordance with the requirements of the Town:

- a. Biophysical Impact Assessment (BIA);
- b. Historical Resource Clearance (HRC), Historical Resource Overview (HRO), a Historical Resource Impact Assessment (HRIA) and/or Historical Resource Impact Mitigation (HRIM) where applicable;
- c. Environmental Site Assessment (ESA);
- d. Geotechnical Study;
- e. Slope Stability Report where applicable;
- f. Stormwater Management Plan;
- g. Traffic Impact Assessment (TIA); and
- i. Hydrogeological Report where applicable.

**6.5.8** Before final approval of a Neighbourhood Plan, cost recoveries shall be paid to Canopy Lands for consultant and application fees relating to the preparation of this ARP on a gross developable hectare basis. Total costs for the ARP shall be confirmed with the Town through a letter of understanding and be signed within two months of receiving the total costs. Before a motion to approve a Neighbourhood Plan is brought before Council, the applicant shall garner a letter from Canopy lands and present it to the Town confirming the payment of cost recoveries. Gross developable includes all lands with the exception of Environmental Reserve and arterial standard roads.

**6.5.9** Each Neighbourhood Plan should demonstrate compliance with the applicable principles found in Section 1.2 of this ARP





# Open Space

Rolling Trails includes a varied topography that affords the opportunity to establish unique open spaces for the enjoyment of residents. Possible open space opportunities include the protection of the existing escarpment, significant ponds, prominent views and the Town's MR lands. The Town's MR lands give the opportunity to create a community park that offers a diversity recreational and social opportunities. In addition, establishing formal parks within each neighbourhood will ensure that residents are within walking distance of open space. The following provides policies to guide the establishment of open space system for Rolling Trails.

## 7.1 Park Space

The provision of Municipal Reserve is outstanding for only six properties as shown in **Figure 18**. In consideration, alternative approaches to the provision of open space to serve residents in the form of parks, plazas, linear greenways and sportfields will need to be considered at the Neighbourhood Plan stage. The Town's MR lands have been identified for future open space to be programmed and developed by the Town in the future. The final programming may include local amenities such as playfields, playgrounds and trails and regional amenities such as a skateboard park, amphitheater or bike park, or combination of these.

It is noted that while the Town's MR lands were dedicated as part of a previous subdivision before annexation, the lands were never programmed and developed by the developer for local amenities as typically required by a municipality. Thus, it will be the responsibility of future developers and/or landowners within Rolling Trails to equitably share in the cost of programming and developing these lands for local amenities at the time of site redevelopment. The method for collecting the required funds will need to be determined but may include a Recreational Services Tax and/or a voluntary recreation contribution. The cost for providing regional amenities will be borne by the Town. Alternatively, the Town has the option of selling the Town's MR lands and use the funds collected to purchase parcels within Rolling Trails with the intent of dedicating that land as MR and evenly distributing open space throughout that community.



Figure 18

Open Space Plan

- Legend
- - - Subject Lands Boundary
  - Open Space
  - ● ● Traffic Control
  - Existing Highway
  - Skeletal Road Network
  - \* Intersection
  - ✱ Properties with MR outstanding
  - ✱ All Turns

## Policies

- 7.1.1** All residential development should be within 400 metre radius of a publicly accessible open space that is a minimum of 0.1 hectares (0.3 acres) in size. Open space includes Municipal Reserve, Environmental Reserve, Conservation Reserve, stormwater ponds, publicly accessible private open space and pipeline and powerline right-of-ways.
- 7.1.2** The full amount of Municipal Reserve owing shall be dedicated or paid as cash-in-lieu at the discretion of the Development Authority at the time of subdivision.
- 7.1.3** Where the dedication of Municipal Reserve is not required, the Town, in accordance with the Municipal Government Act, may negotiate any of the following options with the landowner to encourage the provision of up to 2% of a neighbourhood area as open space:
- a. The over-dedication of Municipal Reserve; and
  - b. The incorporation of pathways and trails within pipeline and powerline right-of-ways to augment the connections with the surrounding transportation network.
- 7.1.4** The park and open space system should provide a variety of passive and active recreational opportunities for residents of all ages.
- 7.1.5** The Subdivision Authority may register a deferral of Municipal Reserve in accordance with the Municipal Government Act.
- 7.1.6** Open space concept plans shall be provided as part of a Neighbourhood Plan submission. Final design details and open space elements shall be determined at the subdivision/detailed landscape drawing stage.
- 7.1.7** The Towns' MR lands should be programmed and developed by the Town based on community and municipal needs. The programming, cost and method for equitably collecting funds to develop the Town's MR lands shall be determined by the Town before approval of the first Neighbourhood Plan. Developers and/or landowners within Rolling Trails shall be responsible for the cost of programming and developing the Town's MR lands for local amenities at the time of site redevelopment. The Town shall be responsible for the cost of programming and developing the Town's MR lands for regional amenities where applicable.
- 7.1.8** Notwithstanding Policy 7.1.7, the Town may sell the Town's MR lands and use the funds collected to purchase parcels within Rolling Trails to be dedicated as MR. Developers shall program and develop the dedicate MR parcels.



## 7.2 Environmental Features

Rolling Trails has a knob and kettle topography and an escapement which may include significant slopes that are 15% or above. As part of the Neighbourhood Plan process, consideration will need to be made as to whether these slopes should be protected and if setbacks need to be established or allowed to be developed under certain conditions. Further direction relating to the developability of slopes can be found in the Municipal Development Plan and the Land Use Bylaw.

The Ecological Inventory completed to support this ARP identified the sloped areas along the northeastern boundary of the Plan Area as an ESA and the semi-permanent -freshwater shallow open water wetlands as AESAs. The Ecological Inventory provided a high level assessment of the environmental features with the Rolling Trails and thus a more focused Biological Impact Assessment is required to be prepared at the Neighbourhood Plan stage.

### Policies

- 7.2.1** All qualifying lands should be dedicated as Environmental Reserve at the time of subdivision in accordance with the Municipal Government Act.
- 7.2.2** Development that provides opportunities to engage with a natural feature may be allowed within an Environmental Reserve including park benches, trails, boardwalks, educational signage and observation platforms.
- 7.2.3** Development adjacent to Environmental Reserves should provide an appropriate interface with these natural areas by, where possible, providing appropriate setbacks, matching existing grades, landscaping with native vegetation and using low and/or transparent fencing.
- 7.2.4** Naturalized stormwater features may be located adjacent to wetlands and wetlands may be converted into naturalized stormwater ponds where they comply with current Provincial and Municipal requirements.
- 7.2.5** Development impacting wetlands shall comply with current Provincial and Municipal wetland policies.
- 7.2.6** A Biological Impact Assessment shall be prepared at the Neighbourhood Plan stage. Qualifying wetlands identified in the Biological Impact Assessment may be required to be conserved and dedicated as Environmental Reserve in accordance with the Municipal Government Act.

# 8

# Transportation

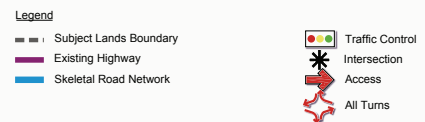
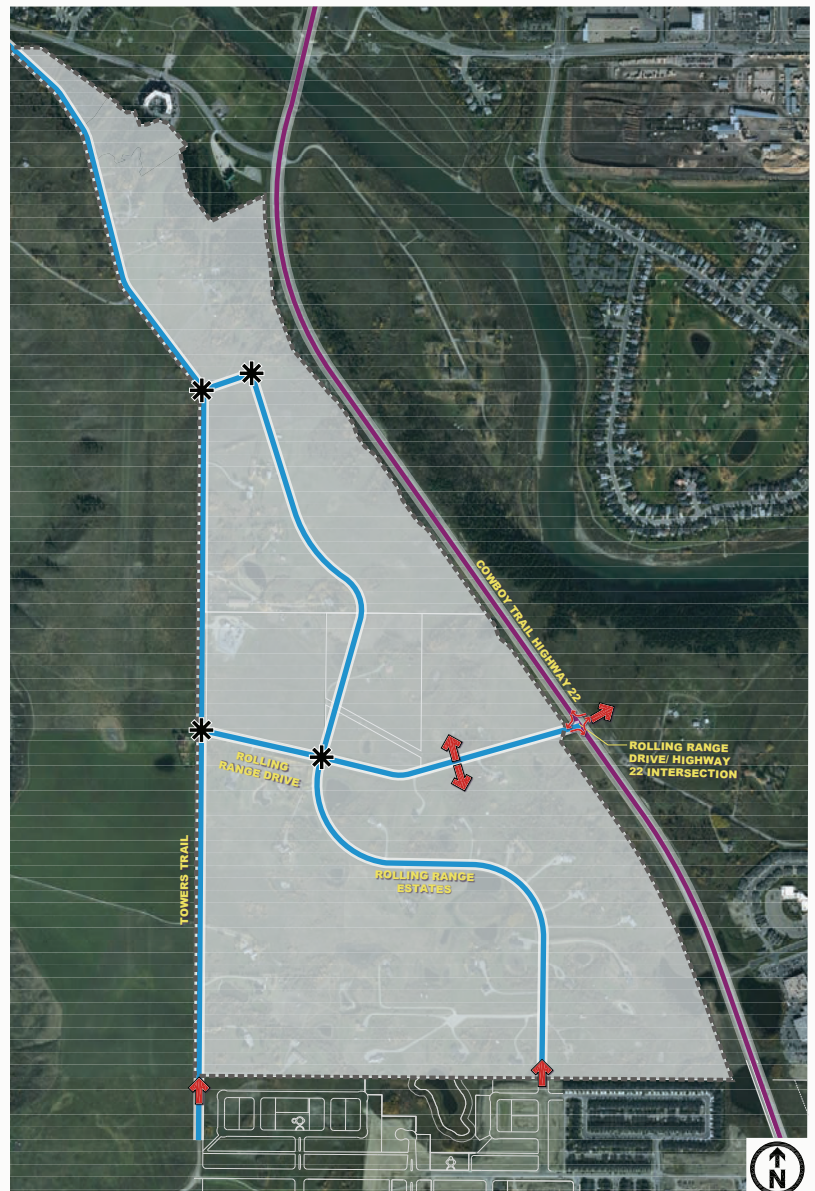
## 8.1 Road Network

The skeletal street network for the Plan Area is to take advantage of existing roads and integrate with the existing and future transportation network of the Town. This approach will involve:

- Upgrades to Rolling Range Drive, Rolling Range Estates and Towers Trail to accommodate anticipated traffic volumes;
- A new spine road extending north from Rolling Range Drive and subsequently swinging west to connect with Tower Trail;
- Extending Rolling Range Estates south to access the community of Fireside; and
- Upgrading the junction of Rolling Range Drive and Highway 22 with a controlled all turns intersection. It is noted that a Hwy 22 Functional Planning Study Update is being completed in tandem with this ARP to assess the geometry of this future intersection. Once completed, feedback from residents will be garnered and the ARP may be revised in accordance to the study's findings.

Internally, the transportation network will predominantly be a modified grid with opportunities for crescents and cul-de-sacs to achieve high levels of connectivity while responding to the topography of the land and accommodating unique product. The specific location for lower volume roads will be identified in Neighbourhood Plans.

Road Network **Figure 19**



## Policies

- 8.1.1** The road network shall be constructed to accommodate the anticipated traffic volumes as generally shown in **Figure 19**. The final road network, road cross-sections and right-of-ways required to accommodate the anticipated traffic volumes shall be determined at the Neighbourhood Plan and subdivision stage.
- 8.1.2** Notwithstanding Policy 8.1.1, given the redevelopment vision for Rolling Trails and related constraints due to the extreme fragmentation of the Plan Area, street cross-sections may be modified from the typical accepted standard while accommodating anticipated traffic volumes.
- 8.1.3** Efforts be made to retain existing right-of-ways in the upgrade of the road network to accommodate redevelopment. Where existing road right-of-ways need to be widened to accommodate the anticipated Plan Area traffic volumes, the Town may acquire the additional road right-of-way through the subdivision process, voluntary dedication by land owners and/or through other mechanisms available to the Town through the Municipal Government Act.
- 8.1.4** Connections to the external road network should be maximized to ensure multiple connections into the Plan Area while adhering to the requirements for intersection spacing.
- 8.1.5** Internal street networks should predominantly be in the form of a modified grid while allowing for the strategic use of cul-de-sacs and crescents.
- 8.1.6** Lanes for rear lot access are encouraged where residential frontage occurs on large volume roadways.
- 8.1.7** With each Neighbourhood Plan a Transportation Impact Assessment or update shall be provided to review the potential impacts on the generated traffic on the surrounding road network and provide mitigation measures for any identified adverse impacts.
- 8.1.8** In considering future development applications in the Plan Area, where a proposed development may have a significant impact on the transportation network, a Traffic Impact Assessment or update may be required as per the Land Use Bylaw.
- 8.1.9** At the time of subdivision, the developer shall dedicate the portion of their property necessary for road right-of-way to accommodate the ultimate road network as identified in **Figure 19**.
- 8.1.10** Offsite levies shall be paid equitably by developers for the upgrading of the transportation system to support the redevelopment of the Plan Area in accordance with the Municipal Government Act.



# 8.2 Transit Network

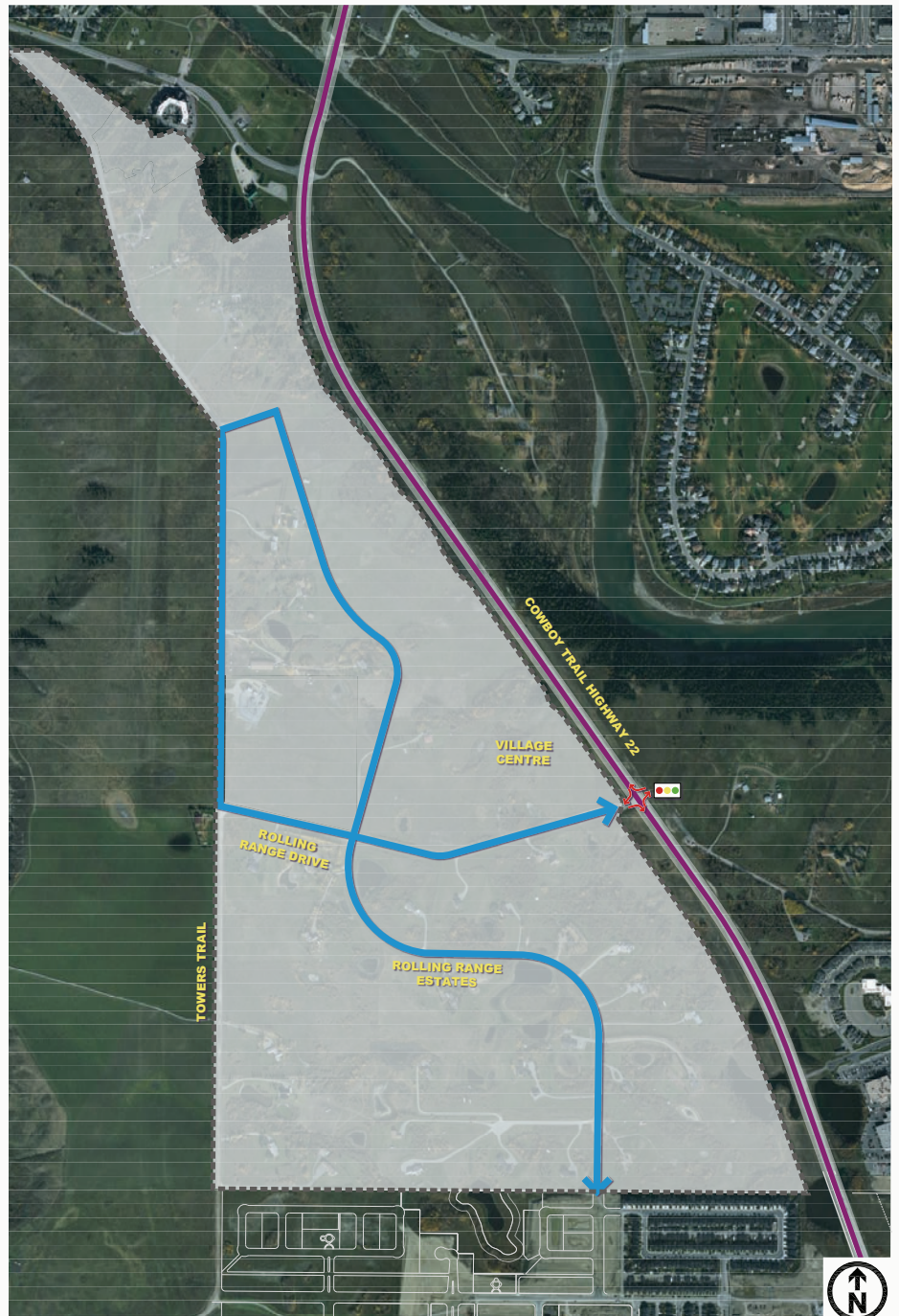
Cochrane’s On-Demand Local Transit (COLT) is scheduled to commence operations in Fall 2019. Stops have already been identified throughout the Town. It is expected that transit services will be expanded to meet demand as the Plan Area builds-out. In consideration, development in the Plan Area will be proactive by accommodating future transit routes and bus stops. Transit routes are identified along cross community collector streets to reach most residents and connect them with neighbourhood amenities.



**8.2.1** Neighbourhood Plans shall identify future transit routes and bus stops.

**8.2.2** Infrastructure to support transit shall be provided at the time of development where deemed necessary by the municipality.

Figure 20 Transit Network



- Legend**
- Subject Lands Boundary
  - Existing Highway
  - Transit Route
  - Traffic Control
  - All Turns



# 8.3 Pedestrian & Cycling Network

Providing alternative modes of transportation is vital to maintain a healthy lifestyle, reducing carbon emissions and facilitating interactions with neighbours. In this regard, the Plan Area will support walking and cycling through the provision of sidewalks and multi-use pathways. Three main sets of multi-use pathways are provided across the Plan Area to establish the main structure to the pedestrian system:

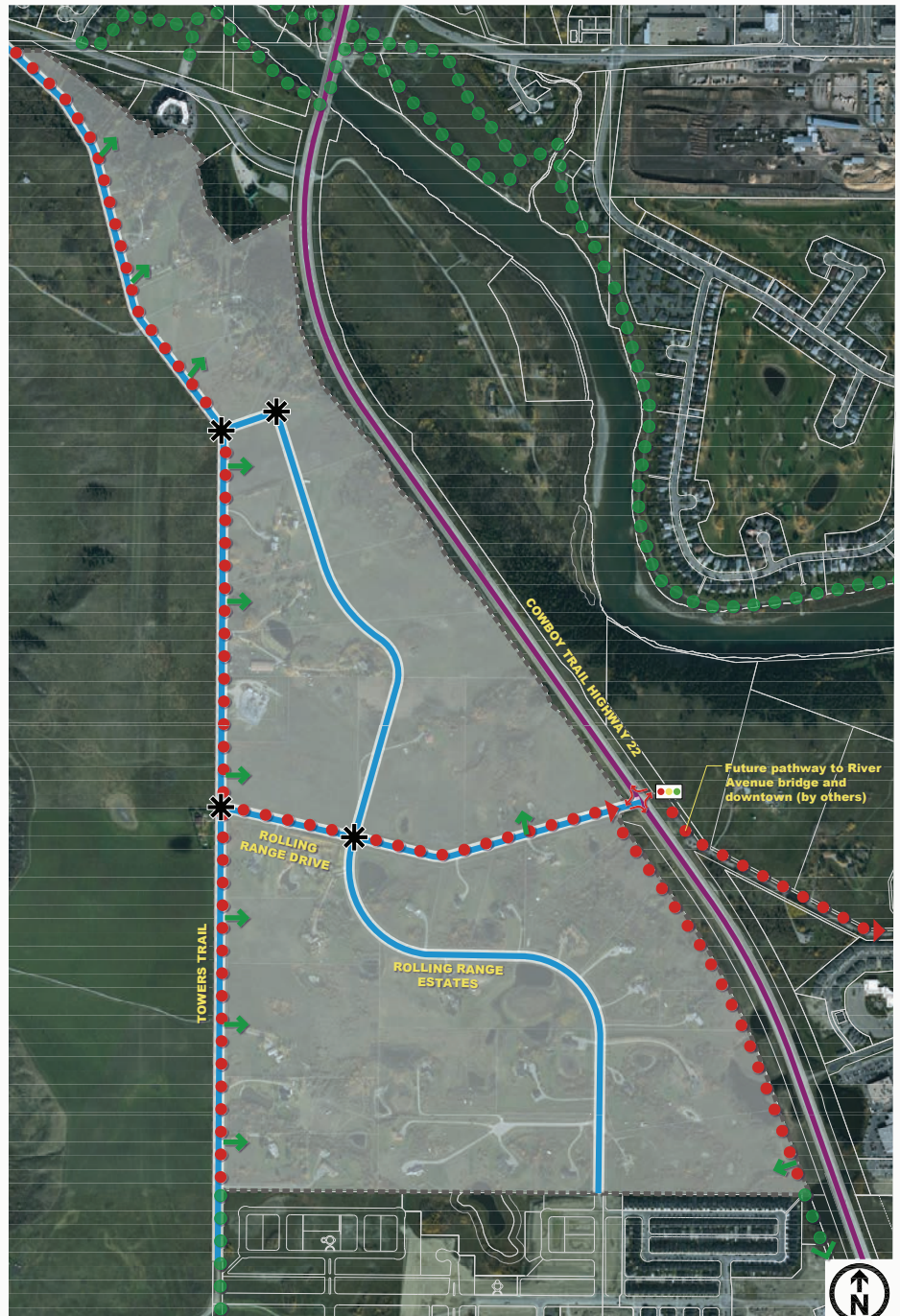
- North-south along the eastern edge of Towers Trails to connect Fireside with George Fox Trail;
- East-west along Rolling Range Drive to connect with Towers Trail and Highway 22 and potentially extend into the River Height community.
- North-south along Highway 22 and between Fireside and Rolling Range Drive.

The pedestrian and cycling infrastructure is to connect with the existing network, to existing and future amenities and to commercial areas. A community that incorporates a multi-modal transportation system promotes independence for residents who not own a vehicle to reach their desired destinations.

**8.3.1** An interconnected pedestrian and cycling system shall be provided through multi-use pathways and sidewalks.

**8.3.2** A pedestrian/cyclist system shall link residents with parks, amenities, and commercial areas as well as the wider Town and regional pathway network.

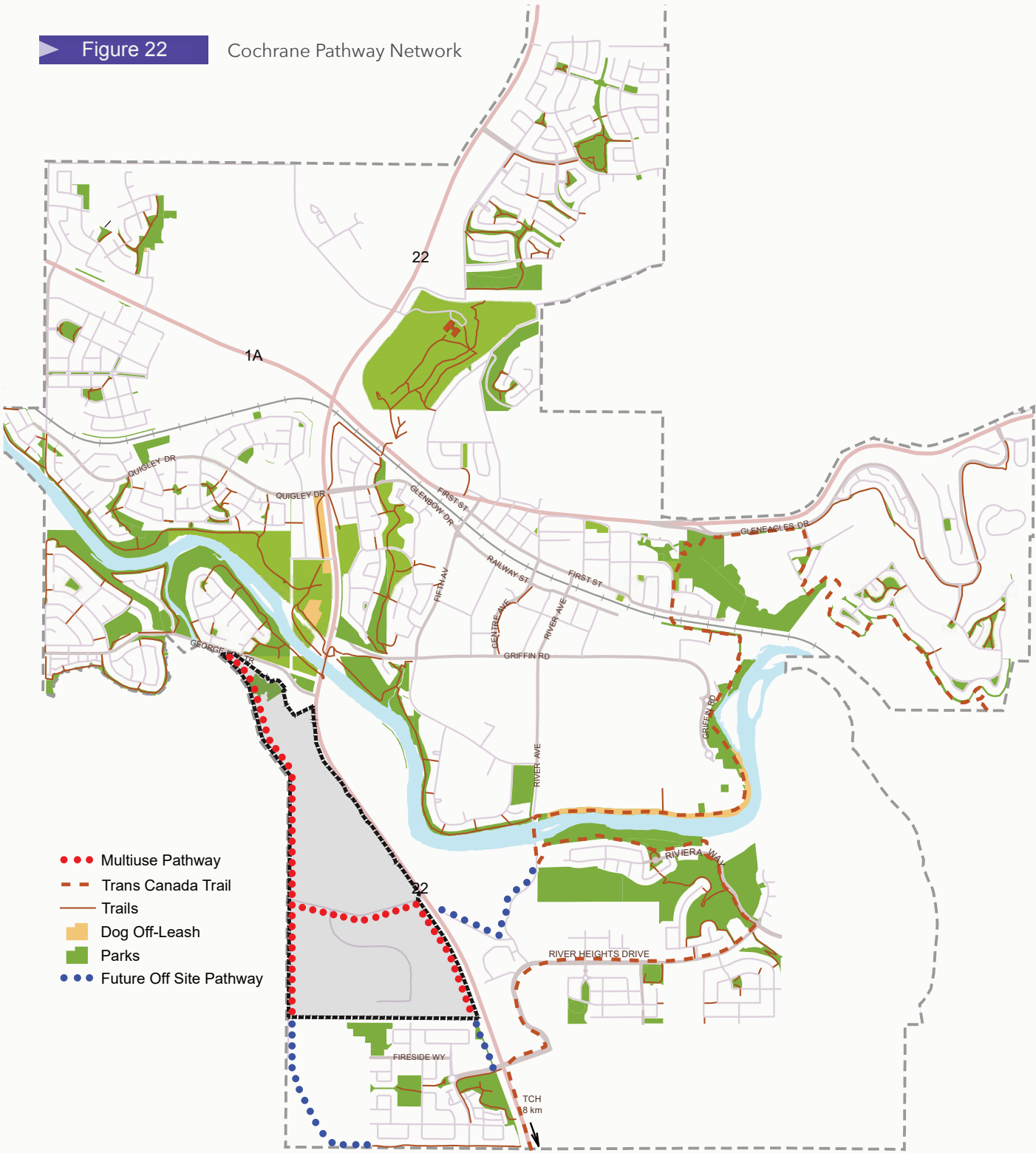
Figure 21 Pedestrian & Cycling Network



Legend			
	Subject Lands Boundary		Traffic Control
	Existing Highway		Intersection
	Multiuse Pathway		All Turns
	Approved /Existing Pathway		Local Pathway Connections
	Skeletal Road Network		

▶ Figure 22

Cochrane Pathway Network





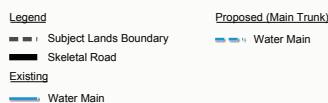
# 9 Servicing

## 9.1 Water

The purpose of these policies is to provide for a suitable water distribution system designed to serve the urban development needs throughout the ARP area.

### Policies

- 9.1.1** The water distribution system for the ARP area shall be designed as generally shown on **Figure 23** to adequately and efficiently serve the ultimate development of the Plan Area. The location of water infrastructure may be modified at the Neighbourhood Plan stage to the satisfaction of the Town.
- 9.1.2** Details of the water supply infrastructure shall be determined in conjunction with the engineering plans and the tentative plans of subdivision within the context of the Town of Cochrane Water & Wastewater (W3) Master Plan.
- 9.1.3** Water conservation methods are encouraged to be incorporated into development including drought tolerant landscaping, water efficient plumbing fixtures and the capture and reuse of rainwater.
- 9.1.4** Interim servicing solutions may be adopted during the servicing of the initial phases at the discretion of the Approving Authority.





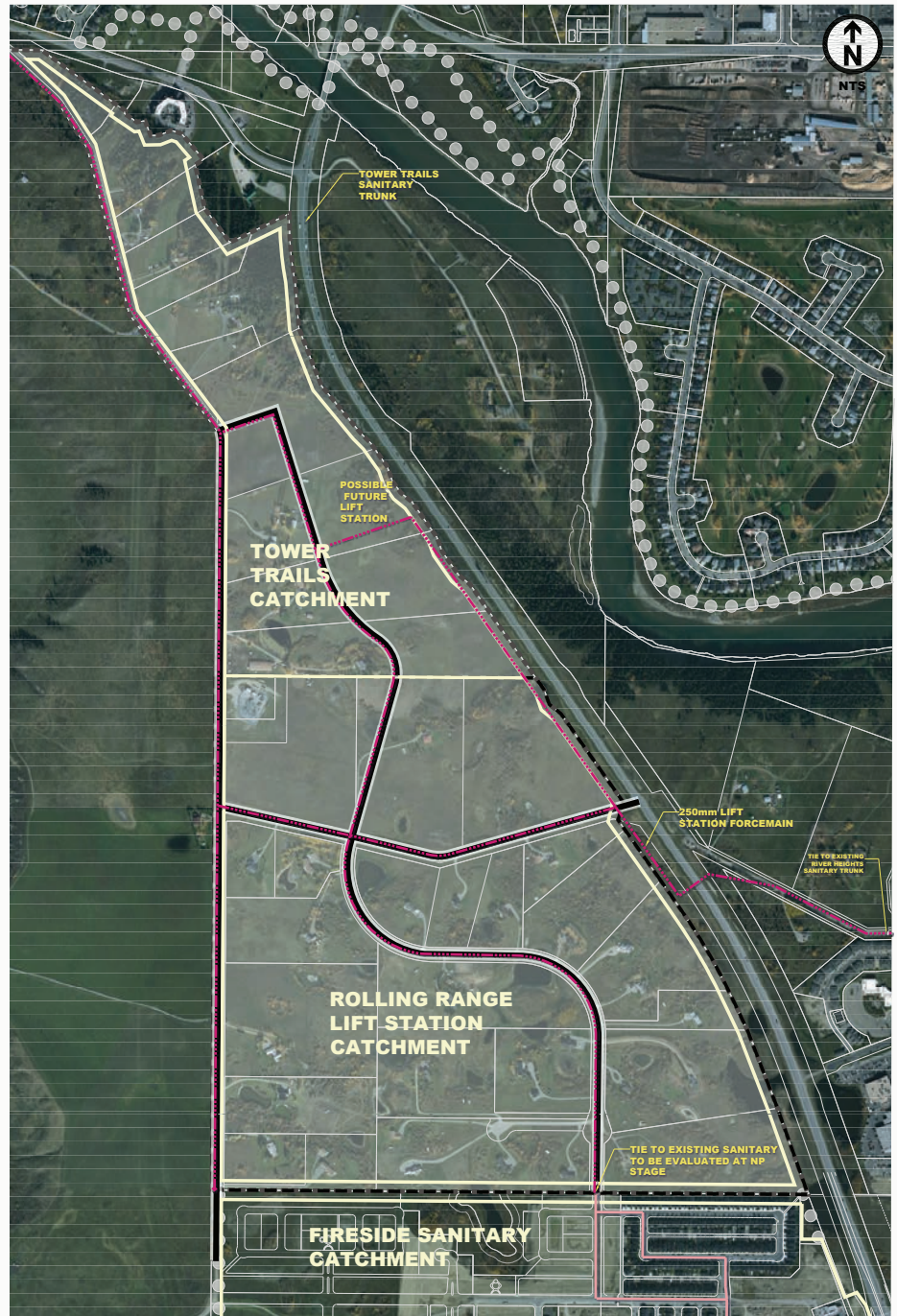
# 9.2 Sanitary

The purpose of these policies is to provide for a suitably designed sanitary sewer to service the urban development needs throughout the ARP area.

**9.2.1** The sanitary sewage system for the ARP area shall be designed generally as shown on **Figure 24** and to adequately and efficiently serve the ultimate development of the area. The location of sanitary infrastructure may be modified at the Neighbourhood Plan stage to the satisfaction of the Town.

**9.2.2** Details of the sanitary servicing system shall be determined in conjunction with the engineering plans and the tentative plans of subdivision within the context of the Town of Cochrane Water & Wastewater (W3) Master Plan.

**9.2.3** Interim servicing solutions may be adopted during the serving of the initial phases at the discretion of the Approving Authority.





# 9.3 Stormwater

The purpose of these policies is to provide for an overview of the stormwater management system that will serve the ARP area. In the ultimate design, two stormwater management facilities will be constructed as shown in **Figure 25**. From the two facilities, stormwater trunk sewers will connect all of Rolling Trails to the Bow River in two (2) different locations; one will send flow east and tie to an existing stormwater trunk and the other will convey flows to the north and adjacent to Highway 22 and then to the Bow River. The Plan Area will be developed with ponds discharging at 3.97L/s/ha as per the Integrated Stormwater Management Plan - Town of Cochrane, by Urban Systems, 2013 (ISMP) and allowing upstream catchment areas to continue to flow through them with no volume restrictions. Considering the fragmented nature of the Plan Area, in-term stormwater management facilities may be required at the time of redevelopment up until the ultimate facilities are in place.

Stormwater ▶ Figure 25



Legend	Proposed
<span style="border-bottom: 1px dashed orange; width: 20px; display: inline-block;"></span> Subject Lands Boundary	<span style="border-bottom: 1px dashed green; width: 20px; display: inline-block;"></span> Storm Trunk
<span style="border-bottom: 2px solid black; width: 20px; display: inline-block;"></span> Skeletal Road	<span style="border-bottom: 1px dashed orange; width: 20px; display: inline-block;"></span> Catchment Boundary for Future Ponds
<span style="border-bottom: 1px solid green; width: 20px; display: inline-block;"></span> Existing Storm Trunk	<span style="color: blue; font-size: 24px;">✱</span> Future Stormwater Facility



## Policies

- 9.3.1** The stormwater management system shall be designed generally as shown on Figure 25 and to adequately and efficiently serve the ultimate development in terms of public safety and environmental protection. The system is to comply with the Water Act and ensures there is no impact on downstream property.
- 9.3.2** **Figure 25** identifies the ultimate stormwater management facility locations for Rolling Trails. The shape, size and configurations of each facility shall be determined at the applicable Neighbourhood Plan stage to meet required stormwater management requirements at the discretion of the Approving Authority. Where an ultimate stormwater facility is proposed to be situated completely beyond the location shown on **Figure 25**, an amendment to this ARP will be required to identify the new location.
- 9.3.3** In-term stormwater management facilities may be proposed at the Neighbourhood Plan stage where the ultimate facility is not available to accept stormwater. A strategy for transitioning stormwater management from the in-term facility to the ultimate shall be identified in the subject Neighbourhood Plan.
- 9.3.4** Stormwater from the Plan area shall be treated using Best Management Practices (BMPs), stormwater ponds, and other minor and major drainage system components, as the Town and the Province of Alberta advocate.
- 9.3.5** The stormwater system will be designed in accordance to the City of Calgary Stormwater Management & Design Guidelines (2011), Alberta Environment Standards and Guidelines (2006) and the Staged Master Drainage Plan.
- 9.3.6** Naturalized stormwater management facilities, such as combined stormwater ponds and reconstructed wetlands, are encouraged to be integrated into park and open space areas. Impacts on existing wetlands shall be minimized and they should be integrated into the overall stormwater management system, where possible.
- 9.3.7** Low-Impact Development measures, such as rain gardens, permeable pavement, bio-retention facilities, rain barrels, vegetated rooftops and increased topsoil cover, are encouraged throughout the ARP to reduce runoff volumes. Water re-use for purple pipe and irrigation purposes is also encouraged if supported by the Approving Authority.

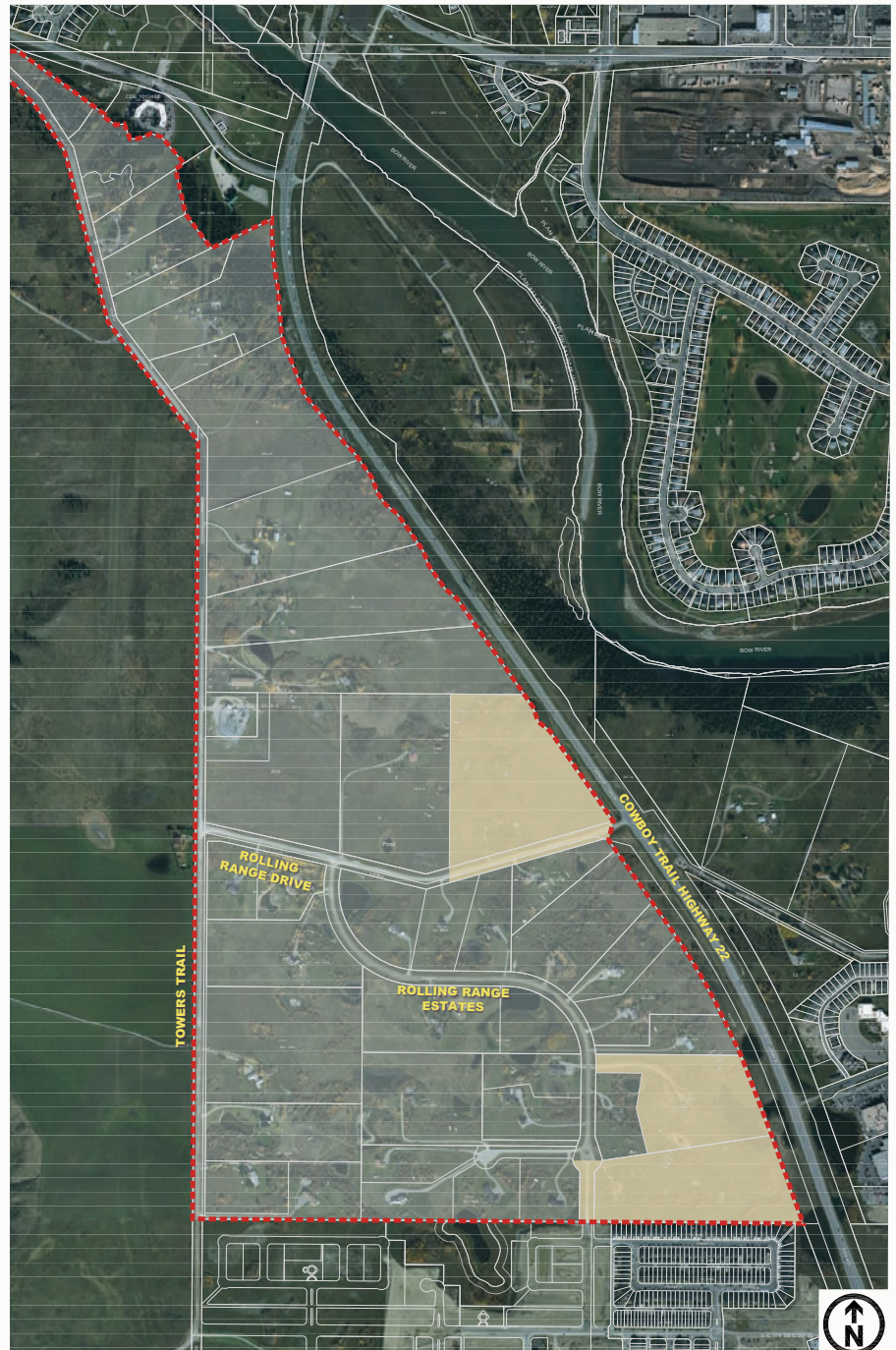
# 10 Phasing

Phasing **Figure 26**

The purpose of the following policy is to provide for the phasing of development in a logical manner in order to minimize infrastructure costs and to ensure appropriate connectivity. **Figure 26** identifies the parcels that are anticipated to redevelop first based on ownership and proximity to access and services.

## Policies

- 10.1.1** Any development area may commence development where the required approvals have been achieved and it has been demonstrated that the necessary access and servicing can be provided.



**Legend**

- - - Subject Lands Boundary
- 1st Development Area

# 11

# Background Studies

The following provides a summary of the high-level studies that were completed to consider the developability of the Plan Area. The studies indicate that the Plan Area is developable with limitations in relation to one Environmentally Significant Area (ESA), two Aquatic Environmentally Significant Areas (AESAs) and 3:1 slopes along the northeastern boundary edge. In addition, improvements to the surrounding road network are required to accommodate the anticipated background traffic and the buildout of Rolling Trails. More refined studies will need to be completed at the Neighbourhood Plan stage relating to transportation, geology, historical resources and biological resources to determine the appropriateness of redevelopment as identified in **Section 6.5 - Requirements of a Neighbourhood Plan**.

## 11.1 Preliminary Geotechnical Considerations

Almor Testing Services Ltd. provided preliminary geotechnical considerations for the subject Plan Area on August 8, 2019. It was determined that:

- The exposed subgrade materials did indicate glacial clay till, with some cobbles to boulders and this material typically has a very stiff to hard consistency. The isolated low areas will also have very stiff subsoils.
- No bedrock exposures were observed at this site and is not anticipated to be encountered.
- The groundwater is not to be of concern to a 10 m depth, other than perched in isolated sand pockets.
- The south portion of lands are relatively level with no slope stability considerations.
- There are no geotechnical concerns relating to slope stability for 3:1 slopes on the eastern boundary with exception to the treed and sloped northeast portions which do not appear developable beyond the 3:1 crest-of-slope.

Before future development, the report recommended that all land areas with over 15% slope must be evaluated with a detailed slope review.



## 11.2 Historical Resource Overview

Bison Historical Services Ltd. completed a Historical Resource Overview on April 8, 2019 for the Plan Area. The purpose of this HRO document was to provide a general overview of historical resources located in the vicinity of the project area and to assess the potential impact that the proposed project poses to known and/or previously unrecorded historical resources. The methodology of this document was a comprehensive desktop assessment of the project area that included known archaeological sites, historic sites, previous permitted work in the area, and topography.

The study found that there are no previously recorded archaeological sites or historic structures in the proposed project footprint. This is a reflection of the lack of historic resources assessment within the Plan Area. Outside and in proximity to the Plan Area, several archaeological sites and structures were identified. It was noted that no impacts are anticipated on any of these archaeological sites or structures in regard to the proposed development. The proximity of previously recorded sites serves to indicate the likelihood of sites being present in the project footprint. Based on this potential, the preparation of a Historical Resources Impact Assessment (HRIA) was recommended for the Plan Area.

## 11.3 Ecological Inventory

In August 2019, Envirolead Canada Ltd. completed an Ecological Inventory for the Plan Area. The specific objectives of this report were to determine in accordance with the Town of Cochrane Biophysical Overview requirements the baseline ecological conditions and identify ESAs within the Plan Area. Methods of investigation included desktop review of publicly available materials listed below and field investigation by resource specialists. A field sampling program was conducted in spring and summer of 2019. Components included field visits to map, photograph, and characterize habitats (including wetlands) as well as surveys targeted to sensitive wildlife species and features. The following provides a summary of the report findings:

- **Land Cover Types:** Eight distinct broad land cover types (i.e., plant communities) occur within the Plan Area. These are wetland, disturbed grassland, anthropogenic, treed aspen, and treed spruce. No native grassland, or shrubland exist on the property.
- **Wetlands:** 48 Individual wetlands occur within or intersect with the ARP boundary. The total area of wetlands within the Plan Area is 12.35 ha
- **Wildlife:** A total of 43 vertebrate wildlife species were detected by sign, sight, or sound or previously known to occur including 37 bird species, 5 mammal species, and 1 amphibian species. No Species of Conservation Concern were detected during field surveys. The search of the FWMIS database identified known observations of grizzly bear, northern pygmy owl, peregrine falcon, and prairie falcon within a 2-km radius of the ARP area. The ARP boundary also overlaps Sensitive Raptor Ranges for bald eagle, golden eagle, and prairie falcon as well as sharp-tailed grouse Survey Area. The overall ARP area is not considered to be part of a regional wildlife movement corridor considering the historic and current trend of development.

- **Hydrology:** No mapped watercourses occur within the ARP boundaries. Minimal offsite drainage from the property appears to occur except during extreme rainfall or runoff events. The site is generally sloped southwest to northeast towards the Bow River valley but most drainage is expected to occur through wetland infiltration and evaporation.
- **Environmentally Significant Areas (ESAs) and Aquatic Environmentally Significant Areas (AESAs):** No provincially mapped ESAs or AESAs occur within or adjacent to the Rolling Trails ARP boundaries. Further study and fieldwork were conducted to assess ESAs. Landcover types and landforms occurring on the property were assessed under the City of Calgary’s ESA criteria. It was determined that the northeast-facing escarpment running from northwest to southeast in the northern portion of the Plan Area qualifies as a distinct and unique type within the region and municipality. Semi-permanent-freshwater shallow open water wetlands (WL16 & WL42) qualify as AESAs for their higher ecological complexity and relative uniqueness in the area and the municipality.

The study recommended the preservation of escarpment areas as an ESA to provide an opportunity to preserve the ecologically valuable landcover types occurring within. The document also recommended preservation of wetlands WL16 & WL42 and riparian buffers as they provide an opportunity to maintain ecologically important and unique habitat types that can also offer amenities to the community.

## 11.4 Transportation Impact Assessment

Watt Consulting Group (WATT) was retained to provide a Transportation Impact Assessment (TIA) for Plan Area. The scope of work for this study was developed in consultation with the Town of Cochrane, Alberta Transportation and is based on a previous scope developed by the Town’s engineers. The confirmed scope of work included the following:

- **Study Intersections**
  - » Highway 22 and Rolling Range Drive
  - » Tower’s Trail and Rolling Range Drive
  - » Tower’s Trail and George Fox Trail
  - » George Fox Trail and Highway 22
  - » Fireside Link and Fireside Way
  - » Fireside Gate and Highway 22
  - » Fireside Boulevard and Fireside Gate
- **Corridor Volume Assessment** – Assessment of corridor demand and need for widening and improvements to the existing cross section to support the proposed development.
- **Active Transportation & Transit** – Included assessment of bike and pedestrian networks within the area and demonstrated the connectivity to existing trails and pathways. It also identified how transit would be accommodated on the street network in the proposed development.

- **Access Requirements** - Rolling Range Drive access was analyzed as a four-approach intersection.

The proceeding provides the results of the analysis that was conducted for the following scenarios:

- **Existing Conditions** - It was concluded that the existing road network will not accommodate the anticipated traffic volumes for the 20-year horizon without any development of Rolling Trails and using only the anticipated growth of the area as a whole. Based on the capacity analysis conducted for this future background scenario, the following improvements are needed to address the growth in background traffic volumes over the next 20 years:
  - » **Hwy. 22 Corridor**
    - Twinning Highway 22 with two through lanes in each direction along the entire corridor within the study area, including the widening of the Bow River crossing
  - » **Hwy. 22 / George Fox Tr.**
    - Dual left-turn lanes and an exclusive right-turn lane on eastbound George Fox Trail
  - » **Hwy. 22 / Rolling Range Dr.**
    - Upgrade intersection to signalized intersection
    - Widen Hwy. 22 to add channelized left-turn lanes and two through lanes in the northbound and southbound directions
    - Eastbound and Westbound legs require an exclusive left-turn lane and a shared through/right lane.
  - » **Hwy. 22 / Fireside Gate / James Walker Tr.**
    - Two through lanes and one right turn lane on westbound James Walker Trail
    - The opening of the already constructed dual left turn lane on eastbound Fireside Gate
    - The addition of a channelized right turn lane with merge conditions from eastbound Fireside Gate onto southbound Highway 22
  - » **Fireside Gate / Fireside Blvd.**
    - The opening of the already constructed second lane on southbound Fireside Boulevard at the roundabout
    - Addition of a dual left turn lane on both northbound and southbound legs
- **2039 Post Development Conditions** - Based on these findings, it was concluded that the road network with the proposed improvements will accommodate the anticipated traffic volumes for the 20-year horizon with the proposed development of Rolling Trails and the anticipated growth of the area as a whole. The following is a summary of the proposed network improvements in addition to those presented above:
  - » Change from Yield to Stop condition on westbound Rolling Range Drive at Towers Trail
  - » Change from Yield to Stop condition on northbound Towers Trail at George Fox Trail
  - » The addition of a channelized right turn lane with merge conditions from eastbound
  - » Rolling Range Drive onto southbound Highway 22



- **Active Modes Review** - The active modes plan for the development itself includes planned sidewalks on both sides of some roadways to facilitate pedestrian movement, which is consistent with the Town of Cochrane’s standards laid out in the “Connecting Cochrane” report. The proposed development will fit within the Town of Cochrane’s long-term guiding principles regarding bicycle infrastructure. More details regarding active modes infrastructure will be provided as part of the next phase of the development.
- **Transit Service Analysis** - In fall 2019 Cochrane will introduce the Cochrane On-Demand Local Transit (COLT) service. This will be an on-demand transit service with stops throughout the Town of Cochrane. The initial fleet size of the service will be eight low floor, 21-seat buses. After the full build out of Rolling Trails, transit service could be provided to the community to provide connectivity to the rest of the Town of Cochrane. With planned stops in the Fireside Community, it is conceivable that additional stops could be added within the Rolling Trails development when the population warrants it.

Based on the analysis presented in their report, the following conclusions and recommendations were made with respect to the Plan Area:

- The proposed road network is anticipated to accommodate the 2039 post development traffic with the previously recommended improvements regardless of future development within the Plan Area.
- A funding strategy for the recommended transportation infrastructure will need to be developed in conjunction with Alberta Transportation, the Town of Cochrane and other developers in the area.
- With the proposed improvements, all intersections within the community as well as all community access points are anticipated to operate at acceptable levels of service based on typical intersection configurations for the proposed road types.

Based on these findings, it is concluded that traffic generated by Rolling Trails, as well as the ultimate future traffic projections, can be accommodated by the proposed transportation network, community access points, and regional transportation facilities.

## 11.5 Functional Stormwater Management Report

Stormwater Solutions (SSI) completed a Functional Stormwater Management Report for Rolling Trails in July 2020. This report provides the functional design for the long-term stormwater management system for the area. Post-development of the ARP lands will be serviced with proposed ponds discharging at 3.97 L/s/ha as per the Integrated Stormwater Management Plan - Town of Cochrane, by Urban Systems, 2013 (ISMP). All details in this report conform to the current Town of Cochrane Surface Drainage Bylaw, City of Calgary Stormwater Management Design Manual, dated September 2011 and the Alberta Environment and Sustainable Resource Development (AEP) - Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems - Stormwater Management Guidelines 2013.

The following provides the main conclusions of the report:

1. The underlying criterion used in this study for sizing of the stormwater facilities is the maximum discharge of 3.97 L/s/ha as stated in the ISMP with no runoff volume controls.
2. The study area has a total area of 199 ha and 171 ha was modelled to design the proposed ponds. Figure 4 of the study shows possible locations of pond with the ARP land having been delineated into proposed pond catchment boundaries. A-03 was modelled to determine the peak release rates and runoff volumes. Detailed design will occur when it is to be developed.
3. During detailed design, proposed drainage courses and facilities should be protected with registered easements.
4. A Biophysical Impact Assessment and Geotechnical Investigation are required prior to site development.
5. There will be a minor system on site which will be designed at a later stage. Runoff will flow into the ponds via the minor system., which should be designed at 70 L/s/ha minimum.
6. Town of Cochrane Surface Drainage Bylaw and City of Calgary Guidelines should be used to design the minor system and the system facilities including stormwater detention facilities during preliminary design.
7. The proposed development includes two (2) proposed wet ponds.
8. The amount of storage provided in ponds is adequate for the 100 Year 24 hour design storm and the continuous storm events with the additional 10% increased included.
9. The sediment removal from the ponds was not calculated as this report is only functional design but will be done a at later design stage.
10. Erosion and sediment control measures should also be implemented during construction to protect the natural drainage courses.

# 12

# Implementation

The purpose of the following policies is to provide direction on the implementation of the Rolling Trails ARP.

## Policies

- 12.0.1** Town Council will consider possible amendments to this Plan from time to time to respond appropriately to changing or unforeseen circumstances.
- 12.0.2** Town Administrative staff will conduct a review of the Plan every 5 years to determine the relevancy of the policies in relation the context at the time and amend the Plan accordingly.
- 12.0.3** Town Administrative staff will be responsible for implementing planning and policy statements contained within this Plan.
- 12.0.4** Development Services will take the primary responsibility for the review of all neighbourhood plans, land use, subdivision and development proposals and ensure the participation of relevant government agencies, private groups, businesses, and municipal departments during the review process.
- 12.0.5** In accordance with Section 1.2, Principle 1, the Plan Area shall be identified as an innovation area where the municipality shall consider direct control land use districts, modifications to street cross-sections, inventive servicing provisions and other alternative solutions to accommodate area redevelopment.
- 12.0.6** **Neighbourhood Plan**
- a. Before any land use or subdivision application is approved within the Plan Area, a Neighbourhood Plan shall be prepared or amended and approved by Council to reflect the intentions of the land use or subdivision application.
  - b. The Approving Authority shall require that development comply with requirements set out in each Neighbourhood Plan.
  - c. The Approving Authority should require that development comply with the design guidelines submitted with a Neighbourhood Plan as identified in Policy 6.5.6.k
  - d. Where a development permit application does not conform to all the applicable requirements of the design guidelines submitted with a Neighbourhood Plan, but maintains the intent, the Approving Authority may, at their discretion, grant a relaxation to the requirements.



### 12.0.7 Land Use

- a. The **Land Use Concept - Figure 13**, illustrates the anticipated general nature of future land use amendments. The timing and direction of development within the Plan area shall be determined primarily through the Land Use Amendment, which establishes the design and land use pattern for the subject site and enables subdivision and development to proceed.
- b. When an amendment to the **Land Use Concept - Figure 13**, in this Area Structure Plan is warranted, such amendment should occur concurrently with the Land Use Bylaw Amendment.
- c. The land use designations in effect at the time of approval of this Plan shall:
  - i. continue to apply in accordance with the provisions of the Municipal Government Act; and
  - ii. remain in effect until redesignation of the lands to appropriate districts in accordance with the policies of this Plan occurs.

### 12.0.8 Tentative Subdivision Plans

- a. The **Land Use Concept - Figure 13**, illustrates the anticipated general nature of subdivision. This plan is conceptual only and subject to refinement at the Tentative Subdivision Plan stage.
- b. The following studies, all of which shall be to the satisfaction of the Town of Cochrane, shall accompany a Tentative Subdivision Plan:
  - i. A transportation assessment or Transportation Impact Assessment (TIA) (as applicable) or update on the size and classification of the roadways and the intersection spacing by a professional transportation engineer;
  - ii. A geotechnical assessment on the slope stability with recommended setbacks for the property lines and buildings by a professional geotechnical engineer;
  - iii. A stormwater assessment on the management of stormwater by a professional stormwater engineer to clarify the stormwater management for the latest stage of development;
  - iv. Stormwater pond reports; and
  - v. Noise attenuation details (as applicable)

RT  
ARP



**ROLLING TRAILS**  
AREA REDEVELOPMENT PLAN