

THE SUNSET RIDGE

OF COCHRANE

STAGE 1 AREA STRUCTURE PLAN



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1.0 INTRODUCTION

1.1 Purpose of the Plan

Community planning is the process of shaping the physical environment to achieve an orderly and compatible pattern of growth and to enhance the quality of life of a community's residents. The starting point for this process is an area structure plan.

The purpose of an area structure plan is twofold. Firstly, it refines and implements The Town's broader planning objectives as contained in its primary strategic planning document, the Municipal Development Plan, by promoting community development that is logical, compatible and sustainable. Secondly, an area structure plan guides and directs specific land use, subdivision, and development decisions that collectively determine the form a community will take.

To accomplish this purpose, an area structure plan must establish a broad framework for future development of a community. This framework consists of a land use concept and a series of policy statements and implementation actions that work together to ensure that the plan is achieved. The framework should be concise yet flexible. At the same time, the framework should promote creativity and innovation and be responsive to the ever-changing demands of the marketplace. In summary, a community plan must be formulated with the understanding that planning requires a visionary, balanced and dynamic approach if it is to be successful.

1.2 Authority of the Plan

The Sunset Ridge Area Structure Plan (the "Plan") is an area structure plan that has been adopted through a bylaw passed by Council in accordance with the *Municipal Government Act*. Section 633 of the *Municipal Government Act*, which authorizes a council to adopt an area structure plan, states:

633(1) For the purpose of providing a framework for subsequent subdivision and development of an area of land, a council may by bylaw adopt an area structure plan.

- (2) An area structure plan
 - (a) must describe
 - (i) the sequence of development proposed for the area,
 - (ii) the land uses proposed for the area, either generally or with respect to specific parts of the area,
 - (iii) the density of population proposed for the area either generally or with respect to specific parts of the area, and
 - (iv) the general location of major transportation routes and public utilities,

and

(b) may contain any other matters the council considers necessary.

1.3 Timeframe of the Plan

The Plan is future-oriented and depicts how Sunset Ridge is to be developed over a short term time frame. No specific timeframe is applied to the Plan although most of the proposed development is expected to be completed within a 5 year horizon.

1.4 Interpretation of the Plan

1.4.1 Map Interpretation

Unless otherwise specified within the Plan, the boundaries or locations of any symbols or areas shown on a map are approximate only, not absolute, and shall be interpreted as such. They are not intended to define exact locations except where they coincide with clearly recognizable physical features or fixed boundaries such as property lines or roads and utility rights-of-way.

1.4.2 Policy Interpretation

Where a purpose section accompanies a policy, it is provided for information purposes only to enhance the understanding of the policy. Should an inconsistency arise between the purpose section and a policy, the policy will take precedence.

Where "shall" is used in a policy, the policy is considered mandatory. However, where actual quantities or numerical standards are contained within a mandatory policy, the quantities or standards may be deviated from provided that the deviation is necessary to address unique circumstances that will otherwise render compliance impractical or impossible, and the intent of the policy is still achieved.

Where "should" is used in a policy, the intent is that the policy is to be complied with. However, the policy may be deviated from in a specific situation where the deviation is necessary to address unique circumstances that will otherwise render compliance impractical or impossible or to allow an acceptable alternate means to achieve the general intent of the policy to be introduced instead.

Where a policy requires compliance at the Conceptual Plan/Land Use Amendment stage, that requirement may be deferred to the Subdivision Approval or Development Permit Approval stage without requiring an amendment to the Plan.

Where a policy requires submission of studies, analysis or information, the exact requirements and timing of the studies, analysis or information shall be determined at the Conceptual Plan/Land Use Amendment stage.

1.5 Amendment of the Plan

To make any change to the text or maps within this Plan, an amendment to the Plan that includes a public hearing of Council shall be required in accordance with the *Municipal Government Act*.

Where an amendment to the Plan is requested, the applicant shall submit supporting information necessary to evaluate and justify the amendment.

1.6 2012 Amendment of the Plan

The intent of the 2012 ASP amendment is to split the Sunset Ridge Community into Stage 1 and Stage 2 lands. Since 2005, when the original ASP was adopted, the Town of Cochrane has adopted a new Municipal Development Plan (2008), as well as the Cochrane Sustainability Plan (2009). Additionally, a new developer is completing Sunset Ridge Stage 2. In order to develop the remaining portion of Sunset Ridge in compliance with the Municipal Development Plan and Cochrane Sustainability Plan, as well as support the new developer's vision for the community, it was agreed that the Town of Cochrane would create a new Area Structure Plan for the undeveloped portion of Sunset Ridge (referred to as Stage 2). The 2005 ASP will remain in effect for the lands referred to as Stage 1, and the new ASP will only apply to Stage 2.

It is important to note that the only major changes undertaken are related to splitting the community into two stages. As such, the majority of amendments were to the figures (to exclude the Stage 2 lands) and to critical information in the background context. The intent was to keep the polices unchanged during the amendment, and only to amend the figures and text that related to Stage 2 lands, The background context information was also left unchanged, except for areas where critical changes had occurred since this ASP was originally adopted in 2005 and affect the future development of the community.

2.0 PLANNING AREA

2.1 Application of the Plan

The Area Structure Plan applies to those lands comprising a portion of the Sunset Ridge community as shown on the Location and Planning Area maps, Maps 1 and 2. Sunset Ridge is located within the north sector of the Town and comprises approximately 281.5 hectares (695.4 acres) of land. The Stage 1 area of Sunset Ridge is approximately 126 hectares (311 acres). The Sunset Ridge community is bounded by:

- The west boundary of Highway 22 (Cowboy Trail) to the west,
- Ranche Road, Cochrane Ranche, and Big Hill Creek valley to the south, and
- Agricultural lands to the north and east within the Municipal District of Rocky View.

2.2 Ownership within Plan Area

The ownership, as of December 31, 2004, within the Plan area is tabulated in the table below and illustrated on Map 3.

OWNER	HECTARES	ACRES
Tirion Properties Ltd. by agreement for sale	85	209
Town of Cochrane	8	19
Alberta Infrastructure/Minister of Highways	28	69
and Transportation		
Franciscans of Western Canada of Alberta	1 1	3
Municipal Road Allowances	4	11
Total (differences due to rounding)	126	311

^{*} Approximate Numbers

2.3 Context of the Plan

The Town of Cochrane experienced significant growth pressure throughout the 1990s. Between 1990 and 1998, the population of Cochrane grew from 4,898 to 9,285, which represents a 90% increase over eight years or an annual growth rate of 10% per year.

As a result of this growth, Cochrane's land supply diminished, which led to the Town of Cochrane applying to Alberta Municipal Affairs for annexation. That annexation application was approved on July 1, 2004. Map 1 shows the revised Town boundary. This annexation ensures that the Town of Cochrane has a sufficient supply of land within its jurisdiction to accommodate future growth and development.

2.4 Adjacent Land Uses

The west boundary of the right-of-way of Highway 22 (Cowboy Trail) forms the western boundary of the Plan area. As growth in Cochrane continues and regional traffic on Cowboy Trail increases, a number of improvements will be required along this highway. Ultimately, Highway 22 in the Cochrane area will be twinned. During the development of Sunset Ridge, access into and out of the PLAN area will be coordinated between Alberta Transportation, the Town of Cochrane, and the area developer(s).

The lands to the west of the Plan area lie within the Municipal District of Rocky View. The area west supports a mix of agricultural, country residential and institutional (church and private school) uses. The area to the north and east is located in the Stage 2 Area Structure Plan and are to be developed in the near future, consisting mainly of residential development.

The valley to the south of the Plan area contains Big Hill Creek, the Cochrane Ranche Historic Site, and the Cochrane RancheHouse, which contains the Town of Cochrane Administrative Office and other civic facilities.

Cochrane's residential communities of Sunterra Ridge Estates and Cochrane Heights occupy the upland terrace on the south side of the Big Hill Creek valley. The Cochrane Arena, Cochrane High School, Elizabeth Barrett Elementary School, Ecole Manachaban School, and St. Mary's Catholic Church are all found in Cochrane Heights.

3.0 SITE ANALYSIS AND DEVELOPMENT CONSTRAINTS

3.1 Existing Land Use

The Plan lands have been used predominantly for agricultural crop production and livestock grazing. Farmsteads are situated in the southwest corner of SW 14-26-4 W5M and at the north end of SE 15-26-4 W5M.

Other than natural environmentally significant lands, the only non-agricultural land within the Plan area is the St. Timothy's High School/Town of Cochrane site. The school site is located in the southwest corner of the Plan area, on the east side of Highway 22, and the north side of Ranche Road. The site is designated Public Service (PS) and is owned by the Calgary Catholic School District and the Town of Cochrane.

3.2 Terrain and Views

Most of the land within the Plan area consists of a gently sloping upland on the north side of the Big Hill Creek valley. The steep northern escarpment of the valley provides a strong natural boundary along the south side of the Plan boundary. Slopes within the Plan area range from negligible on the flattest parts of the upland to 50% where the escarpment is at its steepest.

The elevations and the contours of the Plan area are illustrated on Map 4.

The lands provide spectacular views of the Rocky Mountains, the foothills, and the Big Hill Creek valley to the south, southwest and southeast. The directions of the views are illustrated on Map 4.

3.3 Soils, Slope Stability and the Big Hill Creek Valley Escarpment

A Geotechnical and Slope Stability Assessment has been prepared by McIntosh Lalani Engineering Ltd. It indicates that the escarpment of the Big Hill Creek Valley has a series of ravines or draws that extent northward into the proposed development area. The slopes of the escarpment include some areas with gradients as steep as 2:1 (2 Horizontal to 1 Vertical). The soils in this area are part of the Spy Hill drift which overlays the Porcupine Hills Formation. Along the escarpment of the Big Hill Creek Valley the soils are comprised of a pebble loam till overlying shallow sandstone and siltstone (bedrock). Bedrock outcrops are visible in the north slope of the Big Hill Springs Valley and in the ravines.

McIntosh Lalani undertook a Geotechnical and Slope Stability Assessment of the PLAN area with particular attention to the Big Hill Creek valley escarpment and the sloping lands in the pasture above the escarpment. They observed that these extensive escarpment slopes were not failing or sloughing and that there were no

springs coming from the slopes. They observed that the rolling slopes west of the escarpment were stable.

The geotechnical evaluation undertaken by McIntosh Lalani, which included 12 boreholes within the N.E. ¼ 10-26-4-5, established that the bedrock is located at a depth ranging from 3.5 metres to 5.0 metres along the top of the Big Hill Springs escarpment. Furthermore, the boreholes advanced in this area did not encounter groundwater as all test holes were dry. All boreholes were advanced to a depth of 9.3 metres or auger refusal.

McIntosh Lalani observed that visually, the Big Hill Springs escarpment and the associated ravines or draws appear to be stable with no signs of sloughing or water seepage. As indicated above, bedrock outcrops are visible in the escarpment and ravine slopes which enhance the stability of the slopes.

Based on the geotechnical and slope stability assessment which considered site, soil and groundwater conditions within the development area, McIntosh Lalani recommends that the PLAN establish a development setback line based on a 3:1 projection from the toe of the slopes to provide a factor of safety of 1.5 against slope instability.

The Geotechnical Assessment indicates that all slopes flatter than a 3:1 gradient (33%) beyond the escarpment in this development area are stable.

The extent of the major escarpment zone is illustrated on Map 4.

3.4 Cultural and Archaeological Resources

A Cultural and Archeological Overview Report was prepared for the majority of the Area Structure Plan area by FMA Heritage Resource Consultants. This overview indicates that given that cultivation has been practised on the uplands within the Plan area, there is little likelihood that any areas intended for development contain any historical, archaeological, or palaeontological resources. The report indicates the escarpments and valley bottom, however, have significant potential for archaeological resources.

An Historical Resources Impact Assessment (HRIA) may be required to the satisfaction of Alberta Community Development prior to grading of the lands.

3.5 Biophysical Resources

A Biophysical Assessment has been completed for the majority of the lands within the Area Structure Plan area by Sweetgrass Consultants.

- (a) The biophysical report indicates that escarpment in the south portion of the Plan area is part of the Big Hill Creek valley, which was a former glacial meltwater channel. The Big Hill Creek valley includes deer wintering habitat, undisturbed stretches of stream and mixed woodland, natural springs and high breeding bird diversity and acts as a flyway for migrating raptors (birds of prey) and a wildlife movement corridor.
- (b) Fescue grassland originally covered the upland but this has been transformed into a shorter, sparser mixed grassland type as a result of intensive cattle grazing.
- (c) The least disturbed habitats in the PLAN area can be found in the coulee complex (valley and side-coulees) and along the edge of the escarpment. Damage by cattle activity is evident in the woodlands and spring habitats in the coulees.
- (d) The coulee complex and the valley springs provide habitat for mule deer, especially in winter. Additional species that have been recorded in the PLAN area include coyote, badger, northern pocket gopher, porcupine, meadow vole, and Richardson's ground squirrel.
- (e) Based on habitat potential, the grasslands on the upland are rated as "low" for breeding bird diversity, while the more diverse, less disturbed habitats in the coulee complex are rated as "moderate".
- (f) No reptiles or amphibians were recorded within the PLAN area, although the coulee complex contains potentially productive habitats for garter snakes.

The biophysical assessment report concludes that habitat loss associated with the project will be restricted mainly to non-native and intensively used native grassland habitats. The most productive and significant native habitats, those in the coulee complex, will be protected through the designation of these lands as environmental reserve. Consequently, the concept plan will not contribute significantly toward regional habitat fragmentation, loss of wildlife corridor potential, or loss of regional biodiversity.

3.6 Environmental Site Assessment

A Level One Environmental Site Assessment of the soil (Level 1 ESA) has been completed for the majority of lands within the Area Structure Plan by Base Property Consultants Ltd. Based upon the results of site reconnaissance and a review of historical records, the Level 1 ESA report concludes that no significant environmental impairment exists on these lands and that further environmental investigation is not required prior to development.

The report recommends that at the time of development (including any demolition of existing farmsteads), it is possible that regulated substances (i.e., contaminants) or

evidence of such substances (e.g., unidentified materials, stained soils, or noxious odours) may be discovered. The report recommends that in the event that any such evidence is found, a qualified environmental consultant should be contacted to conduct further environmental investigation before grading or development occurs.

4.0 VISION AND GOALS

4.1 Vision

The Town of Cochrane Municipal Development Plan (MDP) (1998) sets out the following vision for the Town:

Cochrane is a town with a vibrant western heritage theme supported by a balanced residential, industrial and commercial community. Cochrane is committed to families, culture, recreation and business within a strong social and environmental context.

The mission statement for the Town is:

We are building a community of choice for present and future generations.

This plan seeks to achieve both the vision and mission of the Town of Cochrane.

4.2 Goals

Without repeating the goals of the Municipal Development Plan, the goals of the Plan are to:

- create a safe, attractive, efficient, and environmentally sustainable community that complements and reinforces the natural qualities of the immediate setting,
- provide a variety of housing forms that suit a range of individuals and families seeking homes within the Town of Cochrane,
- protect the major escarpment forming the north boundary of the Big Hill Creek valley,
- provide the opportunity for and access to educational and recreational facilities, parks, and natural amenities that will meet the needs of residents,
- develop a system of linear parks, trails, and public open spaces that contribute to and connect with Cochrane's open space and trail system,
- ensure that transportation and utility infrastructure is designed to serve the area in an economical and efficient manner.
- provide for commercial uses and services that conveniently meet the needs of the residents of Sunset Ridge and are not in conflict with uses that should be in the commercial core,
- establish appropriate interfaces between the Plan area and surrounding lands.

5.0 LAND USE CONCEPT

5.1 Land Use Concept Map

The land use concept for Stage 1 of Sunset Ridge is shown on the Land Use Concept map, Map 5. This concept consists of a series of areas and symbols that define a future land use pattern for the community. The approximate areas of the land areas and land uses are tabulated in the table below.

Areas	Hectares	Acres
Total Gross Area	126	311
Highway 22	28	69
Environmental Reserve	10	25
Gross Developable Area	+/- 88	+/- 217

Land Use	Hectares	Acres	Percent
Municipal Reserve	9	22	10.0
(schools, play fields and parks)			
Residential land	46	113	52
Commercial land	3	8	4
High School	8	19	9
Public Utility	2	4	2
Development Roadways	20	50	23
Gross Developable Area	+/- 88	+/- 217	100.0
Average Density 14.8 – 19.8 units/gross developable hect			pable hectare
	(6.0 – 8.0 units/gross developable acre)		

^{*} Approximate Numbers

5.2 Policy Direction

Section 6.0 of the Plan contains policies that apply to specific land use areas and symbols shown on the Land Use Concept map.

The remaining sections of the Plan provide for transportation, servicing, phasing, and implementation policies that will be applied to the Stage 1 Sunset Ridge Plan area.

6.0 LAND USE POLICY AREAS AND SYMBOLS

6.1 Residential Area

6.1.1 Purpose

The purpose of the residential area is to provide for a range of low to medium density in a comprehensively designed residential development. In addition, compatible and complementary high-density residential, institutional, recreational, and comprehensively designed neighbourhood commercial uses will be allowed within this area. Public parks will be interspersed throughout the residential area to serve the recreational needs of residents. The residential area comprises the majority of lands within the community. The design of the residential area should present opportunities for all residents to identify with one or more distinct neighbourhoods or cells within the community. The residential design will be determined through the Conceptual Plan/Land Use Amendment process.

6.1.2 Policies

(1) Composition of Residential Area

- (a) Subject to the policies of this Plan,
 - (i) traditional and narrow lot single-detached and two-unit residential uses (duplexes, semi-detached and single-detached with an accessory suite) shall be the predominant use of land within the residential area;
 - (ii) multi-unit housing forms, special needs housing, institutional uses, recreational uses, public uses, local commercial uses, and other similar and accessory uses to the above will be allowed within the residential area where determined to be compatible and appropriate, to ensure a comprehensively planned community; and
 - (iii) open space shall be provided throughout the residential area to meet the active and passive recreational needs of residents;
- (b) The general categories of uses identified under Section 6.1.2(1)(a) shall be refined through the Land Use Districts applied within the residential area.

(2) Design of Residential Area

- (a) The design for the residential area shall:
 - (i) generally be consistent with the Conceptual Subdivision Plan, Map 6, recognizing that this plan is intended to show the general nature of subdivision and is subject to change at the Tentative Plan/Conceptual Plan/Land Use Bylaw

- amendment stage without the need for Council to amend Map 6 to accommodate refinements of this Conceptual Subdivision Plan;
- (ii) be determined through the Tentative Subdivision Plan or Conceptual Plan/Land Use Bylaw amendment process; and
- (iii) emphasize opportunities for distinct neighbourhoods that comprise unifying elements to create a cohesive community;
- (b) Design Guidelines and Architectural Controls should be implemented by the developer on all residential and commercial development in order to ensure an aesthetically coordinated streetscape appearance as well as an attractive appearance from all publicly accessible areas;
- (c) Development above the Big Hill Creek escarpment shall demonstrate sensitivity to the natural environment and aesthetics, while providing for view corridors and public access to view lookouts;
- (d) The natural topography of the uplands shall be respected. Grading shall recognize the natural topography of the land and shall only occur where overall subdivision design considerations warrant;
- (e) Area A on Maps 5 and 6 is identified as a Special Review Area. This area is adjacent to the escarpment and contains natural slopes of 15%-20%. While these lands are considered stable, Tentative Plans and Land Use Redesignations for these lands shall be accompanied by engineering drawings and geotechnical engineering support which verifies that the site grading roads, building sites, and yards associated with the detailed development plan can be safely developed to the satisfaction of the Director, Planning and Engineering Services.

(3) Density and Population of Residential Area

(a) In order to support the efficient provision of infrastructure, amenities and services, a residential density in the range of 14.8 to 19.8 units per gross developable hectare (6.0 - to 8.0 units per gross developable acre) shall be achieved in Stage 1 of Sunset Ridge corresponding to a range of 1,302 to 1,736 units. Development of individual parcels and cells can occur at higher and lower density levels. The anticipated population of the area should occur shortly after full development of the area and will fall within the range of 3,906 to 5,208 people depending on the density and unit mix that is achieved.

(4) Residential Area Adjacent to Highway 22

(a) Residential development adjacent to Highway 22 (Cowboy Trail) should provide adequate screening for visual and noise impact mitigation in order to satisfy the noise attenuation standards of the Town. Noise attenuation analyses shall accompany the tentative subdivision plans and engineering plans based on the proposed grading plan for the development.

(5) Residential Area Adjacent to Commercial

(a) Where residential uses are located adjacent to commercial sites, both the residential lots and the commercial development shall be designed to mitigate visual and noise conflicts.

(6) Residential Area Adjacent to M.D. of Rocky View

- (a) To address Section 2.13 of the *Intermunicipal Development Plan*, which deals with compatibility of residential development with adjacent uses across municipal boundaries, the following policies shall apply:
 - (i) Conceptual Plans adjacent to the municipal boundary shall address compatibility and minimize interface conflicts with existing and future surrounding land uses;
 - (ii) Measures addressing development adjacent to the municipal boundary shall be coordinated with the adjacent landowners at the Conceptual Plan stage.

6.2 Commercial Area

6.2.1 Purpose

The purpose of this area is to create a commercial development that is strategically located at the entrance to the community to enable a cohesive grouping of uses oriented to providing commercial and personal services to area residents without jeopardizing the integrity of the downtown commercial area.

6.2.2 Policies

(1) Design of Commercial Area

- (a) Commercial development shall be physically compatible with planned adjacent residential areas;
- (b) Commercial building facades, setbacks and landscaping shall be sensitively treated on all sides, including the Highway 22 side;
- (c) Commercial loading and servicing areas should not be directly visible from any residential development. Such facilities should

- be screened from adjacent development and roads through the use of landscaping, fencing, or building partitions;
- (d) A mix of deciduous and evergreen trees in clusters with shrubs shall be used within and around commercial parking lots in order to provide some all-season visual relief from paved areas;
- (e) All buildings within the commercial site shall have a coordinated architectural style. Long continuous building walls or façades shall generally be broken up by architectural detailing such as windows and/or roofline articulation. Rooftop mechanical devices shall be screened.

(2) Local Commercial Uses

(a) In addition to the commercial site shown on the Conceptual Subdivision Plan, small local commercial sites to satisfy local commercial and personal service needs of the residents may be created in the residential areas.

6.3 Public Open Space, Escarpment and Pathways

6.3.1 Purpose

The purpose of these policies is to provide for the dedication of municipal and environmental reserve lands.

The creditable municipal reserve land is to be provided to meet the educational and recreational needs of the community. Reserve will be used to create school sites, active recreation playfields, a variety of parks such as neighborhood parks, subneighborhood parks and linear parks and to accommodate community and recreational facilities. Most decisions on creditable reserve dedication will be made at the Conceptual Plan/Tentative Plan/Land Use Amendment stage.

The most significant natural open space feature within the Plan area is the northern escarpment of the Big Hill Creek valley. The Plan protects the escarpment and associated coulees and draws as a natural environment public open space. By protecting the topography, drainage, vegetation, and habitat on this escarpment, the Plan helps to enhance the natural areas in the Big Hill Creek valley south of the Plan area.

After a review of existing geotechnical information in the Cochrane area, several site visits to analyze the slopes, and a detailed slope stability assessment which included the drilling of boreholes, McIntosh Lalani Engineering Ltd. drew a slope stability line outside of which it is confident the lands will be fully protected against slope failure even after development. The lands within this slope stability line and adjacent lands which may be difficult to develop due to their location are illustrated as the Major Escarpment Zone on Map 4.

The Plan promotes a pedestrian and bicycle trail system that will respect the local topography, complement the natural ravines on the north side of the Big Hill Creek valley, and integrate with the trail system in the Town.

6.3.2 Policies

(1) Municipal and School Reserve Dedication

- (a) Municipal reserve shall be dedicated through the subdivision process as reserve land in the full amount owing as opposed to the payment of cash-in-lieu of reserve land.
- (b) A minimum of two school sites shall be dedicated as creditable reserve land and shall include active playfields for use by both the school and the community. The total number of schools that may be required in the Plan area is four. The School Authorities and the Town will continue to work together to determine the number and locations of school sites and the areas of each to ensure an effective allocation of reserve lands for school active recreation and passive park uses.
- (c) If additional school sites are added or the locations of school sites are changed from that shown on Maps 5 and 6 as part of the subdivision plan and land use bylaw amendment process, amendments to the Plan may be necessary.
- (d) The Town encourages school sites to be shared by both school authorities.
- (e) The Subdivision Authority may register a deferral of municipal reserve in accordance with the *Municipal Government Act*.

(2) Environmental Reserve Dedication

- (a) The *Municipal Government Act* sets out the type of land which may be taken by the municipality as Environmental Reserve.
- (b) The Escarpment Protection Policies in the Cochrane Municipal Development Plan and the guidelines for development adjacent to escarpments in the Cochrane Land Use Bylaw have been reviewed in conjunction with the Geotechnical and Slope Stability Assessment by McIntosh Lalani. The boundary of the escarpment zone shall be based on slope stability ensuring a factor of safety of 1.5. The escarpment zone shall consist of the lands between the slope stability line and the toe of the slope and shall be left as an undeveloped natural area.
- (c) Prior to any conceptual plan, land use redesignation or subdivision approvals, the exact location of the escarpment zone as defined by slope stability, a factor of safety of 1.5, and adjacent land considered unwise to develop by the geotechnical

engineer will be established by means of additional geotechnical and slope stability assessment which includes the following;

- Borehole testing along the top of the slope,
- Grading/fill proposed on the developable lands outside the escarpment as set out in the preliminary engineering plans,
- Stormwater drainage controls and routing purposed in the preliminary engineering plans.
- (d) Lands within the escarpment zone shall be dedicated to the Town as Environmental Reserve as part of the subdivision plan.

(3) Public Parks and Pathways

- (a) Local neighborhood parks of sufficient size shall be established throughout the Stage 1 Sunset Ridge area. Specific park locations will be determined as part of the Conceptual Plan and finalized in the detailed subdivision plans.
- (b) A pedestrian and bicycle trail system within the Plan area shall link into the existing trails within the Cochrane Ranche lands and provide links to future development areas.
- (c) Trails will link parks, schools, public facilities, and commercial areas in the community.

6.4 Other Land Uses

6.4.1 Policies

- (1) Public or quasi-public uses, religious institutions, day care facilities, and other service type uses which predominantly serve the community may be located on major or collector roads within the community. These uses would be particularly appropriate in the vicinity of the commercial site at the main entrance to the community.
- (2) It is acknowledged that certain larger institutional uses, recreational centres, or public and quasi-public service uses which also serve residents beyond the Sunset Ridge Plan community may be appropriate within the Plan area. Nevertheless, if they attract a significant number of people and the associated vehicle trips from beyond the local community, approval of such uses may require an amendment to this Plan.

7.0 TRANSPORTATION POLICIES

7.1 Highway 22

7.1.1 Purpose

The purpose of these policies is to support Highway 22 (Cowboy Trail) remaining a functional, safe and efficient provincial highway which is now within the boundary of the Town of Cochrane. Existing access to the Plan area from Highway 22 is provided by two rural standard roads: Ranche Road from the south which was paved in the fall of 2004 and Carlson Trail from the north which was still gravel at the time of approval of this Plan. A Functional Plan for Highway 22, recently completed by the Province of Alberta, defines the potential access to the Plan area from Highway 22. The recommendations of this Plan are illustrated on Map 7. Highway 22 will carry the majority of the traffic from the Plan area to the rest of the Town and the region beyond. The potential exists to design the Highway 22 access to the centre of the Plan area to establish a unique feeling of arrival and entrance that will contribute to the character of the Sunset Ridge community.

7.1.2 Policies

(1) Design

- (a) Access to the Plan area shall be provided in accordance with the Highway 22 Functional Planning Study;
- (b) The design of the Highway 22 intersection providing access to the Plan area shall be approved by both the Province of Alberta and the Town of Cochrane;
- (c) Transportation Impact Assessments to ensure that the roadways are appropriately designed to accommodate the projected traffic volumes and movements associated with the development will be required in conjunction with Conceptual Plans/Land Use Amendments.

(2) Right-of-Way

- (a) The Highway 22 right-of-way shown on the Land Use Concept map may be subject to refinement, and any surplus highway lands should be incorporated, where possible, into the community design.
- (b) No development, including berming, grading or servicing, shall be allowed within the Highway 22 right-of-way without permission being granted from the Province of Alberta.

3) Adjacent Residential Development

(a) Prior to Conceptual Plan/Tentative Plan/Land Use approval and in consultation with the Town of Cochrane and the Province of Alberta, visual screening and sound attenuation for residential development adjacent to Highway 22 shall be resolved.

(4) Phasing of Development

- (a) A Traffic Impact Assessment reviewing the existing traffic conditions at the Ranche Road/Highway 22 intersection, as well as the traffic conditions generated by the first phase of residential development, has been prepared and submitted to Alberta Transportation. The first phase of residential development comprising approximately 200 lots will access Highway 22 at the existing Ranche Road intersection. While this first phase is under development, the new access to Highway 22 will be constructed within the SE 15-26-4 W5M.
- (b) The occupancy of more than 150 residential dwellings in Sunset Ridge shall require the completion and operation of the new permanent intersection with Highway 22.
- (c) The permanent design and operation of the existing Ranche Road intersection shall be resolved between the Province of Alberta and the Town of Cochrane.

7.2 Internal Road Network

7.2.1 Purpose

The purpose of these policies is to provide for an internal road network within Stage 1 that accommodates vehicular and pedestrian traffic in a safe, efficient and balanced manner. In this regard, the internal road network will need to meet design criteria which address vehicular, transit and pedestrian circulation within the community. The detailed alignment of the road network within the community will be determined through the Conceptual Plan/Tentative Plan/Land Use Amendment process.

7.2.2 Policies

(1) Preliminary Road Network

(a) The internal road network shown on the Land Use Concept map is preliminary only and shall be refined at the Conceptual Plan/Land Use Amendment stage.

(b) As determined appropriate by the Town's Director, Planning and Engineering Services, the Land Use Concept map may be amended to ensure conformity between the map and Conceptual Plan/Land Use Amendment.

(2) Road Network Design

- (a) The design of the internal road network shall provide the following:
 - (i) convenient access to St. Timothy Junior Senior High School and the Cochrane RancheHouse from the new intersection with Highway 22;
 - (ii) sensitivity to existing grades;
 - (iii) a transit route that is efficient;
 - (iv) interconnected pedestrian systems within the residential neighbourhood;
- (b) Collector roadways may need to be upgraded to major standards in the vicinity of the main entrance to the community from Highway 22.
- (c) Direct driveway access from individual dwellings to collector roads may be restricted due to the projected traffic volumes on these roads.
- (d) A detailed traffic assessment on the road design and traffic volumes shall be submitted by the developer with each conceptual plan/tentative plan/land use bylaw amendment which shall include consideration of the appropriateness of restricting driveway access on portions of the collector roadway network. The traffic assessment must be to the satisfaction of the Town's Subdivision and Development engineer.

7.3 Ranche Road

7.3.1 Purpose

Ranche Road intersects with Highway 22 and provides access to St. Timothy Junior Senior High School and the Cochrane RancheHouse. All of the traffic from Sunset Ridge to the rest of Cochrane and the Calgary region will use Highway 22.

7.3.2 Policies

(1) The current access road and bridge across Big Hill Creek, which connects Ranche Road to 4th Avenue, will remain for emergency access.

8.0 SERVICING POLICIES

8.1 Utility Infrastructure

8.1.1 Purpose

The purpose of these policies is to ensure that adequate utility infrastructure is provided to serve urban development throughout the Stage 1 lands. Any development within the area will need to be fully serviced with piped municipal utilities (water, sanitary sewer, and stormwater) as well as shallow utilities (gas, electrical, telecommunications). Utilities will need to be constructed prior to or in conjunction with the first phase of development, and rights-of-way and easements will need to be provided to accommodate the extension of utility services through the development. Utility alignments will be identified at the Conceptual Plan stage and confirmed prior to or during the Tentative Plan/Construction Drawing Approval stage.

8.1.2 Policies

(1) Municipal Utilities

- (a) Urban development within the Plan area shall be serviced with piped municipal water, sanitary sewer, and stormwater utilities;
- (b) The alignment and capacity of water distribution and feeder mains, sanitary sewer feeder mains and trunks, and stormwater feeder mains and trunks shall be to the satisfaction of the Town, based upon utility servicing studies and analysis;
- (c) Utility rights-of-way and easements shall be provided to accommodate municipal utilities as determined necessary;
- (d) Provincial consent shall be required to accommodate utilities in or across Highway 22.

(2) Shallow Utilities

- (a) Urban development within the Plan area shall be serviced with shallow utilities (e.g., gas, electricity, and telecommunications).
- (b) The location of shallow utilities and the provision of rights-of-way and easements and related line assignments should be addressed to the mutual satisfaction of the Town, the landowner, and the utility companies.
- (c) Utility rights-of-way and easements shall be provided to accommodate shallow utilities as determined necessary.

8.2 Water Distribution

8.2.1 Purpose

The purpose of these policies is to provide for a suitable water distribution system designed to serve the urban development needs throughout Stage 1 of Sunset Ridge. The area will encompass two water distribution systems. The first water distribution system for lands below the 1,230-metre contour will be linked to the existing mains servicing the school which are connected to the existing Town reservoir.

8.2.2 Policies

- (1) The water distribution system for Stage 1 of Sunset Ridge shall be designed to adequately and efficiently serve the ultimate development of the area. Details of the water supply infrastructure shall be determined in conjunction with the engineering plans and the tentative plans of subdivision.
- (2) Phase 1 consisting of approximately 200 lots will be serviced for domestic water demand by addition of a larger duty pump to the existing 80,000 IG reservoir which currently serves the RancheHouse and High School. This interim service will be regulated to the satisfaction of the Town, as set out in the Sunbow Consulting Offsite Servicing Report, February 2005.
- (3) Oversizing of the water mains may be requested by the Town for servicing lands outside the Plan Area.

8.3 Sanitary Sewer

8.3.1 Purpose

The purpose of these policies is to provide for a suitably designed sanitary sewer trunk system to service Stage 1 of Sunset Ridge. This area will ultimately be gravity serviced through a sanitary trunk tied to the existing sanitary sewerage network in McDougal Road in the West Valley subdivision. See Map 8.

8.3.2 Policies

- (1) The sanitary sewage system for the Plan area shall be designed to adequately and efficiently serve the ultimate development of the area. Details of the sanitary servicing system shall be determined in conjunction with the engineering plans and the tentative plans of subdivision.
- (2) Prior to completion of the off-site sanitary sewer tanks, interim servicing for Phase 1 comprising of approximately 200 lots will be provided by the existing sanitary sewer lift station located adjacent to the RancheHouse. This service will be regulated to the satisfaction of the Town, as set out in the Sunbow Consulting Offsite Servicing Report, February 2005.
- (3) Future phases of development will be required to tie a future sewer main into the existing sewer main in McDougal Road in the West Valley subdivision.
- (4) Oversizing of the sanitary sewer mains may be requested by the Town for servicing lands outside the Plan area.

8.4 Stormwater Management

8.4.1 Purpose

The purpose of these policies is to provide for the design and development of a suitable and efficient stormwater management system to serve urban development within Stage 1 of Sunset Ridge. A Master Drainage Plan that provides for a network of stormwater facilities to manage storm drainage and direct it into the Big Hill Creek which flows into the Bow River will have to be prepared for the Plan area. The location, size and configuration of the facilities will be determined at the Conceptual Plan/Land Use Amendment stage. See Map 8.

Stormwater management will play an important role in sustaining the open space and natural areas in the Plan. A permanently wet stormwater retention pond will accommodate runoff from major flood events. The pond, which will allow reductions in the size and cost of storm sewer pipes, will also reduce the rate of off-site runoff during major storms. Maintaining water levels in the pond will ensure that water quality remains high.

8.4.2 Policies

(1) The stormwater management system for Sunset Ridge shall be designed to adequately and efficiently serve the ultimate development of the Plan area.

- (2) As part of a Conceptual Plan/Land Use Amendment application, a developer shall submit a Stormwater Management Plan, consistent with a Master Drainage Plan, as approved by the Town and the Province, to demonstrate that the site can be serviced in accordance with the overall design of the stormwater management system for the area.
- (3) Stormwater from the Plan area will be treated in stormwater facilities prior to being directed into Big Hill Creek utilizing Best Management Practices that will include appropriate stormwater ponds, drainage systems, and trunks.
- (4) The stormwater drainage system will be designed to minimize the impact on slopes and slope stability. Stormwater will be piped to designated outfalls.

9.0 PHASING POLICIES

9.1 Approval Process

9.1.1 Purpose

The purpose of these policies is to provide for the phasing of development.

9.1.2 Policies

(1) First Two Phases

- (a) The first phase of development will access Highway 22 by means of the existing Ranche Road intersection. The location of this phase is conceptually indicated on Map 9. A traffic and intersection assessment shall be approved by Alberta Transportation and the Town of Cochrane in conjunction with the approval of the first tentative plan of subdivision.
- (b) While this first phase of development is ongoing, the construction of a new intersection with Highway 22 between Ranche Road and Carlson Trail will be started. The Town will only issue building permits for a maximum of 200 dwellings prior to completion and operation of the new intersection with Highway 22.
- (c) The first phase of development will tie into existing water and sanitary sewer mains which currently service the RancheHouse and High School. Appropriate water pressure must be in place prior to the occupation of any show homes.
- (d) The phase 2 land use redesignation and subdivision proposal shall include the southerly school site.

(2) Remaining Phases

(a) Remaining phases will commence in accordance with Map 9. This phasing is subject to change.

10.0 IMPLEMENTATION POLICIES

10.1 Approval Process

10.1.1 Purpose

The purpose of these policies is to provide for the implementation of the policies within the Plan. While the implementation of the Plan will be achieved through many different planning initiatives, the principal means of implementation will occur through the Land Use Bylaw Amendment process. Under this process, lands are retained within a holding district that will allow only existing low intensity agricultural uses. Council will redesignate lands to the applicable residential, commercial, recreational or other land use districts. Prior to redesignation, a Conceptual Plan will need to be approved in order to resolve any design, transportation, and servicing issues, and any proposed redesignation shall comply with the policies of this Plan.

10.1.2 Roles and Responsibilities

- (a) Town Council will:
 - (i) Consider the objectives and policies of the plan prior to making decisions on Land Use Bylaw amendments within the Plan Area; and
 - (ii) Consider possible amendments to this plan from time to time to respond appropriately to changing or unforeseen circumstances;
- (b) Town administrative staff will be responsible for implementing appropriate planning and policy statements contained within this Plan;
- (c) The Planning Department will take the primary responsibility for the review of all land use, subdivision, and development proposals and ensure the participation of relevant government agencies, private groups, businesses, and municipal departments during the review process.

10.1.3 Policies

(1) Land Use Approval

(a) The Land Use Concept, Map 5, illustrates the general land uses that will be developed. The Conceptual Subdivision Plan, Map 6, illustrates the anticipated general nature of subdivision. These plans are conceptual only. The timing and direction of development within Stage 1 of Sunset Ridge shall be determined primarily through the Conceptual Plan/Land Use Bylaw Amendment process, which establishes the design and land use pattern for the subject site and enables subdivision and development to proceed.

- (b) 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 it is determined appropriate to redesignate the lands to appropriate districts in accordance with the policies of this Plan.

(2) Conceptual Plans/Tentative Subdivision Plans

- (a) The Conceptual Subdivision Plan, Map 6, illustrates the anticipated general nature of subdivision. This plan is conceptual only and subject to refinement at the Conceptual Plan/Tentative Subdivision Plan stage.
- (b) A Tentative Subdivision Plan may be used to accompany a land use amendment when the subdivision plan is generally consistent with the Conceptual Subdivision Plan, Map 6, as amended from time to time.
- (c) A Conceptual Plan may be used to accompany a land use amendment where the developer wants to proceed with approvals on a larger area than the next tentative subdivision plan or where the proposed subdivision results in a refinement of the Conceptual Subdivision Plan, Map 6, which is deemed significant by the Town of Cochrane. When this occurs, an amendment to Map 6, Conceptual Subdivision Plan, in this Plan should occur concurrently with the Land Use Bylaw amendment.
- (d) A Conceptual Plan or Tentative Subdivision Plan, in order to confirm conformity to this Plan, shall be accompanied by the following studies, all of which shall be to the satisfaction of the Town of Cochrane:
 - (i) A transportation assessment on the size and classification of the roadways and the intersection spacing by a professional transportation engineer, with reference to the Highway 22 Functional Planning Study;
 - (ii) A geotechnical assessment on the slope stability with recommended setbacks for the property lines and buildings by a professional geotechnical engineer, with reference to the McIntosh Lalani Slope Stability Assessment, dated January 2005;
 - (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 with reference to the Operational Solutions Sunset Ridge Master Drainage Plan, January 2005.

(3) Transitional Development

(a) Transitional and temporary uses allowed under the land use district in effect that do not comprise the ultimate urban development of site such as extensive agriculture, temporary storage or resource extraction may be allowed, where determined to be compatible and appropriate.

11.0 INTERPRETATION

11.1 Approval Process

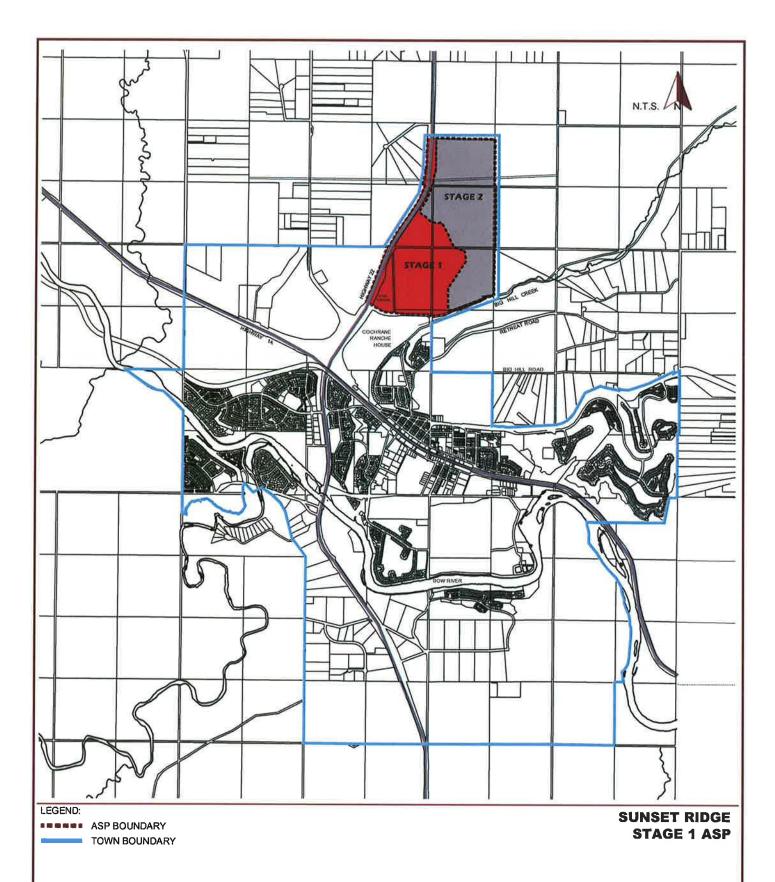
The following general definitions shall apply:

- (1) Approving Authority means the Subdivision Authority, Development Authority, or Subdivision and Development Appeal Board of the Town of Cochrane, as the case may be.
- (2) Community means a comprehensively designed physical and social planning area which is predominantly residential in character defined by significant natural or man-made features and containing an adequate population base to support schools, parks, and community facilities necessary to serve the residents.
- (3) Council means the Council of the Town of Cochrane.
- (4) Creditable Reserve Land means the reserve owing on a parcel of land that is to be dedicated as municipal reserve (MR), school reserve (SR) or municipal and school reserve (MSR) through the Subdivision Approval process in accordance with the *Municipal Government Act*.
- (5) Gross Area means the total area of land contained within the property lines of a site.
- (6) Gross Developable Area for the purpose of calculating density means the gross area of the Plan Area, excluding environmental reserve and Highway 22 right-of-way.

12.0 BIBLIOGRAPHY/REFERENCES

The following reports have been prepared specifically to address issues pertinent to the Sunset Ridge Area Structure Plan.

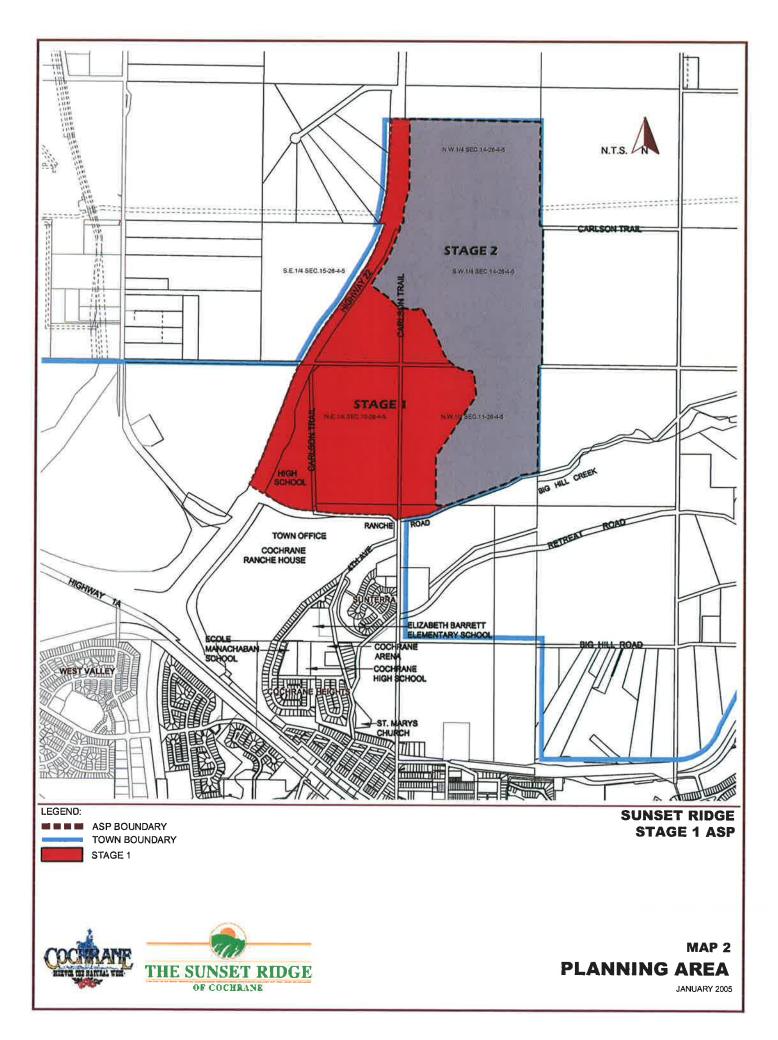
- (1) Slope Stability Assessment, The Sunset Ridge of Cochrane McIntosh Lalani Engineering Ltd., January 2005
- (2) Cultural and Archeological Overview Report FMA Heritage Resource Consultants, November 2004
- (3) Biophysical Impact Assessment for the Tirion Properties lands within the Sunset Ridge Area Structure Plan Sweetgrass Consultants, November 2004
- (4) Level One Environmental Site Assessments for the Tirion Properties Lands Base Property Consultants Ltd., October 2004 ad February 2005
- (5) North Cochrane ASP Traffic Assessment D.A. Watt Consulting Ltd., December 2004
- (6) Sunset Ridge Master Drainage Plan Operational Solutions Ltd., January 2005
- (7) Sunset Ridge Offsite Servicing Report Sunbow Consulting Ltd., February 2005

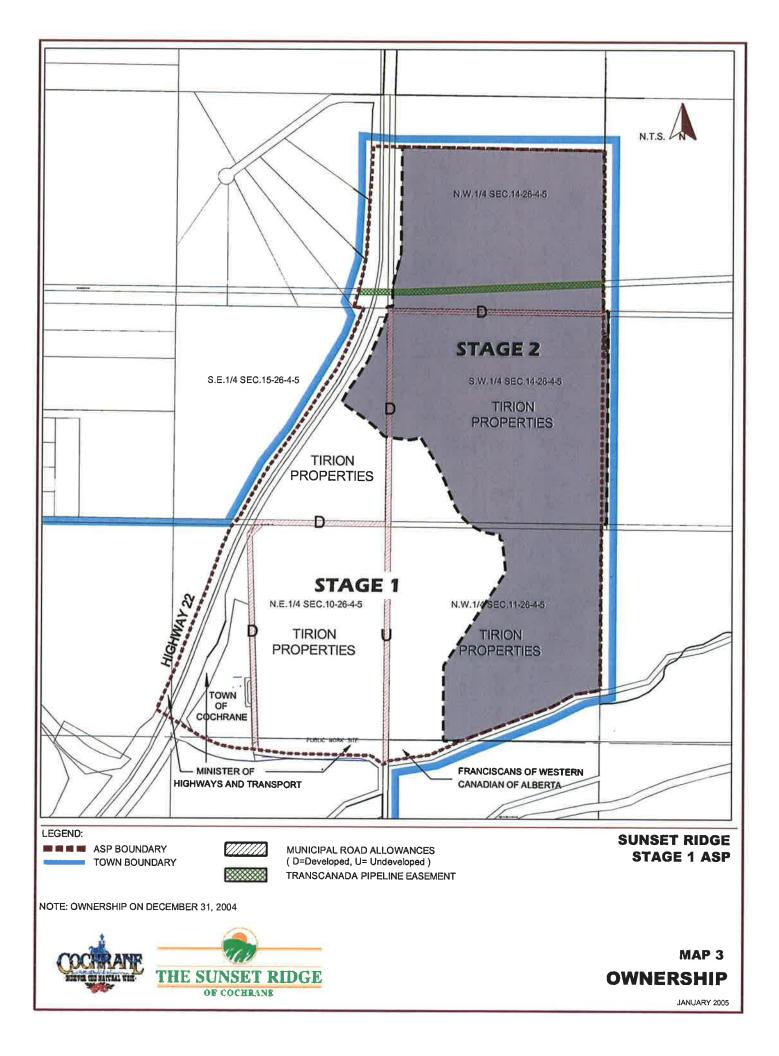


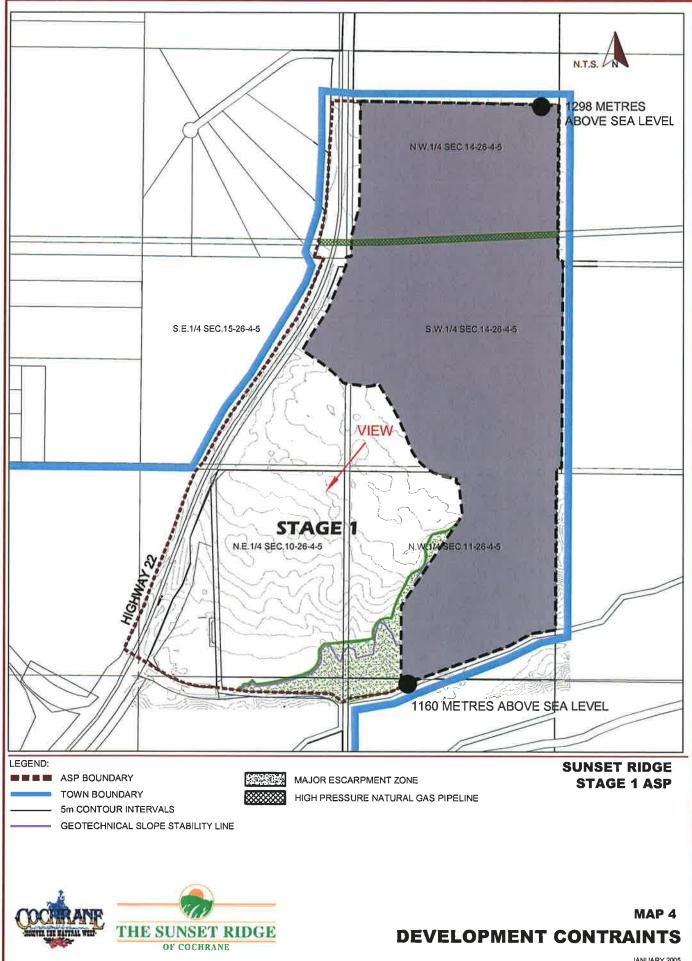




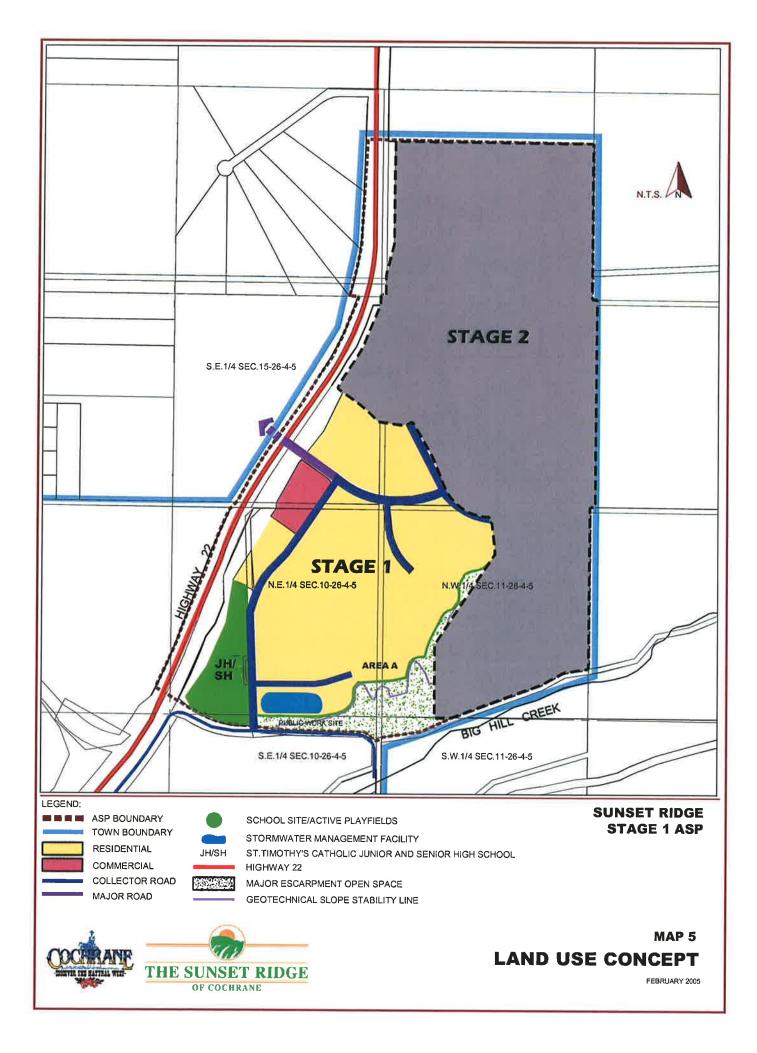
MAP 1
LOCATION
JANUARY 2005

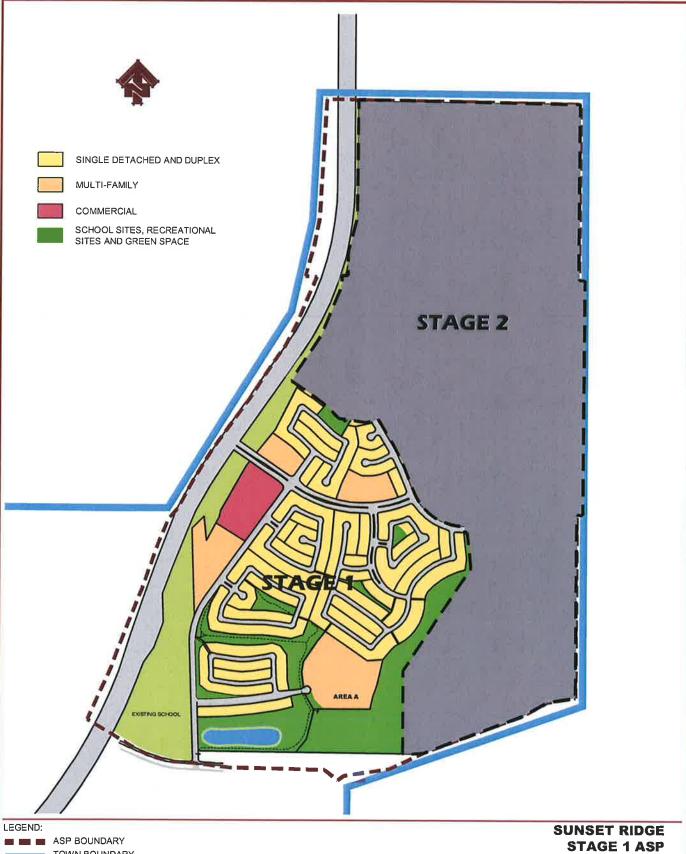






JANUARY 2005





TOWN BOUNDARY

Note: Conceptual layout only to illustrate general nature of subdivision. Subject to change at Tentative Plan and Land Use Redesignation stages.

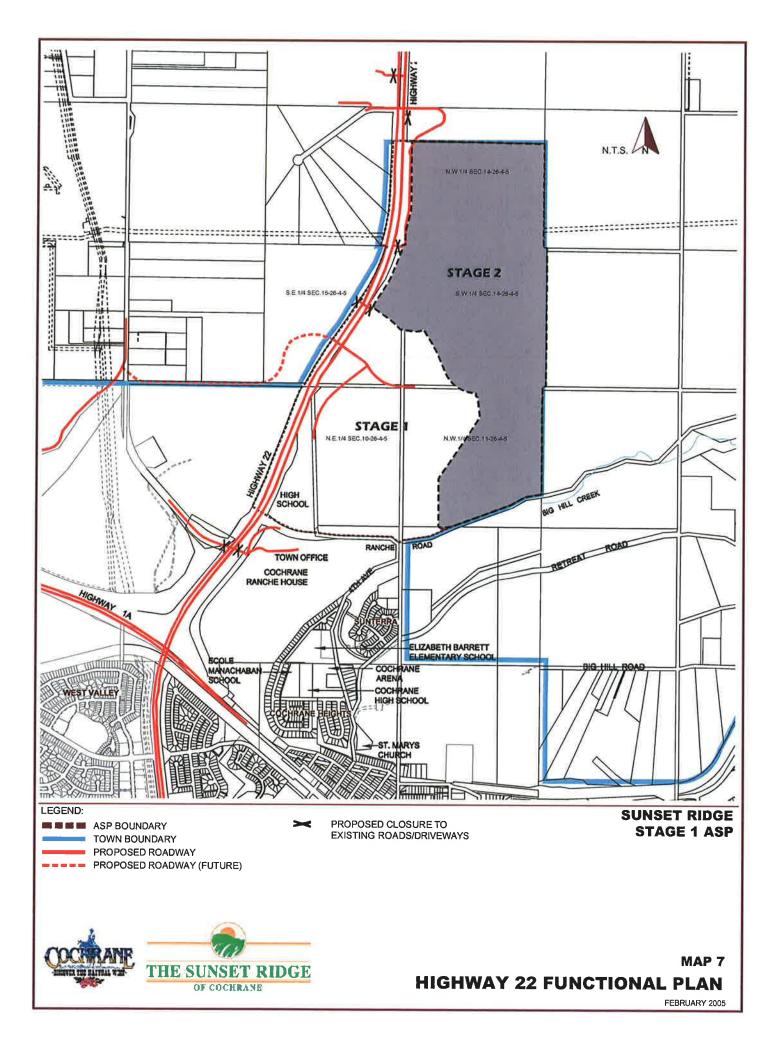


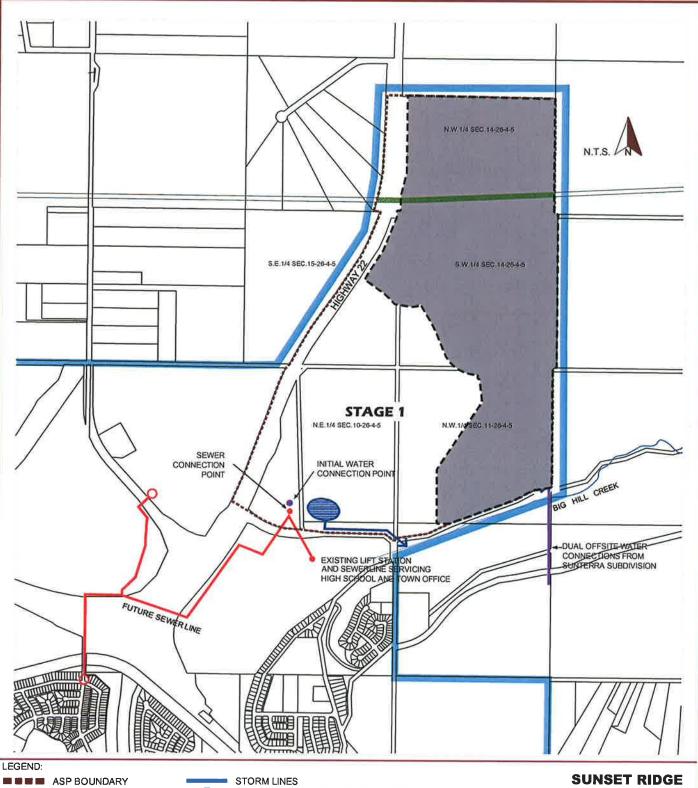


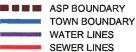
CONCEPTUAL SUBDIVISION PLAN

FEBRUARY 2005

MAP 6









STORM LINES
STORMWATER MANAGEMENT FACILITY
HIGH PRESSURE NATURAL GAS PIPELINE

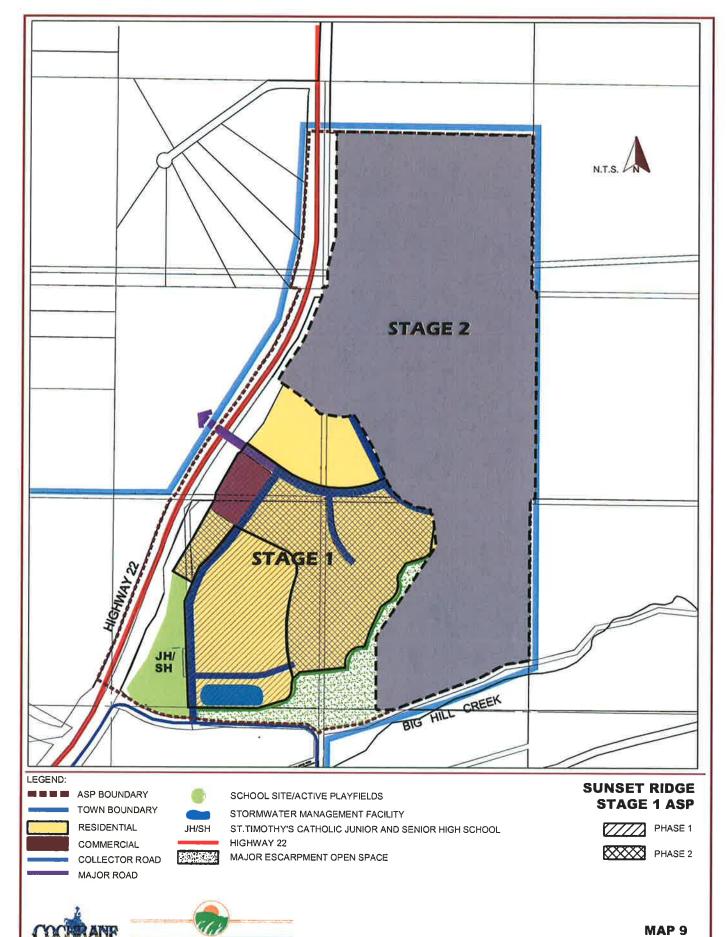
SUNSET RIDGE STAGE 1 ASP

Note: Alignments shown are conceptual and are to be determined in conjunction with engineering and subdivision plans.





MAP 8
SERVICING
FEBRUARY 2005



THE SUNSET RIDGE

OF COCHRANE

PHASING PLAN

FEBRUARY 2005