Fíreside

LA VITA LAND

INC.

Stage 1
Neighbourhood Plan

March 29, 2010

Prepared for La Vita Inc.
Prepared by Brown & Associates Planning Group
In Association with:
Focus Corporation

#800R

5. BYLAWS

5(a) Fireside Stage 1 Neighbourhood Plan

Resolution #105/04/10 Moved by Councillor Chester that Council adopts the Fireside Stage 1 Neighbourhood Plan as per attached Resolution Schedule "A".

Carried Unanimously

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1.0 INTRODUCTION

1.1 Purpose of the Plan and Policy Context

The Fireside Stage 1 Neighbourhood Plan (FS1NP) is a non-statutory plan that seeks to facilitate the planning and development of Fireside Stage 1. This report adheres to the policies approved within the *Westridge Area Structure Plan* (April 2009), the *Town of Cochrane Municipal Development Plan* (October 2008), and the *Cochrane Sustainability Plan* (May 2009).

The purpose of a Neighbourhood Plan is to provide the discussion, detailing the reasons and logic behind the design of a future development. A Neighbourhood Plan provides a text based explanation of the layout, design, and future engineering decisions. It makes the connection between the policies of the Area Structure Plan and the future built form. The FS1NP provides the descriptive explanation of how Stage 1 of the Fireside community will be developed.

The Policy Context for a Neighbourhood Plan is provided under Section 14.3.2 Area Plan Policies of the *Town of Cochrane Municipal Development Plan* (MDP). Items (d) through (g) under this Section outline the base information required. The FS1NP follows and builds on this guide.

A great amount of effort has been put into the FS1NP in order to provide direction for a community that offers a well thought-out transportation network, is pedestrian oriented, provides housing variety, and an innovative stormwater management solution. Incorporating efficient pedestrian connectivity will foster community interaction, augment the sustainability of the commercial developments, and encourage the social development of the community.

1.2 Ownership

The lands within the FS1NP area are currently under the ownership of two corporate entities being, Tirion Properties Ltd., and The Board of Trustees of the Rocky View School Division No. 41. See Figure 1.

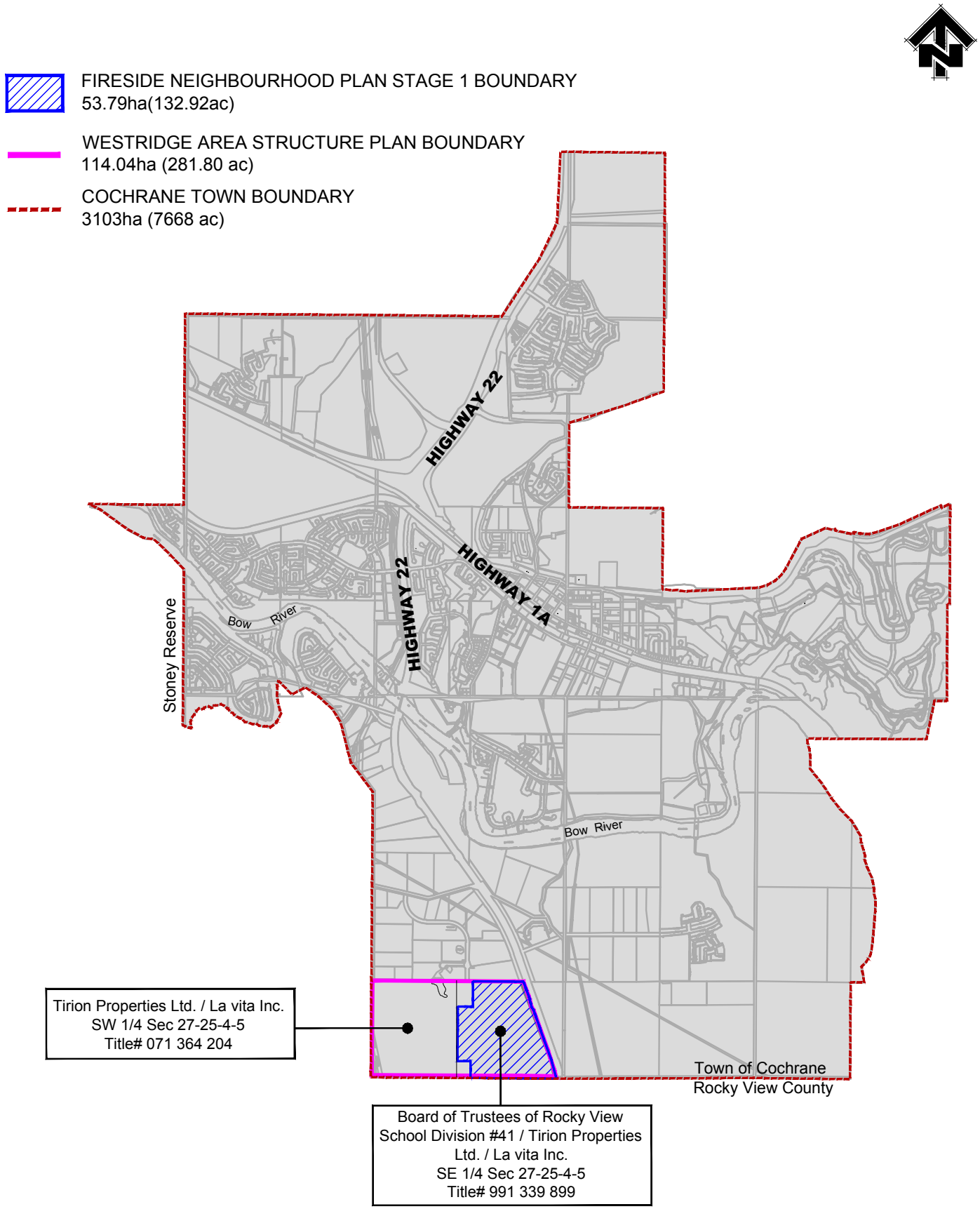

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Figure 1:
Location within the Town of Cochrane

2.0 SITE CONTEXT

2.1 Area and Site Location

The FS1NP area is located within the south west sector of the Town of Cochrane, and comprises approximately 53.77 hectares (132.87 acres).

The FS1NP Lands are bound by the following:

- Rolling Range Estates is located to the north. This area has a land use designation of Residential - Urban Reserve (UR-R) and is made up of a former County Residential development now located within the Town boundary;

- The east boundary is formed by Highway 22 (Hwy 22/Cowboy Trail);

  Highway 22 is a Provincial Highway and falls under the jurisdiction of Alberta Transportation. This road is currently classified by Alberta Transportation as a (Level 2) Arterial Highway. The long range plan is for Hwy 22 to be developed as a (Level 2) Arterial, Multi-lane Highway with signals. Further information on the design of this highway can be found in the *Access Management and Functional Planning Study of Highway 22 and Highway 1A* that was completed by McElhanney Consulting Services for Alberta Transportation. In addition, please note the classification system for this highway was updated by Alberta Transportation in November 2007 under the *Provincial Highway Service Classification* report completed by Stantec.

- The south boundary of the FS1NP coincides with the south boundary of the Town. Lands beyond this boundary fall under the jurisdiction of Rocky View County. The majority of the adjacent Rocky View County lands are under agricultural use, but contain no intensive livestock operations;

- The west boundary is formed by the future stages of the Fireside development.

2.2 Legal Description

The Lands of the FS1NP form a portion of the lands legally defined as follows:

1) Title Number: 991 339 899

   Ptn. SE 27-025-04-W5M, Ptn. West of Road Plan 7492JK. 49.29ha (121.80ac). Urban Reserve District (UR)

   MERIDIAN 5 RANGE 4 TOWNSHIP 25
   SECTION 27
   THAT PORTION OF THE SOUTH EAST QUARTER
   WHICH LIES WEST OF ROAD PLAN 7492JK
   CONTAINING 49.29 HECTARES (121.80 ACRES)
   MORE OR LESS
   EXCEPTING THEREOUT ALL MINES AND MINERALS

2) Title Number: 071 364 204

SW 27-025-04-W5M. 64.7ha (160.00ac). Urban Reserve District (UR)

MERIDIAN 5 RANGE 4 TOWNSHIP 25
SECTION 27
QUARTER SOUTH WEST
EXCEPTING THEREOUT ALL MINES AND MINERALS
AND THE RIGHT TO WORK THE SAME
AREA: 64.7 HEACTARES (160.00 ACRES) MORE OR LESS

The FS1NP covers the full area of Title 991 339 899 at 49.29 hectares (121.80 acres), and a 3.04 hectare (7.51 acre) portion of Title 071 364 204. Together with the Town's 1.44 hectare (3.56 acre) undeveloped road allowance, that is part of the FS1NP, this forms the total 53.77 hectares (132.87 acres) of the FS1NP.

2.3 Plan Area Description

The *Westridge Area Structure Plan* (WR-ASP) contains 114.04 hectares (281.80 acres) which encompasses the full area of both Titles subject to this application. Within the WR-ASP, the FS1NP provides the development direction for the easterly 53.77 hectares (132.87 acres).

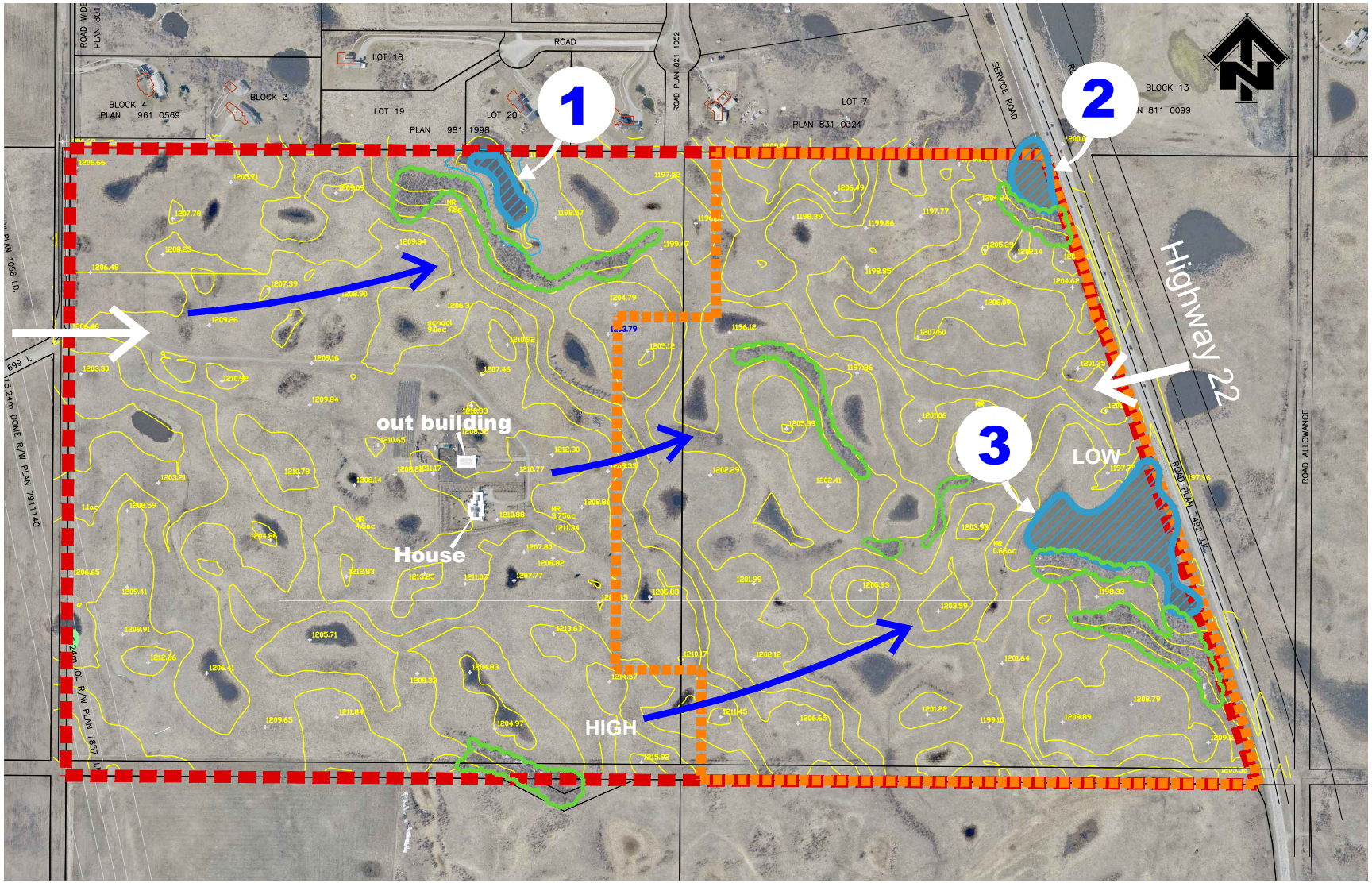
The WR-ASP lands have historically been used for livestock grazing and consist mainly of a gently rolling/hummocky terrain. The westerly portion, outside of the FS1NP, contains an existing single family residence and some associated agricultural out buildings. There are no man made developments (improvements) located on the FS1NP lands.

The WR-ASP lands contain multiple small wetland areas of various classifications. Of these, three sites are of greater significance. The first (Site 1) is located centrally along the north boundary of the WR-ASP. This site is a seasonally wet area and is incorporated as an open space into the WR-ASP lands outside of the FS1NP. The remaining two wetland sites are contained within the FS1NP Plan area. Both of these sites are permanently wet, Class IV wetlands, as per the Biophysical Overview by Sweetgrass Consulting (see Section 3.1.3). The wetland site in the north east corner of the FS1NP (Site 2) is the smaller of the two and is also incorporated into the open space system. The final wetlands site (Site 3) is located just south of the future entrance. The future stormwater management facilities will be integrated into these existing wetlands. (See Figure 2 for wetland site locations.)

Upland native grasslands form the surface cover over the majority of the WR-ASP and the FS1NP. Within this, there are scattered wooded areas located in small pockets throughout the WR-ASP area. These wooded areas are limited in their amount of large tree coverage and consist mainly of deciduous scrub and brush.

The WR-ASP's overall site is relatively flat in terms of total elevation change. The majority of the lands have a north easterly aspect as they generally slope from approximately 1215 metres (3986 feet) in the west and southerly portions of the WR-ASP area, down to approximately 1197 metres (3927 feet) in the easterly portion of the WR-ASP area. This is an elevation difference of approximately 18 meters (59 feet) over an approximate 1.60km (1.00 mile) south-west to east distance. The north easterly quarter of the WR-ASP lands slope down from the north-west towards the east.

Fireside Stage 1 Neighbourhood Plan



West Ridge Area Structure Plan Boundary - 114.04 ha (281.80 ac)

Fireside Stage 1 Neighbourhood Plan Boundary - 53.79 ha (132.92 ac)

Existing Wetlands Sites to be Retained

General Direction of Slope Within the Plan Area

Wooded Areas

Elevation Contours (0.5m Intervals)

Existing Access Points

Wetland Site Number

Figure 2:
Development Considerations

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3.0 SUPPORTING INFORMATION

3.1 Supporting Studies – Summary of Findings

Several background studies were completed for the *West Ridge Area Structure Plan* (WR-ASP) and the *Fireside Stage 1 Neighbourhood Plan* (FS1NP). They provide the base physical evaluation of WR-ASP lands so that future development plans may be set to ensure that the noted constraints are incorporated in to the planning design.

The following is a summary of the main findings each of the main reports related to the WR-ASP and FS1NP lands.

3.1.1 Geotechnical Evaluation

A Geotechnical Evaluation, dated February 2008, was prepared by McIntosh Lalani Engineering Ltd.[1] for the WR-ASP area.

The Geotechnical Evaluation investigation references the intermittent encounter of high plastic clays. To follow up with this finding in the original study, McIntosh Lalani prepared a follow up letter dated September 2, 2008[2]. This follow up letter states that high plastic clays were intermittently encountered in the form of lenses (a thin, strata layer) within the lacustrine clay layer in seven of the twenty one boreholes drilled throughout site.

The September 2, 2008[2] letter indicates developing residential subdivisions in areas with some high plastic clays can be undertaken, provided the correct methods are employed during the grading stage, and during house footing construction. The September 2, 2008[2] letter also states that these methods are accepted construction practices successfully utilised within the Town of Cochrane in other existing developments containing similar areas of high plastic clay, provided that:

- a comprehensive phased soil analysis is completed;
- specific recommendations relative to the detailed design and construction of the development are prepared and incorporated; and
- geotechnical field supervision in undertaken to ensure implementation the specific recommendations.

This work will be undertaken by the developer and the geotechnical engineer retained by the developer.

The Geotechnical Evaluation also makes recommendations for construction within the WR-ASP to accommodate the sub-surface soil and groundwater conditions. Stand pipes have been installed in all boreholes to monitor the impact of future development on the groundwater levels. The final design of the facilities dealing with groundwater are to be completed, within the detailed engineering drawings for the project, prior to the construction phase. The September 2, 2008[2] letter indicated that methods to be employed

[1] McIntosh Lalani Engineering Ltd. Geotechnical Evaluation 282 Acre Parcel, Cochrane Alberta, February 2008
[2] McIntosh Lalani Engineering Ltd. West Ridge Area Structure Plan Geotechnical Evaluation Letter Sept. 2, 2008

during the grading operation, underground utility installation, and construction of the homes, will minimize the impact on shallow ground water if encountered.

The Geotechnical Evaluation does not identify any unstable slopes or any soil conditions that would prevent development of the site provided appropriate engineering practices are undertaken during construction.

In summary, the Geotechnical Evaluation does not present any findings that would restrict the residential development of the WR-ASP lands. However, the Geotechnical Evaluation indicates development will require specific practises be employed to address certain clays within the soil, and requires the ongoing monitoring of onsite groundwater during development.

3.1.2 Historical Resource Impact Assessment

Historical Resource Management Ltd. completed a Historical Resource Impact Assessment[3] (HRIA) dated May 21, 2008 for WR-ASP lands. Surface reconnaissance and subsurface testing were undertaken on the property, and no buried soils or historical resources were identified. Based on the conclusions of the HRIA, the WR-ASP lands were granted Historical Resources Act Clearance by Historic Resource Management, Alberta Culture and Community Spirit on September 26, 2008.

In summary, no further action with regard to historical resources within the WR-ASP is required. This is confirmed by the Historical Resources Act Clearance

3.1.3 Biophysical Resources

A Biophysical Overview[4] (February 2008), and a detailed Wetland Assessment[5] (September 2008), were completed by Sweetgrass Consultants Ltd.

The Biophysical Overview indicates that two Class IV wetlands are situated along the eastern boundary of the FS1NP. These are shown as existing wetlands, Sites 2 & 3 on Figure 2. In both cases, portions of the wetlands occur outside of the property boundary and within the Hwy 22 right-of-way. Class IV wetlands have semi-permanent standing water.

Discontinuous deep marshes of common cattail and great bulrush, as well as a small area of shallow spike rush marsh occur along the edge of the southerly wetland (Site 3). The northerly wetland (Site 2) lacks any marsh development. Both wetlands have restricted areas of wet meadow on their backshores (upland transition zones). Both wetlands also appear to have been substantially maintained through the construction Hwy 22, which also caused raised water levels. This construct has in turn resulted in the large areas of open water that dominate the wetland basins – habitat that is somewhat atypical of Class

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[3] Historical Resource Management Ltd. – Historical Resources Impact Assessment, Tirion Properties Final Report, Permit 08-104, May 21, 2008

[4] Sweetgrass Consultants Ltd. - West Ridge Biophysical Overview, February 2008

[5] Sweetgrass Consultants Ltd. – West Ridge Area Structure Plan Response to CEC Report to Council dated July 31, 2008 Comments on Developer's Supporting Documents Biophysical Overview and Wetlands

IV ponds. Prior to road construction, these wetlands may have been seasonal Class III types with shallower, more seasonal water.

In the Wetland Assessment[5], Sweetgrass Consultants identified 43 wetlands on the entire WR-ASP area, covering a cumulative area of 23.42 acres. Two strategies are being employed to deal with these findings. The first strategy is to incorporate the stormwater management facility into the southern most existing wetland (Site 3), and the second strategy is to compensate on a 1:1 ratio any eliminated wetlands. The details of the wetland compensation and preservation provided in the FS1NP, are found in Section 7.3.1.

In summary, the Biophysical Overview[4] and Wetland Assessment[5] note the presence of several wetland sites of varying significance. It is proposed that, where development will remove certain existing wetlands, these wetlands will be replaced, at a 1:1 ratio in another location. Further, the storm water management facilities will be integrated into existing wetlands, thereby both preserving them and expanding them.

3.1.4 Environmental Site Assessment

A Phase One Environmental Site Assessment[6] (ESA) dated November 28, 2007, was preformed by Base Property Consultants Ltd. with a follow up letter dated September 2, 2008[7].

The ESA and the ESA follow up letter indicate no further environmental investigation is required within the FS1NP as no environmental impairments were found. The ESA does note that potential environmental impairment may exist on lands with the WR-ASP, outside of the FS1NP. This impairment is in the form of an abandoned oil and gas well. Further environmental investigations will be required for development on the WR-ASP lands outside of the FS1NP Lands

In summary, no further action with regards to environmental concerns is required within the FS1NP Lands. All additional environmental investigation recommendations in the ESA affect the lands within the WR-ASP and outside of the FS1NP area.

3.1.5 Transportation Policies and Traffic Impact Assessment

A Traffic Impact Assessment[8] (TIA), dated June 2, 2009, prepared by Bunt & Associates, of the internal road network has been completed as part of the Neighbourhood Plan application process adhering to the requirements of the WR-ASP. The results of this investigation supported the original internal collector road network design, as indentified in the Area Structure Plan. This support is based on how the internal road network will function with potential volume loads. The Transportation review has been submitted under separate cover.

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[6] Base Property Consultants Ltd. – Phase One Environmental Site Assessment, November 28, 2007
[7] Base Property Consultants Ltd. – Westridge Area Structure Plan – Response to Cochrane Environmental Committee Report to Council, September 2, 2008
[8] Bunt & Associates Transportation Planners and Engineers – Fireside Stage 1 Traffic Analysis, June 2, 2009

The primary access into the FS1NP area is from Hwy 22. This access was identified, as the potential access into the FS1NP area in the recently completed *Highway 22 Functional Planning Study* by the Province of Alberta. The design of the Highway 22 intersection, providing access to the FS1NP area must be approved by both the Province of Alberta and the Town of Cochrane. The developer will provide the necessary road widening to allow the intersection construction to begin in accordance with the requirements of Alberta Transportation.

In summary, the internal road network based on the preliminary design of the WR-ASP, meets the anticipated future volume and use loads as proposed through the WR-ASP and the FS1NP. Vehicular access into the FS1NP Lands must be in accordance with the requirements of Alberta Transportation, and the final engineered design will require approval of both the Town and the Province of Alberta.

4.0 THE FIRESIDE STAGE 1 NEIGHBOURHOOD PLAN

The West Ridge Area Structure Plan (WR-ASP) is the planning base for a mixed use neighbourhood with residential development forming the predominant component.

The Fireside Stage 1 Neighbourhood Plan (FS1NP) forms the eastern portion of the WR-ASP area. The boundary of the FS1NP has been drawn to include a set of key design elements which will enable the Stage 1 area to function as a complete community.

The key design elements that allow FS1NP to function as a complete community include:
- The main entrance into the community from Hwy 22;
- A variety of housing options;
- A mixed use residential/commercial site;
- The future school site(s), and
- The two permanent wetlands, the larger of which includes the new naturalized (man made feature integrated into a natural feature) stormwater facility adjacent to Highway 22.

These design elements would allow FS1NP to stand alone even if no additional development occurred. This is because they fulfill the following needs:
- To have suitable access to the site;
- To have residential options that can accommodate a variety of household forms;
- To have a local commercial development for basic commodities (this also provides some local employment opportunities);
- To have educational opportunities located in close proximity to a residential location;
- To have public spaces for communal use;
- To have to opportunity for natural and open green space in an urban environment; and
- To have the infrastructure necessary to facilitate the development.

The Community Layout for Fireside Stage 1 is provided in Figure 3 and a larger copy is provided under Appendix A.

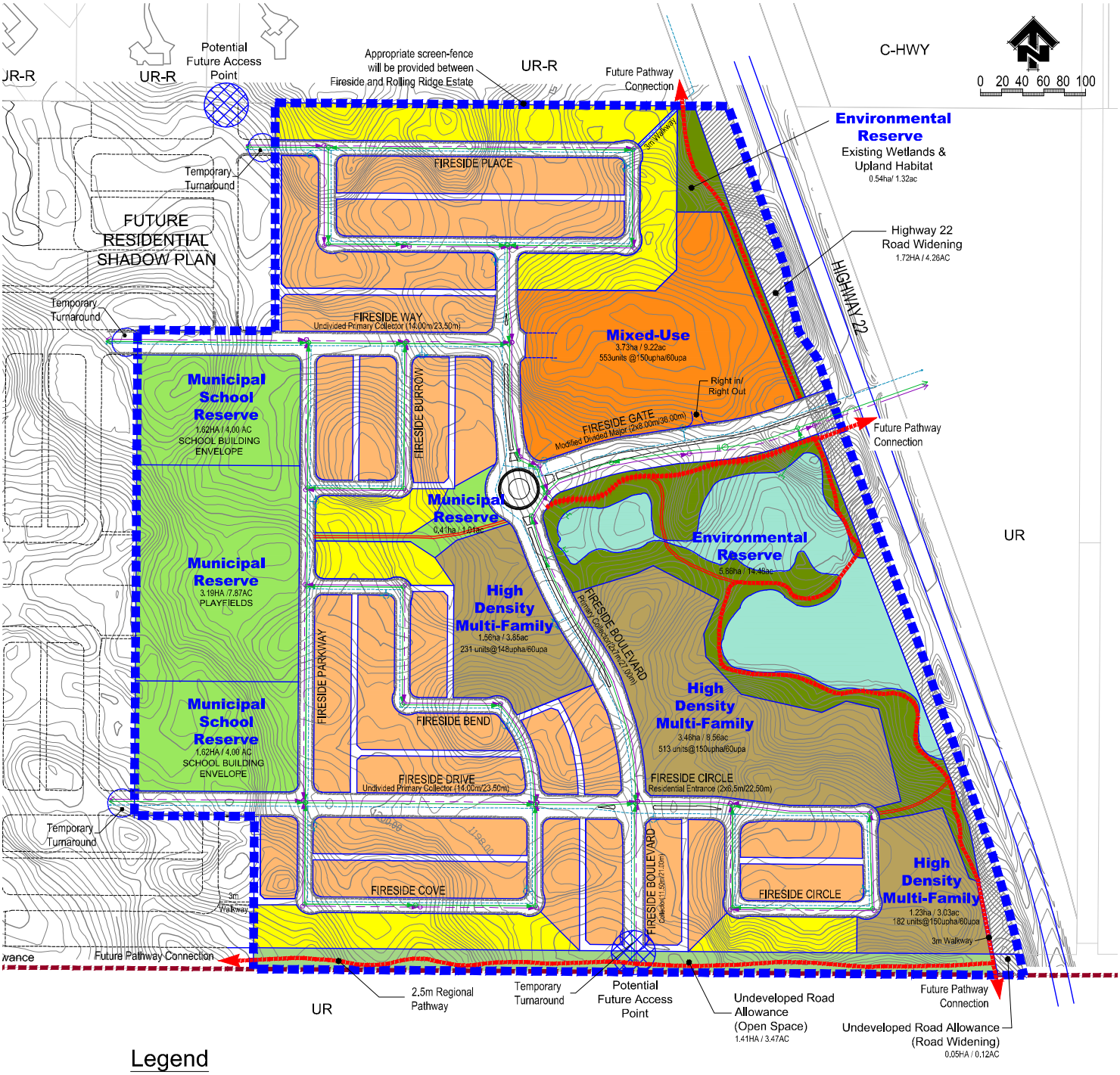
Adjacent to and bounding the south and west sides of the WR-ASP boundary, are undeveloped road allowances owned by the Town of Cochrane. The south and west boundaries of these road allowances form the Town Boundary. The undeveloped road allowances are proposed to be utilized as a linear greenspace and as a continuation of the regional pathway system. Residents will have access to this Town-owned land to walk through and enjoy as an alternate pedestrian connection and open space area. This linear greenspace will include a regional pathway throughout, and will connect to two parks in future Stages of Fireside with additional appropriate connections to be determined through the accompanying future Neighbourhood Plans. Further details on the linear greenspace are found in Section 4.6.

The FS1NP is an urban development that falls adjacent to a country residential development to the north and rural agricultural uses on all other sides excepting Hwy 22. The FS1NP incorporates several elements designed to mitigate the effects of the urban development on the adjacent rural lands. The primary of these being:

- The placement of the larger lots in the neighbourhood along the north and south boundaries of the community to provide transition from the larger country residential style parcels to smaller urban style parcels; and

- The use of its open greenspaces. Open greenspaces make up a large portion of the exterior WR-ASP boundary. Utilizing the open greenspaces as a physical separation also provides a psychological sense of separation because ‘open space’ is perceived as a different use than ‘urban residential’ use.

Fireside Stage 1 Neighbourhood Plan



Legend

- SINGLE DETACHED DWELLING - LANELESS
- SINGLE OR SEMI - DETACHED DWELLING - LANED
- HIGH DENSITY MULTI-FAMILY DWELLING
- MIXED -USE COMMERCIAL RESIDENTIAL
- ENVIRONMENTAL RESERVE
- MUNICIPAL / SCHOOL RESERVE
- INTEGRATED WETLAND / STORMWATER MANAGMENT FACILITY

DEEP SERVICES - PROPOSED

- STORM SEWER/MANHOLE
- SANITARY SEWER/MANHOLE
- WATER MAIN/HYDRANT
- COCHRANE TOWN LIMITS
- NEIGHBOURHOOD PLAN BOUNDARY
- 1000 CONTOUR INTERVAL 0.5m
- SIDEWALK
- 2.5m REGIONAL PATHWAY
- LOCAL PATHWAY

NOTES

- ALL ROADS ARE RESIDENTIAL STANDARD (9m/15m) UNLESS OTHERWISE NOTED.
- ALL LANES ARE 6.0m WIDE

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Figure 3:
Community Layout

4.1 Community Name

The name 'Fireside' and the future design theme for Fireside are inspired by elements of our regional First Nations People. The name and theme are intended to complement the existing Western Heritage theme utilized in the Town of Cochrane.

The Stoney Nakoda People's reserve lands are located adjacent to the Town of Cochrane. This First Nations group were a nomadic people who used the Tipi as their shelter and home. At the centre of this home was the hearth fire. It was here that the family gathered for warmth, meals, and company. Thus, it was also a place where history and culture could be passed down through the oral tradition of storytelling. The name Fireside is used to reflect, into the Fireside residential community, the importance and purpose of the fireside space as a central component of home.

4.2 Community Theme

The design theme for the Fireside development takes inspiration from the regional First Nations People. To the First Nations People, the fireside symbolized a place where history and culture were shared and passed to younger generations. The use of the fireside as a meeting place and social gathering place has carried through generations and still today, the fireside is a place for gathering, conversation and community. The Fireside Neighbourhood theme takes inspiration from the family, historical and cultural traditions surrounding the fireside. This theme will be illustrated through several outlets.

- The entrance gates or features which will be placed on either side of Fireside Gate, just west of Hwy 22, will make use of imagery and/or natural materials such as stone or wood to reflect elements of the regional First Nations art and culture.

- The landscaping throughout the community will be limited to indigenous plants and vegetation and conform to the Town of Cochrane landscaping requirements.

- A public art piece in the feature entrance park has yet to be chosen or designed. The final design shall require limited maintenance, be a reflection of the community theme, and be visible to residents as they drive into the community on Fireside Gate.

- The proposed colour palette for the Fireside community will utilize warm earth tones mixed with vibrant fire tones and will create an atmosphere that will be distinctive to Fireside. Roots, nuts, and flowers were some of the natural sources that contributed to a colour palette for the regional First Nations people. This available colour palette included yellow, orange, red, amber, green, brown, gray and black. Variations of these colours will form the colour palette for the community.

Architectural controls will be determined prior to development and will reflect the theme of the community.

4.3 Land Use

As stated previously, the FS1NP Lands are designed to include the key elements of a complete community. One component of a complete community is provision for a variety of uses within the community.

Below are listed the proposed land uses for the FS1NP.

4.3.1 Residential Use

The predominant Land Use within the FS1NP is residential. Residential use covers the largest area of space, 23.23 hectares (57.39 acres), or 43.2% of the gross FS1NP area, and will be the primary reason for the public to access this neighbourhood.

Residential development in Fireside Stage 1 includes high density (multi-family dwellings) and low density (single and semi-detached dwellings) residential uses.

Affordable Housing is also being proposed in Fireside Stage 1. Further information on the affordable housing is provided in Section 4.9.

The FS1NP incorporates a range of dwelling options to accommodate choice based on accommodation requirements. Residents in various stages of life – single, young family, mature family, and empty nesters, each with varying income levels, will have the opportunity to find suitable accommodation in Fireside Stage 1.

4.3.2 Commercial Use (as a mixed use)

The commercial use within the FS1NP is intended as a support use for the residents living within the community, and will be provided within a mixed-use site which includes a residential component. The area occupied by the mixed use site is 3.73 hectares (9.22 acres), or 6.9% of the gross FS1NP area.

The detailed design of this site has not been determined, but will be subject to a Development Permit application process prior to construction.

The intent of the commercial component of the mixed-use site is to provide residents with local retail and service needs close to home. The site will become a neighbourhood focal point, to which residents can walk to, for their local commercial needs as well as to gather and socialize.

4.3.3 Institutional Use

The FS1NP provides for two school sites to meet the educational needs of the future Fireside residents. These school sites (including the associated play fields) account for 6.43 hectares (15.89 acres) or 12.0% of the gross FS1NP area. Further information on the school sites is provided in Section 4.4.3.

The FS1NP also provides the opportunity for residents to learn about the innovative approach to stormwater management used in their community through the integration of the stormwater management facilities with the existing wetlands. Educational display

boards will be featured throughout the pathway system within the stormwater management facility to inform residents about facility operations.

4.3.4 Public Service Use - Open space and Environmental Reserve space

The complete Public Service component of the FS1NP accounts for the second largest use of land (second to the residential component) and covers 14.65 hectares (36.20 acres), or 27.2% of the gross plan area.

The open space system provided in Fireside Stage 1 is integrated with the other uses within the FS1NP area. It is designed to provide efficient networks for connecting residents with key features of the community. Further information on how the open space system aids pedestrian connectivity can be found in Section 4.6

Included within this open space component are two (one small and one large) environmental reserve sites. These environmental reserve sites contain the existing wetlands that will be preserved. The larger environmental reserve also houses the stormwater management facility which is being integrated into the associated existing wetland.

A disproportionate amount of Municipal Reserve has been dedicated within the FS1NP due to the inclusion of the required 6.43 hectare (15.89 acre) school site(s) which create the appearance of over-dedication. The overall municipal reserve dedication will be closer to the 10% of net developable lands as required by the *Municipal Government Act* (MGA) once the future Stages of Fireside are also developed.

4.3.5 Future Lands Use

Land use applications are to be submitted as separate applications from the FS1NP. Each application will be presented to the Town of Cochrane Planning Commission and Town Council for approval after review from the Town of Cochrane Planning and Engineering department and circulation to affected parties.

4.4 Design Elements

Design Elements are the elements of the FS1NP that are purposefully provided to create a better community. These elements may be built into the layout of the community to make it function more completely and more efficiently, or they may be subtle elements that provide opportunities for social interaction and the physical well being of the residents. Regardless of their individual purpose, the design elements define the community and become the elements by which residents identify with.

4.4.1 Design Elements of the Residential Areas

The FS1NP offers a variety of housing options including multi-family apartments, townhouses, semi-detached dwellings, single family dwellings and secondary suites. Single detached housing forms will be encouraged to be built adjacent to semi-detached housing as an opportunity to integrate the two development forms and to add variety to the streetscape. Accessory/garden suites are also available to increase the range of accommodations provided throughout the FS1NP. The FS1NP envisions a family friendly, vibrant community, and will encourage this through its varied housing forms.

The majority of the single or semi-detached residential blocks within the FS1NP have rear access through lanes. See Figure 3. Providing rear vehicular access to the residential units creates front streetscapes that are more pedestrian oriented. They are more pedestrian oriented because the rear lane eliminates the need for vehicles to cross the separated sidewalk for access to garages, thereby eliminating potential vehicle/pedestrian conflict resulting from cars exiting their driveways onto the collector roads. All of the residential units that front onto the collector road network in the FS1NP have rear lane access, with no direct access onto the collector roads.

Variety is the key element for housing options on the single and semi-detached laned residential blocks. A review of available housing flexibility allowed under the existing Town of Cochrane Bylaw 01/2004, revealed that the greatest flexibility is found under the Residential Single and Two Dwelling District (R-2). This district allows single detached homes and semi-detached homes to exist in the same block under one land use district. This type of variety creates interesting streetscapes that appear less prescriptive and contrived in their occurrence (less then typically homogeneous housing style development), even though they will be well controlled architecturally. Other design elements that will add to the uniqueness of the streetscapes in FS1NP are variations in lot widths, front setbacks, and housing heights. Architectural controls guiding the housing materials and colours will be inspired by the Plains First Nations theme. Greater detail on the housing forms and streetscapes proposed in the FS1NP can be found under Section 4.9.

The FS1NP includes three high-density multi-family sites. These three sites could account for approximately 36% to 42% of the residential units in the FS1NP, see Figure 10. There are three key elements to the design and location of these multi-family sites. First, to minimize the traffic impact on the community, these sites are situated near the entrance to the community. Most of the vehicular traffic accessing these sites will be limited to Fireside Gate and Fireside Boulevard. The second key element to the location of the multi-family sites is that they are placed close to the commercial – residential mixed use site. The placement of a large portion of the FS1NP residential population within close walking distance to the commercial – residential mixed use site will aid in

the sustainability and vitality of the commercial/retail component of that site. The third key element in the location and design of the multi-family sites are their proximity to the communities open spaces and open space amenities. All three sites are placed directly adjacent to open spaces to provide residents with immediate access to the parks and abundant pathway systems.

Throughout the FS1NP area, various housing forms have the opportunity to be adjacent to greenspace amenities. Single family homes, commercial-residential mixed use residences, high density units and affordable housing areas are all placed adjacent to greenspaces in different areas of the FS1NP. This allows residents in all different stages of their life cycle to live adjacent to greenspaces.

housing element

Laned residential cells provide attractive streetscapes and greater walkability through continuous sidewalks due to reduced front drive garages.

commercial element

The local commercial component is placed at the entrance to the community for easy access to residents entering and exiting, and for visibility from Highway 1A.

road element

3.0m walkway connection to bring residents into the adjacent open space quickly and safely, and aid in the overall connectivity of the plan.

road element

Sidewalks on both sides of residential roads aid walkability throughout the community

open space element

Gateway entrance features will straddle the main entrance to the community incorporating the theme thus creating sense of place.

open space element

The feature park provides an open space connection as well as a home for an entrance feature / structural art.

housing element

Front drive garage product is available to increase housing options for future residents.

open space element

Walking paths and educational display boards in the enhanced wetland / stormwater management facility provides the opportunity for residents to learn about their environment while they enjoy the naturalized open space. Educational boards will be placed throughout the storm water management facility by the developer to inform residents of how the facility operates while it protects & maintains the natural environment.

open space element

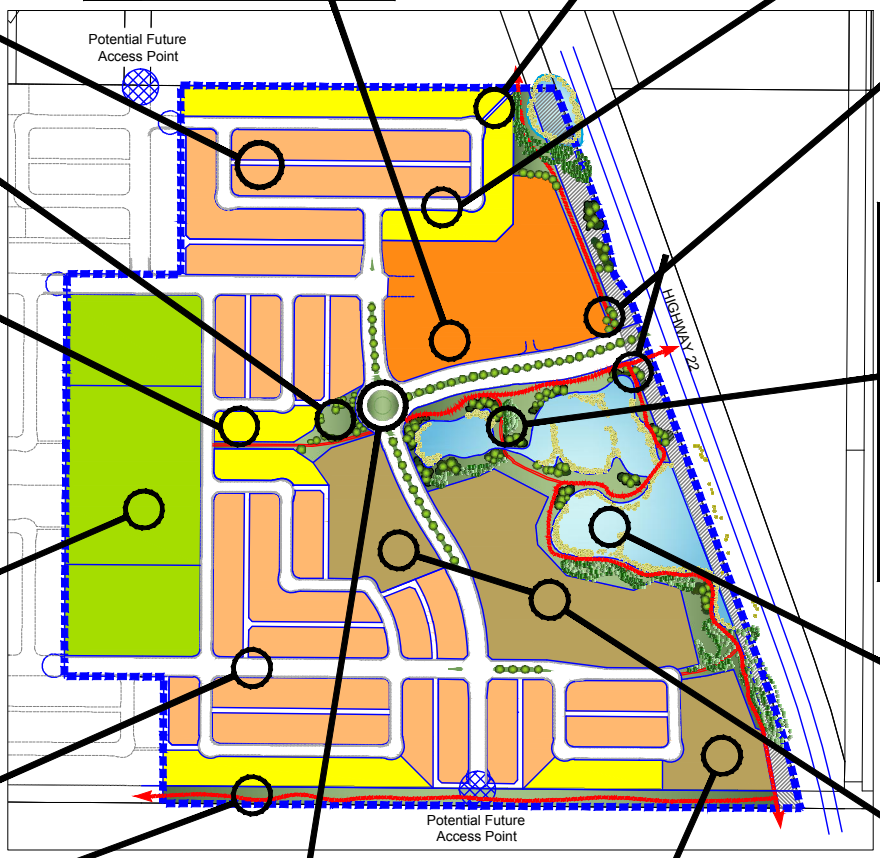
Centrally placed school site and playfields to provide active recreation opportunities within walking distance to most residents.

stormwater element

The existing wetland / naturalized stormwater management facility will meet the community's stormwater requirements while enhancing the natural environment.

road element

Seperate sidewalks are provided on both sides of the collectors to ensure pedestrian comfort and safety and encourage walking.



The Town of Cochrane - undeveloped road allowance will be turned into a linear greenspace connection along the south edge of the community.

open space element

The traffic circle provides efficient intersection control while adding an interesting design element to the entrance of the community.

road element

Affordable housing will be available within the community and will be architecturally controlled to seamlessly blend in.

housing element

High density multi-family sites are strategically located adjacent to open space, close to the future commercial development in the mixed use site, and close to the community entrance to reduce vechicular impact on the community.

housing element

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Figure 4:
Key Design Elements

4.4.2 Design Elements of the Commercial-Residential Mixed Use Site

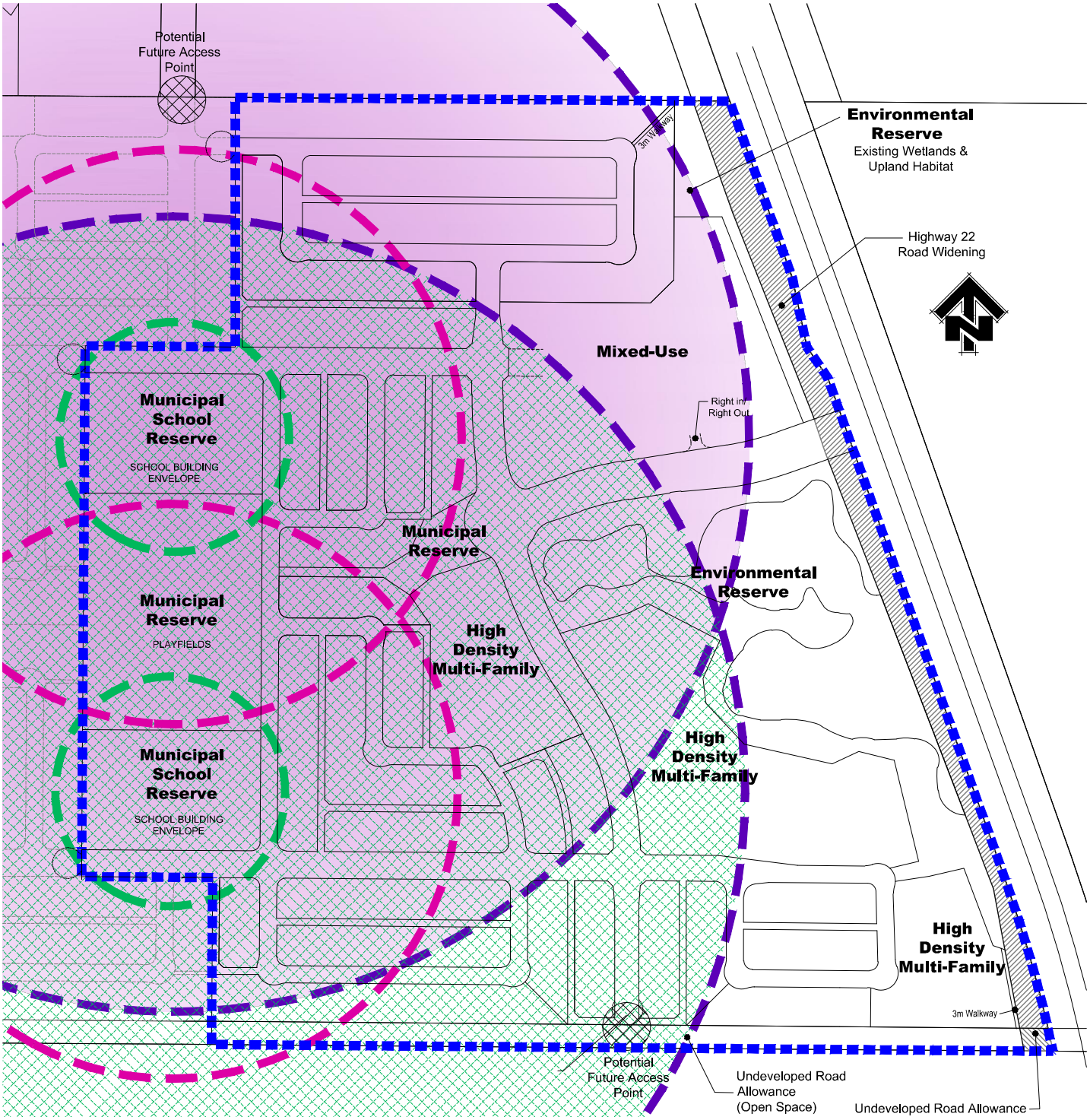
The commercial – residential mixed use area on the north side of Fireside Gate will be another important element of the community. Current market conditions do not allow the development of this site. Therefore the detailed design work has not yet been finalized. Although the detailed design has not been finalized, large or medium format retail development (greater then 20,000 square feet) will not occur on this site. Local commercial service will be provided to residents in a small format retail development (20,000 square feet or less). The site will become a community node that will provide residents with local services and goods, as well as a place to gather and socialize. Potential uses could include a coffee shop, laundromat, hair salon, wine or liquor store, small restaurant/pub, chiropractic office or dental office. The residential component could be horizontal or vertical development relative to the commercial component. The commercial component will be small format retail and will not compete with Cochrane's downtown core. This will be a future component of the community. By proposing the site as a commercial-residential mixed use, it would allow development opportunity when the market conditions identify a demand.

4.4.3 Design Elements of the School Site

The school site(s) are purposefully placed in the centre of the community to provide convenient access from all areas of the community. Figure 5 illustrates the approximate walking distance from each school site to various areas of the FS1NP.

One potential negative result of a centrally placed school site can be a greater traffic impact on the community as buses and parents drive through the community to drop off and pick up students. This potential problematic situation is avoided by providing a low impact bus route. See Section 4.5 for further detail on the transportation network. The potential school bus route/transportation route is shown on Figure 7. This access loop reduces the vehicular impact of the school traffic on the community by keeping the school traffic to a limited number of internal collector roads.

All of the internal roads that are not directly adjacent to the school site, on which school traffic will be commuting, will have separated sidewalks to keep pedestrians at an additional distance from the higher volume traffic, thereby retaining one of the important design elements of the community – pedestrian comfort in a walkable environment.



100m from Approximate Centre of School's Building Location
250m from Approximate Centre of School's Building Location
500m from Approximate Centre of School's Building Location

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Figure 5:
Radial Distances from Centre of School Sites

4.4.4 Road Design

The FS1NP layout follows a modified grid design which reduces vehicular conflicts when compared to a traditional grid design. The difference between the two is that the modified grid provides some loops and crescents to minimize traffic short-cutting and eliminate unnecessary street intersections while a traditional grid has intersections at the end of each block.

The modified grid design of the community builds upon the Cochrane Sustainability Plan's 12th ***Pathway to the Future: There are diverse options for getting around***. Not only does the modified grid design give vehicular traffic multiple routes to choose from, it also encourages walking and cycling in the community by providing short blocks and good sidewalk/pathway connectivity. Future residents may often find it more convenient to walk to their local destination rather then drive.

Additional detail is provided under Section 4.5.

4.4.5 Traffic Circles

A traffic circle adds another design element to the FS1NP. A single large traffic circle is proposed at the intersection of Fireside Gate and Fireside Boulevard. All traffic entering or exiting the community via Hwy 22 will use this large traffic circle. Traffic circles are safer and move traffic through more efficiently then traditional intersections with stop signs or traffic lights.

The traffic circle will be designed and sized to accommodate the turning requirements of a standard 40 foot public Transit Bus, as well as all Town of Cochrane Emergency Vehicles. Design criteria shall also meet the requirements of the Province of Alberta Transportation department.

A detailed design review of the traffic circles will be provided by a qualified transportation engineer prior to development.

4.4.6 North and South Boundary

To form the boundary between the FS1NP and the existing lands to the north and south, the developer will build a fence at the time of development. Details regarding the nature of the fence, including size and materials, will accompany the subdivision application for the relevant area.

The linear greenspace on the south side of the site, the current Town of Cochrane undeveloped road allowance, will have a low profile chain link fence on the north side with access gates for residents of each lot to enter the linear greenspace system.

The high density multi-family site proposed in the southeast corner of the FS1NP area is buffered from the adjacent Rocky View County lands by the Town of Cochrane undeveloped road allowance which is approximately 20 metres wide . This undeveloped road allowance is proposed to become a linear greenspace which will include a 2.5m regional pathway and become an additional open space amenity to the Fireside community as well as an important part of the pedestrian

circulation system. Further information on the linear greenspace can be found in Section 4.6.

4.4.7 Stormwater Management Facility

One of the Town of Cochrane's Planning Principles is Environmental Stewardship. A step towards environmentally responsible development and Environmental Stewardship is provided through the retention of the wetland at the entrance to the community, Site 3 on Figure 3. This wetland will be enhanced by the creation of a naturalized stormwater management facility.

The FS1NP uses the term 'naturalized' when referring to the stormwater management facility to mean that the facility is integrated with the natural wetland to simulate a natural filtration process. This stormwater management facility will treat the stormwater run-off through a filtration process prior to it entering the underground stormwater system and eventual discharge to the Bow River.

The design of the future stormwater management facility will also allow for a continued water source for the existing wetlands which would conventionally have been removed through development. The facility will enhance the capacity of the wetlands and protect the existing upland habitat and vegetation including the deciduous woodland and willow shrub land[9]. The willow shrub land is dominated by beaked willow, while the deciduous woodland contains scattered groves of aspen and to a lesser extent, balsam poplar. Further details about the Stormwater Management Facility can be found in Section 7.3.

Walking paths and places to relax and enjoy the outdoor environment are part of the wetland enhancement design and will provide residents with passive recreation opportunities. Residents will be able to walk, run or cycle through the area, or just sit and enjoy the environment. Through the retention and enhancement of this existing wetland, Fireside is ***"building upon the strengths of our natural heritage"*** which is advocated through ***"Pathway to the Future: 13"*** in the Cochrane Sustainability Plan. Figure 12 shows a copy of the conceptual plan previously provided with the WS-ASP.

4.4.8 Feature Park

The vista welcoming residents into Fireside, placed at the terminus of Fireside Gate, will be a structural public art piece placed inside a feature park. This pubic art piece will add to the distinctiveness of Fireside. Although the design of this art piece is yet to be finalized, it will be a low maintenance structure that can withstand the elements and it will support the theme of the community, which is inspired by our regional First Nations People. Further information on the theme of the community is provided in Section 4.8. The public art structure will become a focal point for the park and a visual image that residents will be able to identify as belonging to their community. The public art in the feature park will be able to be enjoyed by residents of the community whether they are walking past the park, sitting in and enjoying the park, or even by driving past on their way home.

[9] Sweetgrass Consultants Ltd. - West Ridge Biophysical Overview, February 2008

4.5 Transportation Routes and Networks

As mentioned previously in Section 4.4.4 and Section 4.4.5 the FS1NP utilizes a modified grid pattern of street layout. Section 4.4.4 highlights the benefits of a modified grid street layout over a traditional grid street layout.

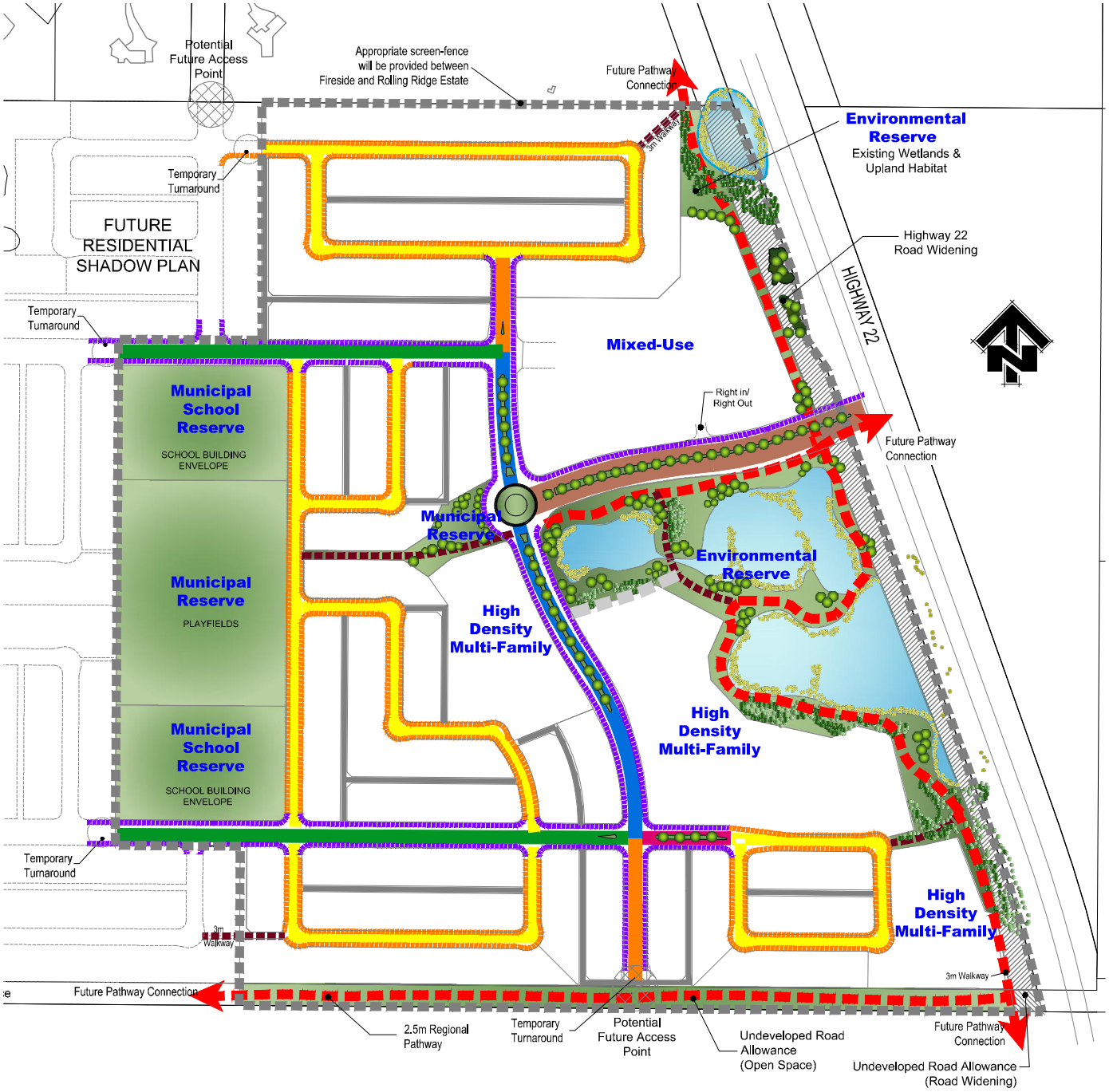
The modified grid design provides vehicular traffic with multiple routes to choose from. It also provides short blocks and good sidewalk/pathway connectivity to encourage walking and cycling in the community as alternate forms of transportation to vehicles. Short blocks increase the connectivity of the street layout because they create multiple options for connecting to various different areas of the community. For the same reasons, short blocks increase the pedestrian connectivity as well. Future residents will often find it more convenient to walk to their local destination rather then drive. The internal street network is highlighted in Figure 6. The potential future transit route is identified in Figure 7.

Sidewalks are placed on both sides of all of the streets within the FS1NP area. The sidewalk network is complimented by a pathway system that will draw residents into the community's greenspaces. The pedestrian connectivity (network) is discussed in Section 4.6 and illustrated in Figure 8.

The traffic circle and medians are design elements to create interest in the streetscape, and provide traffic calming as vehicles slow down to navigate them.

The potential future transit route is identified in Figure 7. This route is anticipated to operate in a counter clockwise direction to allow bus stops to be located on the same side of the street as the commercial-residential mixed use site and the school site(s).

An emergency access to and from the FS1NP shall be provided as a temporary road connection to the Rolling Range Estates development to the north. Details of this temporary emergency-only access route will be determined at Subdivision stage and will be subject to the approval of the Town of Cochrane.



DIVIDED MAJOR (2X8m/36m)
PRIMARY COLLECTOR (2X7m/27m)
UNDIVIDED PRIMARY COLLECTOR (14m/23.5m)
RESIDENTIAL ENTRANCE (2x6.5m/22.5m)
COLLECTOR (11.5m/21m)
RESIDENTIAL (9m/15m)

LANES (6m)
2.50m REGIONAL PATHWAY
2.00m LOCAL PATHWAY / CONNECTION
1.40m SEPARATE SIDEWALK
1.10m MONOLITHIC SIDEWALK
MAINTENANCE ACCESS
TRAFFIC CIRCLE

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Figure 6:
Transportation Network

4.6 Pedestrian Oriented Development

The FS1NP is a modified grid design. Short blocks, loops and well connected pathways, walkways and sidewalks offer the pedestrian easy access to local commercial and greenspaces for shopping, recreation and gathering. Figure 8 illustrates the pedestrian connectivity of the FS1NP and the abundance of pathways and sidewalks to facilitate comfort and convenience in the pedestrian environment.

The Town of Cochrane, in part, uses the City of Calgary Design Guidelines to determine road standards and cross sections design. As a standard design guideline, monolithic sidewalks are required on both sides of collector roads. The FS1NP will take this safety element a step further to ensure that separated sidewalks are provided on both sides of all collector roads. Separated sidewalks along the collector system purposefully maintain a more comfortable distance between the pedestrian and the motor vehicle. A separated sidewalk places the pedestrian several metres from the curb whereas a monolithic sidewalk is built directly adjacent to the curb. This separation results in greater pedestrian protection and allowing for a more relaxing walking experience.

Monolithic sidewalks will be constructed on both sides of all residential streets within the FS1NP area.

The pathway and sidewalk system bring pedestrians and cyclists directly to the various commercial nodes and greenspaces located throughout the FS1NP area. This ease of accessibility to the commercial areas will allow them to flourish and become 'destination nodes' that will in turn foster the social development of the community.

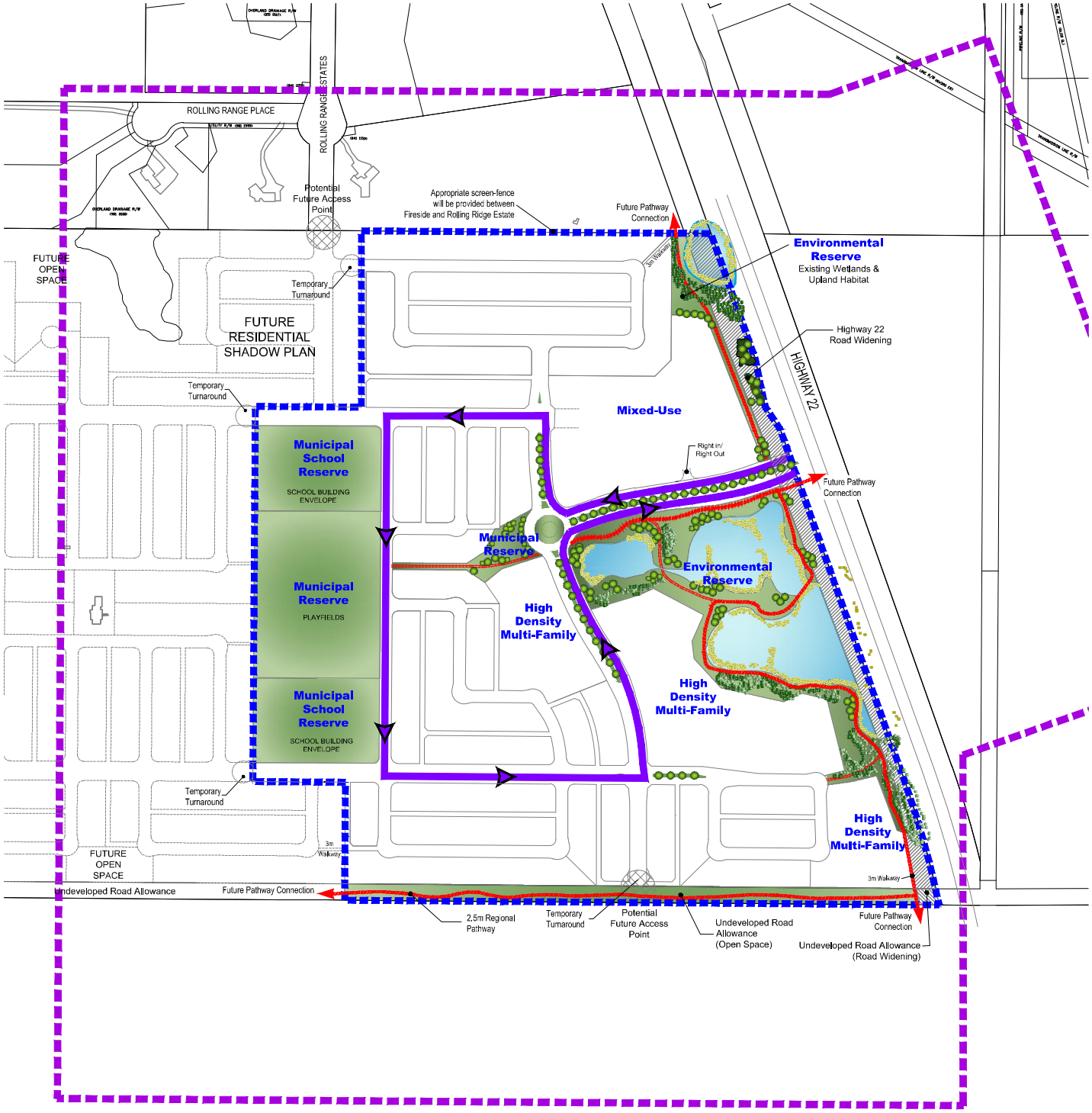
The 2.5m wide asphalt surface regional pathway system enters the FS1NP from the northeast corner of the site and travels down along the highway within the open space area. It crosses Fireside Gate and then meanders through the naturalized stormwater management facility to provide a scenic element to the route before it crosses Fireside Boulevard, passes through the feature park and connects to the athletic fields in the school site. After exiting the school site area the regional path will continue west and with the development of Fireside Stage 2 the regional path will eventually connect to the future neighbouring community on the west side of Fireside.

A 2.0m wide local pathway system which will be concrete surfaced in some locations and natural trail materials in others, also provides multiple connections throughout the community. Where the local path exists within parks or within the naturalized stormwater management facility it will have a natural trail material surface to minimize environmental impacts. In locations where the local path provides a connection from a sidewalk through a walkway between houses, the surface will be concrete to provide ease of maintenance. The local pathway connections are provided in key locations to reduce walking distances to the school site, and provide short-cuts where pedestrians would logically want them.

The FS1NP proposes to incorporate the Town of Cochrane's undeveloped road allowance along the south boundary and turn the right-of-way into a linear greenspace. The undeveloped road allowance runs along the south and west sides of the WR-ASP boundary and the Town of Cochrane boundary. The land would remain under the Town of Cochrane ownership. The FS1NP already provides for an extensive sidewalk and pathway system including a regional pathway joining key elements of the community. Adding this linear greenspace along with a regional pathway will further enhance the recreational experience of Fireside as residents would be able to walk, jog or bike through greenspaces on the entire east, south and west sides of the community in a natural grassed environment. The portion of the linear greenspace included in the FS1NP is

approximately 703 metres long (some area will be given up for highway widening) and 20 metres wide. By incorporating the unopened road allowance and regional pathway as linear greenspace, the additional length of walking area that will be provided with the ultimate development of Fireside (including all future stages) will be approximately 2360 metres. The linear greenspace would provide even greater pedestrian connectivity to the community and be an amenity to the future residents of Fireside.

The combination of the FS1NP's sidewalks, pathways and the proposed linear greenspace with an additional regional pathway, along with multiple destination nodes, makes Fireside a very walkable community. Whether pedestrians are walking to the school site, the feature park, through the naturalized stormwater management facility or to the local services and retail in the commercial-residential mixed use area, there will be multiple routes to get them there.



Potential School Bus Route / Transit Route

Standard 400m Walking Distance to Potential Transit Route

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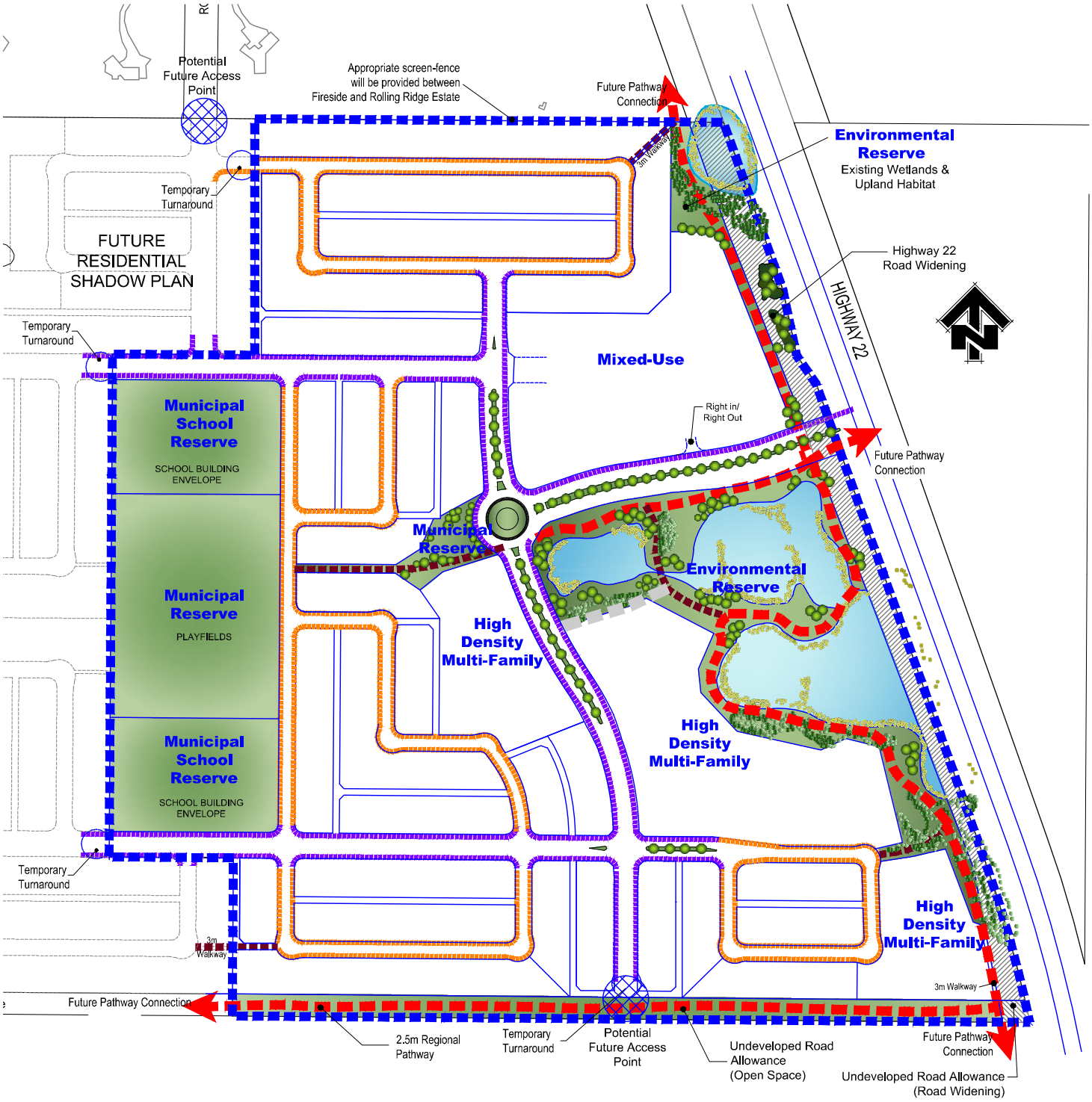
Figure 7:
Potential Low Impact Bus Route



2.5m REGIONAL PATHWAY

2.0m LOCAL PATHWAY / CONNECTION

1.4m SEPARATE SIDEWALK

1.1m MONOLITHIC SIDEWALK

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Figure 8:
Pedestrian Connectivity

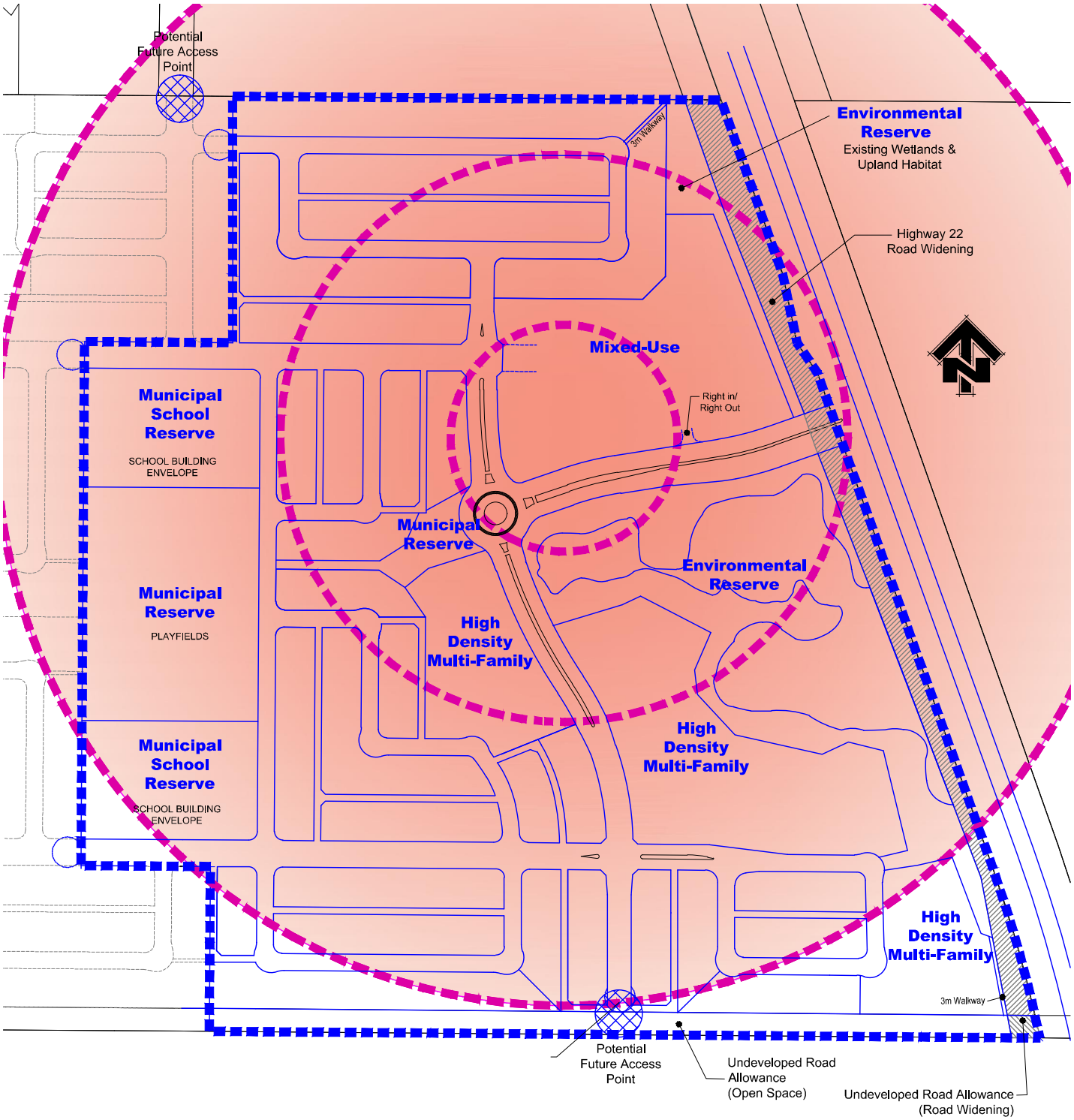
4.7 Community Commercial Node and Local Employment

The commercial-residential mixed use site is strategically located at the entrance to the community. This location is strategic in that it provides easy access for residents entering and exiting the community, and prominent visibility of the commercial component from Hwy 22. The location of the commercial node is also within walking distance to the majority of the FS1NP area. Figure 9 illustrates the close proximity of the commercial-residential mixed use site to various areas of the FS1NP. Placing commercial areas within walking distance (500m or less) to higher density residential developments brings commercial land uses and a trade area population in close proximity to one another.

The demand for this type of development as part of the initial phase of the FS1NP is limited, but the realization of the eventual need for local retail, service and office use as a neighbourhood amenity has resulted in the developer designating a site for this type of development, building in the opportunity for it to evolve over time.

The proposed site, on the north side of the easterly neighbourhood entrance, will provide opportunities for small format retail stores, businesses, offices, and/or personal services for Fireside residents and surrounding communities. Under the current Commercial-Residential Mixed Use District (C-R) Land Use designation retail stores (as a permitted use) are limited to a gross floor area of 250 square metres. As a discretionary use, the gross floor area can be much larger, but the intent of the site is to provide retail uses similar to what is permitted under the Bylaw. Examples of such services could include a coffee shop, laundromat, hair salon, wine or liquor store, small restaurant/pub, chiropractic office or dental office.

This site will also generate opportunities for local employment as development occurs. Vehicular access to the site will be determined at the development permit or subdivision stage, and must be approved prior to any development occurring on this site.



Distance from Approximate Central Location
of Commercial Development - 100m, 250m, 500m

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Figure 9:
Commercial distances

4.8 Crime Prevention through Environmental Design

Crime prevention through environmental design (CPTED) occurs where the built environment is designed in such a way as to reduce the predication of criminal activities and reduce the fear of crime occurring. The FS1NP is conscious of safety through design and this is incorporated throughout the FS1NP area.

The FS1NP central school site(s) has single loaded roads fronting onto three sides of the site. This openness allows for constant visibility into the site by residents from either adjacent sidewalks and/or homes and from vehicles passing by. The central location of the school site(s) results in a sense of ownership towards the buildings and the playfields by the residents within the community, particularly due to the sites being a constant component of their view shed. A strong sense of ownership, or territoriality, encourages individuals to take control of and defend their environment.

The naturalized stormwater management site and pathway system is also a highly visible greenspace from multiple areas of the community. Full visibility into the area is available from Fireside Gate, and Highway 22. A high density multi-unit residential site is directly adjacent to the naturalized stormwater management site and pathway system which provides multiple eyes on the park.

The continuation of the regional pathway north of Fireside Gate towards the north boundary of the community is also a highly visible pathway system. This portion of the regional pathway is highly visible allowing informal surveillance to occur from Highway 22 as well as from the houses backing onto it at its north end. People feel safer when they can easily be seen and criminals are less likely to act when there is high risk of their actions being witnessed.

The feature park and local pathway connection to the school site(s) are also highly visible from multiple directions. This park sits at the terminus of Fireside Gate and makes up the west side of the Fireside Gate and Fireside Boulevard traffic circle. All vehicular traffic entering and exiting Fireside from Highway 22 will pass through this traffic circle and therefore drive directly past this park. This park and pathway will have houses backing onto it on the west side providing the comfort of multiple residents looking into it at any given time. Special attention will be paid to landscaping features, growth characteristics of plants and their placement in relation to potentially vulnerable areas.

The social development of a community also provides an important element in crime prevention. The well integrated pathway system and multiple nodes for community gathering, such as the parks and open spaces, the school sites and the local commercial developments, will foster the social development of the community. As the social development of the community grows, and residents get to know their neighbours, the overall sense of safety in the community will grow and residents will more likely report a crime or intervene to help.

The incorporation of short blocks within the street layout provides multiple route options for pedestrians, adding an additional element of safety as a pedestrian is less likely to find themselves in a situation with limited escape routes.

The future lighting plan for the FS1NP will also address CPTED principles and enhance the safety of the community.

4.9 Housing Diversity, Streetscape and Architectural Development

Multiple housing options such as single family homes with attached garages, single family homes with detached garages, accessory and garden suites, semi-detached homes, duplexes, townhouses, and stacked multi-family condominiums will be available in the FS1NP.

The FS1NP will use land use designations as an important tool to help build diversity into its streetscapes. The land use designation that provides the greatest flexibility in the existing Town of Cochrane Land Use Bylaw is the R-2, Residential Single and Two-Dwelling District. This land use, as previously mentioned in Section 4.1.1, allows single detached houses and semi-detached houses to co-exist within the same block, and under the same land use. This provides the opportunity for the developer and builders to provide the type of housing that residents want and to place it where desired.

The future architectural controls for the FS1NP area will support the regional First Nations theme that will be reflected throughout the entire community. This theme will be enhanced through the colour palette which will include a contrast between warm earthy tones with vibrant 'fire' tones including shades of red, orange, yellow and amber. The natural stone and wood finishing materials (or materials designed to emulate these natural materials) on the houses will add design details to further support the community theme.

Variations in the streetscape will occur through different housing forms existing side-by-side, varying front setbacks, a variety of lot widths and different housing heights all adhering to Fireside's architectural guidelines (which shall be submitted prior to development).

Affordable housing is also being proposed within the south east corner of the FS1NP area. The form and management of the affordable housing will be coordinated between the developer and the Town of Cochrane. The developer is working with the Cochrane Society for Housing Options to create an affordable housing concept. Directly adjacent to the site is a connection to the naturalized stormwater management facility and walking paths. The objective is to ensure the site is part of the community and not isolated. To make certain the affordable housing development fits in to the community the elements of design and architectural details found elsewhere will be carried through this development. The timing of construction of the affordable housing will result from the demand determined through discussions between the developer, the Town of Cochrane and the Cochrane Society for Housing Options.

5.0 NEIGHBOURHOOD PLAN STATISTICS

Figure 10 provides statistical detail of the FS1NP land uses and projected number of units for each land use category. As land use is applied for separately, the neighbourhood plan statistics are general in their category description.

The percentages of each use presented in Figure 10 are based on the Gross Developable Area. The Gross Developable Area is calculated by removing 'regional' land uses. The land uses removed from the Gross Developable Area calculations in the FS1NP statistics are the Highway 22 road widening area, the environmental reserve areas and the Town of Cochrane undeveloped road allowance that is being included within the FS1NP as a linear greenspace amenity. The uses removed from the Gross Area account for 9.58 hectares (23.67 acres) of the 53.79 hectares (132.92 acres) within the FS1NP. Therefore the Gross Developable Area for the FS1NP is 44.21 hectares (109.27 acres).

Residential land use accounts for 52.5% of the Gross Developable Area. The residential land uses proposed are Residential Single Detached Dwelling District (R-1), Residential Single and Two-Dwelling District (R-2) and High Density Multi-Dwelling District (R-M).

It is challenging to predict the number of dwelling units that will be provided within the R-2 land use district because this district allows single family dwellings and semi-detached dwellings to be built within the same block. The flexibility that is built into this land use district allows the market to guide how this area will develop. The potential exists for the future residents of Fireside to choose which form of housing they prefer; single detached dwelling or semi-detached dwelling. Therefore, in calculating the anticipated units and densities required in Figure 10, some assumptions had to be made. The 'Anticipated' portions of the R-2 calculations assume that 80% of the future residents will choose a single family home, and 20% will choose a semi-detached dwelling. Although the development may unfold this way, Figure 10 also must consider what the 'Maximum' potential number of units would be if every future resident chose a semi-detached dwelling. This unit count is also represented in Figure 10.

The other residential land uses are straight forward and utilize the maximum and minimum lot sizes or unit counts allowed under their respective land use district guidelines.

The remainder of the FS1NP consists of a commercial-residential mixed use site, 8.4%; municipal reserve, 8.1%; municipal school reserve, 7.3% and roadways and lanes, 23.7%.

FIRESIDE STAGE 1 NEIGHBOURHOOD PLAN STATISTICS	HA (+/-)	AC (+/-)
Total Land Area	**53.79**	**132.92**
Highway 22 Road Widening	**1.72**	**4.26**
Environmental Reserve	**6.40**	**15.80**
Town of Cochrane - unopened Road Allowance	**1.46**	**3.59**
Open Space	1.41	3.47
Road Widening	0.05	0.12
Gross Developable Area (GDA)	**44.21**	**109.27**

General Land Uses	frontage(m)			# of units		% of GDA
Residential		**23.23**	**57.39**			**52.5%**
Residential Single Detached Dwelling District						
Anticipated./Maximum number of lots based on based on 9m lot width	1274	4.54	11.22	141		
Residential Single and Two -Dwelling District						
Anticipated number of Single Family lots (80% of frontage) based on 9m lot width	2743	9.95	24.58	304		
Anticipated number of Semi's lots (20% of frontage) based on 6m lot width	685	2.49	6.15	114		
Maximum number of Semi's lots (100% of frontage) based on 6m lot width	3428			571		
High Density Mult-Dwelling District		6.25	15.44			
Anticipated number of units based on 30 upa				463		
Maximum Number of units based on 60 upa				925		
Mixed Use (includes Commercial Sites)		**3.73**	**9.22**			**8.4%**
Anticipated number of units based on 30 upa				276		
Maximum Number of units based on 60 upa				553		
Municipal Reserve		**3.60**	**8.88**			**8.1%**
Municipal School Reserve		**3.24**	**8.00**			**7.3%**
Roadways and Lanes		**10.41**	**25.78**			**23.7%**
Total number of units						
Anticipated.				***1298***		
Maximum				***2191***		
Density						
Anticipated.				***29.4***	***upha***	***11.9 upa***
Maximum				***49.6***	***upha***	***20.1 upa***

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Figure 10:
Neighbourhood Plan Statistics

6.0 DENSITY

The anticipated density for the FS1NP is 29.4 units per hectare (11.9 units per acre) with a maximum of 49.6 units per hectare (20.1 units per acre). This figure is higher than the anticipated 19.8 to 24.7 units per hectare (8 to 10 units per acre) required in the WR-ASP and the requirement of 19.8 units per hectare in the 2008 MDP.

The explanation for the high density of the FS1NP is found from the fact that three out of the five high density multi-family sites proposed within the entire WR-ASP area, as well as the Commercial-Residential Mixed Use site, are situated within the FS1NP. Therefore, the FS1NP which is less then half of the entire WR-ASP area is providing for 4 multi-family sites. This cluster of multi-family sites within one Stage results in a high density.

The benefits for placing the multi-family sites within the FS1NP are outlined in Section 4.1.1. These benefits include being close to the entrance of the community to reduce the impact of high vehicular volumes from high density sites on the entire community. Further, they are close to open space and to the commercial component of the Commercial-Residential Mixed Use site to facilitate the ease of use, which in turn increases that site's vitality. These high density sites bring the density figures for the FS1NP up significantly. While a high density is an important element in developing the vibrant community that Fireside strives to be, it is not expected to maintain this high of a density overall, once the future Stages are developed. It is expected that the density will be within the range anticipated in the WR-ASP once the entire community (FS1NP and all future Stages) are built out.

7.0 UTILITY SERVICING

7.1 Water Main Distribution

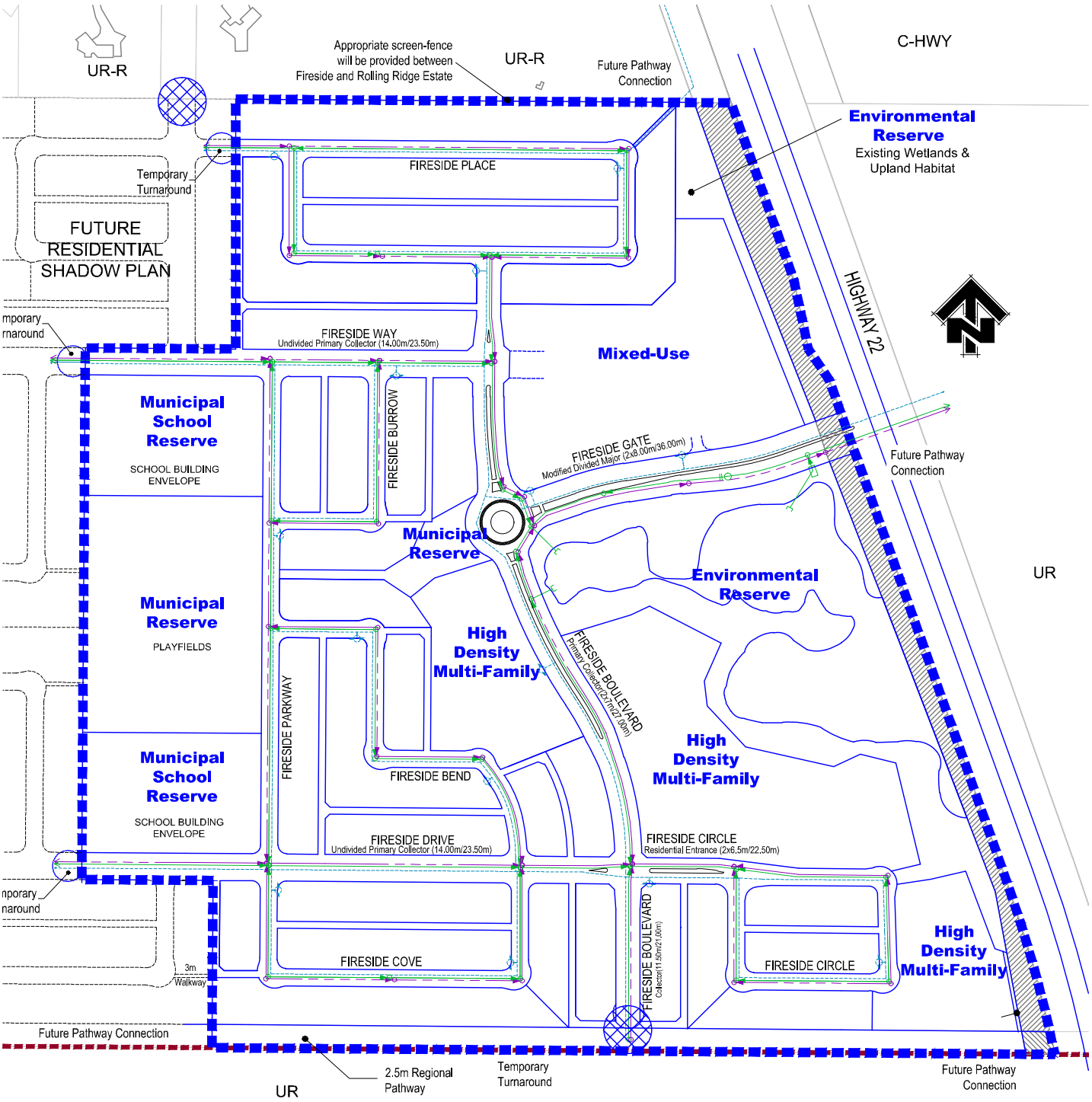
The proposed water system distribution concept is shown on the FS1NP and in Figure 11, and includes ties to the proposed 300mm diameter watermain in the River Heights Drive - Hwy 22 intersection adjacent to the FS1NP area. An additional 250 mm and 400 mm offsite watermain tie from the north east corner of the subject area, along the west side of Hwy 22 and across to the existing River Heights Water Reservoir and Pump Station, as per the Town of Cochrane Water System Master Plan, will be required to provide a looped water supply for the FS1NP. Distribution mains will extend through the subject lands on a grid system as shown, and in accordance with the Town of Cochrane Water System Master Plan. All internal valve and hydrant coverage will be provided in accordance with City of Calgary/ Town of Cochrane requirements.

7.2 Sanitary Servicing

The proposed sanitary servicing concept as shown in the FS1NP, and Figure 11, will include gravity mains on-site, flowing to a proposed sanitary sewer trunk in the River Heights Drive - Hwy 22 intersection adjacent to the FS1NP as per the Sanitary Sewer Review currently underway by Town of Cochrane consultants, Urban Systems Ltd. As per this review, the capacity of the proposed off-site sanitary system has been confirmed and downstream upgrading will not be necessary to service the FS1NP area.

7.3 Stormwater Management

The stormwater management concept for the FS1NP has been identified in the *Westridge Revised Master Drainage Plan* by LGN Consulting Engineering Ltd. (May 2009) The existing topography of the FS1NP as shown on Figure 2 and as set out in the *Westridge Revised Master Drainage Plan,* will facilitate drainage to a storm water management facility located adjacent to the existing wetland along Hwy 22 in the SE ¼ -27-25-4-5. Stormwater management facilities, as shown on Figure 11, will be in accordance with the *Westridge Revised Master Drainage Plan* as prepared by LGN Consulting Engineering Ltd., and will be subject to Town of Cochrane and Alberta Environment approvals. The stormwater management facility will be a naturalized type and will be integrated with the adjacent existing wetland. The stormwater management facility with outfall to a regional storm trunk located in the River Heights Drive - Hwy 22 intersection adjacent to the FS1NP area as per the South Cochrane – Integrated Stormwater Management Plan by Urban Systems Ltd. The FS1NP will be serviced by conventional minor (pipe) and major (surface) drainage systems which will convey drainage to Stormwater storage facilities. Off site drainage, at predevelopment rates will be accommodated either by bypass piping, or routed through the storm pond on-site, as set out in the *Westridge Revised Master Drainage Plan*.



SANITARY SEWER / MANHOLE
WATER MAIN / HYDRANT
STORM SEWER / MANHOLE

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Figure 11:
Conceptual Utility Alignment

Figure 12:

Stormwater Managment Facility as per the Approved Westridge ASP

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7.3.1 Wetland Compensation

The WR-ASP identifies a no-net-loss approach to wetland compensation as per the Town of Cochrane Wetland Policy 1502-01. Sweetgrass Consultants Ltd. identified 43 wetlands within the gross developable WR-ASP area covering a cumulative area of 9.48ha (23.42 acres). The three most significant wetlands within the WR-ASP area will be retained and new wetlands and appropriate adjacent upland habitat areas will be designed and constructed so as to compensate on a 1:1 area basis for wetlands that will not be retained. The three retained/enhanced wetland and upland habitat areas, as shown on Figure 2, will total 9.48ha (23.42ac) to ensure the 1:1 compensation. The two most significant wetlands being retained, sites 2 and 3 on Figure 2, are located within the FS1NP. Both wetlands are located along Highway 22, one north of the Fireside entrance road (Fireside Gate) and one south of this road. The north wetland was identified in the WR-ASP as 0.53ha (1.30ac) within the Fireside boundary, and will remain the same post development of the FS1NP. The south wetland was identified in the WR-ASP as 5.84ha (14.44ac) within the Fireside boundary. Upon further detailed review, the south wetland became slightly larger and is now 5.91ha (14.60ac). A total of 6.44ha (15.91ac) of wetland compensation will be included in the FS1NP, with the remainder owing to be provided in Fireside Stage 2.

The proposed stormwater management facility will be integrated with the southern wetland (wetland site 3 on Figure 2). This integration is an innovative approach to protect and enhance the existing wetland. This stormwater management facility, of which further detail is provided in Section 4.4.7 and Section 7.3, addresses Principle 3 of the Town of Cochrane's Sustainability Matrix: Environmental Stewardship and many of the Pathways to the Future in the Cochrane Sustainability Plan. Details of how this facility addresses these guiding documents can be found under Sections 8.2.1.c and 8.2.2.

Fireside Wetland Compensation		
	ha	**ac**
43 Existing Cumulative Wetlands	9.48	23.43
Wetland/Naturalized Stormwater Management Facility		
Fireside Stage 1		
North Facility	0.53	1.31
South Facility	5.91	14.60
	6.44	15.91
Fireside Stage 2		
Future Facility	3.04	7.51
Total Retained/Enhanced Wetland	9.48	23.43
Net Loss of Wetland	**0.00**	**0.00**

Figure 13: Fireside Wetland Compensation

7.4 Shallow Utilities

Shallow utility servicing to the FS1NP area will be provided by extension of existing facilities in adjacent development areas. All power, telephone, and cable television distribution systems will be constructed underground within the FS1NP area.

8.0 MEETING THE NEEDS OF THE TOWN OF COCHRANE

8.1 ENVIRONMENTAL COMPLEMENT

8.1.1 Municipal Environmental Impact Statement (MEIS)

In accordance with Section 6.3.2 of the *Town of Cochrane Municipal Development Plan* a review of each of the factors contributing to the Municipal Environmental Impact Statement has been completed and outlined below. Further information can be found in the Geotechnical Evaluation by McIntosh Lalani Engineering Ltd., the Historical Resources Impact Assessment by Historical Resource Management Ltd., the Westridge Biophysical Overview by Sweetgrass Consultants Ltd., and the Phase 1 Environmental Site Assessment by Base Property Consultants Ltd.

a. Fish and Wildlife:

The findings of the Biophysical Overview state that the wildlife species found in the WR-ASP are generally widespread and common in southern Alberta, and the WR-ASP area is not an important wildlife corridor. The Sweetgrass Consultants Ltd. report indicates that the retention and enhancement of the Class IV wetlands will enhance habitat productivity for waterfowl and other wetland wildlife. All stormwater treatment and management facilities have been designed to provincial standards to ensure proper water treatment prior to entering into the Bow River thereby retaining appropriate water quality in the Bow River for fish and wildlife.

b. Vegetation:

The Biophysical Overview found that no federally or provincially listed species at risk were recorded within the WR-ASP and that habitat potential for these species is low. One provincially rare plant, blunt–leaved yellow cress, was found in a disturbed corral area in the central part of the WR-ASP. This is located in a future Stage of the Fireside development. This rare plant will be relocated into the open space-wetland area as part of the future development. Portions of the native vegetation located in the FS1NP area will also be transplanted into the stormwater management facility/wetland area, as well as potentially into the linear parks and portions of the school sites as grading proceeds.

c. Ecologically Significant Lands:

The only ecologically significant lands within the WR-ASP are the Class IV wetlands, as identified in the Biophysical Overview by Sweetgrass Consultants Ltd.[4], which will be retained and enhanced. The wetlands include habitats for a variety of breeding and transient birds. Details on the wetland retention and enhancement can be found under Section 7.3.1.

d. Surface and Bedrock Geology:

The Geotechnical Evaluation preformed by McIntosh Lalani states that the general subsurface stratigraphy of the WR-ASP consists of surface organic topsoil overlaying a veneer of silt and lacustrine clay deposits on top of glacial till soils which extend

beyond the depth of drilling. Further details of the Geotechnical Evaluation can be found under Section 3.1.1.

e. Soils and Terrain:

A review of the Geotechnical Evaluation and the Phase 1 ESA found that organic topsoil consisting of clay, sand and rock, was encountered throughout the WR-ASP ranging in thickness from 75mm to 655mm. The WR-ASP contains land that is rolling and hummocky, with potholes dotted across the site. Two significant wetlands are located at the far northeast and southeast corners of the FS1NP area adjacent to Highway 22.

f. Slopes:

There are no unstable slopes on the property. The lands are rolling and generally slope from the southwest to the northeast corners of the FS1NP area.

g. Geotechnical Investigation:

A Geotechnical Investigation was prepared by McIntosh Lalani Engineering Ltd. and was submitted to the Town of Cochrane under separate cover during the WR-ASP application process. See Section 3.1.1 for further information.

h. Flood Potential and Proposals for Mitigation:

There are no floodway or flood fringe lands within the FS1NP.

i. Stormwater Study:

As noted above, further information can be found in the stormwater management concept for the FS1NP has been identified in the *Westridge Revised Master Drainage Plan* by LGN Consulting Engineering Ltd. (May 2009).

j. Water Quantity and Quality:

The stormwater management facilities proposed in the development have been designed to provincial standards to ensure release rates and water quality standards are met. Further information can be found in the *Westridge Revised Master Drainage Plan* by LGN Consulting Engineering Ltd. (May 2009).

k. Air Quality:

The FS1NP is predominantly a residential neighbourhood with an abundance of open space and wetlands. The design of the community is such that pedestrian and bicycle transportation are encouraged as an alternative to internal use of motor vehicles. Although any development that results in the removal of existing vegetation will have some impact on existing air quality, the long term effects when considering the replacement of many of the existing vegetation by developer landscaped areas and private landowner plantings, the development is not expected to result in any appreciable reduction in the current air quality.

l. Visual Resources:

The rolling terrain of the land and the existing wetlands are visually appealing. The proposed development realizes the opportunity to retain the existing uplands adjacent to the wetlands to enhance the existing Class IV wetlands.

m. Land and Resource Use:

Urban development, by nature, is an intensive form of development and will disturb most of the lands on which it is placed. The Fireside development looks to mitigate and minimize its use of the lands and natural on-site resources through the following:

- Preservation of the Class IV wetlands as recommended in the Wetland Assessment prepared by Sweetgrass Consulting Ltd.,
- Relocation of the remaining, less significant wetlands, on a 1:1 ratio through the expansion of the Site 3 (as per Figure 2) Class IV wetland.
- Expansion of the Site 3 Class IV wetland is further accomplished through the integration of the stormwater management facility into the existing wetland.

The naturally occurring, on-site water volumes are retained as a result of the measures taken and listed above. The irreplaceable environmental value of the wetland filtration system is not only preserved, but is enhanced.

Another natural resource being protected in the FS1NP is portions of the wetland vegetation surrounding the less significant wetlands. Much of this vegetation will be transplanted to the wetlands that are being retained.

The FS1NP proposes high density urban development. High density developments provide residential accommodation to a greater amount of residents while utilizing less land. Through this means, the FS1NP is an environmentally responsible, high density community. Further details on the density provided in the FS1NP can be found under Section 6.0.

n. Cultural and Heritage Resources:

A Historical Resource Impact Assessment (HRIA) was prepared by Historical Resource Management Ltd. for the entire WS-ASP. The assessment indicated that no new archaeological sites were recorded and no previously recorded sites were located on the lands. Based on the findings of the HRIA, clearance for the WS-ASP was given by Historical Resource Management, Alberta Culture and Community Spirit in a letter dated September 26, 2008.

o. Construction and Demolition Waste Management:

A construction and demolition waste management plan will be provided with each Subdivision application and Development Permit application to ensure proper procedures are followed at the time of construction.

8.2 Sustainability Complement

8.2.1 Planning Principles of the Sustainability Matrix

A Sustainability Matrix, as required by the MDP for new developments, was provided in detail for the WR-ASP. A copy of this letter is included as Appendix B. A brief summary of how the FS1NP continues to meet the five Planning Principles of the Sustainability Matrix, is outlined below.

a. Principle 1: Responsible Growth Management

"Responsible growth management demands that the Town make every effort to meet the needs of a growing population, in an ecologically-aware and efficient manner, using limited natural, human, built, and financial resources".

The FS1NP meets the Town's Responsible Growth Management goals of accommodating a growing population in an efficient manner, by providing a new community with relatively high density, which is easily accessed by existing infrastructure.

The needs of a growing population are met by the FS1NP through its provision of commercial development, institutional use provided through the inclusion of the two school sites, and areas for social interaction including parks and playfields. A variety of housing options will be available in FS1NP through a mix of higher density housing, semidetached, and single family dwellings, to accommodate the different life stages of future residents.

One of FS1NP's amenities is the naturalized stormwater management facility which will be integrated into the existing wetland. This integration will protect and enhance the natural ecology of the area by retaining the existing wetland and the adjacent vegetation in the associated upland area.

b. Principle 2: Social & Cultural Well Being

"Social well-being and a high quality of life is a reflection of living in a community that creates a safe, healthy, and comfortable environment in which to live, work and play."

The FS1NP provides residents with a variety of residential housing forms and multiple opportunities for social interaction. Details of how the FS1NP achieves this is provided in Section 4.0.

The layout of the FS1NP incorporates several elements of a pedestrian oriented development, as described further in Section 4.6. By accommodating pedestrian use, and providing areas for social interaction, including parks and open spaces, the safety of the community is increased through the active presence of its residents. This addresses one of the Crime Prevention Through Environmental Design (CPTED) principles. Further details of how the FS1NP addresses CPTED can be found in Section 4.8.

The parks and greenspaces provide recreational opportunity for residents. In addition, multiple pathways provide a variety of connection alternatives throughout the community, as expanded on in Section 4.6. A public art piece which will be placed in the feature park looks to use locally produced art work, designed to reflect the 'Fireside' name. This park and art piece are further discussed in Section 4.4.8.

The local school site and commercial node will provide employment opportunities, giving residents the options for work within their community.

The FS1NP identifies a potential future transit route that minimizes impact on the community while providing direct access to the commercial-residential mixed use site and the school site. Figure 7 illustrates this transit route.

c. Principle 3: Environmental Stewardship

"Environmental stewardship highlights the Town's commitment to careful and responsible management of our natural resources and ecological assets"

The FS1NP will protect and enhance the two permanent wetlands adjacent to Hwy 22, and the existing vegetation on the upland slopes adjacent to these, while integrating a naturalized stormwater facility with the southern most wetland. By utilizing this existing wetland as part of the stormwater management solution for the FS1NP area, portions of the naturally occurring drainage course will also be preserved. This is an adaptation of the natural drainage course to accommodate urban stormwater and demonstrates responsible management of this natural resource.

The stormwater facilities will filter the stormwater run-off before it enters pipes directing it from the community to the Bow River. The ultimate wetland complex will result in no-net loss of wetlands from the entire WS-ASP area, will be utilized to ensure a healthy future for the existing permanent wetlands, and is designed to provide an educational and open space amenity for the community. See Sections 4.4.7 and 7.3 for further details of the stormwater management facility and Section 7.3.1 for a discussion on wetland compensation.

By using pathway display boards throughout the naturalized stormwater management facility, the developer will inform residents as to how the stormwater management facilities are integrated with the existing wetlands, to provide an innovative solution to stormwater management and wetland enhancement, and help retain and protect the natural environment. The developer will not only design and build these naturalized facilities, but will help educate residents of the community as to how their community is ecologically responsible in its stormwater management.

d. Principle 4: Economic Vitality

"Economic vitality provides the foundation for a healthy, diverse, active, prosperous, and resilient economy."

The FS1NP will provide an attractive, complete residential community that will increase the Town's population base which will support local business and encourage industries and new employers to base themselves in the Town of Cochrane. Fireside is a complete community because it will provide commercial uses, including retail,

business and personal services, educational uses through the two school sites, and recreational uses in its parks and open spaces.

The location of the commercial site within FS1NP is such that it will be visible from Hwy 22, which will increase the market from which it will draw and thereby increase the vitality of the site.

The high residential density proposed in FS1NP, along with the diverse variety of accommodations suitable to a range of income levels, will aid in the sustainability of the proposed commercial element of this community, and its resiliency in varying market conditions.

The walkability of the FS1NP will encourage an active community, which will draw residents to the commercial node as a destination point, further enhancing the prosperity of the site.

e. Principle 5: Community Engagement

"Community engagement builds trust, ensures accountability, and improves the quality of decision making as the public plays a valuable role in formulation plans and developing services."

The developer of the FS1NP held several meetings with adjacent landowners during the WR-ASP process to discuss and listen to their concerns. The WR-ASP was adapted throughout its application and approval process to address these concerns. Further considerations were raised by the general public and the Cochrane Environmental Committee at the first Public Hearing. The developer followed up by asking technical experts to prepare letters and/or reports to address these concerns prior to Council approval of the WR-ASP.

8.2.2 The Fireside Stage 1 Neighbourhood Plan Addresses the Cochrane Sustainability Plan

The *Cochrane Sustainability Plan* (CSP) was developed by various Cochrane Action Groups made up of residents from the Town and then adopted by the Town Council in May 2009. The CSP provides thirteen (13) "Pathways to the Future" that can be used to guide development to ensure sustainability for Cochrane's future. The discussion below outlines how FS1NP meets these Pathways to the Future.

The FS1NP encourages social interaction through the design of the community. This social interaction is supported by creating a highly walkable community with multiple destination nodes for gathering. Whether it is at the future schools site(s), within the local commercial areas, or in the community greenspaces, residents will have the opportunity to get to know their neighbours. As residents come to know each other, they will begin to feel greater connection to their community and in turn their community involvement will increase. Increased community involvement could be achieved through local volunteering or providing support through participation in community events. The CSP ***Pathway to the Future 1: We are a socially responsible and empowered community*** and ***Pathway to the Future 8: We are a caring community that lives and celebrates together*** are supported by providing a community where social interaction is highly encouraged through design.

The innovative design providing the enhancement of the natural wetlands to operate as a stormwater management facility is a key element of the FS1NP, and also addresses some of the Pathways to the Future within the CSP. The design of the stormwater management facility includes utilizing the existing wetlands to provide natural filtration and treatment of the stormwater prior to it ultimately entering the Bow River. This natural pre-treatment of the stormwater results in less utility infrastructure required to be built for cleansing and treating of the water, and therefore reduces the impact on the environment as extensive land form modification is avoided. The enhancement of the wetland will also protect the existing vegetation and create a naturalized habitat for wetland species. The final result will be the protection of natural wetland areas including vegetation and wildlife habitats, less demand on underground infrastructure, and the enhancement of the existing wetlands for residents to enjoy. This innovative method of stormwater management puts the FS1NP on the path toward the **CSP goal of being "Responsible Citizens of the Planet",** and meets the ***Pathway to the Future 2: We treat water as a precious resource***, ***Pathway to the Future 3: We use energy responsibly and innovatively***, and ***Pathway to the Future 4: We contribute to the solution on climate change.*** More information on the stormwater management and wetland retention can be found in Section 7.3.

The FS1NP is an efficiently planned community and provides multiple amenities for future residents. With two potential school sites, Fireside will be a community that provides jobs, education, and sporting activities within easy walking distance to the majority of the residences within the community. The local commercial component of the commercial residential mixed use site, will also provide the opportunity to live and work within the community while allowing residents to receive services and shop locally. The extensive sidewalk and pathway system is well connected and integrated throughout the community providing residents with multiple options to get around or just enjoy a leisurely walk. The centrally placed school sites, local commercial, and community greenspaces are located short walking distances from all dwelling units. Additionally, the Town of Cochrane has a strong arts community which will be supported by the structural public art placed in the feature park at the terminus of Fireside Gate; the final design of this art piece has yet to be determined. These elements and features of the FS1NP support many of the CSP's Pathways to the Future including the ***Pathway to the Future 5: We consume the bounty of our local economy***, ***Pathway to the Future 6: our local economy is healthy and diverse***, ***Pathway to the Future 7: Everyone has an opportunity to pursue their potential in Cochrane***, ***Pathway to the Future 10: There is enough room for everything a community should have***, ***Pathway to the Future 11: Wherever you are in Cochrane, you're close and connected***, and ***Pathway to the Future 12: There are diverse options for getting around***. More information on the design elements of the community can be found in Section 4.4.

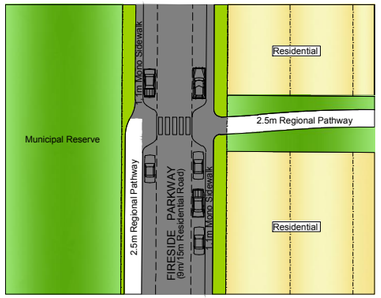
By providing a large variety of housing options, the FS1NP meets the Cochrane Sustainability Plan's ***Pathway to the Future 9: Everyone has a roof over their head***. Front drive garage single family dwellings, laned single family dwellings, semi-detached dwellings, high density multi-family units, commercial-residential mixed use areas and affordable housing will all be developed in the FS1NP. More information on the range of housing available can be found in Section 4.4

The theme of the FS1NP will take inspiration from cultural influences of the Plains First Nations People. Architectural controls, building materials, and community theme colours will reflect the warm earth tones and vibrant fire tones that are inspired by the culture of

the Plains First Nations People. The protection and enhancement of the natural wetlands is also a design element that supports our natural and cultural heritage. Protection and respect for the environment was an important aspect of life to our Indigenous Peoples. Through these elements, Fireside meets the Sustainability Plan's ***Pathway to the Future 13: We build Cochrane on the strength of our natural and cultural heritage***.

APPENDIX

Appendix A: Fireside Stage 1 Neighbourhood Plan



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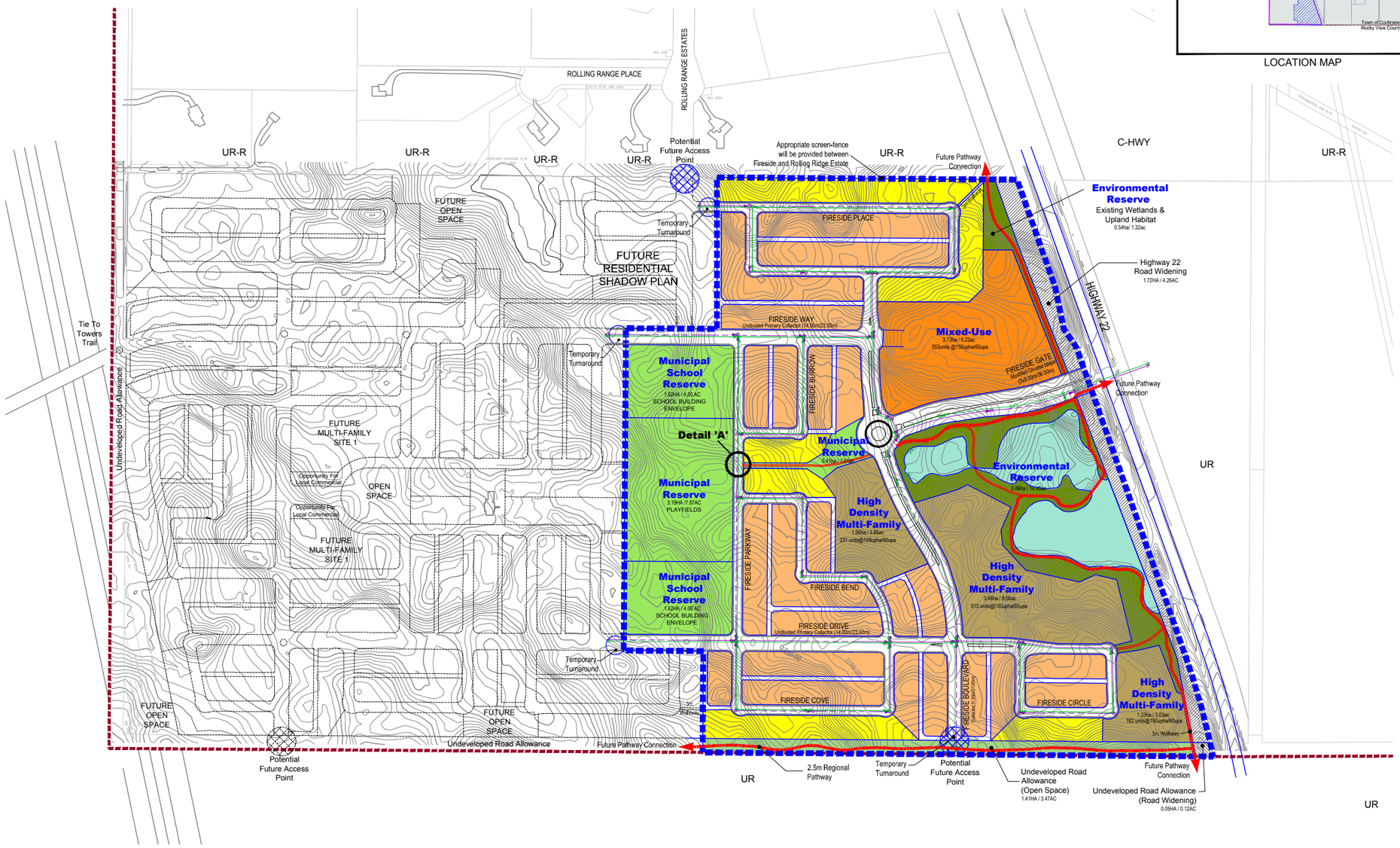

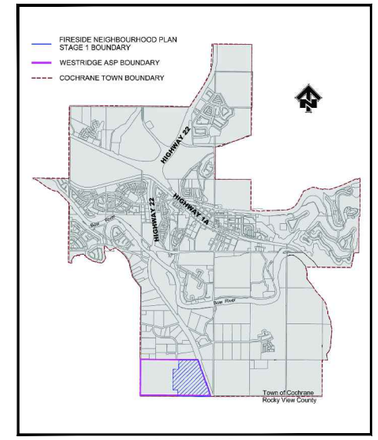

LOCATION MAP

WESTRIDGE OF COCHRANE

FIRESIDE

STAGE 1

NEIGHBOURHOOD PLAN

Legal Descriptions:
Portion of SE27-25-4-W5 & SW 27-25-4-W5

Prepared for:
LA VITA LAND INC.

Prepared by:
FOCUS brown&associates

FIRESIDE STAGE 1 NEIGHBOURHOOD PLAN STATISTICS	HA (+/-)	AC (+/-)
Total Land Area	**53.79**	**132.92**
Highway 22 Road Widening	**1.72**	**4.26**
Environmental Reserve	**6.40**	**15.80**
Town of Cochrane - unopened Road Allowance	**1.46**	**3.59**
Open Space	1.41	3.47
Road Widening	0.05	0.12
Gross Developable Area (GDA)	**44.21**	**109.27**

General Land Uses	frontage(m)			# of units		% of GDA
Residential		**23.23**	**57.39**			**52.5%**
Residential Single Detached Dwelling District						
Anticipated./Maximum number of lots based on based on 9m lot width	1274	4.54	11.22	141		
Residential Single and Two -Dwelling District						
Anticipated number of Single Family lots (80% of frontage) based on 9m lot width	2743	9.95	24.58	304		
Anticipated number of Semi's lots (20% of frontage) based on 6m lot width	685	2.49	6.15	114		
Maximum number of Semi's lots (100% of frontage) based on 6m lot width	3428			571		
High Density Mult-Dwelling District		6.25	15.44			
Anticipated number of units based on 30 upa				463		
Maximum Number of units based on 60 upa				925		
Mixed Use (includes Commercial Sites)		**3.73**	**9.22**			**8.4%**
Anticipated number of units based on 30 upa				276		
Maximum Number of units based on 60 upa				553		
Municipal Reserve		**3.60**	**8.88**			**8.1%**
Municipal School Reserve		**3.24**	**8.00**			**7.3%**
Roadways and Lanes		**10.41**	**25.78**			**23.7%**
Total number of units						
Anticipated.				***1298***		
Maximum				***2191***		
Density						
Anticipated.				***29.4***	***upha***	***11.9 upa***
Maximum				***49.6***	***upha***	***20.1 upa***

Legend

- SINGLE DETACHED DWELLING - LANELESS
- SINGLE OR SEMI-DETACHED DWELLING - LANED
- HIGH DENSITY MULTI-DWELLING
- COMMERCIAL RESIDENTIAL MIXED-USE
- ENVIRONMENTAL RESERVE
- MUNICIPAL (SCHOOL) RESERVE
- INTEGRATED WETLAND / STORMWATER MANAGMENT FACILITY

DEEP SERVICES - PROPOSED
- STORM SEWER/MANHOLE
- SANITARY SEWER/MANHOLE
- WATER MAIN/HYDRANT
- COCHRANE TOWN LIMITS
- NEIGHBOURHOOD PLAN BOUNDARY
- 1000 CONTOUR INTERVAL 0.5m
- SIDEWALK
- 2.5m REGIONAL PATHWAY
- LOCAL PATHWAY

Scale 1:3000

Prepared for:
LA VITA LAND
Prepared by:
BROWN AND ASSOCIATES PLANNING GROUP
in consultation with
FOCUS CORPORATION

SNS: 2009-001

INITIAL SUBMITTION	AUG 4, 2009
Revisions	
REVISIONS AS PER PLANNING COMMENTS	OCT 19, 2009
RESPOND TO CIRCULATION	JAN 6, 2010
REVISIONS TO STREET DESIGN	MAR. 19, 2010

NOTES:

ALL ROADS ARE RESIDENTIAL STANDARD (9m/15m) UNLESS OTHERWISE NOTED.
ALL LANES ARE 6.0m WIDE

Apr 01, 2010 – 2:06pm W:\800R Fireside NP\DWG\800r-NP_mar10.dwg Layout:NP coloured

APPENDIX

Appendix B: Sustainability Matrix from the West Ridge Area Structure Plan

brown & associates
PLANNING GROUP

Suite 600 | 222 – 58th Avenue SW | Calgary, Alberta T2H 2S3
greg.brown@brownandassociates.com
p. 403. 692.4525 f. 403.262.4480

March 12, 2009
Job # 800L

Town of Cochrane
101 RancheHouse Road
Cochrane, AB T4C 1A4

Attention: **Mr. M. Saley,**
Director, Planning & Engineering Services

Re: **Westridge Area Structure Plan, February 9, 2009**
Sustainability Matrix

Section 5.2, Long Term Sustainability, of the proposed Westridge ASP provides comment on the consistency between the proposed ASP and the five planning principles set out in the newly adopted 2008 Municipal Development Plan (MDP). At our meeting on March 9th, you requested that we elaborate on each of the goals set out under these principles in order to have a more ordered confirmation of the consistency of the ASP with the planning principles of the MDP.

We are pleased to elaborate on all the goals stated within the Sustainability Matrix provided in Appendix 1 of the MDP, as follows:

1) Responsible Growth Management

a) Uses its limited land base and existing infrastructure systems efficiently.

The ASP provides for a minimum development density of 19.8 units per hectare (8 units per acre) thereby efficiently utilizing the land base and the existing infrastructure systems. This minimum density conforms to the minimum required MDP density of 19.8 units per gross developable hectare (8.0 units per gross developable acre). The Conceptual Neighbourhood Plan within the ASP provides a development opportunity of 8 to 10 units per acre so as to enable more efficient use of the land if the market opportunity exists to accommodate the higher density.

b) Manages growth in a way that enables the Town to provide and maintain public services, such as underground utilities, roads, schools, parks, recreation facilities, transit and emergency vehicles.

The development will be designed and constructed to meet the engineering, streets and parks standards of the Town. The Conceptual Neighbourhood Plan, Map 6, has been designed to provide an ease of access to all public roads, schools and public open spaces. The utility easements will be designed to enable an ease of access for future maintenance purposes. A collector road system has been designed to enable a possible future transit route. Emergency vehicles will have access to all lots via the public road network. The density of the plan ensures that the Town's operating costs for the public infrastructure will be efficiently balanced with the service provided to the residents and reduced in relative terms to older, less dense neighbourhoods in the Town.

c) Has adequate funding in place for future services and facilities through an effective budgeting process.

The development will provide a beneficial tax base relative to the operational costs of the infrastructure when compared to older less dense neighbourhoods with less residential and commercial tax base per acre.

d) Is recognized as a municipal leader in the area of sustainable urban design by supporting developments founded on sustainability principles, innovation, green building technologies, and Smart Growth;

The land use concept utilizes Smart Growth principles by including the opportunity for local convenience commercial, personal services and neighbourhood office uses to be integrated with the higher density residential uses in the mixed used area at the entrance to the community. This community focal point will provide the primary meeting place for residents in a small town setting. Other meeting places will be the western neighbourhood node, the schools/playfields and more local open space areas along the sidewalk and pathway network.

This higher density mixed use community core, with a diversity of multi-family dwelling units, is targeted to attract a broad range of people and will be integrated with the existing wetlands and the naturalized stormwater management facilities. The public open space will become an attractive feature for both residents of the community and waterfowl, while ensuring that stormwater is detained and cleansed to a standard that minimizes impact on the water quality in the Bow River. The naturalized stormwater management facilities are an example of green infrastructure. The proposed increased emphasis by the developer on the use of BuiltGreen™ practices by the residential homebuilders is yet another example of sustainability.

The provision of separated sidewalks and boulevard trees on the collector spine roads, along with the provision of strategically located walkways elsewhere, encourage walking to the main points of destination within the community. This should lead to a reduced usage of vehicles for local trips and, over time, an increased level of personal fitness. These are all examples of design features which consider a more sustainable future.

The opportunity for a broad and diverse range of housing forms will allow for a more inclusive community and accommodate the various housing needs of both families and individuals throughout their complete lifecycle.

We believe that the proposed development illustrates leadership in environmentally sustainable, smart growth oriented, energy-efficient municipal development.

e) Is known for its "small-town atmosphere" and unique sense of identity;

As indicated above, the mixed use/commercial node at the entrance to the community will be designed with sidewalks, visibility and accessibility to ensure it is the focus point of the "small-town or village" within the larger Town of Cochrane. Small towns are about people talking to people and this space, as well as other locations within the public open space network, will be designed with benches for resting and trees for shade to encourage people to be comfortable, linger, visit and get to know their neighbours.

f) Preserves its heritage resources and celebrates its western heritage.

Through architectural controls, the developer will encourage the use of materials on the homes (wood, color, stone, etc.) that replicate the western themes in the Town. Even the name to be selected for the community, it will not be called Westridge, will promote the western theme of the Town. The selection of local sandstone for entrance features and amenity areas and the

selection of appropriate fencing will be coordinated to have a western theme and feel. The design within the mixed use/commercial node will also have a western theme, implemented through the use of architectural controls, landscaping and fencing.

2) Social Well Being

a) Meets the social needs of its residents; these include a sense of community, lifelong education, spirituality, aesthetic enjoyment, relationship building, safety, health care, recreation, self-expression, and choice;

The community has been designed to create the opportunity for social interaction and provide for personal health and well-being in a physically safe and aesthetically pleasing environment.

The location of one or two school sites and associated active playfields provides the opportunity for lifelong education and sports activity within the neighbourhood. As part of the larger community of Cochrane, all higher level education and recreation will happen outside this community. The mixed use centre provides the opportunity for places of worship and spirituality. The open space sidewalk and pathway network has been designed to encourage walking as a form of recreation which also encourages physical health.

b) Is caring and accepting of others;

It is hoped that the opportunities for personal interaction and activities in public places will result in the development of a caring community, where people get to know their neighbours.

c) Offers safe, vibrant and comprehensively planned neighbourhoods with a diversity of housing, amenities and employment opportunities;

The plan has been designed with traffic "buttons" on the collector streets to encourage low traffic speeds on these larger roads. The smaller, more private cells minimize the opportunity for excessive traffic speed. The design of the road network will encourage safe vehicle movements.

The opportunity for a wide diversity of housing forms will enable a broad range of individuals and families with various financial means to live and interact in the community As indicated in Section 6.1.2 (8) of the ASP, the developer proposes to deliver affordable housing in the first stage of the development of this community. The form and management of the affordable housing will be coordinated between the developer and the Town. The developer has been working with the Cochrane Society for Housing Options (CSHO) and the Town to create a unique concept for the delivery of affordable housing to those in need. This could be in the form of rental, owned, leased or purchased units.

While most people will work outside the neighbourhood, there will be some employment in the community.

The principles of Crime Prevention Through Environmental Design (CEPTED) have been considered in the ASP, primarily through the openness of public open spaces when seen through the eyes of people using the sidewalks and roadways. The limited access opportunities to and from the community will reduce the opportunity for a quick exit, should a crime occur.

d) Has accessible and safe local and regional transportation links for pedestrians, cyclists, motorists and eventually transit users;

The major road access to Highway 22 has been located and will be designed in accordance with the Alberta Transportation functional design which provides maximum consideration of public safety.

The roadway and sidewalk designs will ensure curb cuts and ramped sidewalks to provide universal accessibility to the sidewalk, walkway and pathway network.

As indicated in Map 5, Land Use Concept, the pathway roughly parallel to Highway 22 and integrated within the wetland amenity open space area will have the potential to link into a

regional bicycle and pedestrian pathway network connecting to the north and south. The roads provide for private motor vehicles and a public transit route. Cycling will be encouraged in the community by the design of roadways which encourage safe and slower vehicle speeds.

e) Inspires and supports a vibrant and lively arts community

Not applicable.

f) Provides recreational opportunities through an adequate amount of parks, trails, open spaces, recreational facilities, and access to natural areas;

The plan provides opportunities for active and passive recreation and recreation facilities through the provision of large sites for sports activities, neighbourhood parks for tots and smaller child activities, rest areas for walkers and bird watchers, and linear connecting parks to encourage connectivity between the residential areas.

The plan provides for 10% of the land as municipal reserve and 7.6% of the land as naturalized wetlands/stormwater facilities and natural upland open space area. With roughly 48.7 acres or 17.6% of the plan as open space and pathways connecting through and between the open spaces, there is abundant land for both active and passive recreational activities within the neighbourhood.

g) Gives ongoing support and encouragement to its dedicated and active volunteer base.

Not applicable.

3) Environmental Stewardship

1. Protects its water resources through effective conservation policies and practices;

Significant study, thought and consideration has been given to the protection of the larger wetlands on the lands. The Westridge ASP protects the two permanent wetlands adjacent to Highway 22 and the vegetated upland slopes adjacent to these while providing naturalized stormwater facilities adjacent to the wetlands. The stormwater facilities will cleanse pollutants from the stormwater before it flows from the community to the Bow River. These naturalized stormwater facilities supplement the habitat productivity of the wetlands and uplands.

The plan will also protect the large wetland in the north-central portion of the plan. While water is not always apparent in this wetland, the wetland and adjacent uplands is considered worthy of retention. The replacing and matching on a 1:1 basis of wetlands to be removed by development of the entire land holding ensures conformity with the Town's goal of a "no net loss" of wetlands within new development areas.

Retention of the three most significant wetlands, and the creation of naturalized stormwater facilities which will supplement and be integrated with the largest wetland adjacent to Highway 22, is an example of a more sustainable future. Significantly, not only will the ultimate wetland complex result in a "no-net loss" of wetlands on the lands, but the stormwater from the development area will be naturally cleansed before entering the Bow River. The wetlands will be utilized to ensure a healthy future for the existing permanent wetlands and will be designed to provide an educational and open space amenity for the entire community. The developer will design and build the natural facilities to help educate future generations by describing the integration of stormwater with the wetlands on display boards adjacent to the pathways.

2. Has effective waste management policies and practices;

The developer will work with his builders to ensure that on-site construction waste is carefully controlled and removed to ensure waste does not blow onto the adjacent agricultural and country residential lands.

3. **Utilizes renewable energy sources to reduce its dependence on fossil fuels;**

   No renewable energy sources are proposed. However, the developer will encourage BuiltGreen construction and insulation standards to be utilized by builders to help reduce the need for the use of natural gas, a fossil fuel, as a heating source for homes.

4. **Safeguards environmentally significant areas, including important habitats and sensitive terrain for their ecological, recreational and aesthetic values;**

   As indicated in Item 1 of this Environmental Stewardship section, the ASP sets aside a significant natural wetland and upland area and incorporates the other significant wetlands into a substantial and noteworthy natural wetland complex. We believe this complex will build on previous design experience and be a model for the integration of stormwater facilities with the conservation of existing wetlands.

   This natural open space area at the entrance to the community will provide significant natural aesthetic appeal to the users of the Highway 22 corridor and the residents of the community.

   As indicated in the biophysical impact assessment submitted by Sweetgrass Consultants, the proposed retention of the most significant wetlands and the incorporation of naturalized stormwater management facilities with the wetlands will result in a significant wetland amenity which will encourage an increase in the number of water fowl in the area and diversity of wetland vegetation and species.

   Since there are no wildlife habitat corridors through the lands, the development will not interfere with any large existing wildlife movements.

   The concept plan for the integration of naturalized stormwater facilities and the existing wetlands adjacent to Highway 22 incorporates a pedestrian and bicycle pathway, providing an appropriate routing for people to enjoy and appreciate this aspect of Cochrane's natural environment. The developer proposes to install information displays in this area to help increase community understanding of the environmental stewardship (stormwater detention and cleansing) that is occurring on the natural wetlands open space upon which they are standing. There will be no better way to illustrate the elements of water and biophysical stewardship than to show people photographs of what originally existed so they may compared it to what see currently, along with explanations of the environmental and scientific processes which are taking place.

5. **Promotes remediation of brownfield sites to allow for future development**

   Not applicable.

6. **Encourages low impact, non-polluting industries;**

   Not applicable.

7. **Anticipates and adapts to extremes in weather and climate;**

   Nothing noteworthy has been incorporated in the plan to address extremes in weather and climate.

8. **Ensures environmental stewardship in resource extraction;**

   There are no natural gravel resources on the site to be extracted prior to development. The development plan for the naturalized stormwater facilities includes provision for the "harvesting" of wetland mud and seeds from the small wetlands that will be lost as part of the grading of the site. As such, these wetland "resources" will be extracted and carefully stored prior to the grading and utilized for the re-vegetation of the new wetland facilities. The harvesting of these natural resources will help create a rich, new wetland area with resources already acclimatized to this specific environment.

9. Works towards maintaining or enhancing air quality to minimize adverse effects on human health and the environment

The Plan is designed to encourage walking and cycling by ensuring direct access along sidewalks, on walkways and in open space from the residential cells to the schools, playfields and neighbourhood commercial area. By providing convenient and direct pedestrian connections, and a mix of land uses, the need for motorized transport within the community is discouraged. Similarly, the opportunity for pedestrian and bicycle linkages adjacent to and in the highway R-O-W will encourage walking and cycling to destinations outside the community when pathways are provided beyond the neighbourhood boundary.

To help minimize air pollution and encourage energy and water consumption, the developer will encourage the homebuilders within Westridge to utilize energy efficient building products and construction methods, as per the Alberta BuiltGreen™ program.

4) Economic Vitality

a. Offers a range of employment and economic opportunities;

The plan offers the opportunities for working at home, at the local schools or in the local commercial, personal service and office centre at the entrance to the community. However, the primary role of the development of the ASP area within the context of the larger Town of Cochrane, is to provide an attractive residential community which will support the existing business community and increase the local population base to help attract industries and more employers to the Town.

b. Recognize the importance of arts and culture in making the community more attractive, strengthening local tourism, and generating commerce for local businesses.

Not applicable.

c. Continue to support the existing business community

The Plan proposes an attractive and efficient community plan that will provide a diversity of affordable housing opportunities for existing and future residents of the Town. New residents attracted to the Town will add to the potential commercial market, thus supporting both large and small existing and new businesses.

The Plan provides for local commercial uses only and does not attempt to compete in any way with the existing central downtown business district which is the commercial focus of the entire community.

By adding to the market base for retail and personal service uses and the employee base for industrial and employment uses, the added population will assist in diversifying Cochrane's economy by adding new retail and service uses and helping to attract more and larger employers who are looking for a community with a significant local labour force.

d. Attracts industries such as research and development, technology, service and tourism;

The development does not have a direct influence on new industries but, as indicated above, by adding to the available labour force, more industries will consider Cochrane a viable location to set up business.

e. Collaborates on local and regional economic development initiatives

Not applicable.

f. Has an appropriate balance between residential and non-residential land base

As indicated in (a) above, the primary role of the proposed neighbourhood development is to accommodate new residents to the Town which will support commercial and industrial or

employment uses elsewhere in the town. As such, the project will not result directly in a net increase in the percentage of non-residential in the Town.

The development of the neighbourhood will not result in any direct costs to the Town since all the roads and utilities and development activity will be paid for by the developer and the future homeowners.

The development will be contributing off site assessments to the Town to help pay for existing and future municipal services such as those related to water and wastewater transmission and treatment. The new residents will contribute municipal taxes to help pay for the Town's operating costs and some capital infrastructure costs.

5) Economic Vitality

a. Create opportunities for the public and the Town to dialogue and exchange ideas about planning and development matters in a fair, respectful and open way.

During the ASP planning process, the developer held several meetings with adjacent landowners and the public to discuss the proposed ASP and listen to their concerns. The major concerns were: (a) a wish to prevent trespass by people and animals and (b) to prevent premature connection of the new community roads to Rolling Ridge Drive and Towers Trail. Both have been addressed in the Plan.

At the initial public hearing on June 24, 2008 concern was raised by the Cochrane Environmental Committee and other members of the general public. In direct response to these concerns, the developer had technical experts prepare reports and/or letters to address these concerns. These responses, and supplemental technical information, were presented to Council and the public on September 8, 2008 at the second portion of the public hearing into the ASP.

Future dialogue with neighbours will occur as part of the ongoing development process to ensure neighbours are aware of the timing and nature of construction in the coming construction seasons.

b. Has successful partnerships working on various projects at local and regional level

Dialogues with the M.D. of Rockyview planners occurred as well as with neighbours resident in Rocky View to ensure appropriate policies were included for the interface with the lands within the M.D.

c. Collaborates with other jurisdictions to develop broad-scale planning for the region;

With a proposed density of at least 8 units per gross developable acre, the proposed ASP conforms to the 2008 Cochrane Municipal Development Plan (MDP), the new Provincial Land Use Framework's desire for increased densities, and the Draft Calgary Regional Partnership Plan which references densities of 8 to 10 units per acre for compact urban nodes worthy of regional infrastructure utilities and services. Approval of this ASP will allow the Cochrane Council to demonstrate its commitment to Smart Growth as a member of the Calgary Regional Partnership.

d. Provides ongoing support for council committees and appreciates the value residents bring to the Town.

Amendments to the ASP after the September 2008 public hearing incorporated the retention of a major natural wetland as a result of the Fossil Water Wetland Review and concerns expressed by residents and the Council.

Summary

The proposed ASP and associated Neighbourhood Concept Plan were drafted and refined with knowledge of the adopted sustainability principles and as such were prepared to implement the sustainability aspirations of the Town.

We hope the above adequately addresses the conformity of the ASP with the five major planning principles and the 31 specific goals associated with the planning principles set out in the sustainability matrix in Appendix 1 of the 2008 MDP.

We look forward to continued cooperation between the developer and Town during the future stages of the development and approval process to carry forward with the implementation of the sustainability principles and goals at the detailed design and construction stages.

Please contact me at (403) 692-4525 or Kent Hystad at La Vita Land Inc. (403) 692-5530 if you have any questions or concerns about this letter or the policies and commitments set out in the ASP regarding a sustainable plan in the southwest quadrant of the Town of Cochrane.

Respectfully yours,

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Attachments: 2 TOD illustrations