



Cochrane Lake Village

Neighbourhood Plan

Cochrane Lake Village Neighbourhood Plan

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1.0 INTRODUCTION

The Cochrane Lake Village Neighbourhood Plan provides a comprehensive framework to guide and evaluate land use redesignation and subdivision applications. It also describes development details pertaining to open space design, road networks, servicing including sewer, water and stormwater management, development densities and future phasing.

The plan area lands are located within Neighbourhoods D, E, and F of the Cochrane Lake Hamlet Plan and within the Cochrane Lake Conceptual Scheme. Ultimately, the lands will form a logical extension of existing and proposed developments, including the Cochrane North Conceptual Scheme, Monterra on Cochrane Lakes, and the Hamlet of Cochrane Lake, which are located to the north and east of the site.

2.0 SITE CONTEXT

2.1 Location & Ownership

Cochrane Lake Village is located in Rocky View County, bounded to the south by Cochrane Lake Road, to the west by acreage development and Range Road 44, to the north by acreage development and agricultural lands, and to the east by Cochrane Lake, lands owned by the Colvin Family Trust, the Hamlet of Cochrane Lake, Monterra on Cochrane Lakes, and the Cochrane North Conceptual Scheme, see **Figure 1**.

The Cochrane Lake Village Neighbourhood Plan encompasses lands located within a portion of NW-28-26-4-W5M, NE-28-26-4-W5M, and SE-28-26-4-W5M, comprising approximately 141.07 ha (348.67 ac). The Neighbourhood Plan area is wholly owned by Macdonald Communities Limited (MCL).

2.2 Existing Land Uses

The Neighbourhood Plan area is undeveloped and is currently designated as Direct Control (DC) District 36 in the Rocky View County Land Use Bylaw [C-4841-97-C-8000-2020](#). This district was created to accompany the Cochrane Lake Conceptual Scheme. Adjacent land uses include other lands within Direct Control (DC) District 36, [Residential Two \(R-2\) District, Ranch and Farm \(RF\) District, Agricultural Holding \(AH\) District, and Hamlet Residential Single Family \(HR-1\) District](#) Agricultural, General District (A-GEN), Agricultural, Small District (A-SML), Residential, Rural District (R-RUR), and Residential, Urban District (R-URB) see **Figure 2**.

FIGURE 1. CONTEXT & LAND OWNERSHIP **UPDATED FIGURE**



FIGURE 2. SITE CONDITIONS & SURROUNDING AREA **UPDATED FIGURE**

2.3 Site Constraints and Conditions

Currently, the Neighbourhood Plan lands are used for agricultural purposes, including hay production and cattle rearing. The Cochrane Lake Village Neighbourhood Plan area is characterized by rolling topography providing views westward, towards the Rocky Mountains, and is intersected by several pipeline rights-of-way. Physical characteristics will be maintained and enhanced as gathering spaces and greenways through future development. Due to the history of agricultural land use within the plan area, there is no significant existing landscape aside from a mix of both native and introduced species of grasses. Existing conditions are highlighted in **Figure 2**.

Cochrane Lake Village is located along Cochrane Lake, forming a significant water amenity adjacent to future development. Over the years, Cochrane Lake has experienced various issues relating to water levels and water quality, impacting existing residents and landowners. MCL has undertaken technical studies, including a Transportation Impact Assessment (TIA), a Water and Sewer Servicing Strategy, a Stormwater Drainage Master Plan for the entire catchment area, a bathymetric evaluation for Cochrane Lake, and is currently undertaking a limnology study of Cochrane Lake to establish the best methods of enhancing lake water quality.

3.0 PLAN CONFORMANCE

3.1 County Plan

In 2013, Rocky View County adopted a new County Plan (Bylaw C-7280-2013), providing vision, goals, and policies to direct long-term growth and development in the County. The County Plan shows the Cochrane Lake Village lands as part of an area designated “Hamlet – Growth as per the adopted plan”. In the County, Hamlets form a traditional part of the rural landscape and the Hamlet of Cochrane Lake is expected to experience moderate growth and to become a rural community with basic services.

The vision for the County Plan indicates that as part of a Hamlet, Cochrane Lake Village should:

- Have a strong sense of community identity;
- Preserve viewsapes;
- Be reflective of its history and environment; and,
- Be sensitive to the needs of all residents.

Cochrane Lake Village will be a distinctive community within the Hamlet with a range of uses, including a small-scale neighbourhood hub with commercial activity, diverse open spaces, and a variety of residential forms. Overall, the vision and design of the Cochrane Lake Village community exemplify County Plan goals and policies.



3.2 Cochrane Lake Hamlet Plan

Cochrane Lake Village is located within the Cochrane Lake Hamlet Plan, which was adopted in 2011 to provide a vision for future development in the area surrounding Cochrane Lake.

The Plan encourages future development to:

- Focus on the Lake as a central community amenity;
- Preserve and enhance natural areas for environmental integration and resident enjoyment;
- Focus on public spaces that enhance neighbourhood aesthetics and character;
- Incorporate diverse building forms that ensure garages and vehicular movements do not dominate the streetscape;
- Incorporate a range of housing choices catering to different lifestyles;
- Ensure appropriate transitions to neighbouring agricultural uses and residential infill areas;
- Ensure neighbourhood structure allows the choice to live, work, shop, and recreate within the neighbourhood; and,
- Incorporate design standards that seek to define a human-scale rural town character.

The Cochrane Lake Village Neighbourhood Plan was written in accordance with the Hamlet Plan and follows the vision and policies of the Hamlet Plan along with other relevant municipal policies.

3.3 Cochrane Lake Conceptual Scheme

The Cochrane Lake Conceptual Scheme was adopted in 1995, in support of development applications for the Monterra on Cochrane Lakes development. At the time of adoption, Monterra comprised approximately 259 ha (640 ac) and included the proposed Cochrane Lake Village lands. To date, the eastern portion of the plan area forming Phases 1 & 2 of Monterra have been developed since the adoption of the Conceptual Scheme. The intent of development within the Conceptual Scheme is to be a complementary extension of the existing Hamlet of Cochrane Lake and to provide, in part, additional facilities and utilities forming a more complete community in this area of the County.

For the Cochrane Lake Village lands, the Conceptual Scheme proposes cluster-style residential development with a small convenience commercial outlet and a recreation/community facility that supports a variety of recreation activities. In the Conceptual Scheme, the westernmost portion of the Cochrane Lake Village lands is identified as a Utilities Cell. It is proposed that these lands be used for irrigation until an alternative solution is approved – at which time the lands may be used for residential development.

The Cochrane Lake Village Neighbourhood Plan incorporates the core principles of the Conceptual Scheme, providing a residential development that embraces the natural features of its setting to create a community that caters to a variety of residents. Cochrane Lake Village will complement the existing Hamlet of Cochrane Lake and Phases 1 & 2 of Monterra to form a residential community complete with recreational and small-scale amenities that can be used by both residents and visitors of the greater area.

4.0 PUBLIC ENGAGEMENT

Outreach to the surrounding community was completed prior to the submission of the Neighbourhood Plan. In an effort to ensure the adjacent community were informed, the project team completed door-knocking at adjacent properties. This offered a chance for face-to-face conversations with neighbours, and to extend invitations to the public open house.

On December 13, 2018, a public information session took place at the Weedon Pioneer Community Hall and over 120 local residents attended. The project team was in attendance to discuss the plan and approach to development and to answer any questions.

5.0 VISION & COMMUNITY DESIGN

The overall vision for Cochrane Lake Village is to be welcoming and walkable lakeside community within the larger Hamlet area that embraces its rural setting and natural environment while providing great access for residents and visitors alike to year-round recreational opportunities.

In Cochrane Lake Village, residents and visitors are able to take in nearby amenities and enjoy the surrounding rural landscape. Rural history and all-season recreational opportunities are emphasized within the community through open spaces and amenities located adjacent to Cochrane Lake. The community will be comprised of treed, walkable neighbourhoods, diverse residential uses, a vibrant Village Core, and extensive open spaces, connected by meandering streets, beautiful vistas, and inviting trails and pathways.

This Neighbourhood Plan is responsive to the topography, with lot layouts taking advantage of existing land forms, encouraging a sensitive form of development. Engineering solutions within the plan area seek to utilize alternate stormwater management strategies with swales and water gardens where possible instead of traditional storm drains. This approach to servicing is both cost-effective and environmentally sensitive.



Cochrane Lake Village will feature an authentic and naturalized community entrance that capitalizes on the rural character of the site. Cochrane Lake Village further leverages the rural and agricultural character of the surroundings through proposed monumentation, streetscapes, architectural features, and open spaces. Some open spaces may include community gardens, as well as other recreational opportunities catering to the rural interests of the residents.

Main streets through the community will feature planted boulevards where possible, with local streets incorporating a more modest design in order to ensure differentiation. The main community access road will provide vistas of both lake and mountains with extensive greenery on each side of the road. Overall, the Neighbourhood Plan encourages walkable streets and pathways, ensuring that residents and visitors alike have choice when navigating through the community.

FIGURE 3. CONCEPT PLAN-VISION

RESIDENTIAL POLICIES

- 5.1.1:** Cochrane Lake Village Neighbourhood Plan shall achieve a maximum of 800 residential units.
- 5.1.2:** Residential development shall be designed to be sensitive to adjacent acreage and agricultural development by incorporating complementary interface and transition treatments.
- 5.1.3:** Both laned and front drive product shall be incorporated into the overall design of residential development to support community interaction, street parking, continuous sidewalks, and consistent frontage with a strong relationship between dwellings and the street.
- 5.1.4:** All residences in the Plan Area shall be located within a 400 metre radius (or 5 minute walk) of some form of open space.
- 5.1.5:** At the subdivision stage, the Developer shall prepare and implement architectural design guidelines for all residential development that reflects the community's character and ensures an aesthetically coordinated appearance of development from the street and public areas.

5.1 Residential Development

The area around Cochrane Lake is experiencing renewed interest in future residential development through the approval of the Cochrane North Conceptual Scheme, and the eventual build-out of Monterra on Cochrane Lakes. Residents are attracted to the natural and recreational amenities, and the lifestyle options offered outside of the city. To support development in the area, Cochrane Lake Village will contain a variety of housing types ranging from low density single-detached estate homes to higher-density townhomes. By offering a range of housing types, this new community will attract a diverse population of residents in different stages of life.

HOUSING TYPES

Single-family homes will be located throughout the plan area, with options for laned, laneless, and estate homes. Laned homes are located throughout the community and are intended to appeal to those with a rural or small-town background choosing to move to Cochrane Lake Village. The integration of rear lane homes within Cochrane Lake Village allow for the creation of welcoming and walkable streetscapes that emphasize important vistas. It is anticipated that demand for laned home product will be high.

Laneless or front-drive homes are generally located on the edges of the community, providing good structure and transitional areas for each neighbourhoods. These homes have been designed to appeal to those from more densely populated urban centres looking for the quieter pace of the countryside. Estate homes are generally located backing onto open spaces with views of the lake, and have been designed for those wanting a larger lot and more space.

Townhomes are located within close walking distance to the Village Core, with views fronting onto Cochrane Lake and providing appropriate transitions of density from the Village Core area. These homes will appeal to people seeking condominium-style housing or smaller homes with minimal maintenance. This will enable the maintenance of the country-style of living, while being in close proximity to amenities and services offered in the Village Core.

HAMLET NEIGHBOURHOODS & DISTRICTS

The Cochrane Lake Hamlet Plan identifies Neighbourhoods D, E, and F within the boundaries of the Cochrane Lake Village Neighbourhood Plan. Neighbourhood D (Hamlet Centre) is expected to serve as a Community Centre focused on Cochrane Lake that incorporates a mix of uses including retail, employment, institutional, and residential uses. Given the proximity to the Town of Cochrane as well as the nearby commercial development at the intersection of Highways 22 and 567, this Neighbourhood Plan contemplates minimal commercial opportunities only in the Village Core located in Neighbourhood D. Neighbourhoods E and F (Hamlet Neighbourhoods) are expected to be focused on providing a range of housing types and public uses.

Within each Neighbourhood, the Hamlet Plan also specifies 3 types of districts within each neighbourhood: Centre District, Transition District, and Edge District. The Hamlet Plan describes the Districts as follows:

Edge: Most rural, lowest intensity, primarily single family detached homes.

Transition: Mid-intensity includes single family, duplex, town houses, and small multi-unit buildings, corner stores, institutional; all with shallow setbacks and parking in the rear.

Centre: Highest intensity allows ground floor retail; town houses, multi-unit buildings, institutional, office; all with zero or minimum front setbacks.

Figure 4 shows the distribution of Hamlet Districts within each Neighbourhood. Cochrane Lake Village achieves and/or exceeds the Hamlet District Allocation requirements noted in Section 3.2.5.B of the Hamlet Plan as noted in **Table 1**.

FIGURE 4. NEIGHBOURHOOD & LAND USE DENSITIES **UPDATED FIGURE**



TABLE 1. NEIGHBOURHOOD DENSITIES

Neighbourhoods	D	E	F
Edge District	5.3%	16.2%	10.6%
Transition District	43.1%	57.2%	38.9%
Centre District	18.8%	6.2%	8.8%
Public Space and Other MR	29.4%	19.3%	28.5%

5.2 Open Space & Community Amenities

Green and open spaces are a key part of Cochrane Lake Village. The Neighbourhood Plan incorporates open spaces throughout the community, as shown in **Figure 5**, which offer opportunities for both passive and active recreation. Approximately 23% of the total plan area comprises open spaces.

The main component of open spaces will be located along the lake edge and interlaced with open spaces within the pipeline rights-of-way located within the property. There will be a series of pedestrian connections to the lake via pathways and greenways, providing both visual and walkable access to the lake from everywhere in the community. This area also provides an opportunity for the creation of a dedicated off-leash dog park that is closely connected to the pathway network. Wherever possible, connections will be made to the regional pathway system to encourage pedestrian movement throughout the community, to adjacent communities, and within the greater Hamlet area.

The community landscape will be designed to reflect the natural context of the surrounding area. The landscape design will utilize mostly native plant materials, such as conifers to create the semblance of a native woodland trail along pathways and a variety of tall prairie grasses and wildflowers throughout other areas of the site, with the only manicured areas located immediately adjacent to homes. Open spaces will be utilized to highlight and enhance vistas and views of to the lake, mountains, and surrounding natural areas to ensure that views throughout the plan area remain accessible to all.

FIGURE 5. OPEN SPACE CONCEPT **UPDATED FIGURE & LEGEND ADDED**



TABLE 2. **OPEN SPACE STATISTICS**

TOTAL AREA	HA	AC	%
Municipal Reserve	22.95	56.71	17
Open Space - HOA	15.47	38.23	8
Public Utility Lot and Other	102.44	253.14	73



COCHRANE LAKE

The Neighbourhood Plan has been designed to ensure each home has a connection to the Lake. These connections may range from:

- Homes located on the lake front
- Homes featuring direct views of the lake
- Homes with direct connections to the lake via pathway/greenway
- Resident access to the dock and public area on the lake
- Public access to the dock and gathering spaces on the lake

Community design leverages Cochrane Lake as an asset in a variety of ways, maximizing the benefit to the residents of Cochrane Lake Village. Future improvements to the lake will ensure that the lake remains an accessible amenity to all and will allow Cochrane Lake to provide four-season recreational opportunities such as: boating and fishing in the summer and skating, cross country skiing, ice surfing and ice yachting as potential winter activities.

OPEN SPACE & COCHRANE LAKE POLICIES

- 5.2.1:** A Landscaping Plan shall be required prior to the endorsement of a plan of subdivision or the issuance of a Development Permit.
- 5.2.2:** A minimum 8 meter MR strip shall be established surrounding the Lake to provide for a multi-use regional pathway, including interpretive signage and benches.
- 5.2.3:** Open space **and parks** amenities throughout the plan shall be aimed at serving a range of ages and **abilities and** providing activities throughout the year.
- 5.2.4:** Design of open spaces shall seek to enhance human comfort by maximizing solar exposure and providing protection from prevailing winds.
- 5.2.5:** An Open Space Management Plan shall be required prior to the endorsement of a plan of subdivision or the issuance of a Development Permit.





Having the lake as an adjacent amenity for all residents is a unique feature that differentiates Cochrane Lake Village from other communities. The Neighbourhood Plan anticipates the enhancement of the lake experience with an amenity building that creates a central community node with kayak/canoe storage and a launch area. The intent is that the amenity building will be available for year-round use with cross-country skiing, ice kiting and ice surfing equipment available for rent throughout the winter.

Proximity to the mountains and other outdoor recreational opportunities is an important aspect of the Plan. Development within Cochrane Lake Village will take advantage of existing topographical features, highlighting the rolling foothills of the Rocky Mountains, and its closeness to Canmore, Banff, and other Rocky Mountain recreational assets will be a major attraction for residents choosing to live in this community.

ENVIRONMENTAL

This Neighbourhood Plan aims to incorporate innovative development standards to create a progressive community that promotes water conservation and energy efficiency. To do so, all homes will meet or exceed the latest Building Code requirements for energy usage, and passive design incorporating deep overhangs to provide sun shading, and reducing cooling loads significantly.

The use of native planting is a further enhancement to the overall environment. To conserve water in a visible way, the use of rain barrels will be encouraged by homeowners but it will not be mandated. These barrels will be connected to the roof drains to both limit surges of storm water into the system, but also to serve as supplementary irrigation in drier times of the year.

Bioswales will form an integral part of the storm drainage system which, along with the planned stormwater ponds, is expected to help enhance the water quality in Cochrane Lake. These bioswales will decrease the runoff into the storm system thus minimizing storm peaks as well as acting as filtration systems to reduce contamination of Cochrane Lake.



FIGURE 6. VILLAGE CORE CONCEPTUAL RENDERING

VILLAGE CENTRE POLICIES

- 5.32.1:** The Village Core shall be ~~pedestrian-friendly and linked with the local trails network~~ designed to be compatible with the regional road network with facilities for cycling, walking and transit, often termed as “active transportation”.
- 5.32.2:** The Village Core shall be collectively owned and operated through the Homeowners Association.
- 5.2.3:** Management of programming in the Village Core shall be by the Homeowners Association.

5.3 Village Core

Alongside Cochrane Lake, the Neighbourhood Plan incorporates a small Village Core, consisting of potential uses such as:

Small-scale commercial opportunities associated with recreational uses

A boathouse for storing kayaks, paddle boards and other human powered watercraft as well as providing storage for the ice yachts, ice surfer and ice kites. This facility may be operated by a concessionaire who would make equipment available for rent for residents and visitors to enjoy both summer and winter lake sports

A pier designed for year-round use

A daycare, to be leased to a qualified operator to achieve affordable childcare for residents

A community centre space with meeting rooms available to book/rent.

Significant commercial development is not contemplated in this Neighbourhood Plan. There will be some convenience commercial opportunities centered around the dock area providing for a small coffee shop which will be part of the overall community amenity. This space would be the sales office for the duration of the project before being converted to its ultimate commercial use. This assembly of small structures proximate to the water's edge will become the heart of Cochrane Lake Village and are shown in **Figure 6**, an illustration of the Village Core.

5.4 Dark Sky

Outdoor lighting throughout Cochrane Lake Village will be designed to be as unobtrusive as possible while still maintaining a high quality, attractive, and pedestrian-oriented environment. Cochrane Lake Village will have an outdoor lighting system that complies with the County's Dark Sky Policy as well as the International Dark Sky Association guidelines. The intent is to reduce the effects of unnatural lighting on the environment and surrounding community and to also reduce energy usage.

Street lighting will conform to both County and Alberta Transportation's design standards at the time of installation. Lighting along the project corridors will be designed to provide a cohesive project identity. Lighting will be placed where appropriate for safety, security, and night time ambiance, including parking areas located around the dock and amenity area and the pedestrian walkways throughout the community. Along pedestrian movement corridors and plaza areas, low mounted lighting will be utilized to reinforce the pedestrian scale. Lighting fixtures will be coordinated with respect to design, material, colour and quality of light.

DARK SKY POLICIES

5.4.1: Residential Development shall incorporate dark sky design principles and lighting techniques to reinforce area character and maintain visibility and safety. **Appropriate illumination of programmed areas (seating areas, pathway intersections, trail heads, etc.) in Municipal Reserves should also be incorporated.**

6.0 LAND USE STATISTICS

The land use statistics represent a breakdown of all development lands within Cochrane Lake Village. The plan area consists of a mix of residential forms, open spaces, recreational and community uses, and stormwater facilities. Approximately 48% of the developable area within the Neighbourhood Plan consists of residential land uses, with 27% being open spaces. The anticipated number of residential units is 800 units, resulting in a maximum density of ~~2.30 units per acre~~ 3.2 units per acre (7.9 units per hectare). Table ~~2-3~~ and **Figure 7** illustrate the distribution of land use areas over the site.

Density can be described at two scales: at a district allocation and an average neighbourhood level. **Figure 8** and **Table 4** identify the number of units per acre by Districts. **Table 5** summarizes **Figure 8** identifying the density of all the districts in the neighbourhood.

LAND USE STATISTICS POLICIES

- 6.0.1:** Residential development shall be generally consistent with the land use concept shown in Figure 7.
- 6.0.2:** Municipal Reserve dedication as shown on Figure ~~7~~ 5 is to be provided to Rocky View County in accordance with Section 666 of the Municipal Government Act.
- 6.0.3:** The Municipal Reserve lands shall be maintained and operated by the Homeowner's Association via a license ~~arrangement~~ **arrangement agreement** with Rocky View County.

FIGURE 7. LAND USE CONCEPT **NEW FIGURE AND REVISED TABLE**

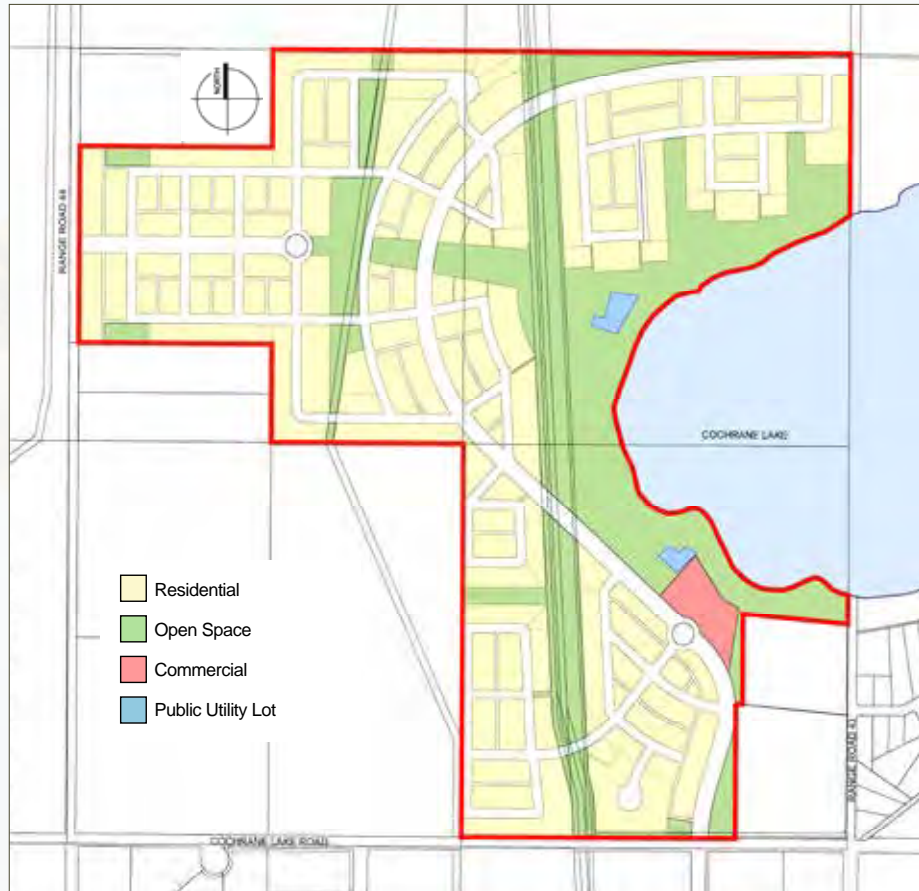


TABLE 3. LAND USE DISTRICT STATISTICS

	Ha	Ac	%
GROSS AREA	140.86	348.07	100.00
RESIDENTIAL	67.46	166.70	47.89
OPEN SPACE	38.42	94.94	27.28
COMMERCIAL	1.62	4.00	1.15
PUBLIC UTILITY LOT	0.63	1.56	0.45
ROADS	32.73	80.88	23.23

FIGURE 8. NEIGHBOURHOOD & LAND USE DISTRICT DENSITY **FIGURE UPDATED**



TABLE 4. DISTRICT ALLOCATION & DENSITY

	Ha	Ac	Units	UPA
NEIGHBOURHOOD DISTRICT AREA	100.16	247.51		
EDGE DISTRICT	15.20	37.56	53	1.36
TRANSITION DISTRICT	68.60	169.51	610	3.46
CENTRE DISTRICT	16.36	40.43	137	3.27
TOTAL	100.16	247.51	800	

TABLE 5. NEIGHBOURHOOD DENSITY STATISTICS

	Ha	Ac	Units	Total Units /acre	Total Units /ha
ALL DISTRICTS	100.16	247.50	800		
COMMERCIAL	1.62	4.00	-		
TOTAL	101.78	251.50	800	3.2	7.9

Anticipated unit numbers are based upon average lot width divided by total frontage within each district type.

7.0 MOBILITY NETWORK

The Cochrane Lake Village transportation network will facilitate multi-modal connections throughout the plan area. The integration of ~~an connected street network with extensive trails will enable easy vehicular, cyclist, and pedestrian connections to major roads, the pathway network, and to major destinations:~~ bike lanes, separated pathways and other facilities into the traditional road network provides opportunities to encourage active living and accommodate multi-modal forms of transportation..

7.1 External Road Network

A Transportation Impact Assessment (TIA) was completed by Bunt & Associates. External road network connections to Cochrane Lake Village are to be made via Cochrane Lake Road to the south, Range Road 44 to the west, and Range Road 43 to the east, through the Colvin Family Trust lands.

As part of the first phase of development, the TIA recommends an upgrade to Cochrane Lake Road (between Sheriff Road and the entrance to Cochrane Lake Village) for a distance of 1.5 km, to a Regional Arterial Road. The TIA also concluded that an upgrade to Range Road 43 (south of Weedon Trail) a Regional Paved Road may be required due to estimated traffic volumes. The TIA further recommended that, as the forecasted volumes are only slightly above road capacities, volumes along this road be monitored and upgrades only be initiated if data supported the need for upgrades in the future.

7.2 Internal Road Network

The internal road network has been designed in conjunction with the pathway network and reinforces the rural atmosphere of the development. The overall road network and classifications are shown in **Figure 8-9**. It is expected that a mixture of Urban and Alternative Road Standards are used throughout the community. Specific locations for each cross section will be determined at the



detailed design stages but will be selected to ensure consistency with the stormwater management concept.

All internal roads have been designed using typical County road cross-sections. In total, there will be three main access points to and from the community, including:

To/from the south at Cochrane Lake Road

To/from the west at Range Road 44

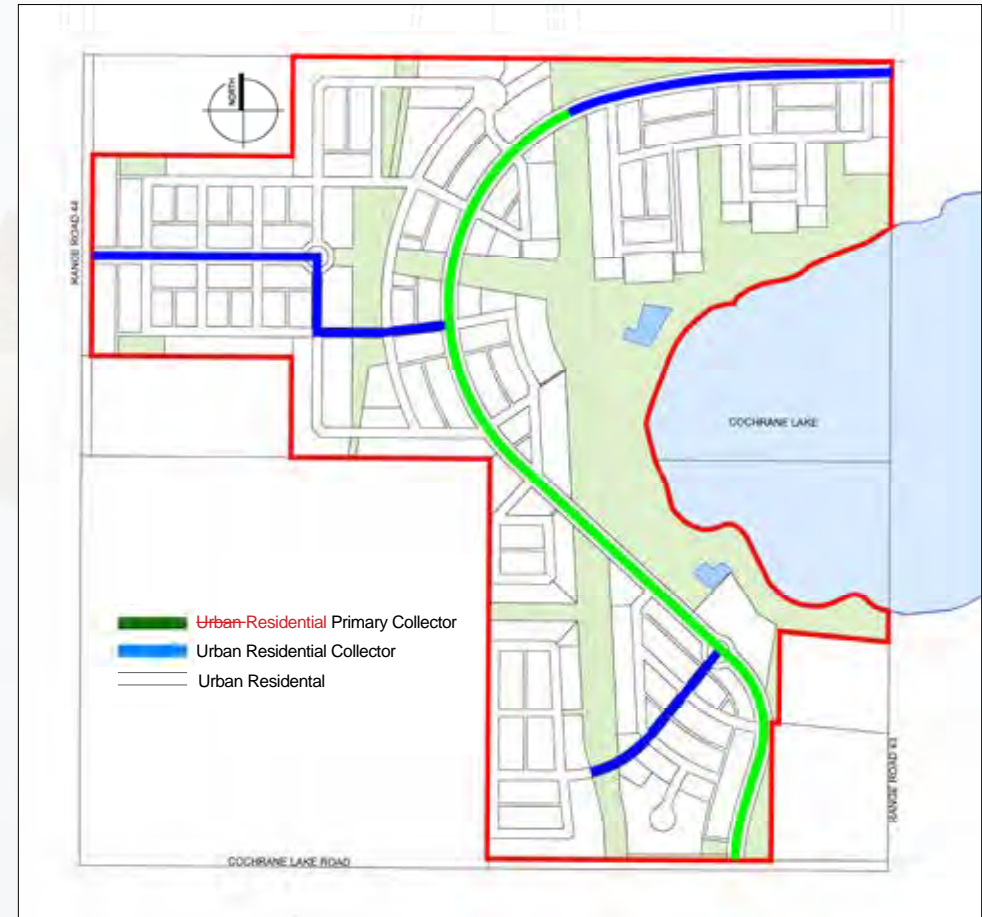
To/from the north at Range Road 43

Initially, it was intended that Cochrane Lake Village tie into the road network proposed as part of the original Monterra development, however there are issues relating to direct access to and the use of the private condominium roads within Monterra Phases 1 and 2. It has been assumed that these issues can be addressed through further discussion, as such, the Neighbourhood Plan identifies a northern road connection towards Monterra through the adjacent lands owned by the Colvin Family Trust.

There will be two main spine roads within Cochrane Lake Village. The first main connector provides a connection from Cochrane Lake Road and generally runs south to north. This road turns east as it moves northwards, ultimately connecting to Range Road 43 and providing a northern connection to neighbouring Cochrane North and Monterra developments through the Colvin Family Trust lands. The second main connector runs east to west, with access from Range Road 44, intersecting with the plan area residential roads which form the rest of internal local road network.

Road names in accordance with approved municipal policy will be determined at subdivision stage, pending branding and theming of the neighbourhood.

FIGURE 9. TRANSPORTATION FIGURE & LEGEND UPDATED



MOBILITY NETWORK POLICIES

7.2.1: Access to the subdivision shall be generally in accordance with Figure 8.

7.2.2: All road systems necessary to service the development shall be constructed by the Developer to the satisfaction of Rocky View County.

8.0 COCHRANE LAKE MANAGEMENT & FUNCTION

Presently, there is no formal Lake Management Plan governing the area, however there is a Lake Management Strategy in place as part of the original approval process for the Monterra development. The Strategy is contained within the Water Licence granted to Cochrane Lake Water Services, in the form of a detailed letter from BSEI, dated December 2, 2005. The Water Licence is now recognized by Alberta Environment as being under the ownership of Horse Creek Water Services (HCWS).

The Water Licence requires that HCWS maintain the Raw Water Reservoir, the Natural Pond, and Cochrane Lake within a specific water level range as defined in the Lake Management Strategy. It is recognized that these levels have not been consistently maintained and details of a solution are not clear, however it is expected that this matter will evolve through future discussions and actions.

This Neighbourhood Plan anticipates certain improvements to the shore on the edge of the lake, within Cochrane Lake Village. The proposed alteration to the lake edge is intended to function both as a device to manage variations in water levels, while also providing an opportunity to introduce a lakefront pathway ~~to be jointly funded by the County and the Developer~~. These improvements will initially be implemented in at least the lake shore fronting onto the dock area and Village Core, with expansion in future phases.

Improved water quality in Cochrane Lake is important in order to enhance its environmental quality and recreational value. As a part of this Neighbourhood Plan, some localized deepening of the lake near the dock and the Village Core shoreline will be undertaken in an effort to improve water quality. No other changes to lake depth are expected to be made. Ultimately, it is anticipated that a formal Lake Management Plan will be prepared to ensure maintenance of the recreational and environmental attributes of Cochrane Lake.



9.0 SERVICING

9.1 Shallow Utilities

Electrical power in the area is provided by Fortis and the franchisee for natural gas in the area is Cochrane Lake Gas Co-op. Neither of these providers foresee any issues with meeting the needs of the community.

Telecommunications will likely be provided by Telus, as Shaw does not yet have service in the area. Shallow utilities will be located within a 3.5 metre right of way located immediately adjacent to the road allowance.

SHALLOW UTILITIES POLICIES

9.1.1: Shallow utilities shall be provided within the Neighbourhood Plan Area at the sole expense of the Developer and shall be located within appropriate utility right of way established at the subdivision stage.

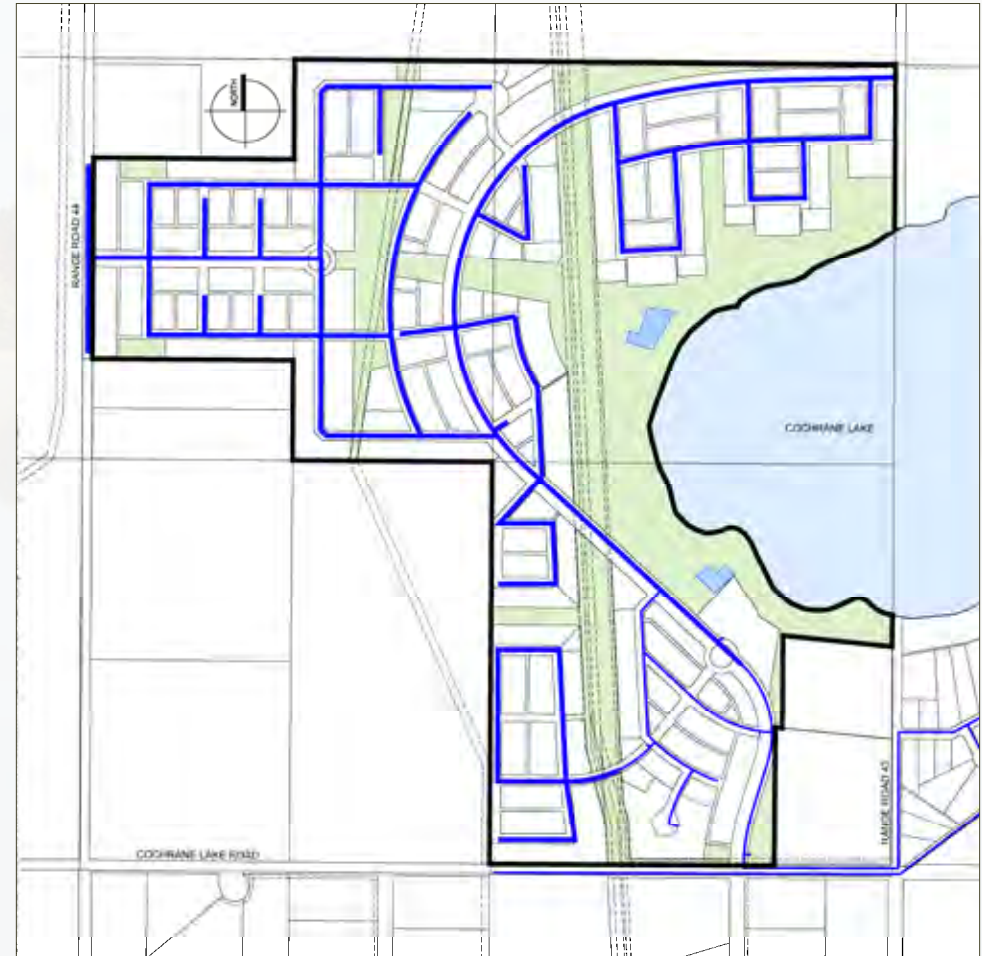
9.2 Water Servicing

Water servicing within Cochrane Lake Village will be provided by an extension to the existing system currently servicing Monterra through existing trunk connections on Monterra Boulevard. The existing system is operated by HCWS and delivers water to the adjacent Monterra development from a pump station located within the Town of Cochrane. The HCWS system was designed to accommodate development on the Cochrane Lake Village lands, as such it has the licencing and treatment capacity to service the demands of proposed development.

A skeletal model of the proposed water network was developed. **Figure 910** depicts the proposed water system network.

The watermain system would consist of newly constructed pipes within proposed roadways and will be looped throughout the proposed Neighbourhood Plan area to provide redundancy and adequate fire flows. Details of the water servicing design are described in the Water and Sewer Servicing Strategy submitted under separate cover in support of the Cochrane Lake Neighbourhood Plan.

FIGURE 10. WATER SERVICING **FIGURE UPDATED**



WATER SERVICING POLICIES

- 9.2.1:** Potable Water servicing shall be provided by existing regional water utility services.
- 9.2.2:** The potable water distribution system shall be designed to ensure adequate fire protection throughout the development, as per s.606.5 of the Rocky View County Servicing Standards. Details of Fire Flow Storage requirements will be confirmed at the detailed design stage.
- 9.2.3:** Potable water servicing shall be in accordance with approved Utility Servicing Strategies, the current version of the Rocky View County Servicing Standards, and all applicable Provincial guidelines to the satisfaction of the County.

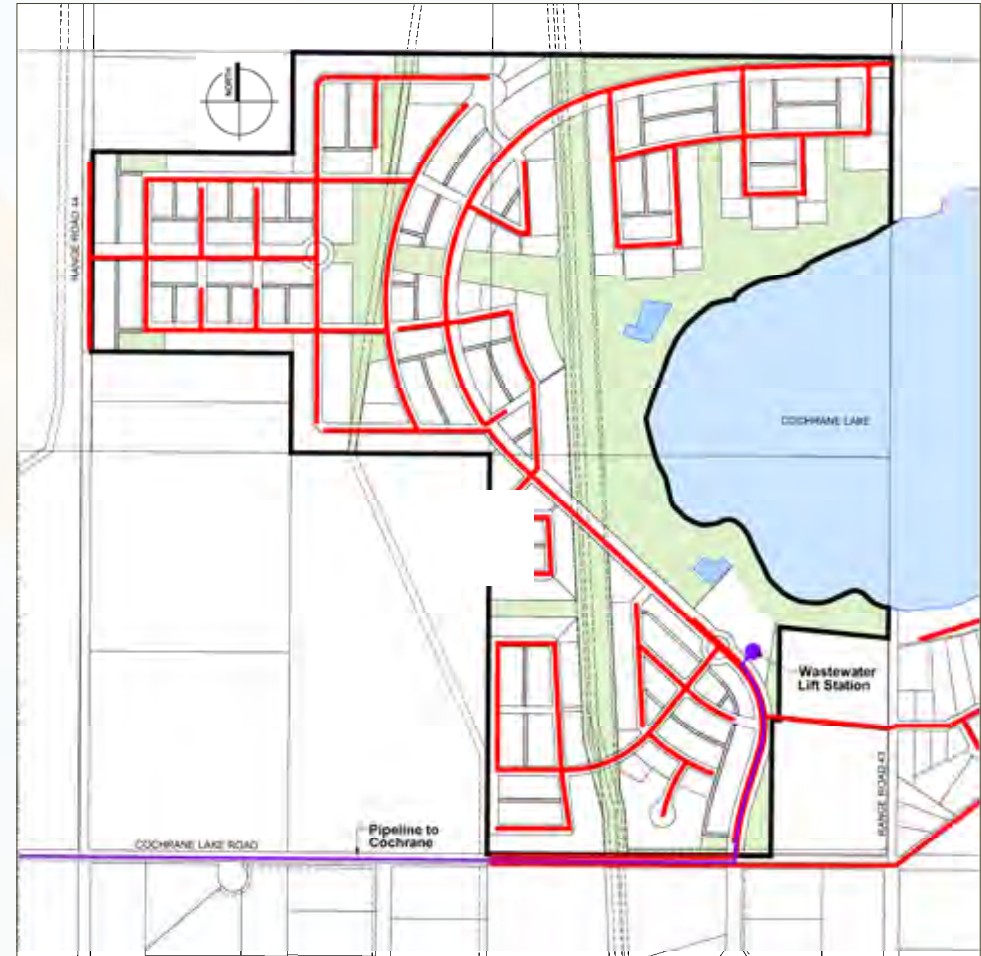
9.3 Sanitary Servicing

The Cochrane Lake Village Neighbourhood Plan area will be serviced by gravity sanitary sewer through a piping system that conveys flows towards the lift station located in the Village Core. The Cochrane Lake Village lift station will pump wastewater to the existing pressure main owned by Horse Creek Sewer Services (HCSS) located at the south end of the plan area at Cochrane Lake Road, which ultimately discharges to the Town of Cochrane sanitary sewer system.

The sanitary sewer system network will consist of pipes within roadways and would be designed and constructed according to the Rocky View County design standards.

The skeletal model of the sanitary system was developed to assess the main trunk sizes and capacities. At this stage, all sanitary sewer demands have been assigned to key junctions to ensure the sizing of the main trunk. **Figure 101** outlines the proposed sanitary sewer system network. Details of the sanitary sewer design are described in the Water and Sewer Servicing Strategy submitted under separate cover in support of the Cochrane Lake Village Neighbourhood Plan.

FIGURE 11. SANITARY SERVICING **FIGURE UPDATED**



SANITARY SERVICING POLICIES

9.3.1: Sanitary Servicing shall be provided by piped utility services.

9.3.2: Sanitary servicing shall be in accordance with approved Utility Servicing Strategies, the current version of the Rocky View County Servicing Standards, and all applicable Provincial guidelines to the satisfaction of the County.

FIGURE 12. STORMWATER SERVICING **FIGURE UPDATED**

STORMWATER SERVICING POLICIES

- 9.4.1:** All stormwater management shall be in accordance with Rocky View County's Servicing Standards.
- 9.4.2:** Low-Impact Development (LID) measures should be implemented to reduce sediment loadings and to reduce runoff volumes.
- 9.4.3:** Reuse of stormwater for non-potable purposes will be considered where appropriate.
- 9.4.4:** Stormwater infrastructure shall be owned, maintained, and operated by the Count.
- 9.4.5:** Stormwater management techniques utilized within the Cochrane Lake Village Neighborhood Plan shall conform to the Cochrane Lake Master Drainage Plan and Cochrane Lake Sub-catchment Master Drainage Plan and be employed in accordance with Alberta Environment Guidelines and to the satisfaction of the County.

9.4 Stormwater Servicing

An integrated stormwater management approach will be undertaken to accommodate the stormwater runoff in Cochrane Lake Village. Low Impact Development (LID) principles will be the foundation of the storm water utility system within the plan area. LID measures will include the implementation of source control practices such as absorbent landscaping and bioswales.

All stormwater runoff collected within Cochrane Lake Village will be stored in two onsite storm ponds. These ponds will meet all Provincial and County requirements in terms of discharge rates and overall water quality. **Figure 142** depicts the stormwater system network. Water stored in storm ponds will be released slowly at the predevelopment rates. In order to further maintain the predevelopment balance, water will be drawn from the storm ponds for irrigation. This will support the proper establishment of landscaping and trees as well as efficiently using rainwater on-site and minimizing runoff.

A technical memorandum prepared by Stormwater Solutions Inc. has been submitted under separate cover. This technical memorandum addresses issues related to stormwater and approaches for the plan area and will guide the Stormwater Master Drainage Plan, to be prepared during the design stages of the project. This technical memo has considered on-site flow conveyance and storage facilities and provides for the runoff leaving the site to be consistent with the predevelopment runoff rate and water volume.

10.0 PHASING

Phasing within the Cochrane Lake Village Neighbourhood Plan area is anticipated to occur in 20 phases, and will generally follow **Figure 123**. Based on the size of the plan area, it is anticipated that the development will take place over a 20-year period.

Development will begin in the southeast along Cochrane Lake Road, and will follow a generally clockwise direction, with the final phases expected to occur in the northeastern portion of the plan area, adjacent to Monterra lands. Ultimate phasing will depend on market demand and infrastructure requirements. The logical extension of open space amenities, roads, and utilities will progress along with additional phases of development

PHASING POLICIES

10.0.1: Residential development, amenity areas, servicing and utilities including water, wastewater and stormwater management will be developed in phases generally corresponding to the development phases shown in Figure 12.

FIGURE 13. PHASING PLAN



11.0 HOMEOWNERS ASSOCIATION

A Home Owner's Association will be established to administer several aspects of the Cochrane Lake Village development, including but not limited to implementation and enforcement of the architectural guidelines, operation and maintenance of the open space and associated trails and pathway network, as well as solid waste management (garbage and recycling).

HOMEOWNERS ASSOCIATION POLICIES

- 11.0.1:** A Home Owner's Association shall be established and shall be responsible for the following:
- a) Implementation and enforcement of the Architectural guidelines as established by the developer at the subdivision stage;
 - b) Operation and maintenance of both the **Municipal Reserve publicly owned** and privately-owned open spaces, trail system, and the associated amenities; and,
 - c) Solid waste management and recycling services for the residential development.



