

# BONNIE LAKE

## AREA STRUCTURE PLAN

Bylaw No. 1146-07

August 2007



**SMOKY LAKE COUNTY  
BONNIE LAKE  
AREA STRUCTURE PLAN  
BYLAW NO. 1146-07**

**WHEREAS** pursuant to the Municipal Government Act, R.S.A. 2000, a municipality in the Province of Alberta may adopt and amend an Area Structure Plan; and

**WHEREAS** the Council of Smoky Lake County deems it desirable to adopt a new Area Structure Plan for the Bonnie Lake area;

**NOW THEREFORE** the Council of Smoky Lake County, duly assembled enacts as follows:

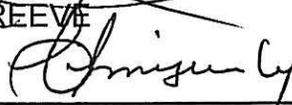
1. THAT the Bonnie Lake Area Structure Plan, being Schedule "A" attached hereto, is hereby adopted.
2. THAT By-law No. 778-87 adopting the Bonnie Lake Area Structure Plan, and all amendments thereto, are hereby repealed.

**READ A FIRST TIME** this 21<sup>st</sup> day of April, 2007.

**PUBLIC HEARING HELD** this 21<sup>st</sup> day of April, 2007.

**READ A SECOND TIME** this 16<sup>th</sup> day of August, 2007.

**READ A THIRD TIME** and finally passed by Council this 16<sup>th</sup> day of August, 2007.

  
\_\_\_\_\_  
REEVE  
  
\_\_\_\_\_  
ADMINISTRATOR

**SMOKY LAKE COUNTY  
BONNIE LAKE AREA STRUCTURE PLAN  
BYLAW NO. 1146-07**

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# **SMOKY LAKE COUNTY BONNIE LAKE AREA STRUCTURE PLAN BYLAW NO. 1146-07**

## **Part 1 Plan Goals, Management Principles**

### **1.1 INTRODUCTION AND PURPOSE**

In 1986 and 1987, in response to increasing development pressures at Bonnie Lake and with technical assistance from Alberta Municipal Affairs, Alberta Environment, and Alberta Forestry, Lands and Wildlife, Smoky Lake County undertook a management study for Bonnie Lake. The Study ultimately resulted in the adoption of an Area Structure Plan for the Lake. That Plan essentially prohibited additional development of any significance around the Lake.

That Plan's policy set has been in place for almost two decades.

Recently, the County decided to review the 20-year old study and policies and, if found to be no longer suitable, to modify them. Much has changed in the past two decades within the Bonnie Lake Area Structure Plan area, within Smoky Lake County, within the Province of Alberta, and within North American society. The purpose of the review exercise was to assess those changes and their impact on both Bonnie Lake and the policies of the Bonnie Lake Area Structure Plan, and to establish a vision to guide development in the Bonnie Lake area for the next two decades.

At the outset, no pre-determination was made as to whether that would be a new vision or a re-iteration and re-articulation of the vision of 1987.

The first phase of the review involved gathering detailed information on various aspects of Bonnie Lake and the Bonnie Lake area and comparing them with those of 1986-7, including the Lake's physical resources, and critical lake planning issues. This information is contained in the 2006 Bonnie Lake Management Study Background Report.

The second phase of the Study involved the preparation of a new Area Structure Plan for Bonnie Lake. The purpose of this Plan can be described as follows:

1. To establish plan goals and land use management principles outlining a vision for the pattern of development around Bonnie Lake for the next 20 years.
2. To provide land use planning policies in the form of text and maps to promote and achieve the plan goals and land use management principles established for Bonnie Lake.
3. To establish a future development pattern for Bonnie Lake and the land surrounding it.

Smoky Lake County recognizes that it has a key role to play in directing the responsible management of the Bonnie Lake area. Smoky Lake County Council can effectively guide the best and efficient use of Bonnie Lake through the preparation and implementation of this Area Structure Plan.

## **1.2 LAKE CAPACITY**

It has historically been believed that a lake can have a number of different development capacities, such as biophysical, recreational, socio-perceptual, and economic. That was, in part, the basis on which much of the discussion of the suitability of the Bonnie Lake Area Structure Plan area for additional development was undertaken in 1986-7.

However, some of the assumptions of lake capacity were, in the first instance, not accurate; and, in addition, some of the assumptions and criteria of lake capacity formulation have changed over the past 20 years.

Recreation capacity studies have often been attempted for lakes. Those capacity studies all make assumptions about the number of residents per lot, the number of days each resident would be at the lake, the number of motorized boats per resident/day, the number of "boat-days" each resident will want to enjoy, the horsepower of the boat motors, the size of the "buffer" zone at the shoreline, the depth of water necessary for boat use calculation, etc. All of those assumptions are merely that – assumptions. Often they are based on current use at a particular lake – empirical data. Often they are assumptions or wishes, often based on the empirical data. They reveal little about a lake except for its current use. For this reason, it has been suggested that no accurate calculation of capacity, except for one based on the calculator's assumptions and perceptions, can be established.

Likewise, biophysical capacity is dependant on biological assumptions. Most lakes which are not under use change pressure are in some form of ecological balance. However, many lakes facing similar pressures are not in balance and are changing. In any event, almost any change in the use of the Lake or the Area around the Lake, even the most minor change, will alter the biological balance and biological capacity of the Lake.

There is also the matter of demographic capacity – which is variable depending upon the age/sex ratios assumed. It is commonly known that the age pyramid at the Bonnie Lake area is aging; but it can also be assumed that, with generational change, that pyramid will be very volatile and subject to continual revision if used as a determinant for planning purposes.

Rather than dwelling on the issue of retaining existing "capacities", a plan for development of and around a lake must ultimately be determined by the plan's goals and management objectives.

## **1.3 BONNIE LAKE TODAY**

Bonnie Lake is much less a quality active recreation experience today than it was 20 years ago. Current water quality and water levels of the lake impede Recreational use. As a result, Recreational use around the Lake has changed from being "consumptive" to being "non-consumptive". The change cannot be the result of additional residential development around the Lake, since subdivision has been precluded around the Lake and residential development has been kept to what were considered high standards of sewage disposal and lake impact for the past 20 years. Nevertheless, the water quality at Bonnie Lake has deteriorated, the water level has fallen, and the general water-related recreational experience of Bonnie Lake lot-owners, residents,

and users has deteriorated over this time. The Lake is too shallow to use for safe, unrestricted motor boating (except for small horsepower motors). The Lake fishery is almost non-existent. Water contact (swimming) is limited to those times during the summer when the lake is not in algae bloom. However, the Bonnie Lake area is still a recreational area and still a destination for both lot owners and day users. Survey results indicate that the recreational experience is no longer lake-oriented, except in a very low intensity fashion.

An analysis of the background information revealed that the Lake has changed from a recreation amenity to a **landscape amenity**.

The available background information does not clearly identify which factor has caused the change. Several factors such as: cattle grazing, forest reduction activities on the north shore, inappropriate lawn and garden care, fertilizers, aging private sewage systems and illegal sewage disposal by some lakeside lot owners (allowing cuttings and fertilizers/pesticides into the Lake and having pit privies and "grey water" discharge), and the general reduction in surface water levels affecting the Smoky Lake region of Alberta have had an impact on the Lake. We can estimate that all of these factors have contributed to the decrease in lake water quality.

The question that has to be asked and answered in this Area Structure Plan development process is this: What kinds of future land uses are appropriate for the Bonnie Lake Study Area? As the consumptive use of Bonnie Lake has receded, Bonnie Lake itself has become only a minor factor. If additional development occurs, it should, be required to adhere to design guidelines that support zero or minimal further impact on the Lake from biophysical materials (storm or sanitary sewage, de-forestation, etc.). The additional use pressure on the Lake (from would-be boaters or swimmers) would be less of an issue for water quality because – there is hardly any existing pressure due to the quality of the current recreational experience at the Lake.

The Background Report indicates that landowners around the Lake are notably concerned lest there be additional development around the Lake which would impact their experience of the Lake and of the Resort area.

The Area Structure Plan's goals and related management principles will determine the nature and intensity of development which the Bonnie Lake area may have. Any changes in the quality of the Bonnie Lake environment or the quality of the Bonnie Lake-related recreational experience will not be as a result of the impact of the development on the Lake or on lake capacity, since they are limited at present. Rather, they will be based on the overall residential development experience.

Though whether the biophysical opportunities for recreational/residential development at Bonnie Lake have been exhausted is arguable, it is clear from the Plan development process that the socio-perceptual limits of the current lot owners and users for Lake development are exceeded.

There is also some concern that additional development would limit the ability of Bonnie Lake to recover. However, this does not recognize that additional development would be predominantly non-consumptive in nature, using the Lake primarily as a landscape amenity rather than a recreational amenity. Future development should be designed and located so as to have almost no biophysical impact on the Lake. All sewage effluents and waste products must be fully treated before being allowed to enter the natural environment. Additional development in the area would add to the human use pressure on the Lake, but that addition would be minimal and limited by the

quality of the Lake experience itself. The presence of other recreational opportunities in the Bonnie Lake area would mitigate any additional recreation pressure in the area.

As a result, despite that fact that there is some concern about the pressure of additional development from current residents and landowners, in consideration of the fact that additional development could be undertaken with no perceptible physical impact on the Lake environment itself, this Area Structure Plan provides for some additional development in the Bonnie Lake area.

However, there is the matter of the impact of the current development on the Lake.

It has been observed that several portions of the Bonnie Lake area other than the campground and scout camp area, which areas were specifically designated for intensive use, are also intensively used in contravention of the County's land use regulations and the intent of the 1987 Area Structure Plan, thus adding to the pressures on the Lake environment. Specifically, several lots in the Bonnie Lake Resort are occupied for substantial parts of the year by a number of recreational vehicles or trailers, the location and use of which substantially increases the impact of the Bonnie Lake Resort on the Lake. This pressure should be controlled if not relieved.

As well, it has been observed that several of the residential lots within the Bonnie Lake Resort may not have sewage disposal systems which are up to current standards or which may even be no longer lawful. Land owners should be encouraged to bring up to standard those sewage disposal systems which are not up to current standards and required to replace those sewage disposal systems which are simply illegal.

Finally, it has also been observed that several of the owners of residential lots within the Bonnie Lake Resort may be following practices that are not the most appropriate for minimizing water quality in the Lake (for instance, allowing vegetation cuttings or "grey water" to enter the Lake) or in a way that is not lawful (for instance, back lot owners drawing water from the Lake for gardening use). Land owners should be encouraged to end those practices which may negatively impact the Lake's environment and be required to end those practices which are illegal.

#### **1.4 PLAN GOALS, MANAGEMENT PRINCIPLES**

There are six major plan goals for Bonnie Lake.

##### Plan Goals:

1. To maintain water quality.
2. To allow suitable additional development which does not reduce the Lake's water quality or recreation experience, but increases the number of persons who can enjoy its amenity.
3. To protect and enhance the recreational and amenity resources of Bonnie Lake.
4. To protect ground water flows.
5. To protect fish and wildlife habitat.
6. To address community needs.

This results in the following management principles:

##### Management Principles:

1. Water quality will be given high priority when assessing the suitability of future land uses.
2. All future development in the Bonnie Lake area shall be carefully controlled using design guidelines so that minimal nutrient and recreational pressures are added to the Lake as a result of development.
3. All future development in the Bonnie Lake area shall have associated with it some form of recreational opportunity other than consumptive recreational use of the Lake.
4. All future development in the Bonnie Lake area shall occur on the basis of the highest levels of municipal services available, in accordance with the County's policies on land development and subdivision.
5. Lake nutrient loading will be limited by appropriate watershed management practices, including:
  - i. controls on shoreland clearing, logging, development, and sewage handling, and
  - ii. Council ensuring as much as possible that watershed management principles are implemented.
6. The rights of the existing farming community will be recognized.
7. The County will take available steps within its jurisdiction to ensure that existing and future sewer systems are functioning properly.
8. Boating restrictions are necessary in certain locations in order to help reduce lakeuser conflicts.
9. Lake residents will be encouraged to modify or end those practices which may increase nutrient loading as a result of shoreland clearing, development, and water handling which may decrease water quality in Bonnie Lake. Lake residents will also be required to end those practices related to development and sewage or water handling which are not legal.

## **Part 2 Land Use Allocation**

The amounts of phosphorus entering the lake from the land depend mainly on the use of land in the watershed. Forested land contributes about 10kg/km<sup>2</sup>/yr. Farm land contributes 20 to 50 kg/km<sup>2</sup>/yr: less from hay land and more from crop land. Urban areas contribute about 100kg/km<sup>2</sup>/yr from surface runoff plus 0.1 to 0.9 kg per person depending on how sewage is treated.

The land use allocation pattern depicted in this Area Structure Plan (Map 1) has been developed from the plan goals and management principles. Each land use area has a stated purpose which is further defined by specific policies relating to the types of land use and development which are most appropriate for that area.

### **2.1 RURAL CONSERVATION AREA**

This designation identifies generally undisturbed lands which may have marginal agricultural capability, marginal recreational capability, and/or critical development constraints. The intent is that land uses and the limited development activity to be allowed in this area should complement the natural environmental features and the rural landscape quality of the area, while causing minimal disruption of vegetation and wildlife resources. Uses which increase nutrient loading of Bonnie Lake shall not be allowed.

Residential development in this Area shall be designed to fit into the existing rural landscape in a manner that will retain the land's capacity to grow crops, produce timber, provide wildlife habitat, prevent soil erosion, provide recreational open space, contribute to maintaining clean water and air and preserve rural character. These features not only contribute to the health and welfare of County residents but also contribute to the economic base by providing jobs and revenues in resource-related and tourism-related enterprises. New buildings and roads shall be designed to enhance rather than to replace these important existing features. Site disturbance shall be held to a minimum.

The following policies apply to lands designated as Rural Conservation:

1. The preferred uses within the Rural Conservation area shall be low environmental impact and low intensity recreational activities such as cross country ski trails hiking and walking trails. The negative impact of such activities will be minimal to the Bonnie Lake environment, Bonnie Lake water quality and existing development.
2. Higher intensity activities such as ATV and horse trails shall be permitted in areas located primarily 1.6 km back (1 mile) from the lake. These trails will be encouraged to locate outside of low lying wetland areas.
3. Agricultural operators will be encouraged to use best practices to limit nutrient inputs into Bonnie Lake. Agriculture has a significant impact on water quality and ground water supplies; however, the rights of the existing farming community must be respected. Any desired changes must be achieved through education and incentive, not compulsion.

4. New agricultural activities which the County believes will have little impact on the Bonnie Lake environment or Lake water quality may be allowed. New confined feeding operations such as feedlots, hog barns and poultry farms, etc. shall not be allowed.
5. The preservation of forested land should be encouraged. Forested land contributes less nutrient per unit area than cleared land. Municipalities can provide incentives for landowners to maintain tree cover. This does not mean financial incentives: experience shows that allowing limited subdivision is a very effective way for maintaining tree cover. Parcels of 8 ha (20 acres) should be allowed on tree covered land set back more than 1.6 km (1 mile) from the lake. Case study research indicates that parcels of this size, set back from lake bodies have been an outstanding success in retaining tree cover.
6. Farmstead separation and single lot country residential subdivision may be allowed in accordance with requirements of the Smoky Lake County Municipal Development Plan and Land Use Bylaw. The operation of the sewage disposal facility associated with the existing dwelling must be certified as conforming with current sewage disposal regulations prior to approval of the subdivision. Thus, development will be at the maximum density of 3 dwellings per sq. km (8 dwellings per sq. mile or 2 dwellings per quarter section).
7. Transportation, communication, and public utility uses shall be considered discretionary. Such uses shall only be developed in such a manner as shall not adversely affect the Bonnie Lake environment, Bonnie Lake water quality, or existing development.

## **2.2 AGRICULTURAL AREA**

This designation identifies areas where existing higher quality agricultural lands are to be retained for continued agricultural crop production. Agricultural activities shall be protected from incompatible non-farm developments. At the same time, negative impacts of agricultural activity on Bonnie Lake water quality shall be minimized.

Residential development in this Area shall be designed to fit into the existing rural landscape in a manner that will retain the land's capacity to grow crops, produce timber, provide wildlife habitat, prevent soil erosion, provide recreational open space, contribute to maintaining clean water and air and preserve rural character. These features not only contribute to the health and welfare of County residents but also contribute to the economic base by providing jobs and revenues in resource-related and tourism-related enterprises. New buildings and roads shall be designed to enhance rather than to replace these important existing features. Site disturbance shall be held to a minimum.

The following policies apply to lands designated as Agricultural:

1. The preferred use within the Agricultural area shall be extensive agriculture and farm related uses. Intensive farming activities such as tree nurseries, apiaries, etc., which would not adversely affect the Bonnie Lake environment may be allowed. New confined feeding operations, such as feedlots, hog barns, poultry farms, etc. shall not be allowed. Agricultural operators will be encouraged to use best practices to limit nutrient inputs into Bonnie Lake.
2. Farmstead separation and single lot country residential subdivision may be allowed in accordance with requirements stated in the Smoky Lake County Municipal Development Plan and Land Use Bylaw. The operation of the existing sewage disposal facility associated with the dwelling shall be certified as conforming with current sewage disposal regulations prior to approval of the subdivision. Thus, development will be at the maximum density of 3 dwellings per sq. km (8 dwellings per sq. mile or 2 dwellings per quarter section).
3. Commercial, industrial, and recreational development or subdivision shall not be allowed.
4. Transportation, communication, and public utility uses are considered discretionary.

### **2.3 RESIDENTIAL AREA**

The purpose of the Residential Area designation is to recognize existing multiple lot residential subdivision and development at Bonnie Lake not to allow for additional multiple lot residential subdivision and development. Some additional single lot development may be permitted in this area within existing multiple lot residential developments. Emphasis is placed on ensuring that seasonal and permanent residential development within this area occurs in a manner which is harmonious with the Lake environment.

The following policies apply to lands designated as Residential:

1. Seasonal and permanent single family dwellings shall be permitted developments. Associated buildings shall be discretionary developments.
2. Additional single lot developments may be permitted in existing multiple lot residential developments.
3. A minimum of 0.2 ha (.5 ac.) of developable land shall be provided on each new residential lot.
4. The design of all future residential developments will be required to retain the land's capacity to provide wildlife habitat, prevent soil erosion, provide recreational open space, contribute to maintaining clean water and air and preserve the recreational character of the community.
5. Within public reserve areas, public recreation facilities such as tennis courts, picnic grounds, public boat launches, swimming areas, etc. which are compatible with permitted uses shall be considered discretionary uses.

6. Only one single family dwelling shall be allowed on each lot. Guest houses shall not be allowed as they constitute a second dwelling unit.
7. Recreational vehicle storage and use shall be determined in accordance with requirements set forth in the County's Land Use Bylaw.
8. ATV and snowmobile use shall be limited to recognized trails within this Area in order to mitigate potential safety conflicts between pedestrians and motorized recreational vehicles.
9. Transportation, communication, and public utility uses shall be considered discretionary uses.

## **2.4 RESIDENTIAL CONSERVATION AREA**

The purpose of the Residential Conservation Area designation is to allow for additional low-impact multiple lot residential subdivision and development in environmentally appropriate locations. Emphasis is placed on ensuring that seasonal and permanent residential development within this Area occurs in a manner which is harmonious with the Lake environment.

The Land Suitability Analysis conducted in the Background Report indicated a number of areas with few or no constraints to residential development. However, through consultation with the community and the County, a number of socio-perceptual constraints were identified. As a result, the total area of land designated Residential Conservation Area is not as large as it would be if land suitability were the only criterion. In the future, development in suitable areas may be considered subject to amendment to this Area Structure Plan, amendment to the County's Land Use Bylaw, and appropriate development controls. Any future amendments to this Plan will involve public notification and public meetings as required pursuant to the Municipal Government Act.

Bonnie Lake lies within the North Saskatchewan River watershed. Recently, a study and Resource Guide for this watershed was completed by the North Saskatchewan River Watershed Alliance. The Guide provides municipalities with tools for watershed management that are, in part, incorporated into this planning document for consideration within this Area Structure Plan area.

Residential development in this Area shall be designed to retain the land's capacity to provide wildlife habitat, prevent soil erosion, provide recreational open space, contribute to maintaining clean water, and preserve the recreational character of the community. These features contribute to the health and welfare of County residents and also contribute to the economic base by providing jobs and revenue in tourism and recreation related enterprises. Any new buildings and roads shall be designed to enhance rather than to replace these important existing features. Site disturbance shall be held to a minimum.

### **Objectives**

County Council recognizes the Residential Conservation Area as a special policy area within the Bonnie Lake Area Structure Plan area. As such, special Objectives have been identified, as follows:

1. To encourage flexible residential design in order to promote environmentally sensitive and efficient use of the land.
2. To encourage the development of residential and recreational communities that incorporate sustainable building design principals and offer lifestyle choices.
3. To preserve as much as possible unique and sensitive natural resources such as ground water, floodplains, wetlands, streams, steep slopes, woodlands, wildlife habitat, and significant historical and cultural areas.
4. To reduce the amount of required infrastructure including paved surfaces and utilities.
5. To encourage the clustering of dwellings and accessory facilities on less environmentally sensitive lands.
6. To encourage interaction in the community by clustering dwellings and locating them closer to roads, providing public gathering places, and encouraging the use of parks and community facilities as focal points in neighbourhoods.
7. To reduce erosion and sedimentation by minimizing land disturbance and removal of vegetation.
8. To promote interconnected and continuous greenways, walking trails, bike paths, and similar corridors throughout neighbourhoods and connecting neighbourhoods.
9. To conserve scenic views and reduce perceived density by maximizing the number of houses with direct views of open spaces.
10. To provide for watershed and water quality protection measures in connection with the principals outlined in the North Saskatchewan River Watershed Alliance Municipal Resource Guide.

## **Policies**

The following policies will apply to lands designated as Residential Conservation:

1. No development comprising more than 4 ha (9.8 ac.) of land and more than 4 dwelling units shall be allowed unless a Development Concept Plan has been prepared by the applicant and approved by the County. That Development Concept Plan shall assess the proposed development site and shall provide the details of all the development criteria within the development area. If the development is to take place in accordance with the Conservation Subdivision Policies indicated in Policy 19 below, the Development Concept Plan will clearly indicate how the policies will be implemented.
2. Subdivision within the Residential Conservation Area shall be encouraged to abide by the Conservation Residential Development Policies outlined in Policies 18 below.

3. In part, in order to implement the development concept, the County may place the subject site within an appropriate District in the County's Land Use Bylaw, or may choose to utilize a Direct Control District within the Land Use Bylaw.
4. Seasonal and permanent single family dwellings shall normally be permitted developments. Buildings associated with seasonal and permanent single family dwellings shall normally also be permitted developments. Under some circumstance, multiple-unit residential dwelling forms (such as duplex, row, or even apartment housing) may be considered, subject to the policies in this Section.
5. The maximum residential dwelling unit density shall not exceed 100 residential dwelling units per quarter section unless the development occurs in accordance with the Conservation Residential Development Policies indicated in Policy 19 below. The minimum parcel size for conventional subdivisions is 0.75 ac. If the development occurs in accordance with the Conservation Residential Development Policies indicated below, the maximum residential dwelling unit density may be increased, at the discretion of Council, to 160 residential dwellings per quarter section. This density figure shall include all forms of residential dwelling units, including guest houses and recreational vehicles which are either immobile (that is, do not have a current license or have the wheels removed) or have some form of building or structure associated with them such as patio, shed, or garage. The maximum parcel size for parcels developed in accordance with the Conservation Residential Development Policies is 0.5 ac.
6. Because of the need to abide by strict residential density factors, the use of recreational vehicles within developments (other than the storage of one recreational vehicle for each dwelling unit within a development) shall be strictly regulated, and shall not be allowed unless specifically provided for in the Development Concept Plan and considered within the residential density calculation in the Development Concept Plan.
7. The density maximum indicated in Policy 5 above may be increased at the discretion of Council on a site specific basis and as articulated within the Development Concept Plan, if the proposed development abides by the Conservation Residential Development Policies indicated below, if all of the identified Primary and Secondary Conservation Areas are preserved, or if a significant recreational or ecological amenity is provided or preserved (such as a golf course or a substantial wetland area) within the development area.
8. The natural topography and vegetation of the development area shall be conserved wherever possible.
9. Internal road access shall be provided to each residential parcel, though the roads may be private in accordance with the policies of this Area.
10. The Municipality will require paved roads in all new multi-lot country residential developments.
11. New residential development shall adhere to the following conservation design-based principles:

1. The ecology of the site must be considered. Lands identified as Primary and Secondary Conservation Areas in accordance with Policy 19 below shall be left undisturbed wherever possible, but incorporated into the overall development scheme. Wildlife corridors or connections between all Conservation Areas shall be maintained wherever possible.
  2. Development will be directed to lands that are determined to be of lesser environmental significance, such as those identified as Low Priority Conservation Areas.
  3. The natural landscape and topography shall be considered and incorporated into the overall design of the development.
12. The residential density of any development shall be directly related to the following:
1. the carrying capacity of the land proposed for development, having regard for site conditions, environmental considerations and impacts, and other factors that may be considered in the design of the proposal. The details as to calculating carrying capacity are indicated in Policy 20 below;
  2. the suitability and availability of municipal services and infrastructure necessary to support the proposal;
  3. the compatibility of the proposed density with that of the surrounding area and the character of the Bonnie Lake community as a whole; and
  4. consistency with the provisions of any development concept plan encompassing the subject lands.
13. All new developments shall take FireSmart Principles into consideration when determining minimum lot sizes and the boundaries for reserves and other areas to be dedicated for the conservation of the natural environment.
14. All new developments shall provide and pay for infrastructure and servicing improvements, as well as the extension of service to facilitate the development.
15. The use of alternative building methods and innovative housing concepts shall be supported in order to encourage the development of more sustainable housing and reducing the amount of land consumed by residential development. Such alternatives might include:
1. reduced site disturbance and heat island effects,
  2. increased water efficiency through such elements as eco-scaping, innovative wastewater technologies and water use reduction,
  3. reducing energy use through the use of renewable energy and "green" power,

4. introducing materials and resources that are or can be recycled, thereby reducing construction waste, and
  5. improving indoor air quality through the use of low-emitting materials.
16. Though private recreation facilities shall be encouraged within developments in the Residential Conservation area in order to provide residential recreational amenity, public recreation facilities, that is, facilities open to the general public, shall be considered discretionary developments and shall only be developed if compatible with the environment and with nearby uses and developments.
  17. ATV and snowmobile use shall be limited within Residential Conservation areas in order to mitigate potential safety conflicts between pedestrians and motorized recreational vehicles.
  18. Transportation, communication, and public utility uses shall be considered discretionary uses.

### **Conservation Residential Development Policies**

In order to achieve the objectives for the Residential Conservation Area, Conservation Residential Development Policies have been developed. The purpose of these Policies is to ensure that future residential development in this area protects and enhances the land's capacity to provide wildlife habitat, prevents soil erosion and degradation, provides recreational open space, contributes to maintaining clean water and air, and preserves the recreational character of the community. The Conservation Residential Development Policies are as follows:

19. All residential developments shall adhere to the following conservation design-based guidelines:
  1. **Open Space**  
Open Space shall comprise at least 50% of the gross development area.
  2. **Primary Conservation Area**  
The following are considered Primary Conservation Areas. Primary Conservation areas must be included within the Open Space areas:
    - a. the 1:100 year floodplain,
    - b. buffer zones of at least 125 f (38 m) width along all perennial and intermittent streams,
    - c. slopes above 25%,
    - d. populations of endangered or threatened species, or habitat for such species,
    - e. wetlands and recharge areas,
    - f. environmentally sensitive areas, as identified by Alberta Environment or Alberta Sustainable Resource Development, and
    - g. archaeological sites, cemeteries, burial grounds, and historical sites.
  3. **Secondary Conservation Area**  
The following are considered Secondary Conservation Areas. Secondary Conservation areas may be included within the Open Space areas:

- a. existing healthy, native forests of at least 0.4 ha contiguous area,
- b. other significant natural features and scenic viewsheds such as water bodies, ridge lines, peaks and rock outcroppings, particularly those that can be seen from public roads or public properties,
- c. agricultural lands with a farmland assessment ratio of 55% or greater of at least 2.0 ha contiguous area, and
- d. existing trails that connect to neighbouring areas.

**4. Low Priority Conservation Areas**

All remaining lands will be considered Low Priority Conservation Areas. These areas are not required to part of the Open Space areas. If the entire site of a development proposal is identified as low priority conservation area, development should be directed to previously cleared and/or disturbed areas.

**5. Use of Open Space Areas**

Open Space Areas may be used for the following purposes:

- a. conservation of natural, archeological, or historical resources,
- b. conservation of meadows, woodlands, wetlands, wildlife corridors, game preserves, or similar conservation-oriented uses,
- c. walking or bicycle trails, provided they are constructed of porous paving and pervious materials,
- d. passive recreation, such as open fields,
- e. active recreation, provided that they are limited to no more than 10% of the total Open Space area, and provided further that they are not located within Primary Conservation Areas. Active recreation areas may include impervious surfaces. These impervious areas shall not count towards the minimum open space requirement. Active recreation areas in excess of this limit must be located outside of the Open Space areas,
- f. agriculture, horticulture, or pasture uses, provided that all applicable best management practices are used to minimize environmental impacts, and such activities are not conducted within Primary Conservation Areas,
- g. non-structural storm water management practices and structural storm water management practices that allow for filtered groundwater,
- h. sewage disposal fields comprised of single or multiple septic tanks,
- i. enclosed sewage treatment facilities, and
- j. easements for drainage, access, and underground utility lines.

**6. Open Space Management Plan**

The Development Concept Plan for a Conservation Residential Development shall include an open space management plan. The open space can be managed in a number of ways, including, but not limited to:

- a. municipal ownership (in Municipal and/or Environmental Reserve parcels),
- b. as a common unit (or units) within a bareland condominium plan, or
- c. as a commonly owned unit, provided that a conservation easement is placed on the lands.

A conservation easement is an agreement between a landowner and a qualifying organization to protect the natural values of land, for a specified time or in perpetuity. Conservation easements are possible pursuant to Section 22 of the Alberta Environmental Protection and Enhancement Act. Under that Act,

qualifying organizations include the provincial government, a municipality, and non-governmental registered charities formed to hold conservation land interests and comply with other requirements under that Act.

The Development Concept Plan will clearly indicate who shall be responsible for maintaining and managing the Open Space areas and how funding for the maintenance and management shall be collected, including any legal instrumentation of such responsibilities and funding. The Plan will also indicate how, if the maintenance and/or management of the Open Space areas becomes neglected and/or if funding provisions cannot be enforced, the County shall assume responsibility for maintenance and management of the Open Space areas, and, further, how the costs of such maintenance and management, including administrative costs, interest, and penalties, will be charged back against the landowners within the development.

Since such Open Space Areas are not developable, their value will be reduced for assessment and municipal taxation purposes.

#### **7. Site Layout**

The Development Concept for a Conservation Residential Development shall include a site analysis, usually in map form with some text describing the features of the map (or maps). Layout of the development should be based on the findings of the site analysis. If the Calculation Method of determining Carrying Capacity was used (see Policy 20), the site analysis should reflect the calculation for development space.

The purpose of the site analysis is to ensure that the important site features have been identified and that the proposed open space will meet the opens space requirements of these Policies. The site analysis should include:

- a. site and property boundaries,
- b. all streams, rivers, lakes, wetlands, and other hydro-geological features (including seasonal water flow and ponding areas) within and adjacent to the site,
- c. topographic contours of no less than 3 m intervals,
- d. all environmentally sensitive areas as identified by Alberta Environmental Protection and Alberta Sustainable Resource Development,
- e. general vegetation characteristics,
- f. soil drainage,
- g. farmland assessment ratios for the site,
- h. existing roads and road structures, and
- i. potential connections of open space, green spaces, and trails.

This will help determine Primary, Secondary, and Low Priority Conservation areas.

#### **8. Residential Density**

The maximum residential density shall be calculated in accordance with Policy 20 below. Notwithstanding this calculation, the maximum residential dwelling unit density in a Conservation Residential Development shall not exceed 160 residential dwelling units per quarter section. This density figure shall include all

forms of residential dwelling units, including guest houses and recreational vehicles which are either immobile (that is, do not have a current license or have the wheels removed) or have some form of building or structure associated with them such as patio, shed, or garage. The maximum parcel size in this area shall not exceed 0.5 ac.

**9. Residential Forms**

Dwellings may be in the form of single detached dwellings, duplex dwellings, row housing, or apartments, or any other form which residential development may take.

**10. Form of Ownership**

Though the form of ownership of the individual residential dwelling units may be the normal fee simple ownership, other forms, such as co-operatives, bare land condominiums, rental accommodation, societies, joint ownerships, to name a few, shall be considered. The form of ownership, and the implications of the form of ownership for the management and maintenance of any services and utilities, shall be identified in the Development Concept Plan for a particular development.

**11. Form of Ownership of Open Space**

The form of ownership, and the implications of the form of ownership for the management and maintenance of any services and utilities, shall be identified in the Development Concept Plan for a particular development. The Development Concept Plan will:

- a. allocate responsibility and guidelines for the maintenance and operation of the Open Space and any facilities located thereon including provisions for ongoing maintenance and long-term capital improvements. Facilities may include: water treatment facilities, recreation facilities and trail networks;
- b. provide a strategy for the enforcement of the Plan.

Any changes to the Development Concept Plan must be approved by Smoky Lake County. The responsibility for maintaining the Open Space and any facilities located thereon shall be borne by the owner.

In the event that the party responsible for maintenance of the Open Space fails to maintain all or any portion in reasonable order and condition, Smoky Lake County may assume the responsibility for maintenance, enter the premises to take corrective action, and charge the costs to the previously responsible party. The County may also bill for administrative costs and penalties associated with the maintenance.

**12. Legal Instrument for Permanent Protection**

The Open Space shall be protected by a legally binding instrument such as a Conservation Easement which is recorded with the deed. The form of protection and the organization or entity to whom the instrument will be registered shall be identified in the Development Concept Plan for a particular development. The instrument will be registered to one of the following:

- a. A land trust or conservation oriented non-profit organization with the legal authority to accept such easements. The organization shall be bona fide in perpetual existence and the conveyance instruments shall contain an appropriate provision for retransfer to the County in the event that the organization becomes unable to carry out its functions.
- b. A government entity with an interest in pursuing goals compatible with the purposes of this policy. If the entity accepting the easement is not Smoky Lake County, then a third right of enforcement favoring the County of Smoky Lake shall be included in the easement.

The instrument for permanent protection shall include clear restriction on the use of Open Space. These restrictions shall include all restrictions included in this policy as well as any further restrictions the applicant chooses to place on the use of the Open Space.

20. The residential density of Conservation Residential Development areas shall be calculated in accordance with the following method:

The maximum number of dwelling units is determined by dividing the developable area of the subject site by one (1), representing a minimum residential parcel size of 0.4 ha. The developable area of a site is the total gross area, less the area of:

- a. Primary and Secondary Conservation Areas,
- b. bodies of open water over 500 sq. m in area or greater,
- c. anticipated rights-of-way for roads and utilities,
- d. Environmental Reserve areas,
- e. Municipal Reserve areas,
- f. streams, rivers, lakes, wetlands, and other hydro-geological features (including seasonal water flow and ponding areas) within the site,
- g. land with a farmland assessment ratio of 55% or greater,
- h. land with significant vegetation features,
- i. land with 25% slopes or greater, and
- j. all environmentally sensitive areas as identified by Alberta Environmental Protection and Alberta Sustainable Resource Development.

## **2.5 PUBLIC RECREATION AREA – Campground**

The purpose of the Public Recreation Area designation is to recognize the existing public recreation campground (the Vilna campground) and to allow opportunity for full utilization of this existing public recreation area.

The following policies apply to lands designated as Public Recreation:

- 1. The preferred use of this area shall be relatively high intensity public oriented recreation uses such as campgrounds, public boat launches, day use areas, and other similar uses.

2. Limited expansion or intensification of the Vilna campground may be allowed if opportunities for expansion exist; however, such expansion or intensification shall not be based on lake oriented recreational use.
3. Prior to any campground expansion or redevelopment, a site plan and assessment shall be prepared and submitted to the County, outlining the nature of the proposed development and its impact on the Bonnie Lake environment. Similarly to the requirement for residential development, the design will be required to retain the land's capacity to provide wildlife habitat, prevent soil erosion, provide recreational open space, contribute to maintaining clean water and air and preserve the recreational character of the community."
4. Spaces for day use, overnight camping, and similar activities shall be suitably organized and clearly marked. Adequate Lake access and parking facilities shall be provided where appropriate.
5. Any necessary facilities such as change houses, toilets, garbage disposal, and on-site water supply shall be provided. Such facilities shall receive approval from authorities having jurisdiction and shall be of sufficient size and adequate quality to handle anticipated use.

## **2.6 INSTITUTIONAL RECREATION AREA – Boy Scout Camp**

The purpose of the Institutional Recreation Area designation is to recognize the existing Boy Scout camp established on a long term crown land recreation lease on Pt. S½ 3-60-13-W4. Emphasis is placed on securing the interests of Scouts Canada at this site, while encouraging development and activity which is compatible with the site and the Bonnie Lake environment.

The following policies apply to lands designated as Institutional Recreation:

1. The preferred use for this area shall be institutional recreation development and related uses including camp halls, group accommodation, outdoor education facilities, etc.
2. The expansion, extension, or redevelopment of existing uses and facilities may be allowed as long as the use of the facilities does not exceed 75 people at any given time.
3. Prior to any further development within this area, a site plan and assessment shall be prepared and submitted to the County, outlining the nature of the proposed development and its impact on the site and the Bonnie Lake environment. The design will be required to retain the land's capacity to provide wildlife habitat, prevent soil erosion, provide recreational open space, contribute to maintaining clean water and air and preserve the recreational character of the community."

## **2.7 COMMERCIAL RECREATION AREA – Vilna Golf Course**

The purpose of the Commercial Recreation Area designation is to recognize the existing Vilna Golf Course development. Emphasis is placed on securing the interests of the golf course at this site while ensuring that its use and development is compatible for the Bonnie Lake environment.

The following policies apply to lands designated as Commercial Recreation:

1. Expansion of the existing golf course facility may be allowed, but only on the lower quality agricultural land as defined in the Bonnie Lake Management Study Background Report.
2. Limited commercial development may be allowed within this area, but it shall be oriented to the specific needs and the nature of the golf course operation.
3. Prior to the extension, expansion or redevelopment of the existing facilities, a site plan and assessment shall be prepared and submitted to the County, outlining the nature of the proposed development and its impact on the Bonnie Lake environment. The design will be required to retain the land's capacity to provide wildlife habitat, prevent soil erosion, provide recreational open space, contribute to maintaining clean water and air and preserve the recreational character of the community.

## Part 3 Land Use and Development Policies

The following land use and development policies shall apply to all lands and developments within the Bonnie Lake Area Structure Plan area, and shall be used by the County of Smoky Lake to guide decision –making regarding all land use and development at Bonnie Lake.

### 3.1 DEVELOPMENT

1. Residential development shall not be allowed on lands having critical development constraints. The following criteria shall be used in determining the suitability of land for residential development:
  - a) Groundwater of sufficient quantity and quality shall be available to support the proposed development. No development shall occur in areas where reserves of potable water are inadequate;
  - b) Development shall not be allowed in areas characterized by wetlands, swamps, muskeg, or saturated soils. Development shall also be prohibited in valleys, ravines, or seasonal draws;
  - c) Development shall be prohibited on slopes in excess of 15 degrees or on slopes which are subject to slippage or mass movement;
  - d) Development is prohibited in or adjacent to important wildlife habitat areas;
  - e) Development is prohibited on soils which have extremely fast percolation rates and/or which might result in the possibility of groundwater contamination.
2. Only one single family dwelling unit shall be allowed on each lot unless otherwise stated in a development agreement.
3. Density incentives will be made available to developers in the Residential Conservation District who incorporate the Conservation design guidelines outlined in Section 2.4 (Policy 19) into their development concept and subsequent development.
4. The Municipality will insist that holding tanks are used within all new developments in the Bonnie Lake Area. The use of a leaching pit or cesspool for kitchen sink waste/ grey water disposal in new developments will not be allowed.
5. No development shall be allowed on public reserves if it does serve the interests of the general public.
6. Any development or structures (except for removable domestic piers or removable boatlifts) proposed on the Lake shore or bed shall be required to obtain authorization from appropriate Provincial agencies.

7. Spaces for day use, overnight camping, and similar activities shall be suitably organized and clearly marked. Adequate lake access and parking facilities shall be provided where appropriate.
8. Retail commercial development shall not be allowed except at the Vilna Golf Course in accordance with the policies of this Plan.

### **3.2 ENVIRONMENTAL PROTECTION**

1. Smoky Lake County shall request appropriate Provincial government agencies to require the minimizing of shoreline disturbance and nutrient loading from cattle grazing activity on public land, utilizing inputs from existing lease/permit holders, County officials, and the Vila Fish and Game Association.
2. The clearing of vegetation on lots shall be minimized in order to maintain aesthetic and visual buffers from neighbouring properties and to reduce soil erosion and nutrient runoff into Bonnie Lake. A site plan detailing the protection of treed areas shall accompany any application for a development permit. The development of any lot shall not result in the loss of more than 40% of the vegetation (to be assessed at the time of application) on that lot.
3. A treed/vegetation buffer at least 500 feet (150 m) wide shall be maintained between agricultural lands and the Lake shoreline.
4. A treed/vegetation buffer of at least 150 ft (45m) wide shall be maintained between any buildings and/or structures and the Lake shoreline.
5. Alterations to the bed and shores of Bonnie Lake shall not be undertaken without the necessary authorization and permits from appropriate Provincial agencies.
6. Recreational Activities such as ATVing and snowmobiling in the shoreland will be not be allowed.
7. The County of Smoky Lake shall work with Alberta Environment in order to determine the feasibility of developing a method of maintaining Lake water levels and enhancing water quality at Bonnie Lake.
8. Land owners shall be encouraged to bring up to standard those sewage disposal systems which are not up to current standards, and required to replace those sewage disposal systems which are not currently lawful.
9. Land owners shall be encouraged to end those gardening, water handling, and disposal practices which may negatively impact the Lake's environment, and be required to end those practices which are not currently lawful.

### **3.3 SERVICING**

1. Smoky Lake County shall consider the clearing, posting, and maintenance of walkways within the shoreland reserves to improve pedestrian access to the Lake.
2. Smoky Lake County shall ensure that local access roads are developed, surfaced, and maintained to a high standard and in accordance with County policy.

### **3.4 BOATING**

1. Smoky Lake County shall ask appropriate authorities to limit all motorized boating activity and prohibit such activity within designated **swimming areas at Bonnie Lake Resort and at the Vilna campground.**

## **Part 4 Plan Implementation and Administration**

### **4.1 AUTHORITY OF PLAN**

1. Pursuant to the provisions of the Municipal Government Act, R.S.A. 2000, as amended, this plan shall be adopted by Smoky Lake County as the Bonnie Lake Area Structure Plan – 2007.
2. Subdivision, development, and redevelopment of lands within the planning area shall be in accordance with the provisions of this Plan.
3. Council shall encourage the Provincial and Federal governments to have regard for the provisions of this plan in the development and redevelopment of public lands, and in the formulation of Provincial and Federal policies and programs, and in the issuance of any permits within the planning area.

### **4.2 LAND USE BYLAW**

1. In order to implement the policies of this Plan, the County's Land Use Bylaw may be amended.

### **4.3 PLAN REVIEW AND AMENDMENT**

1. Smoky Lake County may amend this Area Structure Plan to incorporate new goals, policies and land use. Council shall review and, when necessary, amend this Plan at least once every five years.
2. When considering any amendment proposal to this Plan, Smoky Lake County shall review and consider the Plan goals, development constraints, surrounding land uses, and other pertinent information, shall refer any proposed amendments to concerned provincial agencies for review and comment, and shall consider such comments prior to the adoption of any amendments.

#### **4.4 INTERPRETATION**

1. Definitions and requirements of the Smoky Lake County Municipal Development Plan, Land Use Bylaw and the Municipal Government Act, R.S.A. 2000, as amended, shall be used in the interpretation of this Area Structure Plan.
2. The examples of preferred uses for each land uses area are intended to illustrate the range of activities possible. Specific uses shall be defined in the County's Land Use Bylaw.
3. Land use designation boundaries outlined in this Area Structure Plan may be considered to be approximate except where such boundaries coincide with roads, quarter section lines or clearly recognizable physical features. Minor deviations may be permitted to this Plan, provided that such deviations do not alter the intent of this Plan.

# Map 1 Land Use Concept

