

**YELLOWHEAD COUNTY
BYLAW NO. 2.00**

BEING A BY-LAW TO ADOPT AN AREA STRUCTURE PLAN

WHEREAS, the Municipal Government Act, S.A., 1994, and amendments thereto, authorize a Council to adopt an area structure plan for the purpose of providing a framework for subsequent subdivision and development of an area of land;

AND WHEREAS, a public hearing was held in respect to the proposed area structure plan on the date written below;

NOW THEREFORE, the Council for Yellowhead County, in the Province of Alberta, duly assembled, hereby enacts as follows:

- 1) That the document entitled "Hamlet of Brule, Area Structure Plan", dated January 11, 2000 attached hereto as Schedule "A" is hereby adopted as an Area Structure Plan.
- 2) This bylaw comes into force at the beginning of the day that it is passed in accordance with Section 189 of the Municipal Government Act, S.A., 1994.

m.m. READ a first time this 11th day of January, A.D., 2000.

PUBLIC HEARING held this 22nd day of February, A.D., 2000.

READ a second time this 14th day of March, A.D., 2000.

READ a third time this 14th day of March, A.D., 2000.

SIGNED this 14th day of March, A.D., 2000.


Reeve

Mary Nordvedt.
Municipal Secretary

Hamlet of Brule Area Structure Plan

January 11th, 2000

Yellowhead County Bylaw No. _____

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APPENDIX I - Engineering Report and Findings

1.0 INTRODUCTION AND BACKGROUND

1.1 Purpose and Scope of the Plan

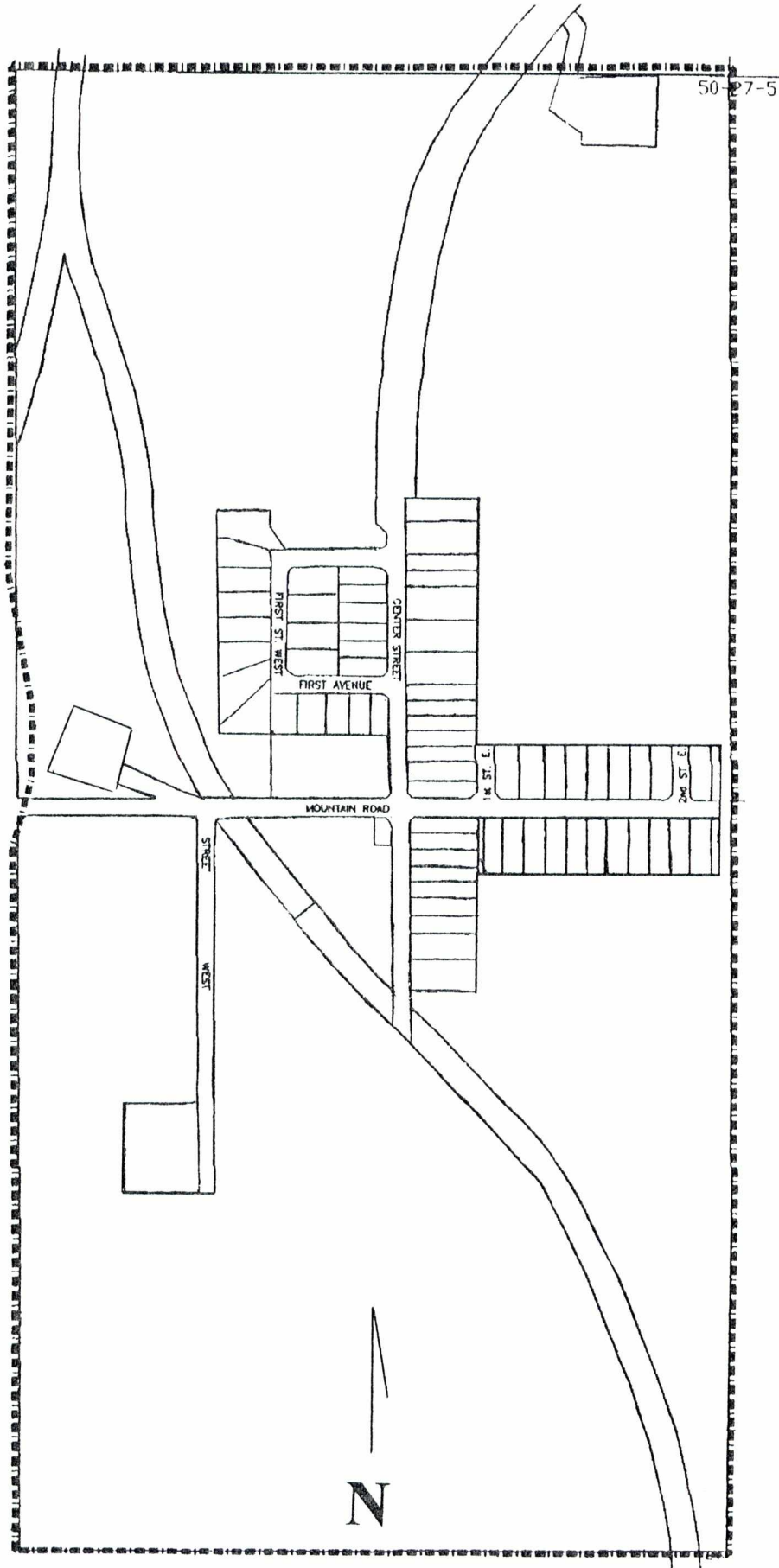
Further to the policies, regulations and land use designations/districting contained in the Yellowhead County Municipal Development Plan and Land Use Bylaw, the Hamlet of Brule Area Structure Plan (hereinafter referred to as the Plan) is for the purposes of providing a framework for future land use, subdivision and development within the Hamlet of Brule. As is indicated on Map 1 entitled "Base Map and Plan Boundary " following this page, this Plan's boundary is the same as the Hamlet's boundary.

Where it is deemed appropriate to provide for further subdivision and development, this Plan is to take on a level of design detail (road/lot/servicing layout) such that any subsequent plans of subdivision can be simply submitted and approved. It is to also address any issues related to existing development raised throughout the public review process or that have been raised by the residents of Brule in recent years. The existing policies related to Brule in the Municipal Development Plan and the list of uses deemed to be appropriate in Brule in terms of the Land Use Bylaw may be both confirmed and altered/refined by this Plan.

According to the terms of reference, the primary focus of this Plan is to examine the desirability and feasibility of further subdivision and development within the proposed Plan boundary. Specifically, the Plan is to address:

- subdividing and developing additional estate residential lots west of the entrance road into Brule;
- enlarging the 8 existing residential lots in Block 2 along First Street West by subdividing the lands due west and consolidating the corresponding enlargement areas with each of the 8 existing lots;

Hamlet of Brule Area Structure Plan



MAP 1 Base Map and Plan Boundary

- expansion of the commercial land base in Brule;
- subdividing and developing additional residential lots east of the entrance road into Brule;
- the appropriateness and acceptability of subordinate uses such as bed and breakfast operations;
- issues related to horse holding;
- lot consolidations and lot extensions to improve on-site servicing;
- the status of community services and facilities such as parks, open space, community facilities, etc; and,
- the need/desire for design guidelines in relation to residential and commercial development.

In general terms, the feasibility component of this Plan is essentially an engineering exercise to:

- reconfirm the remaining capacity of the existing water supply and distribution system;
- specify the number of additional lots (broken down by use) the existing water supply and distribution system is capable of supporting while maintaining the integrity of the system for the existing users;
- assess the impact of any additional lots on sewage disposal, water distribution, and the requirements for road construction and drainage; and,
- ensure that any future subdivision proceeds on a geotechnically sound basis.

From an engineering perspective, the Plan is to specifically address the following with respect to the water system, sewage disposal, roadways and drainage:

- "As built" information regarding the current water system, including field verification of flows and the location of facilities.
- The impact of additional development on the current supply of water for drinking and fire flows both in terms of the existing Hamlet and any proposed subdivision.
- Hydraulic grade and pressure for the additional development along with waterline routing recommendations and cost estimates of providing water services to the additional development.
- The geotechnical/subsurface profile of the area to be subdivided along with recommendations for sewage disposal.
- The cumulative impact of sewage disposal within the proposed expansion areas and the existing developed areas within Brule. (Note: although the focus of this Plan is on the expansion areas, it is to also include an adequate investigation of sewage disposal practices within the developed area of the Hamlet.)
- a preliminary road layout and drainage concept for the area to be subdivided along with estimated costs to meet the minimum residential subdivision road standards for Yellowhead County, all of which being of sufficient detail to ensure feasibility.

In light of the foregoing, the policies and concepts of this Plan form the basis of land use, subdivision and development planning for Brule. It refines or specifies further the general policy direction and land use designations provided for Brule within the County's Municipal Development Plan, serves as the basis for a new land use district for inclusion in the County's Land Use Bylaw and to establish a sound framework for future decisions on subsequent subdivision and development permit applications for the lands situated within Brule. (Note: the engineering component, as described above, is contained within Appendix 1 and, as such, is attached to and forms part of this Plan.)

1.2 Location/Setting and History

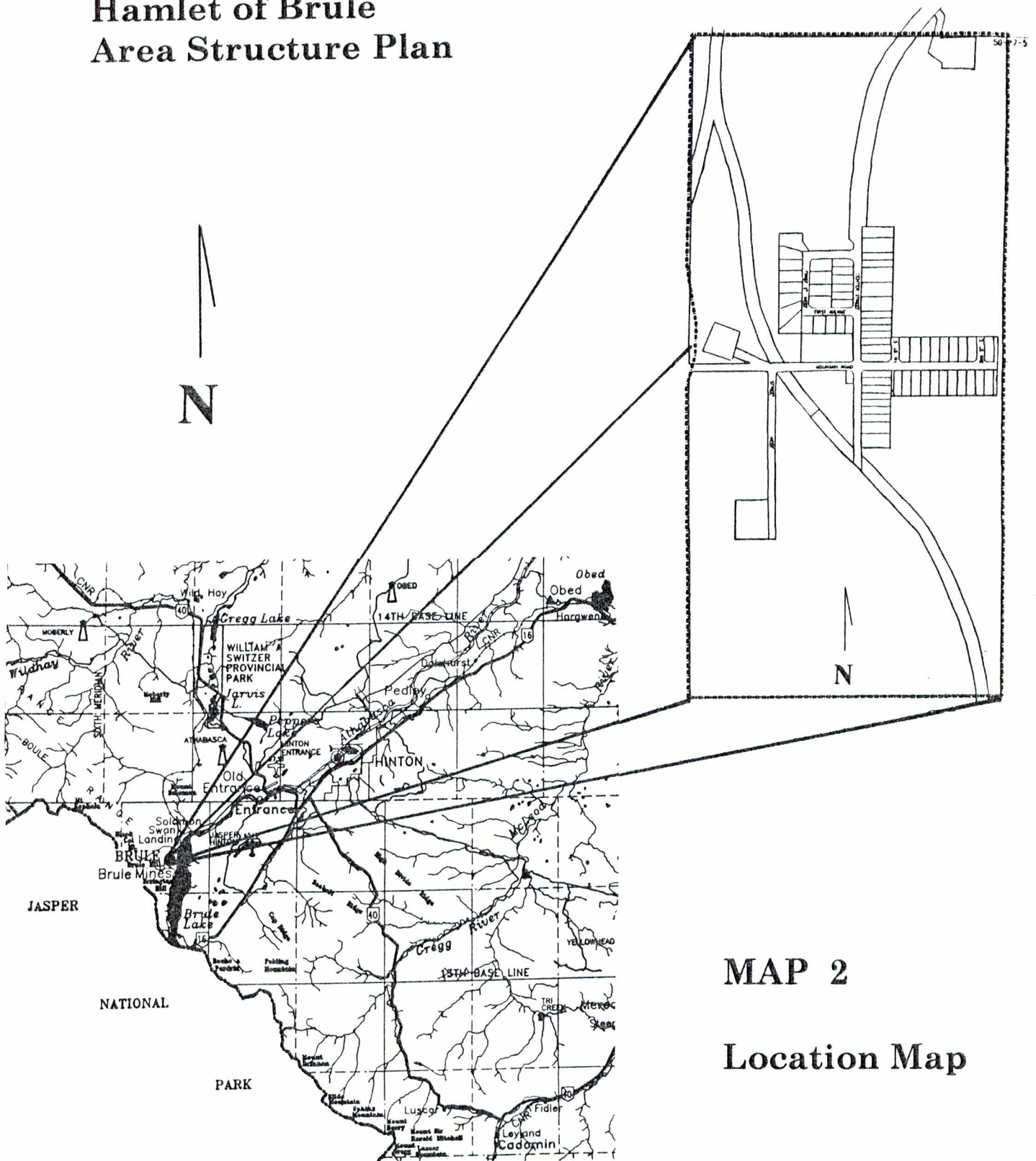
The Hamlet of Brule is located in Sections 10 and 15 of Township 50, Range 27, west of the Fifth Meridian, approximately 20 kilometers southwest of Hinton (see Map 2 entitled "Location Map" following this page). The community is situated on the gentle to moderately sloping land between Brule Hill and Brule Lake. The elevation of the Hamlet is approximately 60 to 70 metres above that of the Lake. To the west of the Hamlet is the dramatic eastern-most ridge of the Rocky Mountains which run northwest-southeast. Scovil and Supply Creeks are located to the north and south of the Hamlet, respectively.

Access to Brule is available from a single all season improved roadway extending from Highway 40. Highway 40 connects Hinton to Grande Cache and Grande Prairie. It also provides access to Highway 16 and Jasper National Park. The community is indirectly accessible from the Main Line of the Canadian National Railway, which follows the west shore of Brule Lake and the Athabasca River.

The area in which Brule is located has had a long and colourful history. The community initially began to develop as a gathering area for trappers, traders and explorers before their passage through the mountains. In the first part of the 1900's, the area of present day Brule developed as a coal mining town. During this time, the local population is reported to have been roughly two thousand. Coal mining eventually declined and the population dwindled until recent years when the community began to regain population. The number of residents has continued to rise substantially over the past 15 years.

In 1912, the Town of Brule was established as a mining community by the Mackenzie and Mann interests who operated the Canadian Northern Railway. The Town grew as the demand for coal increased. In 1920, the mine was sold to the Blue Diamond Coal Co. and at its peak it employed 500 men. By 1928 the mine had produced

Hamlet of Brule Area Structure Plan



MAP 2
Location Map

2,000,000 tons of coal and had reduced the quantity and quality of coal to such a level that closure was necessary due to potential structural problems associated with further development.

Before the mine closed, Brule contained a surprising number of modern conveniences and services. Services included a blacksmith shop, carpentry shop, hotel, hospital, church and schools. Recreational facilities included a race track, covered hockey rink, pool hall, dance hall, tennis courts, ball diamond and even a golf course. Since the mine closed, all of these facilities have closed and most evidence of their existence has been removed.

In the 1940's, the mine company turned over its surface rights and buildings in Brule to the Provincial Government in exchange for rental concessions concerning their northern leases. In 1942, government wrecking crews were directed to salvage any materials from the community which were of value to the Canadian war effort. Rail lines and over one million board feet of lumber were salvaged. The remaining areas of Brule were sold to a local contractor in 1944. The contractor, Soren Madsen, was required to remove all remaining buildings due to the fire hazard they presented.

Throughout the war, logging and sawmill facilities became the leading economic force in Brule. The workers involved in this industry included 125 German prisoners of war. After 1948 the logging and lumber industries within Brule slowly declined and the population dropped to as low as seven families.

Since the late 1950's, Brule has experienced some moderate growth as people moved in to enjoy a combination of the low cost of living, privacy, and a beautiful natural setting. The relatively recent growth within Brule can be attributed to a number of factors including the creation by Municipal Affairs of 35 additional residential sites and the recent growth in the economy of Hinton and surrounding area.

Brule has become the home location for a number of trail riding and hunting outfitters due to the community's proximity to wilderness adventure areas. Brule's location affords an opportunity for outfitters to locate many of their horse holding and grazing areas directly adjacent to the community. Outfitting has shown itself to be a growing sector of tourism and recreational activities. As the industry has grown in more recent years so too has the number of people residing in Brule who earn their living through involvement in outfitting activities.

Although there are a number of properties that could be considered "recreational" (ie: not permanent residences), Brule has also evolved into a satellite community of Hinton. A number of people who work in Hinton and the surrounding area have chosen to live in communities located outside Hinton. Brule is an example of such a community. The absence of a local school and the very limited commercial base in Brule, as examples, serve to illustrate how the day-to-day existence of Brule is linked directly to the economy and services of Hinton.

1.3 Plan Preparation

Formal adoption of this Plan by the County is via Section 692 of the Municipal Government Act (hereinafter referred to as the Act) using the formal public review process outlined therein. These provisions of the Act constitute the formal adoption process. It is important to note, however, that the process used to prepare this Plan relied on more than the formal adoption process required by the Act.

Following Council's adoption of the terms of reference for the preparation of this Plan, a public information meeting was held in late March 1999 at the Community Centre in Brule to go over the terms of reference with the residents. Approximately 40 people attended. The proposed planning process was outlined as were the issues to be addressed in the Plan. There was an active question and answer period

following the presentation. It was pointed out that there would be a significant engineering component to the Plan and that the planning and engineering components would need to fit closely together.

A preliminary/discussion draft of the Plan was prepared between April and August and presented to Council September 14th, 1999, who authorized that the draft Plan be distributed for stakeholder review. An informal public meeting was held at the Brule Community Hall in mid September to gather feedback. Council reviewed the plan at a Public Hearing early in the year 2000. The County granted third reading to the Plan's adopting bylaw in _____.

2.0 EXISTING CONDITIONS

2.1 Land Base and Ownership

The Plan area encompasses 2 quarter sections, approximately 130 ha. (~320 acres). With the exception of a portion of the former CN Rail right-of-way which was recently subdivided and sold to private owners, the County owns all of the unsubdivided and undeveloped land in Brule. This comprises the vast majority of the Plan area. A significant percentage of the County owned land within the Plan area is physically constrained either naturally (e.g. steeply sloped) or by way of previous human activity (e.g. former mine disturbance). These features are discussed in greater detail in Section 3.3 of the Plan. Privately held land, consisting of approximately 70 lots, represents a comparatively small portion of the Plan area.

2.2 Natural and Man-made Features/Characteristics

The Plan area can best be described as picturesque yet constrained and not easy to develop for many reasons both naturally occurring and related to previous land uses. Map 3 entitled "Natural and Man-made Features/Characteristics " following this page shows both the natural and man-made features and characteristics affecting this Plan area. Again, the planning implications of these natural and man-made features are discussed in greater detail in Section 3.3 of the Plan.

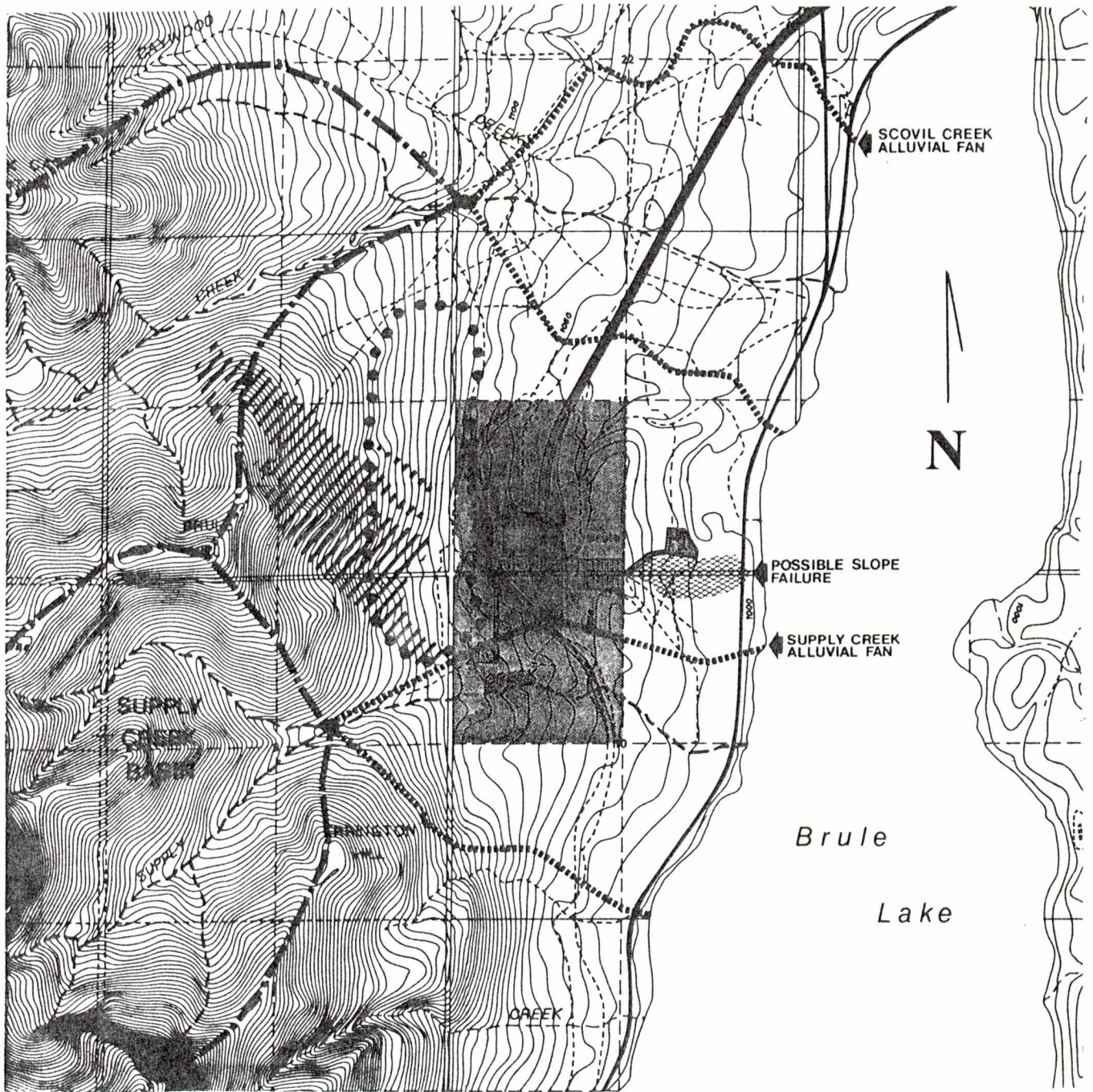
2.3 Existing Land Use

Presently there are no residential lots available for development within Brule. There still are several very small "lots" located along the east side of Blocks 4 and 5 which were created with the intention of being consolidated with the adjoining residential properties to increase their capability to accommodate on-site sewage disposal facilities. The vast majority of these enlargement areas have been so consolidated. The County has encouraged the remaining adjoining property owners to consolidate their "enlargement areas" with their existing titles.

Development within the community is almost exclusively residential. Existing residential development includes approximately 20 manufactured homes and 45 single detached dwellings. Brule is served by an upgraded water supply system (1996), a water distribution system (1986), fire hall, community hall, outdoor skating rink, playground and sports field. The built-up component of Brule is concentrated in a relatively small area in the centre of the Hamlet. Roughly 60-70% of the land area within Brule's boundaries remains undeveloped.

Brule is traversed by an abandoned rail line running from the northwest corner to the southeast corner. Several years ago, the right-of-way stretching from its intersection with Centre Street all the way to the northwest boundary was sold to private land

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FAN APEX



HAMLET OF BRULE



ABANDONED UNDERGROUND MINE



APPROXIMATE SURFICIAL HISTORICAL MINE ACTIVITY AREA

MAP 3

Natural and Man-made Features/Characteristics

owners who subsequently subdivided the portion between Centre Street and Mountain Road into two approximately 0.4 ha. (~1.0 acre) residential lots. The former rail station grounds located on the western boundary have been completely abandoned and there are only minor visible indications of structures. The majority of this area is now completely tree covered.

There is only one commercial use located at the intersection of Centre Street and Second Avenue (a small café and confectionery). There are no industrial land uses within Brule and children are bussed to Hinton for school.

A number of trail riding and hunting outfitters reside in Brule and the surrounding area where opportunities exist for horse holding and grazing. Pressure for horse holding areas is growing not only in the Brule area but throughout the extreme western end of the County. Opportunities do exist to utilize some of the undeveloped/undevelopable lands within Brule for this purpose although horse holding within the Hamlet's boundary need to be more restricted (e.g. number of animal units) as compared to the surrounding area.

3.0 PLANNING VARIABLES/ANALYSIS

3.1 Community Characteristics and Expectations

In recent years, based on responses to Land Use Bylaw amendment applications, subdivision/development permit applications, resident surveys and the review of the County's Municipal Development Plan and Land Use Bylaw, the residents of Brule have emphasized a desire to retain their community's rustic natural qualities and small size. The preservation of the natural surroundings, the views to the Jasper National Park entrance and the existing quality of life in Brule have been identified as being of particular importance.

Tourism/economic development studies conducted over the past 10 years or so, which have examined the development potential of the Obed-Jasper corridor, the Brule area, and so forth, have all acknowledged and reconfirmed these preferences. On the whole, the residents of Brule have consistently expressed their lack of interest in any large scale tourism or residential development that may have negative effects on their existing way of life.

Given the community's early links with the development of very specific and localized resources, Brule's early history was characterized by major fluctuations in population. In more recent years, the population level in Brule has stabilized and the community is now linked to a considerable extent with the larger regional economy of the Hinton and the West Yellowhead area. As such, growth in the Brule area will likely be closely linked with the growth in tourism and related activities expected in the Obed-Jasper corridor, Entrance-Switzer Park corridor and the Coal Branch, and spurred to some extent by the growth/development restrictions that have been applied in Jasper National Park creating overflow into the West Yellowhead area. This type of growth in the Brule area is likely to be in the form of recreational and backcountry tourism activities.

Exact historical population figures for Brule are not available; however, a population in excess of 2000 was quite likely during peak coal production periods. After the closure of the coal mine, this population declined to almost zero. During the 1940's and early 1950's the development of the lumber activities again increased the population, but not to the levels attained during the coal mine operation. The late 1950's saw the population decrease to only seven families. More recently, from 1982 to 1992, the population of Brule nearly doubled from ~80 to ~160 people with the creation of the 35 additional residential lots by Municipal Affairs.

3.2 Servicing Constraints

3.2.1 Water Supply

Supply Creek has been Brule's water source for most of the 20th century. In the past, Brule's water supply system has been damaged during periods of high precipitation due to channel movement and the high levels of sedimentation that plugged the infiltration well system and has also struggled to meet water demand during periods of low precipitation. These concerns and a number of other issues were addressed in a 1990 evaluation of Brule 's water supply system.

As a result of that evaluation, the County upgraded the water supply system in 1996 and it is now designed to accommodate a population of 230 with peak demand of 1.67 litres/second and fire flows of 60.5 litres/second. The storage system consists of a 4,000 m³ rain water reservoir and two slow sand filters rated at 6 m³/hr. The new 378 m³ reservoir is supplied from the existing 22 m³ reservoir. The water distribution system was installed in 1986. Additional lot development may necessitate a larger trunk main.

3.2.2 Waste Water and Storm Water Systems

Sewage is disposed of in one of two ways: on-site septic tanks and tile fields or on-site holding tanks from which the sewage is hauled to sewage lagoons in Hinton for treatment. As mentioned previously, a subdivision was undertaken in 1986 to, in part, allow for future lot consolidations for the purpose of better accommodating on-site sewage disposal.

Based on geotechnical investigations conducted in 1986 and as part of this Plan, it can be said that subsurface conditions within Brule are generally suitable for on-site sewage disposal soil although permeability levels in certain areas may be overly high whereby inadequate contact time between wastewater and soils may not allow for complete biological degradation and absorption. The result may be the contamination of shallow groundwater by only partially treated waste water.

It was made clear in an engineering study in 1987 that development on any large scale in Brule would be dependent on the installation of a communal sewage disposal system. The Senior Public Health Inspector based in Hinton confirmed that any significant increase in development in Brule should be accompanied by a communal sewage disposal system. It has been determined that the installation of a sanitary sewage system would be difficult and costly in Brule due to the physical constraints associated with the lands, particularly in terms of finding a suitable site for a treatment lagoon.

The possibility of locating a sewage lagoon along the south bank of Scovil Creek, within its alluvial fan, was examined some years ago but the site's suitability for this purpose was subsequently questioned by Alberta Environmental Protection considering the potential for instability. This instability has been observed on a number of occasions when the existing creek channel has had to be maintained so that the main road into Brule where it crosses the alluvial fan is not damaged by peak

flow levels. If maintenance of this nature was required for a sewage lagoon it would not appear to be either a safe or cost effective location.

The current system of storm drainage consists of a network of road side ditches that discharge into the Lake.

3.3 Physical Constraints

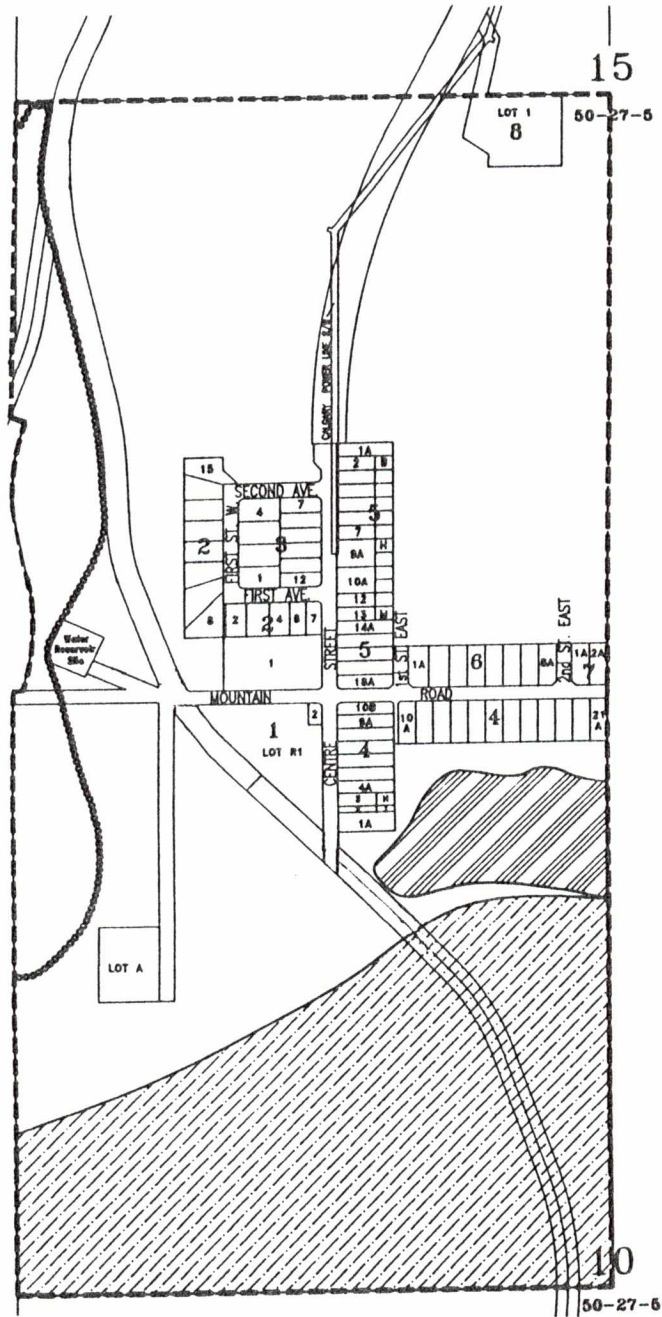
The potential for growth in Brule is severely limited by a number of physical limitations to development. (See Map 3 after page 8 and Map 4 entitled "Physical Constraints" following this page.) Three areas adjacent to and within Brule have been identified by Alberta Environmental Protection as posing an environmental concern. These are the Scovil Creek and Supply Creek alluvial fans, the east face of Brule Hill and the lands between Brule and Brule Lake. Each of these areas is briefly discussed in the following subsections

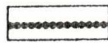
3.3.1 Alluvial Fans


Extending development into the alluvial fans of Scovil Creek (to the north of Brule) and Supply Creek (partially within the southern portion of Brule) may be very hazardous. Both of these alluvial fans have developed since the end of the last glaciation. During floods, these creeks carry heavy loads of coarse rock waste collected from the mountain basin above. When the creeks flow out onto the gently sloping fan, the velocity is reduced thus forcing the stream to aggrade or build up their channels.


The location of the channel periodically shifts location from the canyon mouth and sweeps back and forth across the alluvial fan potentially resulting in significant physical disturbances. The material deposited by this process is poorly sorted due to the rapid energy changes involved and does not provide a preferred base for

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 Extent of Mine Disturbance Area

 Slopes (> 15%)

 Supply Creek Alluvial Fan

NOTE : All the above constraints have approximate boundaries based on air photo interpretation, site inspections and historical records.

MAP 4

Physical Constraints

development. Subsurface water flows may also occur through the alluvial fan further endangering development within these areas.

Photographic and historical evidence indicates that there have been a number of historical flood events, which have resulted in the previously mentioned channel movements. These events have resulted in significant physical changes along the alluvial fans bordering Brule. Both of the fans will likely continue to evolve and it must be recognized that there is a potential danger for flood events to occur again. There are also possibilities that larger, more damaging, natural events could occur in the future. Very significant flooding could occur if either of the creeks were blocked above the apex by an avalanche or rock slide during heavy rain. This could create a dam, which could then release a sudden flood onto the alluvial fan causing sudden and extensive damage.

The amount of damage that could occur from a sudden flood event is difficult to estimate; however, a calculation of the potential forces involved was provided for Supply Creek in the 1990 Hamlet of Brule Water Supply Review. The Supply Creek drainage area is predominantly bare rock. Due to the absence of vegetation, precipitation in the form of rainfall would immediately begin to move downslope with little or no retardation. With a rainstorm providing 5 cm of rain, the volume of water from the bare rock area alone would produce a flow in the order of 100,000 cubic metres (20 million imperial gallons), which is significant.

3.3.2 East Face of Brule Hill

An underground coal mine was operated beneath Brule Hill between 1914 and 1928. During this period, a reported 1,836,743 tons of bituminous and semi-bituminous coal was removed from three coal seams. The mine closed in 1928 because of structural difficulties and areas of dirty coal. Prior to any significant structural development of this area the following should be addressed:

- the potential for rock slides, mud slides, snow avalanches, etc. on the east face taking into account that the underground mining may have adversely affected the stability of the hillside;
- the susceptibility of the area to mining subsidence;
- current accessibility of the underground mine areas via entrances or air shafts; and,
- an assessment of the mine waste areas as to their suitability for development.

3.3.3 The Lands Between Brule and Brule Lake

There are areas of excessive slope (greater than 15%) within the southeastern portion of Brule and east of Brule downslope to Brule Lake that are not suitable for development. There also appears to be an area where slopes have failed and slumping has occurred. A detailed evaluation of the lands between the Brule and Brule Lake should be conducted before any significant structural development is considered.

3.4 Future Land Use Issues/Areas

What does the foregoing information mean in terms of future planning? What has emerged from the analysis of the existing conditions information and community input falls into or relates to one of five identifiable categories/planning areas.

3.4.1 Residential

Regional economic growth and the attractive community setting will continue to make Brule a desirable place to live. As a result, there will likely be continued demand for residential development within Brule. Whether and how much Brule grows and develops, however, is limited by the community's geographical setting and the constraints associated with that setting, the limitations in providing a full range of municipal services and the desire of local residents to preserve the existing nature of the community.

The future for Brule will be a balance of factors supporting and limiting growth. The general policy direction for Brule provided in the Municipal Development Plan reflects this balancing of factors as seen in the following statements:

"The northwest area of the Hamlet appears to be best suited for residential development. While it is an appropriate planning principle to maximize the number of the developable lots, this goal may be in conflict with on-site sewage disposal requirements." (Section 2.4 of the Brule Hamlet Policies, page 3)

Based on the all of the factors considered and discussed above, this Plan affirms the general policy direction applying to Brule in the Municipal Development Plan and considers the northwest area of the Hamlet to be best suited for any additional residential development. In terms of the nature and density of this future residential subdivision/development, this Plan also affirms the need for relatively large lots due

to on-site sewage disposal and the residents' wishes to "keep things small". There is merit as well in seizing the opportunity with a new subdivision to establish a new standard of design for the additional residential development which will be achieved through the preparation of specifically tailored architectural and landscape controls. There may also be merit in implementing or applying over time similar controls vis a vis the existing development in Brule.

There is also the need to continue the program of enlarging the existing residential lots to improve on-site servicing. The Plan provides for an area where this is most strongly encouraged (the most westerly 8 lots along First Street West) but holds out the commitment to consider the option of lot enlargement where possible in the case of any other existing residential lot within the Hamlet.

Given the servicing limitations discussed in Section 3.2 above, serious consideration needs to be given to the appropriateness of allowing any form of higher density residential development in Brule, which the existing HR - Hamlet Residential District in the Land Use Bylaw provides for as a permitted use (ie: duplexes) and as a discretionary use (ie: multiple family dwelling). This land use district as it applies to Brule needs to be examined in this regard with alterations made accordingly or a new land use district devised altogether.

3.4.2 Commercial

There is very little commercial development in Brule at present and, although it will perpetuate the need to go elsewhere to satisfy their commercial needs, the residents of Brule have consistently expressed their desire to maintain this very limited commercial base. While the long term implications of precluding the establishment of a commercial base within Brule may not be fully appreciated, this Plan does not provide for any increase in commercial development other than the possible opportunity for individual home owners to operate limited home occupations and

bed and breakfast operations.

Even in the case of limited home occupations and bed and breakfast operations, the on-site sewage disposal implications need to be carefully considered when permit applications are submitted and decided upon. The integrity and capacity of the existing on-site system must be such that it can support the additional demand or it will need to be upgraded or replaced so that it can. On this note, it might be wise to consider only allowing limited home occupations on a discretionary basis as well in the HR - Hamlet Residential District.

As is the case with allowing for higher density housing forms, serious consideration needs to be given to the appropriateness of allowing major home occupations given the servicing limitations discussed in Section 3.2 above. Again, the existing HR - Hamlet Residential District in the Land Use Bylaw provides for a major home occupation as a discretionary use and it needs to be examined in this regard with alterations made accordingly or a new land use district devised altogether.

Lastly, considering all factors, it seems clear that any major tourism or commercial recreation development ought to be located in areas outside Brule to protect the existing characteristics of the community.

3.4.3 Community Services/Facilities, Open Space and Recreation

The current sports field, playground, skating rink, community hall, fire hall and informal trail system appear to be sufficient for the immediate future. The Plan should provide for any opportunity to expand existing facilities where it is possible. Viewed alternatively, the Plan should avoid, whenever possible, precluding the opportunity to expand existing facilities. To this end, the Plan in particular should provide for the enlargement of the community hall to the west, toward to the water reservoir up to the former railway right-of-way.

In the future, the informal trail system may need to be formalized where possible to ensure access for everyone in the community. It is important as well that any new residential development in the northwest corner be connected via a trail system to the areas to the south, and vice versa.

3.4.4 Horse Holding

Horse holding/grazing has been a very important activity in and around Brule for many years and has been the topic of many discussions and debates as well. Given the sensitivity of this issue and that it impacts upon the area surrounding Brule as much as it does the Hamlet of Brule, it seems more appropriate to address the issue in a broader context planning process. A planning exercise covering the Brule Corridor is upcoming and that may represent the more appropriate opportunity to address this issue. Thus, this Plan will have the effect of maintaining the status quo regarding horse holding.

3.4.5 Transportation and Servicing

The existing water supply system, water distribution system, road network and storm drainage system serve the Hamlet residents well and, beyond required maintenance, it is not anticipated that any major capital improvements to any of these systems will be required in the foreseeable future.

The Hamlet has relied on individual septic systems for sewage disposal for many years and it appears that this can continue provided the individual systems have been properly installed and maintained. Although there may be isolated incidences of septic system failure over the next 10 to 15 years, which the individual lot owner would be obligated to remedy, the County and the other authorities who actually

have the jurisdiction can assist in avoiding such situations to the fullest extent possible.

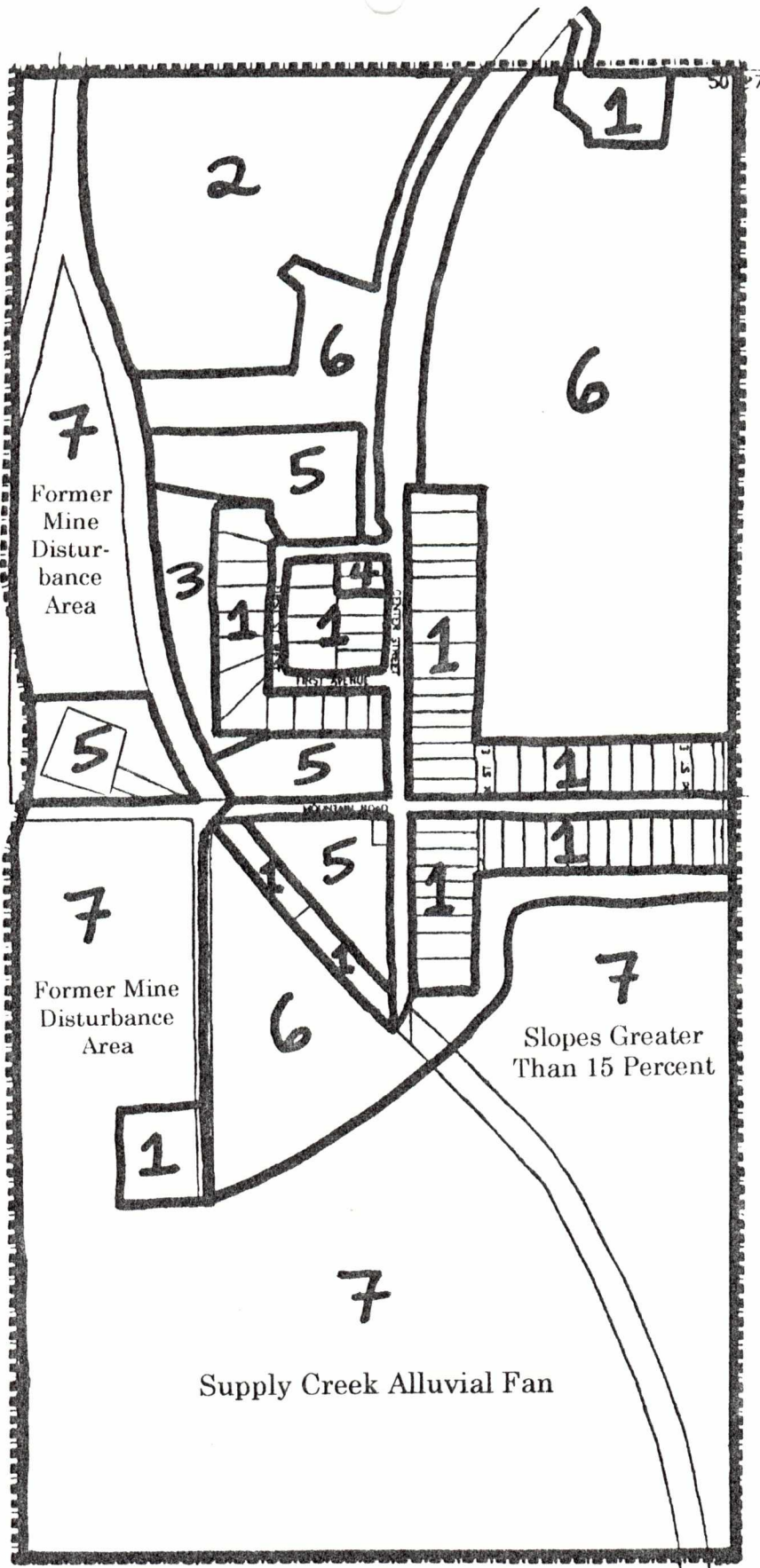
The County can continue to provide for and encourage the enlargement of existing lots to improve/expand opportunities to deal effectively with sewage disposal. An education program could be developed in conjunction with the provincial authorities having jurisdiction dealing with the proper installation, use and maintenance of the various disposal systems already in place or now available. The County can consider, where appropriate, a "septic system audit" as part of any application to develop, redevelop or intensify.

4.0 FUTURE LAND USE CONCEPTS AND POLICIES

4.1 Land Use Concept

The future land use concept proposed for the Plan area is depicted in Map 5, entitled "Generalized Land Use Concept" following this page. The concept recognizes and reflects the findings of the review of all relevant background information and, in particular, the input that has been received both formally and informally over the past several years from the community. It refines or specifies further the general policy direction and land use designations provided for Brule in the Municipal Development Plan, provides a basis for at least one new land use district for inclusion in the County's Land Use Bylaw and establishes a sound framework for future decisions on subsequent subdivision and development permit applications for the lands situated within Brule.

Hamlet of Brule Area Structure Plan



- 1** - Existing Residential
- 2** - Future Estate Residential
- 3** - Enlargement of Existing Residential (Lots 8-15, Block 2 on west side of First Street West) via Consolidation
- 4** - Existing Commercial
- 5** - Community Services and Facilities
- 6** - Open Space/Recreation
- 7** - Restricted Development Area

MAP 5 Generalized Land Use Concept

Finally, the concept responds to and serves the following fundamental objectives:

1. To allow for limited growth in Brule with a minimum of disturbance to the existing development and lifestyle of the residents and with a minimum cost to the County.
2. For the benefit of all concerned, to carefully plan the use, subdivision and development of a relatively limited developable land base within Brule.
3. To protect Brule's significant environmental features in their natural state for the benefit of existing and future residents of Brule.
4. To ensure that any additional residential subdivision and development in the northwestern portion of the Hamlet is governed by sound planning, proceeds only on the basis of a solid base of geotechnical information and is controlled to ensure that adequate amenities are afforded to existing and future residents of the area.

4.2 Policies

The following policies are for the purposes of implementing this Plan, refining the general hamlet policy direction and land use designations in the Municipal Development Plan, guiding the preparation of at least one new land use district for inclusion in the County's Land Use Bylaw as well as establishing a sound framework for future decisions on subsequent subdivision and development permit applications.

General

- Policy 4.2.1 All future use, subdivision and development of lands within the Plan area shall comply with the Generalized Land Use Concept depicted in Map 5 and with the policies listed herein.
- Policy 4.2.2 Only the uses/developments provided for in the HRD - Hamlet Restricted Development District of the Land Use Bylaw will be allowed to occur on the lands designated "Restricted Development Area" on Map 5 of this Plan.

Policy 4.2.3 This Plan affirms the Municipal Development Plan's general policy regarding industrial use/development and does not provide for the same anywhere within Brule.

Residential

Policy 4.2.4 Any future residential subdivision/development shall be in accordance with Map 5 and Map 6 entitled "North Brule Subdivision Concept" following this page.

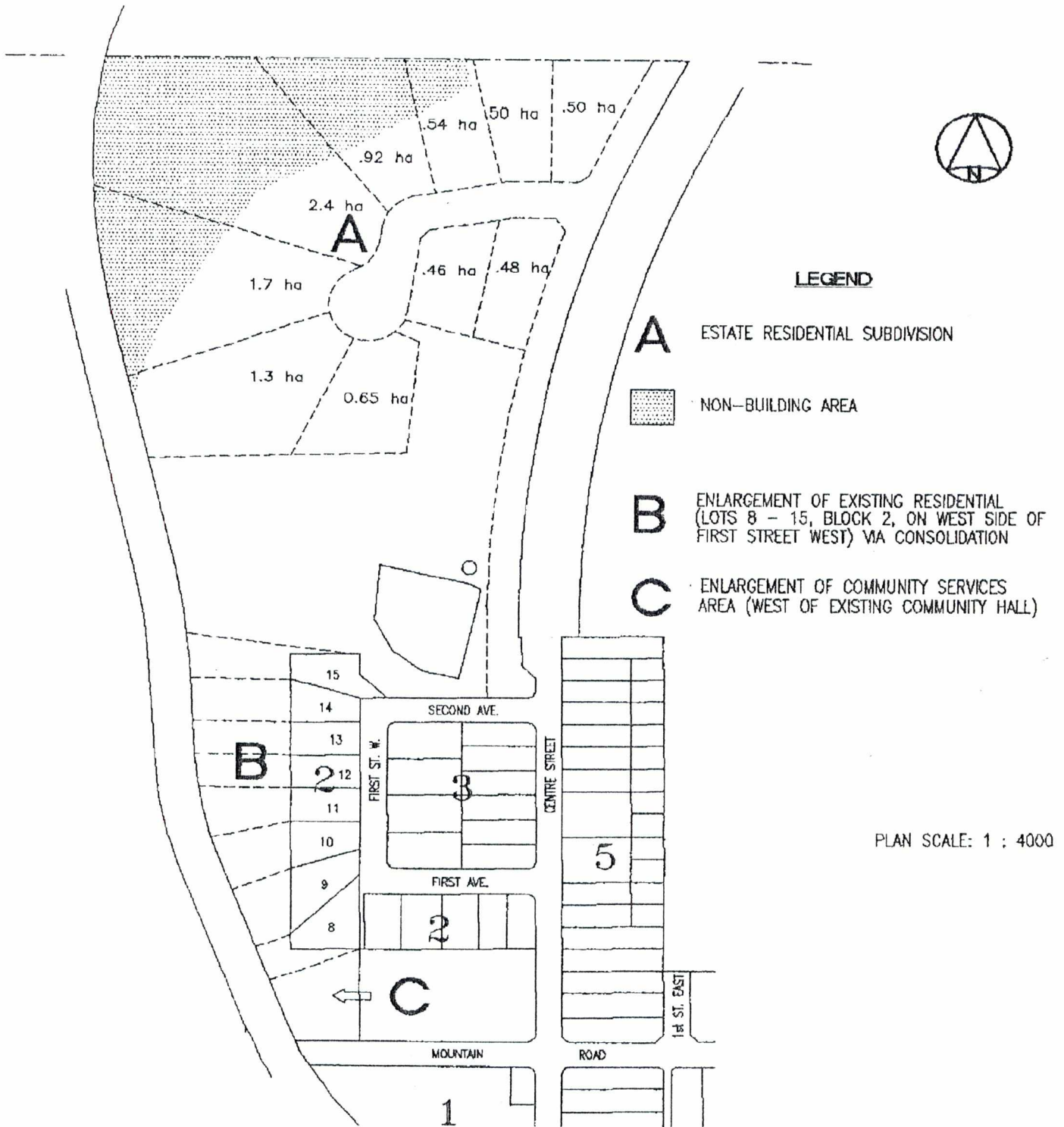
Policy 4.2.5 To ensure a specified minimum design standard, architectural and landscape controls will be registered against the titles created in the Hamlet Estate Residential area as shown on Maps 5 and 6 by way of restrictive covenant with the preparation and content of these controls being guided by those contained in Section 5.3 of this Plan.

Policy 4.2.6 The County may consult with the owners of the properties existing as of the adoption of this Plan to determine the level of desire for architectural and/or landscape standards and controls similar to those referred in Policy 4.2.5 vis a vis the existing development in Brule.


Policy 4.2.7 To provide increased opportunities to improve on-site services, the County will subdivide the land immediately west of Lots 8-15, Block 2, along the west side of First Street West up to the former railway right-of-way and provide the adjacent owners the opportunity to acquire the additional land subject to consolidation with their existing titled area.

Policy 4.2.8 Further to Policy 4.2.7, and also for the purposes of providing increased opportunities to improve on-site services, the County will, where possible, also consider the enlargement of existing residential lots elsewhere in Brule provided the additional land is consolidated with the adjacent existing titled areas. In the case of existing residential lots that already have adjacent to them an area previously subdivided for the purpose of enlarging the adjacent residential lot via consolidation, but where consolidation has not as yet occurred, any future development subject to a development permit under the Land Use Bylaw will require consolidation of the enlargement area with the subject residential lot as a condition of the development permit issued.

Hamlet of Brule Area Structure Plan



LEGEND

- A** ESTATE RESIDENTIAL SUBDIVISION
-  NON-BUILDING AREA
- B** ENLARGEMENT OF EXISTING RESIDENTIAL (LOTS 8 - 15, BLOCK 2, ON WEST SIDE OF FIRST STREET WEST) VIA CONSOLIDATION
- C** ENLARGEMENT OF COMMUNITY SERVICES AREA (WEST OF EXISTING COMMUNITY HALL)

PLAN SCALE: 1 : 4000

Map 6 North Brule Subdivision Concept

Policy 4.2.9 Residential properties in existence as of the coming into force of this Plan may be allowed the opportunity to engage in a limited (minor) home occupation and/or bed and breakfast operation in accordance with Policies 4.2.10 through 4.2.12. (Note: the provisions of Policies 4.2.10 through 4.2.12 may necessitate amendments to related provisions in the Land Use Bylaw):

Policy 4.2.10 A Minor Home Occupation:

- (a) shall be considered on a discretionary basis only and shall be operated as a secondary use, not change the principal character or external appearance of the dwelling in which it is located and not require any alterations to the dwelling;
- (b) shall not extend beyond the confines of the dwelling and there shall be no outside storage of materials, goods or equipment on the site;
- (c) shall not employ any person not currently residing in the dwelling; and
- (d) shall not generate pedestrian or vehicular traffic or parking shortage in excess of that which is characteristic of the surrounding properties.

Policy 4.2.11 A Minor Bed and Breakfast Operation:

- (a) shall be considered on a discretionary basis only and shall be operated as a secondary use, not change the principal character or external appearance of the dwelling in which it is located and not require any alterations to the dwelling;
- (b) shall not provide more than two (2) bedrooms to accommodate paying guests within the home;
- (c) shall provide one parking space on site for each room being made available for rent to guests; and
- (d) shall not employ any person not currently residing in the home; and

Policy 4.2.12 Provisions Applicable to Minor Home Occupations and Bed and Breakfast Operations:

- (a) If the Development Authority determines that a proposed minor home occupation or bed and breakfast operation could affect or be affected by the integrity and/or capacity of the existing or proposed on-site sewage disposal system, the Development Authority shall require that the associated development permit application be accompanied by supporting documentation prepared by a qualified person attesting to the integrity and capacity of the existing or proposed on-site sewage disposal system to accommodate the existing and additional demand on the system.
- (b) Further to Policy 4.2.12, if it is shown that the existing or proposed on-site sewage disposal system cannot accommodate the existing and additional demand on the system, the Development Authority shall not approve the proposed minor home occupation or bed and breakfast operation.
- (c) A minor home occupation or bed and breakfast operation shall not, in the opinion of the Development Authority, be a source of inconvenience or materially interfere with or affect the use, enjoyment or value of neighbouring parcels by way of excessive noise, odour, dust or refuse matter which would not commonly be found in the neighbourhood.
- (d) The Development Authority may issue temporary or time limited development permit approval with respect to a minor home occupation or bed and breakfast operation.

Commercial

Policy 4.2.13 As indicated on Map 5, while the commercial operation in existence as of the adoption of this Plan is provided for in this Plan and can continue accordingly, no additional commercial uses or developments such as those listed as being permitted or discretionary in the HC - Hamlet Commercial District in the Land Use Bylaw will be allowed to locate in Brule.

Community Services and Facilities

Policy 4.2.14 As indicated on Maps 5 and 6, this Plan provides for an expansion area to the west of the existing ball diamond, to the west of the community hall and surrounding the existing water reservoir at the west end of Mountain Road to facilitate future needs.

Open Space/Recreation

Policy 4.2.15 As indicated on Maps 5 and 6, this Plan provides for a number of areas primarily for the purposes of providing open space and passive recreation opportunities. Although the areas designated as "Restricted Development Area" on Map 5 do provide open space and passive recreation opportunities as well and contain a number of informal/historical trails, and so forth, the County, in conjunction with the residents of Brule, will only endeavour to formalize the trail linkages in the areas designated as "Open Space/Recreation" on Map 5. This initiative will be attempted first in the area between the proposed "Hamlet Estate Residential Area" and the area surrounding the existing ball diamond.

Transportation and Servicing

Policy 4.2.16 This plan provides for a maximum population of 230 in terms of existing municipal servicing capacity.

Policy 4.2.17 The County will continue to provide for and encourage the enlargement of existing lots to improve/expand opportunities to deal optimally with on-site sewage disposal. Again, in the case of existing residential lots that already have adjacent to them an area previously subdivided for the purpose of enlarging the adjacent residential lot via consolidation, but where consolidation has not as yet occurred, any future development subject to a development permit under the Land Use Bylaw will require consolidation of the enlargement area with the subject residential lot as a condition of the development permit issued.

Policy 4.2.18 The County will also consider working in conjunction with the provincial authorities having jurisdiction to develop and institute an ongoing public awareness program with respect to the proper

installation, use and maintenance of the various disposal systems already in place or available alternatives.

Policy 4.2.19 Development of future roads/lanes shall be to the current County standard.

Policy 4.2.20 All electrical distribution lines, telephone lines and cable television lines shall be placed underground in all new subdivisions.

5.0 IMPLEMENTATION

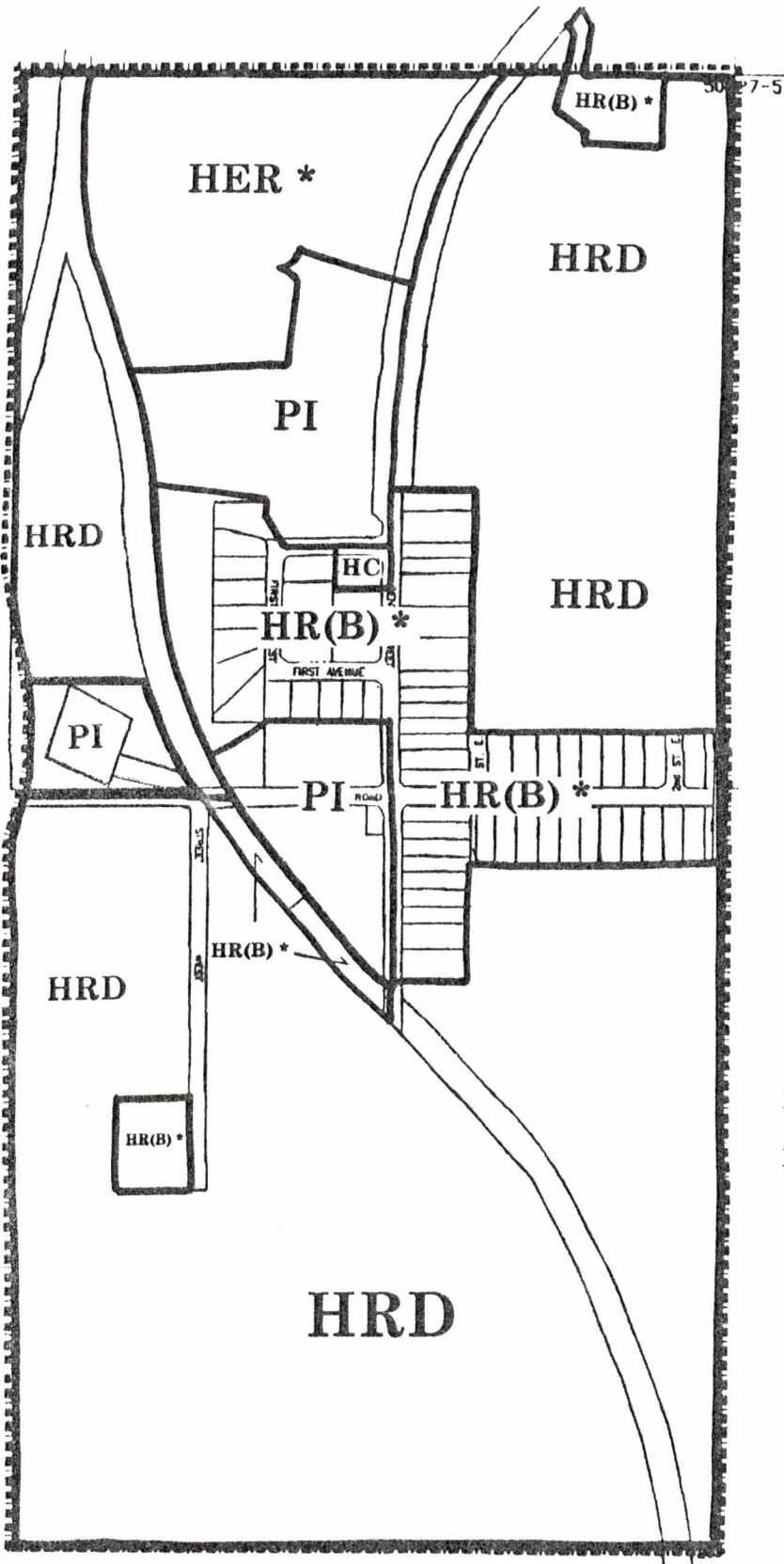
5.1 Municipal Development Plans

Policy 5.1.1 It is intended that this Plan, its concepts and policies are used in concert with and serve to refine the relevant provisions of the Municipal Development Plan and particularly those pertaining to the Hamlet of Brule. This Plan should guide any required amendments to the Municipal Development Plan as well.

5.2 Land Use Bylaws

Policy 5.2.1 It is also intended that this Plan, its concepts and policies are used in tandem with the relevant provisions of the Land Use Bylaw, particularly in guiding the exercise of discretion in rendering decisions on subdivision and development permit applications. This Plan will be used to guide any required amendments to the provisions or land use districts in the Land Use Bylaw.

Policy 5.2.2 The provisions of this Plan will serve as a basis for at least one new land use district to be included in the Land Use Bylaw. Map 7 entitled "Recommended Zoning" following this page shows the area for estate residential development in the northwest corner of the Hamlet as having a new land use district applied to it in the Land Use Bylaw. The "HER - Hamlet Estate Residential District", while allowing for limited (minor) home occupations and bed and breakfast operations as per Policies 4.2.10 through 4.2.12 of this Plan, will also provide for these types of operations on a larger scale, with the accompanying regulatory provisions established accordingly.



Hamlet of Brule Area Structure Plan

MAP 7

Recommended Zoning



HC - Hamlet Commercial District

PI - Public Institutional District

HRD - Hamlet Restricted Development District

HER - Hamlet Estate Residential District *

HR(B) - Hamlet Residential District *

* Denotes land use district to be included
in the Land Use Bylaw drafted specifically
based on the provisions of this Plan.

Policy 5.2.3 The existing HR - Hamlet Residential District in the Land Use Bylaw will be replaced with the HR(B) - Hamlet Residential District (Brule), a land use district specifically tailored to the planning issues and variables associated with the existing residential development in Brule.

5.3 Architectural and Landscape Controls

The following is a template restrictive covenant for the purposes of registering suggested architectural and landscape controls for the area designated as "Hamlet Estate Residential" on Maps 5 and 6 of this Plan.

RESTRICTIVE COVENANT

THIS AGREEMENT DATED THE DAY OF A.D., 19

BETWEEN: YELLOWHEAD COUNTY
a Body Corporate, in the Province of Alberta
[hereinafter called the "Grantor"]

OF THE FIRST PART

AND YELLOWHEAD COUNTY
a Body Corporate, in the Province of Alberta
[hereinafter called the "Grantee"]

OF THE SECOND PART

WHEREAS the Grantor is the owner of those parcels of land located in Yellowhead County described in Schedule "A" attached hereto (hereinafter collectively referred to as "the Servient Lands");

AND WHEREAS the Grantee is the owner of those parcels of land located in Yellowhead County described in Schedule "B" attached hereto (hereinafter collectively referred to as "the Dominant Lands");

AND WHEREAS Section 71(1) of the Land Titles Act, as amended, reads as follows:

"71(1) An owner may grant to himself an easement or restrictive covenant for the benefit of land which he owns and against land which

he owns and the easement or restrictive covenant may be registered under this Act.”;

AND WHEREAS the Dominant Lands touch and concern the Servient Lands;

AND WHEREAS it is beneficial to the Dominant Lands that the Servient Lands and each and every part of the Servient Lands be continuously used for high quality single detached dwellings and modular homes on perimeter foundations, developed to an elevated standard;

AND WHEREAS the Grantor, in order to ensure that the Servient Lands and each and every part of the Servient Lands are to be continuously used for high quality single detached dwellings and modular homes on perimeter foundations, developed to an elevated standard, has agreed to execute and deliver restrictive covenants in the form and content of these presents;

AND WHEREAS it is desirable that the benefit of the said restrictive covenants herein set forth be annexed to and run with the Dominant Lands and each and every part of the Dominant Lands and that the burden of the said restrictive covenants be annexed to and bind the Servient Lands and each and every part of the Servient Lands.

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the premises and in consideration of the sum of ONE (\$1.00) DOLLAR and other good and valuable consideration passing from the Grantee to the Grantor (sufficiency and receipt of which is acknowledged by the Grantor), the Grantor, on its own behalf as owner of the Servient Lands and on behalf of each of its successors in title to the Servient Lands and each and every part of the Servient Lands, covenants with the Grantee, as owner of the Dominant Lands and each and every part of the Dominant Lands and with each of the Grantee’s successors in title to the Dominant Lands and each and every part of the Dominant Lands, that the benefit of the restrictive covenants hereinafter set forth shall be annexed to and run with the Dominant Lands and each and every part of the Dominant Lands and the burden of the restrictive covenants set forth herein shall be annexed to and be binding on the Servient Lands and each and every part of the Servient Lands, as follows:

A. DEFINITIONS

For the purposes of this restrictive covenant, unless otherwise provided, the following definitions shall apply:

- (1) **ACCESSORY BUILDING** - means garage, carport, shed, storage building, sundeck, patio or balcony, permanently installed hot tub and other similar buildings but does not mean a permanently installed private swimming pool;
- (2) **ACCESSORY STRUCTURE** - means television and/or radio antenna, flag pole, tower and other similar structures;
- (3) **ACCESSORY USE** - means a use customarily incidental and subordinate to the principal use or building, and which is located on the same parcel of land with such principal use or building;

- (4) **BUILDING** - includes anything constructed or placed on, in, over or under land;
- (5) **CARPORT** - means a roofed structure used for storing or parking of not more than two private vehicles, which has not less than 40% of its total perimeter open and unobstructed;
- (6) **COUNTY**- means Yellowhead County;
- (7) **DECK** - means the paved, wooden or hardsurfaced area adjoining a single detached dwelling or modular home on a perimeter foundation, that is more than 0.61 m (~2.0 ft) above grade, used for outdoor living;
- (8) **DEVELOPMENT** - means
- (a) an excavation or stockpile and the creation of either of them, or
 - (b) a building or an addition to, or replacement or repair of a building and the construction or placing in, on, over or under land of any of them, or
 - (c) a change of use of land or a building or an act done in relation to land or a building that results in or is likely to result in a change in the use of the land or building, or
 - (d) a change of use of land or a building or an act done in relation to land or a building that results in or is likely to result in a change in the intensity of use of the land or building;
- (9) **FLOOR AREA** - means the greatest horizontal area of a building above grade within the outside surface of exterior walls or within the glassline of exterior walls and the centreline of fire walls but not including the floor areas of basements, attached garages, sheds, open porches or breezeways;
- (10) **FOUNDATION** - means the lower portion of a building, usually concrete or masonry, and includes the footings which transfer the weight of and loads on a building to the ground;
- (11) **GARAGE** - means an accessory building or part of the principal building, designed and used primarily for the storage of motor vehicles;
- (12) **GRADE, AVERAGED BUILDING** - means the ground elevation established for the purpose of regulating the number of storeys and the height of a building. The building grade shall be the level adjacent to the walls of the building if the finished grade is level. If the ground is not entirely level the grade shall be determined by averaging the elevation of the ground for each face of the building;
- (13) **LAND USE BYLAW** - means the Yellowhead County Land Use Bylaw being Bylaw No. 7.98, and amendments thereto, and any subsequent or complementary Yellowhead County bylaw, adopted pursuant to the Municipal Government Act, and amendments

thereto, for the purpose of regulating the use and development of land within Yellowhead County;

- (14) **"MODULAR HOME ON A PERIMETER FOUNDATION"** - means a dwelling which is prefabricated or factory built, with eaves a minimum of 30.4 cm (~12.0 in) deep and load bearing walls and floors designed for and capable of bearing the full weight of the dwelling when placed on a perimeter foundation, which is assembled on the parcel in sections, which may be stacked side-by-side or vertically. The modular home must be placed on a perimeter foundation and the running gear and wheels and/or a steel underframe or chassis that may have been in place and used to transport the modular home sections to the site must be removed. The resulting modular home must have a ratio of width vs. depth (or depth vs. width) of less than 3:1. A modular home on a perimeter foundation herein defined does not include a single detached dwelling which is defined elsewhere in this covenant;
- (15) **MUNICIPAL GOVERNMENT ACT** - means the Municipal Government Act, being Chapter M-26.1 of the Revised Statutes of the Province of Alberta, 1994, and amendments thereto;
- (16) **NON-BUILDING AREA** - means the portion of the Servient Lands as indicated on the survey plan appended to and forming part of this restrictive covenant within which no single detached dwelling, modular home on a permanent foundation or any other principal building is to located;
- (17) **OWNER** - means:
- (a) In the case of land owned by the Crown in right of Alberta or the Crown in right of Canada, the Minister of the Crown having the administration of the land, or
 - (b) In the case of any other land,
 - i) the purchaser of the fee simple estate in the land under an agreement for sale that is the subject of a caveat registered against the Certificate of Title in the land any assignee of the purchaser's interest that is the subject of a caveat registered against the Certificate of Title, or
 - ii) in the absence of a person described in Section A(15)(b)i) above, the person or legal entity registered under the Land Titles Act as the owner of the fee simple estate in the land;
- (18) **PARCEL** - means the aggregate of the one or more areas of land described in a Certificate of Title or described in a Certificate of Title by reference to a plan filed or registered in an Alberta Land Titles Office;
- (19) **PATIO** - means the paved, wooden or hardsurfaced area adjoining a single detached dwelling or a modular home on a perimeter foundation, that is no more than 0.61 m (~2.0 ft) above grade, used for outdoor living;
- (20) **PLAN** - means the Hamlet of Brule Area Structure Plan, being Bylaw No. _____, and any amendments thereto;

- (21) **PRINCIPAL BUILDING** - means a building which:
 - (a) occupies the major or central portion of a parcel,
 - (b) is the chief or main building among one or more buildings on a parcel, or
 - (c) constitutes by reason of its use the primary purpose for which a parcel is used.
- (22) **PRINCIPAL USE** - means the primary purpose of the Servient Lands which is to accommodate high single family dwellings and modular homes on perimeter foundations, developed to an elevated standard. There shall be no more than one principal use on a parcel;
- (23) **PUBLIC UTILITY** - means a public utility as defined in the Municipal Government Act;
- (24) **PUBLIC UTILITY BUILDING** - means a building, not including an office, or structure required as part of a public utility;
- (25) **SINGLE DETACHED DWELLING**" - means a dwelling intended for occupancy by one household which is built/constructed upon on a permanent foundation and/or basement but does not include, as elsewhere defined in this covenant, a modular home on a perimeter foundation;
- (26) **UNDERSTORY TREE** - means an immature tree growing under the canopy of a taller tree;

B GENERAL COVENANTS AND COMPLIANCE

- (1) The provisions of this restrictive covenant as they apply to the Servient Lands:
 - (a) do not absolve any owner of the Servient Lands from complying with any easement or other instrument affecting the Servient Lands;
 - (b) do not absolve any owner of the Servient Lands from complying with any federal or provincial legislation or regulation, and any amendments thereto;
 - (c) do not absolve any owner of the Servient Lands from complying with the Land Use Bylaw or any other bylaw of Yellowhead County; and
 - (d) are not intended to conflict with but, rather, be further to those so prescribed for the Servient Lands under the Land Use Bylaw, the Plan and any statutory plan of Yellowhead County, and any amendments thereto, affecting the Servient Lands.
- (2) Further to Section B(1) above, no development shall be commenced or undertaken on the Servient Lands or any part thereof except as herein provided.

C PRINCIPAL BUILDINGS

- (1) A single detached dwelling or modular home on a perimeter foundation, which must be sited outside the "non-building area" on any parcel within the Servient Lands as indicated on the survey plan appended to and forming part of this restrictive covenant, shall:
- (a) have a minimum floor area of no less than 112.0 m^2 (~1,200.0 ft^2), not including an attached garage or basement level;
 - (b) be built/constructed such that the exterior finish consists wholly of either horizontally-oriented vinyl siding, vertically-oriented wood siding or precoloured stucco, or a combination of the aforementioned exterior materials;
 - (c) be built/constructed such that the roof is pitched/peaked to a noticeable extent as viewed or would be viewed from the fronting street or adjacent parcels (ie: a flat roof is prohibited);
 - (d) have parging below the exterior finish referred to in Section C(1)(b) to grade level; and,
 - (e) be properly maintained on a on-going basis and kept in a state of good repair.

D ACCESSORY BUILDINGS/STRUCTURES

- (a) All accessory buildings and structures, including but not limited to garages (either attached or detached) carports, patios, decks, porches, additions, gazebos, storage facilities and fences, associated with a single detached dwelling or modular home on a perimeter foundation, on a parcel within the Servient Lands shall be built/constructed such that the exterior finish consists wholly of either horizontally-oriented vinyl siding, vertically-oriented wood siding or precoloured stucco, or a combination of the aforementioned exterior, or consist of material (including the exterior finish) such that their appearance, design and construction will be consistent with the associated single detached dwelling or modular home on a perimeter foundation, on the parcel itself as well as development on adjacent parcels.
- (b) Permanently installed swimming pools are prohibited on the Servient Lands.

E PARCEL COVERAGE AND BUILDING HEIGHT

- (1) The maximum parcel coverage for all buildings shall be 25% of the area of the parcel and all accessory buildings and structures, combined, shall not be larger than the principal building.
- (2) No principal building shall exceed 10.6 m (~35.0 ft) above grade, no accessory building shall exceed 7.6 m (~25.0 ft) above grade and no accessory structure shall exceed twice the height of the highest principal or accessory building situated on the parcel, the height of the accessory structure being measured from the average grade of the parcel.

F LANDSCAPING AND GENERAL APPEARANCE

- (1) All vegetation existing on any parcel within the Servient Lands at the time this restrictive covenant came into affect shall remain with the following exceptions:
 - (a) vegetation may be removed or destroyed to reasonably allow the parcel to be developed in accordance with the Land Use Bylaw, the Plan and this restrictive covenant; and,
 - (b) minor clearing of the understory trees and underbrush to increase the utilization of those portions of the parcel not covered by buildings is permitted as is the removal and/or destruction of dead-fallen trees.
- (2) The following are prohibited in or on any part of a parcel within the Servient Lands:
 - (a) any wrecked or dismantled vehicle;
 - (b) a commercial vehicle loaded or unloaded of a maximum weight in excess of 5500 kg (~6.0 tons);
 - (c) any excavation, storage or piling up of materials required during the construction/installation stage unless all necessary safety measures are undertaken, and the owner of such materials or excavations assumes full responsibility to ensure the situation does not prevail any longer than reasonably necessary to complete a particular stage of construction work; and,
 - (d) any object or chattel which is unsightly or tends to adversely affect the amenities of the Servient or Dominant Lands.

G. GENERAL PROVISIONS

- (1) No owner, lessee or occupant will permit any activity or development on any parcel within the Servient Lands that would unduly interfere with the amenities of the neighbourhood or materially interfere with or affect the use, enjoyment or value of neighbouring properties.
- (2) The Grantor agrees to grant, without consideration therefor, such easements and rights-of-way within any parcel covered hereby as may from time to time be required for the purpose of providing local improvements and public utilities.
- (3) The restrictive covenants herein set forth are severable and the invalidation of one or more than one of them shall not invalidate any other restrictive covenant herein set forth and such restrictive covenants shall be independent to the extent that the lack of enforcement of one or more of them shall in no way be construed as a waiver of any of the other restrictive covenants set forth herein.

These presents shall be binding upon and endure to the benefit of the parties hereto and their respective successors and assigns.

Schedule "A"

Bylaw No. 2.00

Hamlet of Brule Area Structure Plan

IN WITNESS WHEREOF the parties have executed these presents on the day and year first above written.

IN the _____,
PROVINCE of ALBERTA

(SEAL)

YELLOWHEAD COUNTY
(GRANTEE)

(SEAL)

YELLOWHEAD COUNTY
(GRANTOR)

Schedule "A"

Bylaw No. 2.00

Hamlet of Brule Area Structure Plan

Schedule "A"

- 1) Lot 1, Block 1, Plan _____
- 2) Lot 2, Block 1, Plan _____
- 3) Lot 3, Block 1, Plan _____
- 4) Lot 4, Block 1, Plan _____
- 5) Lot 5, Block 1, Plan _____
- 6) Lot 6, Block 1, Plan _____
- 7) Lot 7, Block 1, Plan _____
- 8) Lot 8, Block 1, Plan _____
- 9) Lot 9, Block 1, Plan _____
- 10) Lot 10, Block 1, Plan _____

"the Servient Lands"

Schedule "B"

- 1) Lot 1, Block 1, Plan _____
- 2) Lot 2, Block 1, Plan _____
- 3) Lot 3, Block 1, Plan _____
- 4) Lot 4, Block 1, Plan _____
- 5) Lot 5, Block 1, Plan _____
- 6) Lot 6, Block 1, Plan _____
- 7) Lot 7, Block 1, Plan _____
- 8) Lot 8, Block 1, Plan _____
- 9) Lot 9, Block 1, Plan _____
- 10) Lot 10, Block 1, Plan _____

"the Dominant Lands"

APPENDIX 1 - Engineering Report and Findings

1.0 EXECUTIVE SUMMARY

1.1 EXISTING SEWAGE DISPOSAL PRACTICES

1. The existing private sewage disposal system in Brule can continue to be used.
2. If some systems fail, sufficient on-site area for new fields may be difficult to obtain, particularly for some of the highly developed, smaller lots. Location of off-site leaching beds/fields may be required.
3. The cumulative effects of private sewage disposal systems relative to the potential for pollution of the groundwater are estimated to be low.
4. A groundwater monitoring program should be initiated.

1.2 PROPOSED RESIDENTIAL SUBDIVISION EXPANSION

1. A 10 or 12 lot Estate Residential Subdivision is technically feasible.
2. The estimated cost is \$440,000.00 for 10 lots and \$453,000.00 for 12 lots, excluding land, financing and GST.

2.0 INTRODUCTION

UMA Engineering Ltd. was retained by Yellowhead County to undertake an engineering study with respect to determine the potential to develop a 10 lot residential subdivision in the Hamlet of Brule.

UMA were also requested to provide an opinion with respect to the cumulative effects of the existing private on-site sewage disposal systems in the Hamlet of Brule.

3.0 EXISTING WATER SYSTEM

3.1 GENERAL

The existing water system consists of the following major components:

- *Intake* – The supply creek infiltration intake - originally installed in the mid 1970s, upgraded in 1998.
- *Raw Water Pipeline* – The raw water pipeline is a 50 mm diameter gravity (siphon) which connects the Supply Creek Intake to the Waterworks Control Building. This line was installed in the mid 1970s.
- *Raw Water Reservoir* – The raw water reservoir comprises the initial cell of the filtration system. This 4,000 m³ reservoir is used to provide settlement and storage functions. It is designed to accommodate 53 days storage at a rate of 75 m³/day.
- *Ultra Slow Sand Filters* – Two ultra slow sand filters were constructed in 1998. These filters have a design capacity of 144 m³/day each.
- *Control Building* – The control building was originally constructed in the mid 1970s. It originally contained pressure filters and hypochlorite facilities, as well as a 227.5 m³ treated water reservoir. In 1998, it was upgraded, the filters were removed and a testing lab was installed. The 227.5 m³ reservoir now functions as a chlorination contact time chamber. Submersible pumps deliver filtered, chlorinated (treated) water to the new 387 m³ water reservoir.
- *Treated Water Reservoir* – A new 387 m³ treated water reservoir was constructed in 1998. This reservoir provides gravity feed to the Hamlet for the purpose of domestic water and fire flows.
- *Water Distribution System* – The water distribution system consists of 200 mm and 150 mm diameter PVC mains. The distribution system is shown on Drawing #102 attached in the Appendix.

3.2 CAPACITY OF EXISTING SYSTEM

The design capacity of the water system is outlined as follows:

- Intake and Treatment (original design) (maximum day) 144 m³/day
- Actual – as per recent field tests (maximum day) 180 m³/day
- Distribution System Gravity Fire Flow 68-75 l/sec. (900–1,000 igpm)
- Design Population 230 persons

4.0 EXISTING PRIVATE ON-SITE SEWAGE DISPOSAL

Sewage disposal within the Hamlet of Brule is by private on-site systems. It is estimated that approximately 60 systems exist in the Hamlet. The exact nature of the systems is not known. It is estimated that the majority of the systems consist of a septic tank and leaching field. It is possible that some of the older systems may utilize cesspools or other underground means of disposing of the effluent.

The lot sizes in the Hamlet vary considerably. Table 1 below shows the approximate distribution of lot sizes.

Size	Number	
0.1 ha (0.25 ac)	8	11
0.13 ha (0.33 ac)	57	77
0.16 to 0.44 ha (0.40 – 1.1 ac)	9	12
TOTALS	74	100%

The existing lot sizes in Brule are generally quite small relative to current area requirements for on-site sewage disposal (i.e. 0.4 ha minimum size).

Based on discussions with the Local Health Unit, there are no currently known problems with the private sewage systems in Brule.

5.0 PROPOSED RESIDENTIAL SUBDIVISION EXPANSION

5.1 STUDY AREA

The study area is shown as Area "A" on Map 6.

5.2 TOPOGRAPHY

The area that was considered suitable for development was surveyed. One metre contours are shown. Slopes on the proposed lots vary from 2-13%. A small ravine exists at the southeast corner of the site.

5.3 DRAINAGE

Site drainage is generally to the east. The ravine drains the south portion of the study area. The balance of the study area drains to the northeast. It should be noted that a poorly defined ditch/berm exists along the south side of the non-building area. This ditch/berm should remain in place and must be accommodated in the detailed design of the subdivision.

5.4 GEOTECHNICAL INVESTIGATION

Water table and percolation tests were completed as shown on Drawing #102. The depths to the water table and percolation test results are shown on this drawing.

5.5 PREVIOUS LAND USE

The general area (north of Centre Street) may have been part of the service area related to previous mining activity in the early 1900s.

The study area is not within the "APPROXIMATE SURFICIAL HISTORICAL MINE ACTIVITY AREA" as defined on the YRPC drawing entitled BRULE HAMLET STUDY, NATURAL AND MANMADE PHYSICAL FEATURES.

Our site inspections did not define any unusual surface or underground disturbance, however, evidence of previous use of the site is noted. This is evidenced by the presence of what appears to be a small "garbage dump" located in the approximate area shown on Drawing #102.

5.6 ROADS AND PEDESTRIAN CIRCULATION

Drawing #103 shows the proposed roads and initial pedestrian links. It is proposed that the existing trails (which are currently used by local people for walking and motorized access) be closed upon development of the subdivision.

5.7 UTILITIES

The following utilities are proposed:

1. Water – piped system as shown on Drawing #103.
2. Gas – Yellowhead Gas Co-op.
3. Power – overhead power and street lighting – TransAlta.
4. Telephone – AGT.
5. Sewage Disposal – private on-site systems. It should be noted that the proposed lots must be developed in accordance with the following guidelines:
 - Percolation Rate: 5 – 60 min. / 25 mm
 - Depth to Water Table: 1.8 m max.
 - Minimum Lot Size: 0.40 hectares
 - Septic Tanks and Fields: Provincial Standards

5.8 LANDSCAPING

Standard landscaping of the ditches and boulevards is recommended.

In addition, regrading and landscaping of the steep banks adjacent to Centre Street is required.

6.0 CONCLUSIONS

6.1 EXISTING PRIVATE ON-SITE SEWAGE DISPOSAL

It is our opinion that the current practice of private on-site sewage disposal can continue. It must be recognized that the average life of a leaching field is generally 15-25 years. Some of the existing fields may be approaching their effective life.

The lot sizes in the existing Hamlet are generally quite small in order to accommodate on-site sewage disposal systems. Should the systems fail, securing usable additional area within the lots, for field expansion, may be difficult in some cases.

It is possible that some of the existing systems will fail and will require suitable locations for additional leaching fields, either on lot or off-site.

Due to the general sandy nature of the soils in the vicinity of the Hamlet, and minimal downgradient groundwater usage, the cumulative effect of on-site sewage disposal, relative to the potential to pollute groundwater, is considered to be low.

6.2 DEVELOPMENT OF PROPOSED RESIDENTIAL SUBDIVISION

The development of a 10 lot or 12 lot Estate Residential Subdivision is feasible from a technical viewpoint. The estimated costs are outlined in Section 8.0.

7.0 RECOMMENDATIONS

7.1 EXISTING SEWAGE DISPOSAL

- Monitor the water quality of any downgradient users (i.e. Vinson) on an annual basis.
- Install monitoring wells if the monitoring program shows significant changes over time.
- Any new on-site sewage systems should be constructed in accordance with Provincial Regulations.
- Water conservation should be considered, particularly with respect to low flow toilets and showerheads.
- The importance of regular septic tank sludge pumpout maintenance should be impressed with the residents.
- Grease traps should be used where required.

7.2 PROPOSED RESIDENTIAL EXPANSION

- A 10 or 12 lot Estate Residential Subdivision is feasible.
 - Minimum lot size: 0.40 hectares.
 - Piped water system (minimum fire flow 68 l/sec. (900 igpm)).
 - On-site private sewage disposal.
- Additional site investigation should be undertaken to determine if the area identified as a possible garbage dump requires cleanup.

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