

MILLARVILLE
AREA STRUCTURE PLAN

Prepared at the request of and in co-operation
with the Municipal District of Foothills by the
Calgary Regional Planning Commission.

3.90.2

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F THE PLAN

has been prepared at the request of the Council for the District of Foothills. It is intended to act as a guide for the future growth and development of the Hamlet and immediately adjacent lands. Direction for the Plan was provided by the Municipal District's General Municipal Plan, Section 10.3.6. Under this provision, hamlets which are viewed as having growth potential will be the subject of a hamlet study which should address the following issues:

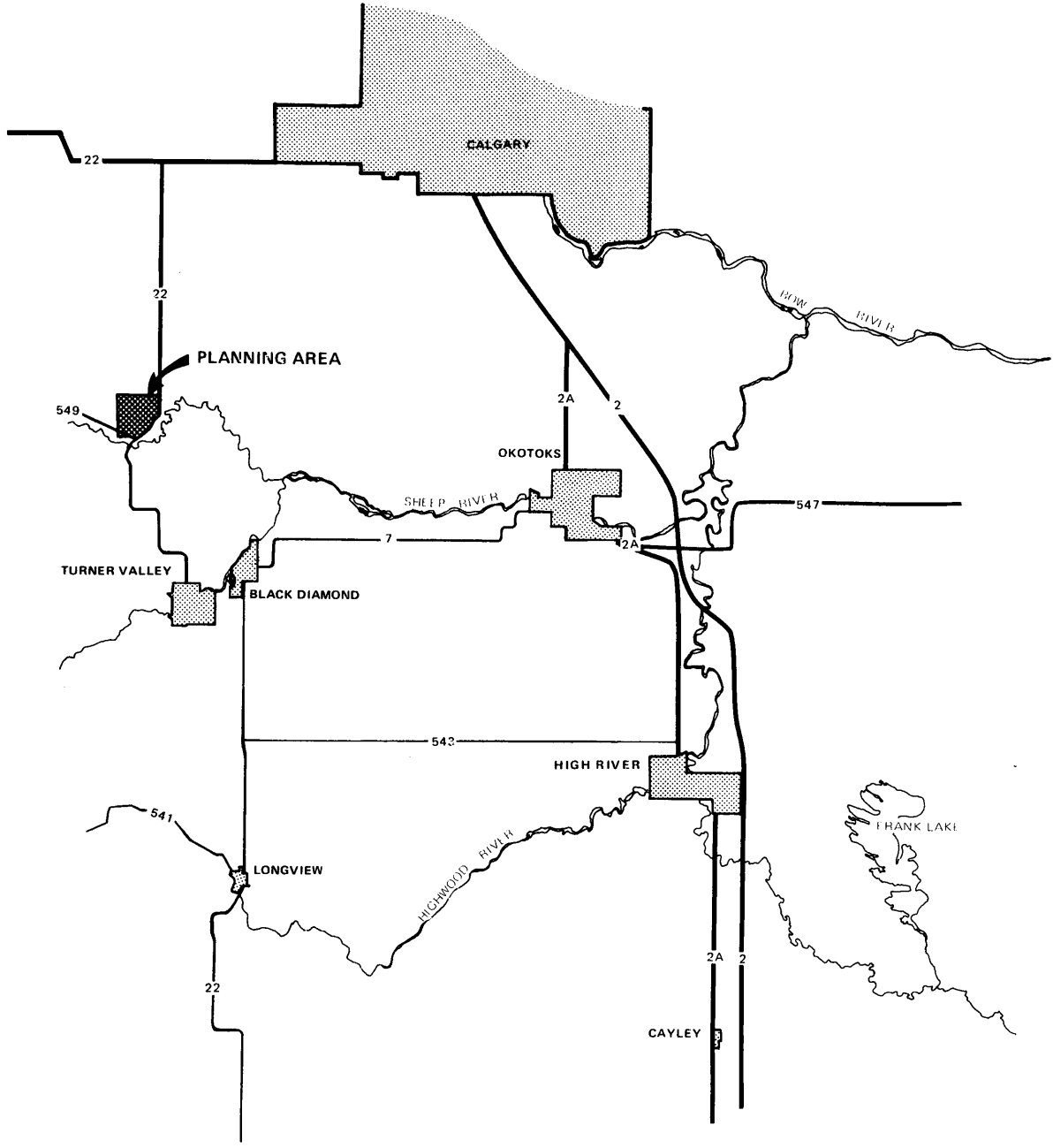
- the proposed land uses;
- the sequence of development;
- the location of the proposed and existing roads and public utilities;
- the location of reserves;
- water supply and sewage provision;
- the developability of the land;
- the need for hamlet expansion or the creation of a new hamlet;
-) impacts on surrounding land uses that might result from hamlet expansion or the creation of a new hamlet; and
-) any other matters that Council feels is necessary.

1.2 ANNING AREA

The Planning Area is illustrated on Figures 1 and 2. It covers the hamlet of Millarville and adjacent lands, mainly portions of Sections 2, 3, 10 and 11; Township 21; Range 3; W5M. Highway 22 and Secondary Road 549 border the study area to the east and partly to the south.

1.3 DEVELOPMENT PLANNING HISTORY

The Plan was initiated in response to a country residential devel-

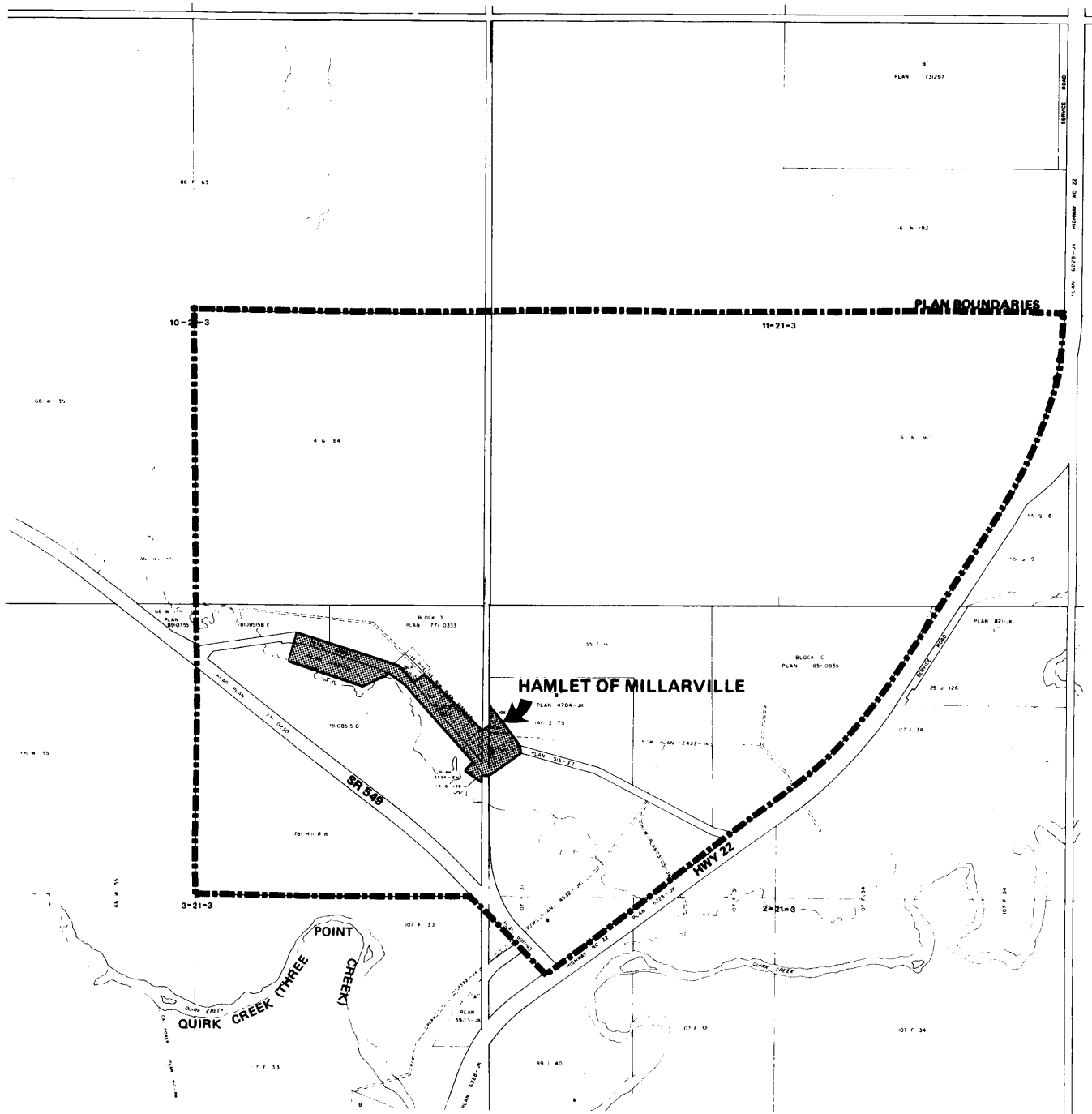


**Millarville
Area Structure Plan**

**Figure 1
REGIONAL SETTING**

Scale: 1:325,000





Scale: 1:16,750



**Millarville
Area Structure Plan**

**Figure 2
PLAN BOUNDARIES**

opment proposed adjacent to the Hamlet of Millarville. Council wanted to know whether or not the subject lands might be more appropriately developed as part of the Hamlet.

2.0 PLAN GOALS

The Hamlet of Millarville is presently a very small rural community with residential, institutional and commercial uses. Council is of the view that the area's location and natural features as well as the school will act as a draw for future developments locating in the area.

The Council encourages growth of the Hamlet but it should be in keeping with the present community character. This means that residential uses will continue to be the dominant use in the Hamlet. Commercial developments which service the surrounding community or attract tourists could also be accommodated, but in ways which minimize impacts on the residents. The size of the hamlet will also be limited to maintain the small community atmosphere. The following goals have accordingly been established for the community:

- ✓ (i) to maintain the existing small community character of the Hamlet;
- (ii) to ensure that residential land uses remain the dominant land use within the Hamlet;
- (iii) to provide for limited commercial development within the Hamlet;
- (iv) to support and maintain the Millarville School and its programs within the Municipality's mandate;
- ✓ (v) to minimize the impact of development on the natural environment; and
- ✓ (vi) to provide for country residential development which is compatible with surrounding land uses on lands which are proven suitable for the development.

3.0 PLAN POLICIES

3.1 FUTURE LAND USE

3.1.1 Figure 3 conceptually illustrates a long-term land use plan for the Hamlet and adjacent lands.

The Plan provides for the expansion of the Hamlet's boundaries to accommodate anticipated future growth as well as a reasonable degree of choice and flexibility. The boundaries have also been shown to include the school lands to recognize their part in the community.

Hamlet expansion is not proposed on lands: (a) which would be isolated from the community by a main transportation route (ie: Secondary Road 549 and Highway 22); (b) deemed to be more suitable for country residential development because of topographic considerations and distance separation; and (c) not required to meet anticipated demands.

A sequence of development is not proposed given the land areas involved.

The key land use elements of the Plan for the expanded Hamlet include: a primarily residential character, a commercial core which provides a community focus and community facilities.

Beyond the proposed Hamlet boundaries agricultural land uses are assigned to parcels which currently have agricultural activities on them or are Crown owned. Country residential uses are shown: (a) where significant interest has been demonstrated and the use may be deemed appropriate; or (b) to recognize the current use on the parcel and the steep terrain limiting future agricultural uses.

3.1.2 HAMLET RESIDENTIAL

- (i) Single family dwellings are the preferred type of dwelling unit. Duplexes, rowhousing and other similar forms of residential structures will be discouraged.

The intent of this policy is to maintain the low density rural residential atmosphere of the Hamlet.

- (ii) Dwelling units attached to Hamlet commercial uses may be considered appropriate where they are to be ancillary land uses on the site.
- (iii) The minimum size of Hamlet residential parcels will be 0.8 of an acre to allow for flexibility in locating on-site sewer and water services.

Parcels adjacent to Secondary Road 549 or Highway 22 will be required to be larger to accommodate berming.

- (iv) Hamlet residential developments are encouraged to be designed in ways which are sensitive to the surrounding natural environment or along a ranching theme. To carry out this objective, consideration should be given to utilizing:
 - (a) earth tone or natural colour schemes as the primary colour of the building; or
 - (b) natural materials such as wood, stone or brick; or
 - (c) architectural details which reflect a ranching design.

3.1.3 HAMLET COMMERCIAL

- (i) Commercial development should be concentrated near the Hamlet centre along Road Plan 6228 JK to provide a central community focus and to minimize impacts on existing and future residential developments.
- (ii) Commercial developments which service tourists or area residents may be provided for.
- (iii) The minimum parcel size for commercial developments is one acre to accommodate landscaping, parking and on-site services.
- (iv) Commercial developments will be designed and built in such a way that they are sensitive to and compatible with residential land use in the vicinity. The municipality may require landscaping, fencing, and any other measures it deems necessary to achieve compatibility with adjacent uses.
- (v) Commercial developments will be required to provide landscaping on 15% of the lot.
- (vi) Commercial developments which draw and service tourists may be required to provide a landscaped sitting area for the use and enjoyment of shoppers/browsers and to help facilitate a central focus for the Hamlet.
- (vii) Proponents of commercial developments will be required to provide a site plan illustrating: the location of the building, parking pads and signs; the location and type of landscaping; the vehicular circulation area on the site and to/from the road.
- (viii) Hamlet commercial developments are encouraged to be designed in ways which are sensitive to the surrounding natural

environment or along a ranching theme. To carry out this objective, consideration should be given to utilizing:

- (a) earth tone or natural colour schemes as the primary colour of the building; or
- (b) natural materials such as wood, stone or brick; or
- (c) architectural details which reflect a ranching design.

3.1.4 INDUSTRIAL DEVELOPMENT

- (i) Industrial development will be discouraged within the Hamlet.

3.1.5 COUNTRY RESIDENTIAL

- (i) Proposals for country residential subdivisions will be evaluated against the Municipal District's General Municipal Plan policies. ✓

3.2 HAMLET EXPANSION

- (i) The Conceptual Land Use Plan (Figure 3) illustrates lands which are deemed appropriate for future Hamlet uses.
- (ii) The Hamlet's boundaries will be expanded through an amendment to the Land Use By-law when demand warrants it as interpreted by the Municipality. ✓
- (iii) The Hamlet boundaries will be expanded pursuant to the Conceptual Land Use Plan.
- (iv) Prior to expanding the Hamlet boundaries, the Municipality will notify the Calgary Regional Planning Commission.

3.3 TRANSPORTATION

- (i) Figure 4 conceptually illustrates a long term access plan for the Hamlet of Millarville and adjacent lands.
- (ii) Access to the Hamlet from Secondary Road 549 will be limited to the two existing entrance points (points A and B). Individual lot access will not be permitted.
- (iii) Intersectional improvements at Secondary Road 549 (points A and B) will need to be addressed at the time of application for redesignation or development of lands adjacent to the intersection.
- (iv) Road Plan 515 EZ is intended to provide for limited access to Road Plan 6228 JK.
- (v) For smooth and safe traffic movement along Road Plan 6228 JK between points B and C, intersection locations should be limited ideally to one point. Two points may be considered if a need can be demonstrated on the basis of projected traffic volumes and the nature of the proposed land use.
- (vi) A spacing of 180 metres is considered to be optimum between point B and the proposed commercial intersection at point C.
- (vii) Road access from Road Plan 6228 JK through the future commercial area to the residential part should be discouraged.
- (viii) As lands are developed adjacent to Road Plan 6228 JK, landscaping, signing and boulevards will be provided at the easterly entranceway to the Hamlet to control access and to provide a welcoming approach to the community.

- (ix) A minimum right-of-way of 100 feet will be required for the Hamlet roads unless the nature of the development warrants otherwise.
- (x) Future road design and construction will need to provide for some overflow parking for the gas station and general store.
- (xi) Intersectional improvements at the Hamlet centre (point C) will be considered when subdivisions or developments are proposed for Parcels 1 or 3. It is recommended that improvements include: property and road surveys; physical demarcation of property lines and lot access to the gas station, store and proposed lots; stop signs and sidewalks.
- (xii) Access to lands lying to the south of Secondary Road 549 should tie into the Hamlet's two intersections.
- (xiii) Future access off of Highway 22 to lands north of Road Plan 515 EZ will need to be evaluated following the completion of the Highway 22 Upgrading and Realignment Study by Alberta Transportation and Utilities.

3.4 RESERVES AND BERMING

- (i) Berms will be required adjacent to Secondary Road 549 (north side) and Highway 22 as part of the development approval process to provide some measure of privacy as well as visual and access control from the road.
- (ii) Berms will be constructed within lot boundaries at a slope of 3:1 and will be sodded or seeded to grass at the discretion of the Municipality. The minimum parcel size of one acre for commercial and .8 of an acre for residential developments will be increased to sufficiently accommodate the berming.

- (iii) As part of the development approval process, caveats will be placed against the titles limiting outside storage on and structural changes to the berming.
- (iv) Reserves should be dedicated adjacent to the intermittent creek and drainage channels. The purpose of the reserves is to afford: 1) protection to the creek bank and drainage channels; 2) public access to the watercourse; and 3) additional distance separation between the water course and private septic systems.
- (v) Lands dedicated for municipal reserves should be of similar quality as lands being utilized for development.
- (vi) Where feasible, Municipal Reserves should be dedicated adjacent to the intermittent creek within the Hamlet.

3.5 ENVIRONMENT

- (i) Low lying areas subject to water accumulation exist to the west of the gas station on Lot 7451 FH and to the south of the escarpment. Applicants for subdivision or development approval for Hamlet or country residential uses will be required to submit drainage plans as part of the approval process to ensure that adjacent and downstream lands are not negatively affected.
- (ii) Development will not be permitted on lands identified by Alberta Environment as being susceptible to flood or erosion hazards given the 1:100 year flood event of Three Point Creek. Figure A-2 of the Appendix illustrates the general location of lands susceptible to flash flooding by Three Point Creek.
- (iii) Low lying lands which may be subject to inundation should not be developed unless adequate flood mitigative measures are

undertaken to the satisfaction of the Municipality. The Development Constraints Map (Figure A-2 of the Appendix) generally illustrates the low lying areas.

- (iv) Subdivision or development on slopes 15% or greater will not be permitted unless it can be determined through geotechnical testing that the slopes are stable and suitable for the intended use. The Development Constraints Map (Figure A-2 of the Appendix) generally illustrates areas having steep slopes; more detailed mapping will be required of the applicant as part of the approval process.
- (v) Consideration should be given towards the soil, subsoil and terrain characteristics of lands when reviewing applications for the redesignation and subdivision of country residential lots to determine: 1) possible slope instability; 2) potential frost heave potential; 3) slumping potential; and 4) erosion potential.
- (vi) Minor channelization of the unnamed creek may be permitted by the Municipality subject to approvals from Alberta Environment.
- (vii) The unnamed creek should be surveyed at the time of subdivision application.
- (viii) When reviewing subdivision, development and redesignation applications, the M.D. should consult with Alberta Culture and Multiculturalism. An Historical Resources Impact Assessment or further documentation of historical resources may be required by Alberta Culture.

3.6 UTILITIES AND SERVICES

(i) Schools

The M.D. of Foothills and the Foothills School Division recognize the individual nature of the Millarville School. In addition, the Municipality, in co-operation with the Foothills School Division, will monitor building activity and school enrollments in the Millarville Attendance Area to minimize the need to have area students bused to schools outside of the District.

(ii) Sewage

It is assumed that sewage from any new developments in the Plan area will be disposed of by septic tanks and tile fields. There are, however, areas where: bedrock is believed to be relatively close to the ground surface; surface subsoils may be largely composed of gravel; and high water tables may exist. These factors can pose limitations for sewage disposal. High potential for ground water contamination can also be an issue. Applicants for subdivision and/or development approval will be required to demonstrate that each proposed lot can accommodate a septic tank and tile field system where on-site sewage disposal is proposed as per Alberta Environment guidelines.

(iii) Water Supply

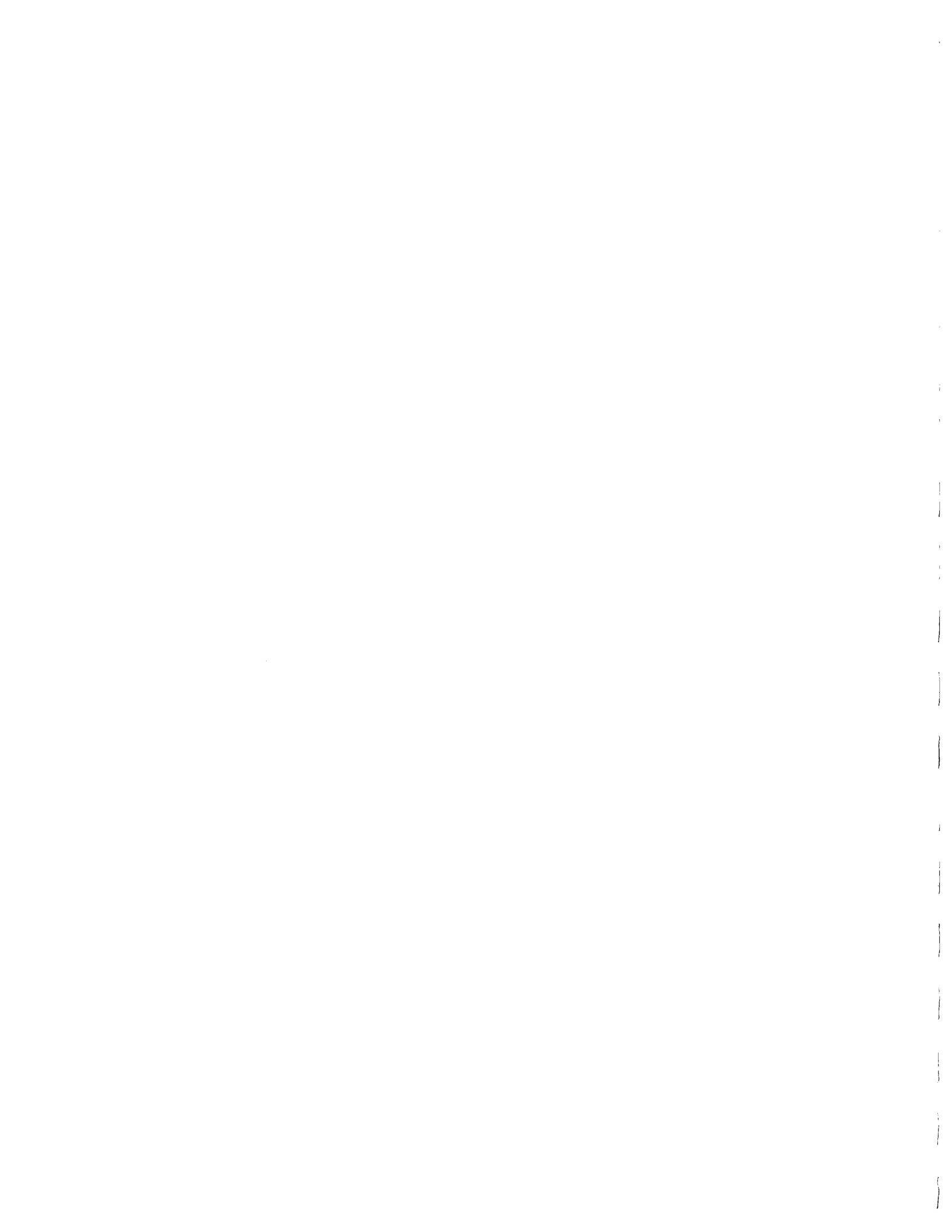
Applicants for subdivision and/or development approval will be required to demonstrate proof of potable water pursuant to Alberta Environment guidelines. In addition, applicants will be required to drill, test and monitor adjacent existing wells to the satisfaction of the Municipality.

Consideration should be given towards extending water delivery services to the Hamlet area residents should a piped water system from Three Point Creek be proposed for future adjacent country residential development.



APPENDIX

This Appendix is included for information purposes only.
It does not have any legal effects under the Planning Act.



APPENDIX

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A.1 INTRODUCTION

The purpose of this appendix is to provide background information on the Hamlet of Millarville and adjacent lands. It is intended to identify the features of the area, potential development constraints and possible opportunities for development. This information should assist the municipality and landowners in planning for and reviewing future development proposals. More detailed information will be required of applicants at the redesignation, subdivision or development stage.

A.2 EXISTING CONDITIONS IN THE STUDY AREA

A.2.1 Landforms

The physiography of the area is described as being part of the Rocky Mountains Foothills Division. Strongly sloping ridges marked with several drainage courses characterize the north and east part of the site area. Slopes can exceed 10% and in some cases 15%. The south and westerly part of the site area consists basically of a terrace of the Three Point Creek (or Quirk Creek) Valley.

A.2.2 Soils

The soil groups and characteristics of the site area are illustrated on Figure A.1. Information for Figure A.1 and this section is from the Soil Survey of the Calgary Urban Perimeter.¹ The information should be interpreted as being generalized. Closer investigations of the soil characteristics are expected to be carried out for individual redesignation applications.

Area 1 generally covers the hamlet and lands to the south/southeast. This is the flattest part of the site area containing highly variable alluvial parent material usually more than three feet thick. Rapid permeability is a possibility in this area. The potential concerns of this soil group may include: a high water table, high potential for groundwater contamination, high plasticity² and a high

¹ The Alberta Research Council Soil Survey of the Calgary Urban Perimeter, Edmonton, 1987.

² A plastic soil is a type capable of being molded or deformed continuously and permanently into various shapes by moderate pressure.

frost heave potential³. Varying depths of gravel have been identified south of the Secondary Road 549.⁴ The CLI is predominantly 3c. The exception is close to the river around abandoned drainage channels where it is 4⁶W⁴.

Exceptions to well drained soils exist in the vicinity of the unnamed creek where muskeg soil conditions may be found. These wet soil areas can limit the effectiveness of septic systems.

Area 2 reflects steep loamy till-covered slopes. The more easterly portion of this soil group tends to have rougher slopes with a thin veneer of colluvial material overlying bedrock. The bedrock is often within three feet of the surface. Rapid surface runoff reduces infiltration. Possible concerns of this soil group can include a shrink-swell potential⁵ and possible slope instability.

The topography in Area 3 ranges from gently sloping to strongly inclined. Shallow depth to bedrock may be found in this area. On the steeper slopes, slope instability and a relatively high erosion potential need to be taken into consideration. A high shrink swell and potential frost heave are possible concerns for this area.

Area 4 gently slopes to the southeast. Relatively uniform drainage may be found in the soil. A high clay content in the subsoil can, however, result in low permeability, high shrink-swell potential, slumping⁶ potential and high natural wetness.

³ Frost heave refers to surface raising due to accumulation of ice in underlying soil.

⁴ Local Ratepayer, Personal Correspondence, February 1989.

⁵ Shrink swell potential refers to ability of clays in the soil to shrink and swell through a freezing/thawing process.

⁶ Slumping refers to a landslide. According to the M.D. of Foothills Public Works staff, hills have a tendency in the area to slide, even with a 4 to 1 slope. One specific area of concern held by staff is the potential for slides to occur along the undeveloped road allowance north of the Green.

Area 5 is described as having smooth and steep slopes with underlying sandstone bedrock. Soil thicknesses may vary but they tend to be thin. Leaching is common to this soil group. Possible concerns to consider in this area include a shrink-swell, frost-heave potential.

A.2.3 Groundwater - General Geology and Supplies

According to the Geological Map of Alberta,⁷ bedrock in the area is the Brazeau formation of Paleocene and Upper Cretaceous Age. The formation is of non-marine origin and consists of greenish-grey, thick bedded, chloritic and feldspathic sandstone and blocky-grey mudstone, some tuff and then coal beds. According to Alberta Environment, "Available data indicate that the sandstone and mudstone shale are very well cemented and displayed evidence of fractures in some areas. Depth to bedrock varies from 8 to 75 feet. Surficial deposits represent the results of the last glaciation and consists of sand gray and gravels. Average thickness of the surficial deposits is 21 feet."⁸

Alberta Environment also indicates that there are no known aquifers in the surficial deposits. "This means that the sandstone and shale...represent the only potential aquifer in the area. Yields from aquifers with normal intergranular permeability range from 1-5 i.g.p.m. However, when fractures are intercepted..., yields greater than 10 i.g.p.m. are not uncommon. Presently, there are at least 34 wells in the (general) area with depths ranging from 45-235 feet. Yields from these wells vary from 2-35 i.g.p.m. Due to the fact that the majority of the wells

⁷ Green, R. 1972 Geological Map of Alberta Research Council of Alberta.

⁸ Alberta Environment, Water Resources Management Services, Written Correspondence, February 28, 1989.

are completed in fracture bedrock, the high yields shown on the reports must be viewed with caution, mainly because the yields are based on an average two-hour pumping test."

"In view of the uncertainties of yield, hydrostatic head, degree and extent of fractures and recharge associated with fracture permeability, the results of the two-hour pumping test cannot be used to evaluate the potential of the aquifer properly. Hence, long-term projections of the aquifers will also be questionable. In order to evaluate the aquifers potential with any degree of accuracy, longer pumping tests (24 to 96 hours) will have to be done together with the monitoring of wells within a half-mile radius of the pumping well."

"...(it would therefore) appear reasonable to conclude that new wells in the area might intercept fracture bedrock, which will yield a fair amount of water on a short term basis..."⁹ Long-term supplies will, however, not be known until proper aquifer tests are carried out.

According to a local landowner, water may be hard to obtain from the river flats south of the hamlet road. He recalls that around the 1940's and later, the houses and school drilled quite a few wells to find water.¹⁰

Based on fifteen chemical analyses, Alberta Environment has found the water quality to be fairly good. Water is relatively hard with high sodium and iron concentrations. These concentrations exceed limits for the Canadian Drinking Water Standards.¹¹ Landowners with heart conditions or

9 Ibid.

10 Local landowner, Personal Correspondence, February 1989.

11 Ibid, Alberta Environment.

on salt-free diets should be aware of this situation and it may be advisable to contact their doctor.¹² The Public Health Inspection Department of the Foothills Health Unit is also not aware of any poor groundwater quality.¹³

A.2.4 Surface Water

Three Point Creek lies to the south of the study area. The creek can, however, during high flows, cut through the study area's southwest corner via a high water channel. Flows are seasonally affected with high volumes following mountain spring runoff. The creek has flooded parts of the study area in the past (around 1942 and 1967), namely up to the Millarville store location and the hamlet intersection onto Highway 22.¹⁴ According to Alberta Environment,¹⁵ these lands are not likely to be flooded beyond the secondary road given the 1:100 year flood event. It is believed that the secondary road which was built in the late 1970's will act as a form of dyke. However, lands to the south of the secondary road are within the floodplain.¹⁶ Three Point Creek is also subject to channel instability.

While the secondary road is expected to act as a dyke, Alberta Environment is of the view that the lands to the north are none-the-less low lying and still susceptible to inundation by a spillover or through a culvert. Flood protection measures are therefore recommended for those lands that are viewed as being low lying. Reference may be made to Figure A-2 of this Appendix for the general location of development constraints relative to surface water concerns.

12 Alberta Environment, Water Resources Management Services, Verbal Correspondence, March 1989.

13 Foothills Health Unit, Written Correspondence, January 16, 1989.

14 Personal Correspondence with ratepayer, Council Member and Municipal Staff.

15 Alberta Environment, Land Use Branch, Personal Correspondence, March 1989.

16 Alberta Environment, Environmental Co-ordination Services, Written Correspondence, December 1976.

An unnamed creek meanders through the lower part of the study area. The channel appears to be generally stable, however the creek bed does widen and deepen as it moves east through the site area. The creek drains lands from the north via general slope runoff and defined coulees and then empties into Three Point Creek to the east of the study area. The majority of its bed does not contain water on a year-round basis. Evidence of past floodings of adjacent lands by the creek was not identified through the course of this study, however the possibility of future flooding merits further investigation as well as necessary protective measures.

Short-term water ponding occurs to the north of the hamlet road at the base of the escarpment and on Block 3, Plan 7710333 (the school grounds), up to and including the road allowance along the east side of the Hamlet. The water source is again surface drainage from lands to the north. Soil saturation is a possibility. Formal surface run-off channels should be investigated at the time of subdivision or development application.

A surface spring exists on a gently sloping hillside in the southeast quarter of Section 10. Flows have been decreasing over the last ten years.¹⁷ Declining flows may be attributable to the drought experienced in the recent past.

A number of sizeable springs exist on Parcel 1 in the vicinity of the intermittent creek bed. They are large enough to maintain water in the bed near the highway and between the highway and the former rail bed on a year round basis. According to Municipal staff, people during the 1930's would come from miles around to obtain their water from these springs.¹⁸ Development of lands adjacent to the springs should be approached cautiously.

¹⁷ Ratepayer, Personal Correspondence, February 1989.

¹⁸ Ibid.

A.2.5 Vegetation

Common ground cover on the hilly terrain includes dense stands of willow, poplar, pine and spruce. The more exposed hillsides in the southeast part of the site area as well as the lands lying south of the escarpment, contain fewer tree stands. In these areas, open grasslands predominate. Poplar and willow may be found in the vicinity of the unnamed creek. Hay crops have in the recent past been taken off lands in the NE 1/4 of Section 3 where 8" deep black soil may be found. Cultivated fields and, to a lesser extent, open pasture predominate in the SE 1/4 of Section 11. Areas of fescue grasses may be found in the SW 1/4 of Section 11.

A.2.6 Wildlife

According to the Canada Land Inventory Capability rating for ungulates, the site area is a 2w and 3 rating which is high to moderately high during the winter seasons. However, the Environmentally Significant Areas Study¹⁹ did not identify the area as being regionally significant for ungulates or birds.

The intermittent creek does not support a fish or wildlife habitat. According to Alberta Forestry Lands and Wildlife,²⁰ the wildlife habitat has been destroyed upstream and downstream of the hamlet through the clearing of all riparian bush cover to Highway 22. The only wildlife habitat remains within the hamlet itself but this habitat is not of good quality.

¹⁹ Calgary Regional Planning Commission, Environmentally Significant Areas of the Calgary Region, 1983.

²⁰ Alberta Forestry Lands and Wildlife, Written Correspondence, January 26, 1989.

Three Point Creek is an important fish and wildlife area to the immediate south of the Hamlet. The Fish and Wildlife Branch recommends no development in the area, in part, to protect the habitat but also because of flooding potential and channel instability.²¹

A.2.7 Historical - Archaeological Resources

No comprehensive archaeological studies have previously taken place in the study area. However, records with Alberta Culture and Multiculturalism show that a N.W.M.P. post may exist in the SW 12-21-3 W5M. A prehistoric campsite and a large cairn, or medicine wheel, may also exist in the area but records are not sufficiently detailed to confirm their location.

Alberta Culture has also indicated that the area provided excellent grazing for the game animals hunted by prehistoric peoples, and it was a known wintering area for both Natives and bison. Prehistoric sites commonly occur within short distances from the creeks which drain the area. Given the number of sites recorded along Three Point Creek, there is high potential for additional occurrences of prehistoric sites within the planning area. Likewise, but to a lesser extent, there is high potential along the banks of the small unnamed creek which flows just south of the hamlet. Any developments proposed for these areas may require the conduct of Historical Resources Impact Assessments prior to land disturbance.²²

²¹ Ibid.

²² Alberta Culture and Multiculturalism, Historical Resources, Written Correspondence, February 27, 1989.

Considerable potential exists for early historic sites in the area given that Millarville was settled comparatively early in Alberta's history.²³ One example of an historical resource in the area is the Christ Church Anglican Church.

Millarville is named after Malcolm Millar, first settler and postmaster who resided in the area circa 1885. Millarville is particularly noted as an early ranching hamlet and, after 1905, for its annual horse race.

²³ Ibid.

A.3 DEVELOPMENT CONSTRAINTS

Figure A-2 illustrates potential development constraints as identified by Alberta Environment. The map should be interpreted as being approximate and to be used as a guideline only.

Alberta Environment indicates²⁴ that a considerable amount of land within the study area is suitable for development in its present state or could be made suitable with proper infilling.

The steeper areas may have development potential if it is determined through geotechnical testing that they are stable. The steep escarpment slopes and ravine slopes should be excluded from development.

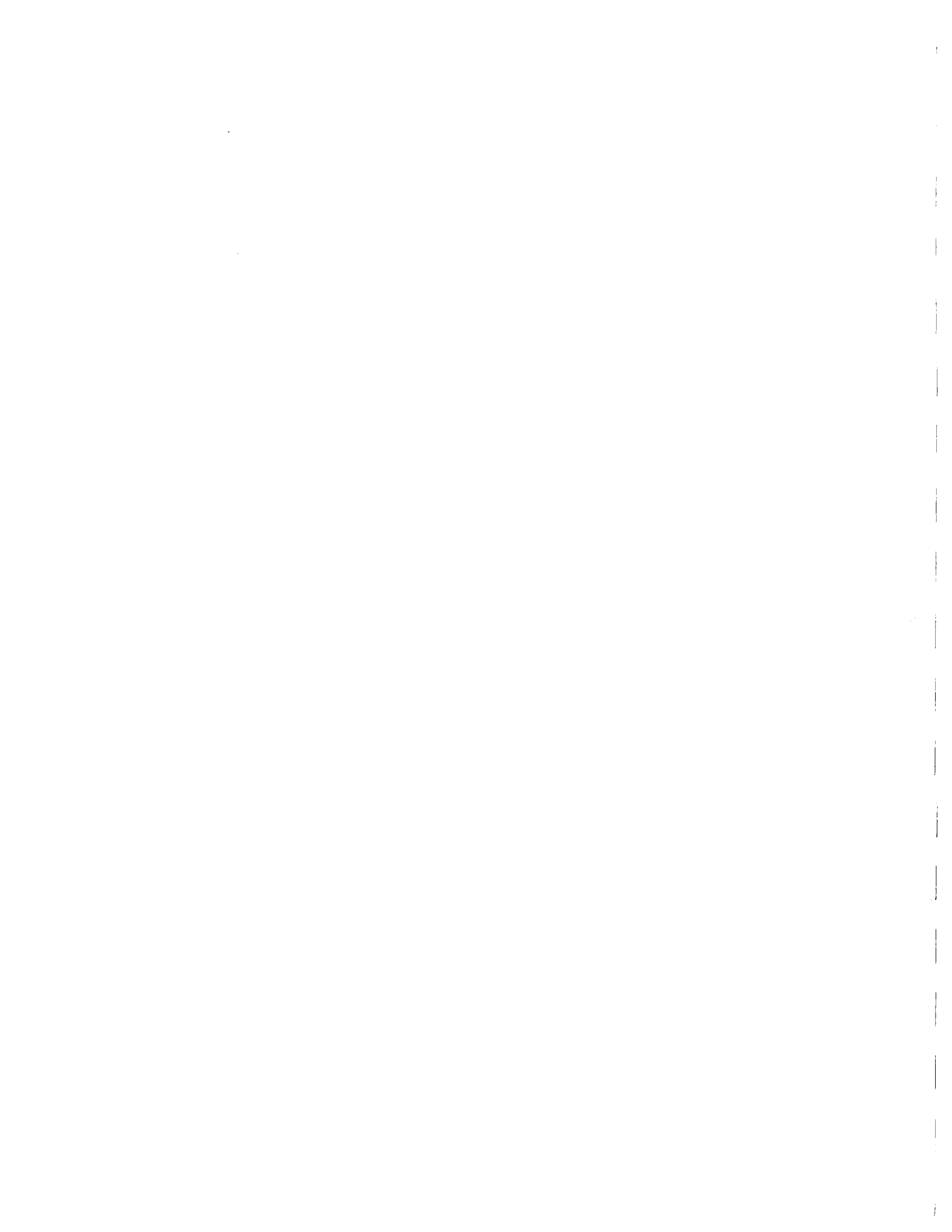
The low lying areas may be subject to occasional flooding from the intermittent creek and inundation or flooding and erosion by Three Point Creek given the 1:100 year flood event.

On-site sewage disposal utilizing septic tank and tile field systems may be unacceptable in areas where there is shallow bedrock and/or fast percolation rates. Testing will be required of applicants.

Higher capability agricultural lands (lands having a soil capability for agriculture of Class 3) exist within the study area. Foothills' General Municipal Plan and the Calgary Regional Plan prohibit country residential development on such lands.

Storm water management is not considered to be a development constraint by Alberta Environment. Considering the natural slope of the quarter, storm water management issues can be addressed at the development stage. Few problems are forecast providing the densities are not prohibitive.

²⁴ Alberta Environment, Environmental Protection Services, Environmental Assessment Division, Land Use Branch, Written Correspondence, April 18, 1989 and Alberta Environment, Environmental Evaluation Services, Environmental Assessment Division, Land Use Branch, Written Correspondence, October 31, 1989.



A.4 LOT OWNERSHIP

Figure A-3 illustrates lot ownership within the study area. Lands are largely privately owned with the exception being the Municipal and School Board lands. In addition, the Crown claims ownership to the bed and shore of the unnamed watercourse and Three Point Creek. Alberta Forestry Lands and Wildlife request suitable reserve dedications and development setbacks along both watercourses.

The Crown also claims ownership to the SW 1/4 of 11-21-03 W5M, as well as a portion of SE 11-21-03 W5M. A road plan (Highway #22) is registered in SE11, while the entire SW11 is covered under a protective notation reservation (PNT 840672) due to topographic constraints. Agricultural activities in SW11 are limited to grazing and haying only, with the consent of the Public Lands Officer. Another protective notation (PNT 880065) is registered in SW 11 for ungulate winter range protection purposes. Dispositions for public land sales are not permitted under this reservation. Agricultural development for range improvement is restricted from further clearing or cultivation in order to protect important ungulate winter habitat in SW11.

These reservations have been placed on public land to identify resources requiring special considerations and protection from development activities. The Department requests that the Crown's interests on these public lands are reflected in the Plan.²⁵

²⁵ Alberta Forestry Lands and Wildlife, Public Lands Division, Written Correspondence, February 2, 1989.



A.5 LAND USE

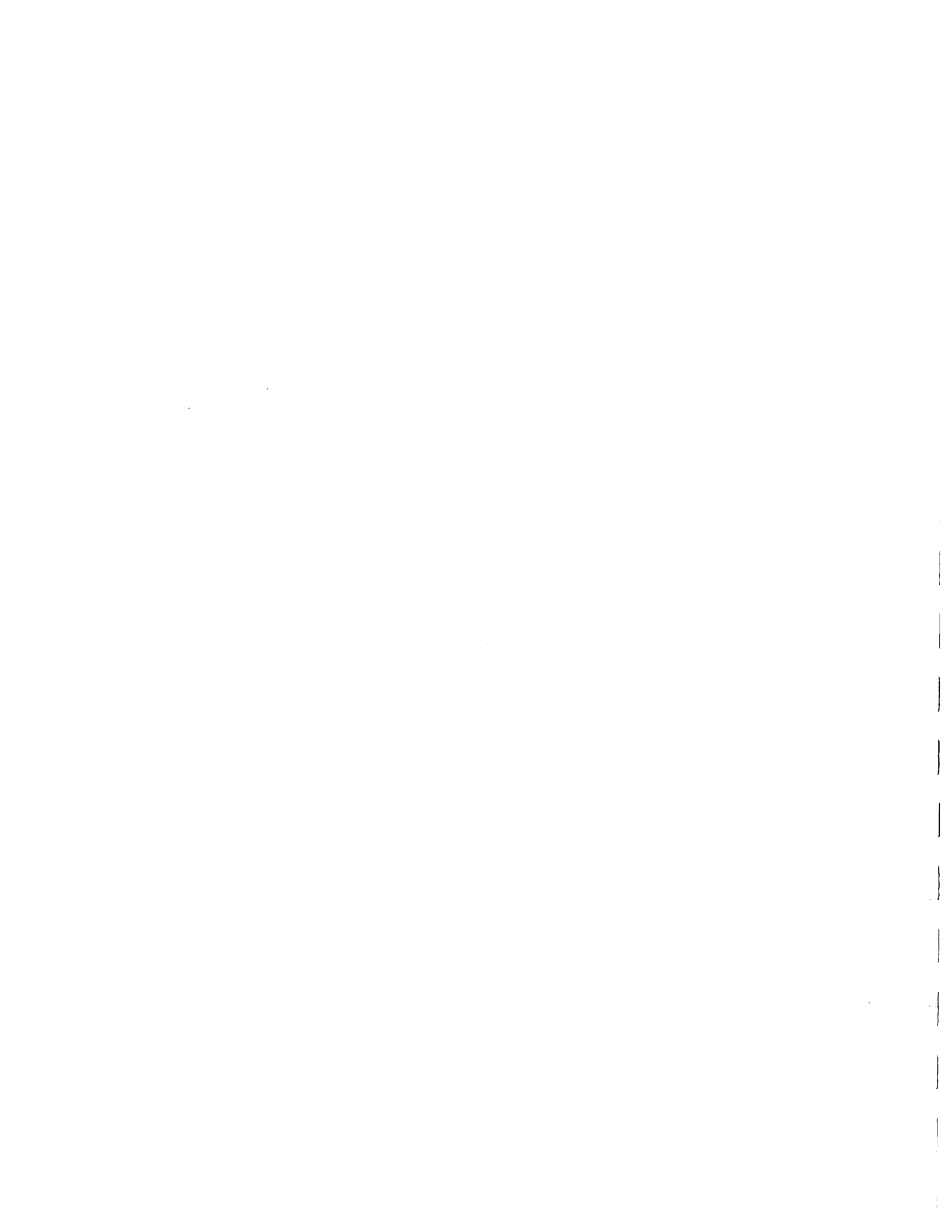
Dominant land uses within the study area and approximate building locations are illustrated on Figure A-4. The present community provides a mix of uses at a very small scale. The hamlet has experienced a varied history of development starting with a post office in 1905 to a bustling oil-related community in the 1940's to slow recent growth.

Land uses in the vicinity include ranching and some cultivation. Immediately upstream of the Highway 22 bridge over Three Point Creek is a fish project developed jointly by Trout Unlimited and Alberta Forestry Lands and Wildlife. Tourism-related developments in the area include the Millarville Race Track, Fair, Farmers Market and Field Dog Trials. Presently, the Chinook Country Tourist Association actively promotes these activities. Facilities also exist to the west of the Hamlet in Kananaskis Country. There are two developments there of significance to Millarville: the Messa Butte and North Fork (summer) Campgrounds. The Province is not anticipating providing for major increases in the number of campsites in the area.

Future growth in the hamlet is expected to be of a commercial and residential nature. Little interest is expected in locating industrial outlets there. Growth in the Hamlet will ultimately be highly influenced by the marketing decisions and actions of the landowners.

Projections of the potential rate or amounts of growth are not realistic given the small data base. However, certain conclusions can reasonably be drawn:

1. Interest in developing in the general area will increase as the City of Calgary expands southward, as more people become aware of the natural attributes of the area and as retiring farmers look to make some extra money by subdividing their lands.



2. Some of that interest is likely to be for living in a small community, especially one with recreational and school facilities.
3. Significantly higher growth rates in the Hamlet are not expected in the near future given the Hamlet's demonstrated slow rate of growth during the region's 1970's boom period.
4. Residential demand on the open flat lands north of Secondary Road 549 is more likely to be for more urban sized lots rather than country residential ones due to country residential market preferences for privacy.
5. The number of vehicles that pass by the Hamlet is relatively low and this is expected to continue with modest increases. Private and government development initiatives will impact traffic trends. Some commercial trade benefit will result from traffic increases.
6. Minimal commercial outlets are currently available to travellers on Highway 22. As traffic volumes increase, demand for these services could conceivably be met within the Hamlet.
7. Considerable potential is believed to exist for creating a "draw or interest" for tourists in the Hamlet or general area. These developments are expected to promote the natural attributes of the area or to be tied to activities such as the Millarville Races and Fair. Examples might include, for instance, establishing a tea shop in a building of historic appearance or developing a small heritage commercial centre with craft outlets.

8. Should interest increase in locating commercial establishments in the area, efforts will need to be made to minimize impacts on the residential uses.
9. There may be some demand for a privately owned campground near the intersection of Secondary Road 549 and Highway 22.

A.6 ACCESS

(i) Secondary Road 549

Access to the hamlet is presently provided at two points from Secondary Road 549. Additional accesses from the secondary road should be discouraged to ensure reasonable and safe spacings between intersections and smooth traffic flows.

The intersections to the Hamlet have been built to provide approximate 90° angle turns. Site distances are reasonable. The registered road plans for the Hamlet's easterly entrance do not, however, reflect a 90° intersection. Prior to development proceeding adjacent to the intersections, proper intersectional alignments will need to be determined.

Two access points could be provided from the south side of the secondary road to service future development in the NE and SE 1/4's of Section 3, Township 21, Range 3. Tie-ins to the Hamlet intersections are recommended.

The existing private access from Secondary Road 549 to parcel 5903 JK is viewed as being acceptable at the present time given the limited number of vehicles utilizing the site.

The current right-of-way of the secondary road is 132 feet. According to Alberta Transportation staff, future improvements such as turning lanes can be accommodated within it. The two driving lanes are viewed as being adequate to handle anticipated volumes into the foreseeable future.

Transportation staff recommend a posted maximum speed of 50 km from Highway 22 to the Hamlet's westerly entrance.

(ii) Highway 22

Alberta Transportation has indicated that future additional direct accesses from Highway 22 to the Hamlet will not be provided given the terrain limitations and need to limit intersections in the area. Obtaining a more northerly access from Highway 22 to the Hamlet via a service road is also not recommended because: 1) considerable cut and fill would be required; 2) it could result in short cutting through the Hamlet to Secondary Road 549; and 3) the Municipality is not likely to support a scale of development on Parcel 1, which would require an alternate access to it from Road Plan 6228 JK.

(iii) Internal Hamlet Road

A loop road system off of Secondary Road 549 provides the basis for access through the Hamlet. It is proposed that this system remain. The road right-of-way is predominately 20 metres (66 feet) with exceptions in front of Parcel 499 JK and at the entrances to the Hamlet. This right-of-way will need to be increased to 100 feet to meet the Municipality's requirements.

The loop road system should be given a name for identification purposes.

Encroachments onto the Hamlet road are believed to exist in two situations, from Parcels 499 JK and 7451 FH (subject to confirmation by plan of survey). Future road improvements will need to be cognizant of these encroachments.

The posted speed sign near the school on the south side of the road should be made more visible.

(iv) Internal Intersection

The internal intersection has roads coming into it at less than 90° angles. In addition, it provides access to the store (Plan 3534 EH), gas station (Plan 7451 FH) and Parcel 1. Driving lanes are not clearly defined and are not distinguished from parking areas and lot areas.

This situation does not appear to be causing problems at the present time. In fact, the lack of definition seems to fit in with the country atmosphere of the Hamlet. However, as traffic volumes increase, safety concerns could become an issue. Proper intersectional treatment should be determined prior to additional developments locating in the area and restricting the range of options open to the municipality.

Options for improving this intersection are very limited without encountering major costs. The recommended long-term road plan envisions minimizing the number of access points entering the intersection. Access points to the north and east (Road Plan 515 EZ) will be permitted from the main road given the limited number of parcels they will be serving. Traffic will be fairly directional, minimizing turning problems and ultimately safety concerns.

(v) Parking

On-site parking for the gas station and general store will not be sufficient to meet future needs. Additional parking should either be provided for on the street or through a community parking lot in the vicinity. Consideration should be given towards the needs of recreational vehicles.

A.7 SERVICES

A.7.1 Schools

One of the key concerns of Council at the outset of this plan preparation was the relationship of the school to future growth in the Hamlet and its adjacent lands.

The following information has been provided by the Foothills School Division to address Council's concerns.

1. The enrolment history for the Millarville School has been as follows during the past 10 years:

1978 - 157	1984 - 141
1979 - 159	1985 - 146
1980 - 140	1986 - 149
1981 - 144	1987 - 156
1982 - 150	1988 - 160
1983 - 147	

2. Grades 1 to 9 are currently taught at the Millarville School. Early Childhood Education is provided on the same site in the Ranchers' Hall.

Enrollment for 1988 was as follows:

Grade 1 - 21	
Grade 2 - 28	
Grade 3 - 12	Combined classroom
Grade 4 - 19	
Grade 5 - 14	Combined classroom
Grade 6 - 16	
Grade 7 - 25	
Grade 8 - 19	
Grade 9 - 12	

TOTAL = 166 students

3. Future enrollment projections to the year 1991 have been provided by the Division. They are based on anticipated population growth in the range of 0 to 2%.

(If population growth should exceed the projections, these figures would need to be revised. It should also be noted that the school division is currently assessing future enrollments and infrastructure requirements for the whole division).

Anticipated Enrollment - 1991

Grade 1 - 19
Grade 2 - 21
Grade 3 - 22
Grade 4 - 27
Grade 5 - 32
Grade 6 - 14
Grade 7 - 19
Grade 8 - 13
Grade 9 - 16

Total = 183

Most of the growth is expected to occur in grades 3 to 6.

4. With enrollment continuing to gradually increase, the administration foresees a time coming when the school will reach its ideal capacity of 225 students (9 rooms at 25 students each). There are a number of options that could be considered by the Division when this happens: 1) limit the school to grades to 1 to 6, 7 or 8; 2) restrict the transfer of students from Black Diamond and Turner Valley communities to the unique school program offered at Millarville; and 3) bus Millarville area students to Black Diamond or Turner Valley.
5. There are no plans to expand the size of the school as there is surplus classroom space at C. Ian McLaren in Black Diamond, Oilfields Jr/Sr High School in Black Diamond and Turner Valley School. The Board has never

discussed the closing down of Millarville School - in fact the grade range was restored to a Grade 1-9 school as of September 1, 1988.

6. The school is used at least 4 nights per week and frequently on Friday. The local Baptist congregation meets each Sunday in the school.
7. At this time the Division has no plans for developing the balance of their lands in the Hamlet (Block C);
8. The Administration does not foresee any major problems for the school arising from additional traffic on the internal Hamlet road. If traffic did become a problem, the school playground could be fenced. Another solution would be to divert the traffic along the west side of the school and have it go west onto Highway 549.
9. The school has experienced no problems relative to the water quantity, however, the water is not the best quality for drinking. The septic system appears to be functioning normally for the rated size of the school. The well and septic systems could foreseeably accommodate some increase in student enrolment at least up to the rated capacity of the school.

A.7.2 Transalta Utilities

Transalta Utilities anticipates no problems if additional development were to occur in Millarville. Their main 25,000 volt feeder for this area is located along the north side of SR 549. This line has the capacity to provide service for any foreseeable development. The cost of relocating or altering existing lines would be paid for by the developer.

A.7.3 Canadian Western Natural Gas

Canadian Western's pipelines will be replaced in the summer of 1989 and may be rerouted to satisfy landowner and construction concerns.

Canadian Western Natural Gas does not have any concerns regarding future development in the subject area. Gas service is provided from a nearby NOVA pipeline. Any increases in gas load can be accommodated easily.

All the Canadian Western pipelines in the study area are covered by easements. Any development around a pipeline must address the conditions outlined in the easement.

These pipelines are 60mm or smaller operating at less than 700 kPa. Relocation, if necessary, can be done at a reasonable cost.

A.7.4 Sewer and Water

It is anticipated that sewer and water services will be provided on a site specific basis given the costs of communal systems, limited current senior government grant programs and the small population base to pay for them.

Section A.2.3 of this Appendix may be referred to for a description of general groundwater supplies. Proof of potable water adequate to support the proposed number of parcels will be required of applicants to the satisfaction of the Council.

Alberta Environment²⁶ and Alberta Labour²⁷ provided comments relative to the suitability of the lands in the

²⁶ Alberta Environment, Environmental Protection Services, Environmental Assessment Division, Land Use Branch. Written Correspondence. April 18, 1989.

²⁷ Alberta Labour, General Safety Services Division, Plumbing and Gas Safety Services Branch. Written Correspondence. June 15, 1989.

study area to accommodate sewage effluent. Alberta Environment recommended that percolation rates be determined by applicants to ensure that the near surface subsoils would be suitable for on-site sewage disposal. If the near surface subsoils are largely composed of gravel, they would probably provide an unsuitable medium for the safe disposal of sewage effluent. Infilling could help to address this issue. Applicants should also be required to demonstrate that bedrock in the steeper areas is at an acceptable depth below the ground surface to ensure again that there are sufficient suitable subsoils for on-site sewage disposal. Applicants should be required to conduct test holes as per the Department's guidelines.

Alberta Labour recommended that the following be taken into consideration:

- ° Ensure that a good location be provided for private sewage disposal systems on each lot (eg. a sunny location).
- ° A percolation test shall be provided for each title field proposed.
- ° All installations shall be done in accordance with Provincial Plumbing & Drainage Act Regulations.

Written correspondence received from both Alberta Environment and Alberta Labour did not indicate concerns about the possibility of septic system water from developments located to the north of the Hamlet polluting wells within the Hamlet.