
WYNDHAM - CARSELAND

AREA STRUCTURE PLAN



BYLAW No. 95-025

February 1996

COUNTY OF VULCAN NO. 2
IN THE PROVINCE OF ALBERTA
BYLAW NO. 95-025

Bylaw No. 95-025 of the County of Vulcan No. 2 is for the purpose of adopting the Wyndham-Carseland Area Structure Plan in accordance with section 692 of the Municipal Government Act, being Chapter M-26.1 of the Revised Statutes of Alberta.

Whereas the Council of the County of Vulcan No. 2 has identified the Wyndham-Carseland area as having potential for residential development; and

Whereas development proposals must recognize that certain hazards exist in the area; and

Whereas the council wishes to implement development and subdivision guidelines to take into account the special nature of the area;

Now Therefore Be It Resolved that the Council of the County of Vulcan No. 2 does hereby adopt Appendix A as the Wyndham-Carseland Area Structure Plan.

This bylaw comes into effect upon passing of third reading.

READ a first time this 24th day of November, 1995.

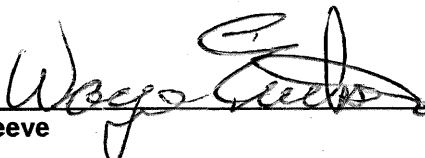


Reeve



County Administrator

READ a second time this 19th day of January, 1996

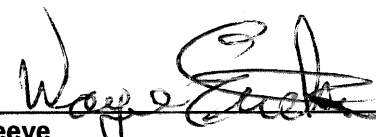


Reeve



County Administrator

READ a third time and finally passed this 16th day of February, 1996.



Reeve



County Administrator

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WYNDHAM-CARSELAND AREA STRUCTURE PLAN

1.0 INTRODUCTION

This area structure plan has been prepared for the Wyndham-Carseland area of the County of Vulcan, an approximately one mile wide and three mile long stretch of valley lowland and coulee top. Primarily a rural area, it has received its commonly referred to name due to the proximity of the Wyndham-Carseland Provincial Park. The area is bounded on the north by the Bow River and the south by steep coulee walls.

1.1 BACKGROUND

Although primarily agricultural in nature, the area's scenic location with abundance of natural vegetation and wildlife has long been popular with campers and picnickers. More recently, with owners of country residences as well due to the proximity of larger centres such as Calgary. In response to an increase in interest regarding subdivision and development within the area, the Municipal Planning Commission of the County of Vulcan requested the Oldman River Regional Planning Commission to commence an area structure plan.

1.2 LEGISLATIVE FRAMEWORK

An area structure plan is a statutory document under section 633 of the Municipal Government Act, Chapter M-26.1 that can be adopted as a bylaw by a municipal council. According to section 633(2), an area structure plan:

- (a) must describe
 - (i) the sequence of development proposed for the area,
 - (ii) the land uses proposed for the area, either generally or with respect to specific parts of the area,
 - (iii) the density of population proposed for the area either generally or with respect to specific parts of the area, and
 - (iv) the general location of major transportation routes and public utilities,and
- (b) may contain any other matters the council considers necessary.

1.3 PURPOSE OF THE AREA STRUCTURE PLAN

This plan will provide a framework and a set of guidelines to facilitate the orderly development of land for the area with a minimum of conflict between resulting uses. These guidelines were determined on the basis of available developable land within the area after an examination of topography, agricultural capability, floodplain extent, water table, existing land uses, existing access, and wildlife considerations was done.

This area structure plan is of a general and flexible nature where developers can submit proposals based on the guidelines rather than a format of detailed designs showing possible future residential subdivision, road networks and park space.

1.4 PLAN OBJECTIVES

1. To ensure future land uses have a minimal impact on those uses currently in existence.
2. To ensure that good quality agricultural land is kept in production.
3. To ensure the beauty and value of the area is not compromised.
4. To ensure future development is of high quality.
5. To ensure future development is low-density in nature to blend with the existing development in the area.
6. To ensure that Highway 24 is maintained as a safe and efficient link in the primary highway system.

1.5 ADOPTION PROCESS

The first step in the adoption process is often a public information meeting involving the residents of the area and any other interested members of the public. This meeting is held before the final plan is given to council to address any concerns of the residents and to include valuable public input.

An area structure plan requires three readings by a municipal council and a public hearing before the second reading to be adopted as a bylaw. The municipal council is required to name the date, time and location of the hearing, outline the procedures to be followed by anyone wishing to make a presentation and how the hearing will be conducted as well as advertising in two publications circulating in the area of the bylaw the above three requirements, the purpose of the bylaw, and where it can be inspected by the public.

In addition, a copy of the area structure plan is sent to various government departments such as Alberta Transportation and Utilities and Alberta Environmental Protection for their comments before any municipal approval is given.

2.0 THE PLAN AREA

The plan area is based on an examination of the background information collected on existing land use, agricultural capability, land ownership and so on in an effort to determine which land would experience the greatest likelihood of development and which land was the most suited to accommodate that development.

2.1 LOCATION

The plan area now encompasses a three-mile stretch of lowland eastward from the Carseland weir to the southeast quarter of Section 34 and a corresponding three-mile strip of land running eastward along the coulee top from the southwest quarter of Section 32 to the southeast quarter of Section 27 (see Regional Location Map). The area structure plan will concentrate on the lands abutting the Wyndham-Carseland Provincial Park and those lands that have been the main focus of country residential development in the past or have a high likelihood of development in the future.

2.2 LAND USE

A great diversity of land uses from agricultural to country residential and public and institutional to commercial is found within the fairly compact size of the plan area. The dominant land use of the plan area is presently agriculture with the cultivation of crops occurring mainly on the valley floor and grazing of pasture lands occurring both on the valley floor and on the top of the coulee. As seen in Table 1 and Map 2, cultivated lands account for 40% of the total land base, followed by native pasture at 22%, provincial park lands at 21%, native bush at 13% and seeded pasture at 4%. Additional land is also taken up by sloughs, coulees, irrigation canal and road network.

There are also six farmsteads within the plan area, all located to the east of the highway. Each farm has a primary residence and two of them have an accessory residence as well for a total of eight dwellings (see Map 3). In addition, a small seasonal livestock confinement operation is in use mainly during the spring and fall months located to the west of the highway.

TABLE 1

	Land Assessment	Acres*	Percentage of Total Acres	
	Cultivated	419.5	40	
	Seeded Pasture	42.3	4	
	Native Pasture	230.3	22	
	Native Bush	135.5	13	
	Provincial Park	226.7	21	
	Total	1054.3	100%	
	* Approximate estimates			

Also fairly prominent within the plan area are country residences. Four residences are located on the east side of the highway with three on the valley lowland and one on the coulee top overlooking the valley. The remaining residence is located on the west side of the highway and is used in conjunction with a seasonal convenience store, bringing the total number of country residences to five (see Map 3). The existing development is low density in nature consisting of fairly large acreages ranging in size from 1.57 to 19.0 acres, that are spread throughout the plan area rather than being clustered in one or two locations. As a result, they blend well with the existing

agricultural operations and natural vegetation. Current development is of a high quality and reflects a commitment by homeowners to living in the area.

The third significant, but perhaps best known, land use within the plan area is public and institutional in the form of the Wyndham-Carseland Provincial Park. The park accounts for 21% of the total land base (see Table 1) and is split in two sections on either side of the highway (see Map 3). The main section of the park which includes the day use area, 196 overnight camping spaces, park ranger's office and residence, is located to the west of the highway. The group use area which includes a ball diamond complex, bird sanctuary and 52 overnight camping spaces is located to the east of the highway. The park is a seasonal operation, open from May to September and based on an estimate of 4 persons per campsite can inject an additional 992 people into the area on a good weekend.

The final land use found within the plan area is commercial. There are three existing uses including a seasonal convenience store, a bed and breakfast operation, and a small engine repair (see Map 2). The two uses exert a fairly low impact on the area and complement the agricultural and recreation nature of the valley extremely well.

2.3 AGRICULTURAL LAND CAPABILITY

The plan area is split into two agricultural classes mainly based on topography. The valley lowland is a mixture of class 4, 5 and 6. Class 4 areas can accommodate a very low range of crops due to low moisture and storage limits, Class 5 land requires improvements such as irrigation to grow annual crops, and Class 6 land is useful for grazing purposes only. Most of the cultivated land in the valley does use mechanized irrigation. The land on top of the coulee is Class 3 with moderate limitations for agricultural use due to topography and a reduction of the range of crops that can be grown without utilizing special conservation practices. Most of the land in this area is used as native pasture and that which is cultivated does not utilize mechanized irrigation. In general, the land experiences only medium to moderately high productivity.

2.4 LAND OWNERSHIP

The plan area encompasses the land holdings of 18 different owners indicating a fair degree of fragmentation for an area of its size (see Map 4). Many of the land owners own only one parcel of land which also contributes to the fragmentation. Parcel sizes vary from nearly 200 acres to just over an acre and a half, reflecting the agricultural and country residential uses of the area.

The majority of land owners presently reside on their land as opposed to being absentee owners or land speculators who may have purchased the land only to sell it in smaller parcels for a profit. In addition, most land owners have lived in the area for over five years with newer residents being mainly country residence owners, some of whom have lived in rural areas in the past and are attracted by the rural lifestyle.

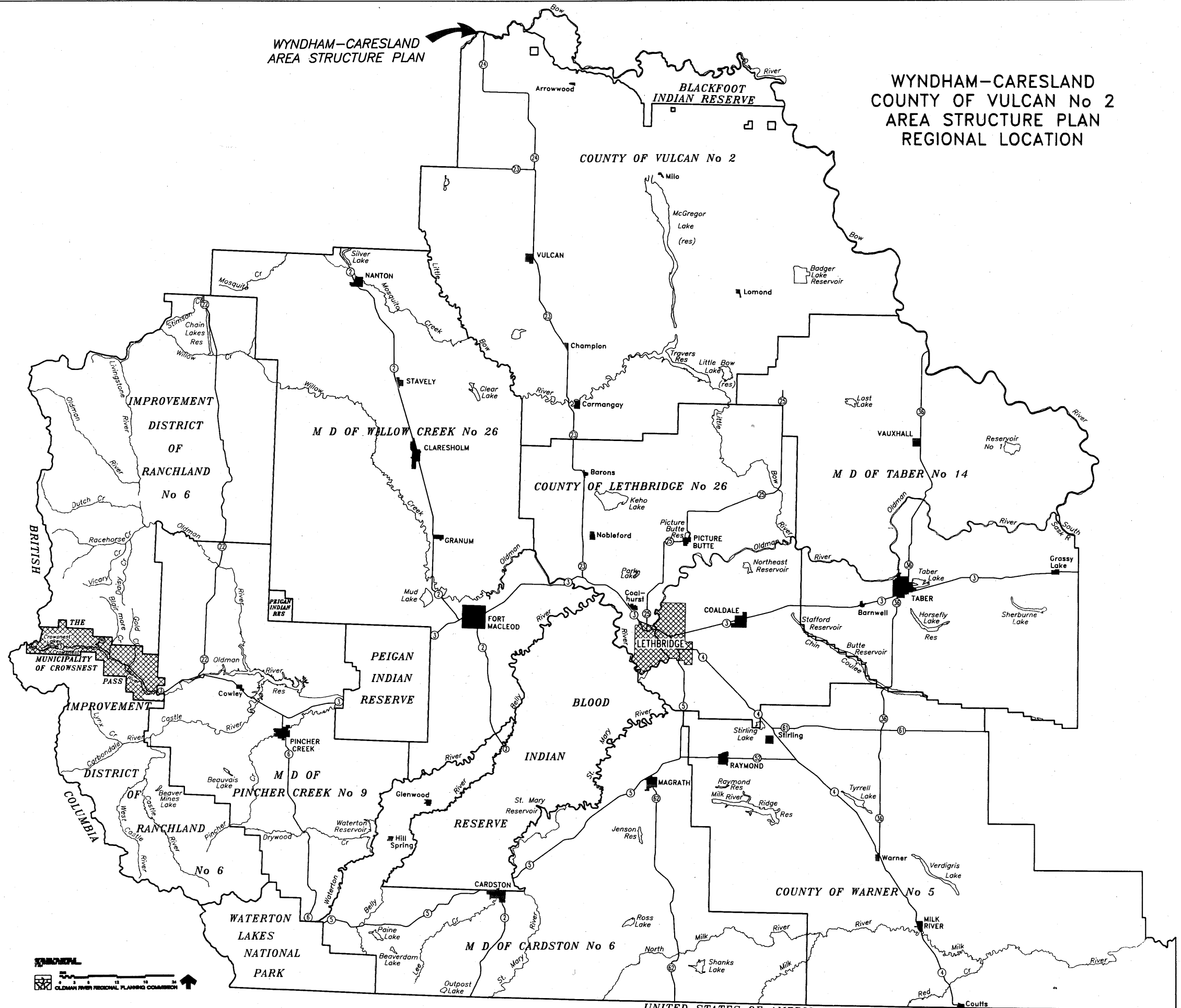
2.5 SURFACE AND SUBSURFACE SOIL CONDITIONS

The plan area is located within the Paskapoo formation which is made up of classic sedimentary rocks created by particles being cemented or welded together over time. Rock types found within this formation include grey shale, brown to black carbonaceous shale, medium and coarse grained sandstone and small amounts of non-marine conglomerate. In general, at this depth of the soil there is a reduced porosity (water movement) due to the cementing material holding the rocks together with shale being relatively impermeable and sandstone permeable.

Common surficial materials associated with sedimentary rocks include sands and gravels which are also often found with floodplains. Coarse gravel will allow water or other substances such as effluent to pass through it rapidly or relatively unchanged, thus increasing the potential for

WYNDHAM-CARESAND
AREA STRUCTURE PLAN

WYNDHAM-CARESAND
COUNTY OF VULCAN No 2
AREA STRUCTURE PLAN
REGIONAL LOCATION



R 6 R 5 R 4 R 3 R 2 R 1 R 30 R 29 R 28 R 27 R 26 R 25 R 24 R 23 R 22 R 21 R 20 R 19 R 18 R 17 R 16 R 15 R 14 R 13 R 12 R 11

DATE DRAWN: JANUARY 24, 1992

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pollution of groundwater or wells to occur. Examples of areas within the plan area containing gravels include the northeast, northwest and southeast quarters of Section 27 and the northeast and northwest quarters of Section 28. In addition, several large gravel extraction operations are located directly across the river from the plan area.

2.6 IMPACT OF THE BOW RIVER

The Bow River has had a powerful impact on the plan area as the valley lowland was created many years ago by the powerful force of the river, prone to flooding often during the spring thaw. The natural vegetation of the area, a large part of which is willow trees, also resulted from the river periodically overflowing its banks. Existing wildlife was originally drawn to the area by the habitat.

When it came time for the area to be settled for agricultural purposes, its closeness to a major river and water supply as well as scenic location made it attractive to early residents. In the years to come the aesthetic value of the area based on the vegetation, wildlife and proximity of the river made it a natural location for a public park to provide recreational opportunities for area residents and tourists alike. Further development of the area in the form of country residences was also successful due to the scenic natural surroundings and recreational opportunities available.

2.7 EXISTING TRANSPORTATION PATTERNS

Highway 24 is a two-laned arterial highway which runs north-south through the plan area and provides the single access to all of the development on the valley lowland. Through most of the year the area experiences typical agricultural and residential traffic including school buses, but the volume increases substantially during the summer months and especially on weekends when the provincial park is in use. Much of the increase in volume is due to recreational vehicles which are larger and more awkward to maneuver than ordinary vehicles. The traffic is also moving both to the west to the main park and to the east through a residential area along a gravel road to the group camping area. In addition, as Highway 24 provides access to larger centres such as Calgary, it experiences a lot of through traffic that is not destined for the area, especially truck traffic as several gravel pits are located just to the north of the river.

2.8 MAJOR UTILITIES

The major utilities are shown on the Land Use Map (see Map 3) and include Alberta Government Telephones lines, TransAlta Utilities and natural gas provided by the Sunshine Gas Co-op.

2.9 PUBLIC PARTICIPATION

An important step in the area structure plan process is to solicit input from affected land owners. This was accomplished for this plan by an introductory letter and follow-up telephone interview with each land owner (all land owners were contacted with the exception of one). The purpose of the interview was two-fold. Firstly, it was necessary to give a background profile on the residents by asking questions regarding the amount of land owned by each, length of ownership, residency within the plan area, size of family, future plans for their land, and what kinds of development they didn't wish to see occurring within the plan area.

The second purpose was to garner information from the residents regarding any natural resources such as wildlife or vegetation of the area that might not be documented as well as the history of the river in regards to flooding of the valley lowland.

Originally the study area included the holdings of 26 land owners, which is reflected in the results of the telephone interview included in Appendix 1.

3.0 IDENTIFIED ISSUES AND CONSTRAINTS

Through the study process a number of considerations became evident and will have to be addressed in the plan and subsequent decisions. The following are the main issues and constraints that apply to this area.

3.1 FLOOD POTENTIAL

Information available indicates that the potential for flooding exists in much of the study area. Unfortunately, insufficient contour data exists to make an estimate of lands that may be affected under flood conditions. A general guideline used by Alberta Environment Enhancement and other agencies suggests that any land that may be inundated by a 1:100 year flood event should be avoided for residential uses.

Discussions with several agencies including Alberta Transportation and Alberta Environmental Enhancement, River Engineering Branch indicates a 1:100 year flood event would see water rise to the 2975-foot contour level. Trying to determine just what that means to the land in the study area is not possible with available data. Alberta Transportation constructed their Highway 24 bridge over the Bow River so that the bottom of the spans were just above the 2975-foot contour level.

Planning for a major Bow River Irrigation District canal rehabilitation is underway. Contours developed for that project indicate the 2975-foot level is near the base of the existing canal at the highway. From observation using the two features discussed a 1:100 year flood would affect much of the area lying north of the canal right-of-way.

Some studies involving the federal government and Canada Mortgage and Housing suggest that even if an area is subject to floods that certain precautions may be taken that would limit damages to the structures involved. These flood-proofing measures may include things such as:

- no basements,
- raised main floor,
- utilities above projected flood levels,
- dyking incorporated into the landscaping.

As part of the determination about whether or not a site may take advantage of the various flood-proofing techniques, a flood study is conducted to identify the flood channel and what is referred to as the flood fringe. The flood channel is the zone of the deepest and fastest flood water, while the flood fringe is an area where although water may rise its destructive force is reduced. Within this flood fringe some flood-proofing techniques may be used, allowing residential development to occur.

Municipalities must take care when making development decisions on land that has the potential for hazards to cause damage or losses. A document prepared for the Development Officers' Association provides a summary of the types of problems that may be encountered as municipalities. Many questions remain regarding flood risk in this area and any liability that the county may incur if approvals for residential or other significant developments are granted. It is important to determine county liability and what methods may be used to limit liability, i.e. save harmless agreements.

It is beyond the scope of the Planning Commission to provide advice on these matters except to say that the county should be concerned and may wish to seek their own legal council.

Finally, is it reasonable to even expect a 1:100 year flood event? Major floods appear to be infrequent events that require a combination of events and failures. The last event of this type to affect the river valley in the study area occurred in either 1889 or 1890.

3.2 WATER CONTAMINATION

A review of surficial geology indicates the river valley in this area is underlain with areas of gravel and the soil seems to be somewhat silty. This combination of soils and underlying material would indicate that any sources of contamination may easily allow releases to enter the ground water and then the river itself.

Regulations pursuant to the new Environmental Enhancement Act strictly prohibit such releases, however, enforcement follows only after the problem exists. In this case, preventative measures may prevent the problem from occurring. In residential developments sewage is the contaminant of most concern. Agricultural wastes may also be a concern, especially if more dwellings come to rely on ground water for domestic supply.

3.3 LAND OWNER CONSIDERATIONS

Various comments made by land owners during the telephone poll are reproduced in Appendix 1 and readers are encouraged to review these points in more detail. In general, it seems that people are wanting to protect those attributes of the area that make it such a special place to live. They wish to:

- keep residential densities low, i.e. 5- to 10-acre parcels,
- protect the water supply and ensure sewage is properly disposed of,
- restrict further livestock feeding in the area to reduce future conflicts,
- promote higher-quality development,
- allow them to create more parcels on their titles on their land.

It appears that people want a certain amount of additional subdivision and development as long as that growth occurs in a quality manner.

3.4 PROTECTION OF AGRICULTURAL LAND

The economic base of the county and the region is agriculture and the protection of agricultural land is a stated goal of both the county's general municipal plan and the regional plan. Guidelines for the protection of land have been prepared and are applied to good quality lands. Generally larger parcels of land should remain in agriculture. Within the study area are a number of parcels that are productive farmland. Existing legislation suggests that these parcels not be subject to further fragmentation, even though analysis indicates only moderate production can be expected.

3.5 HIGHWAY AND PARK PROTECTION

There are three areas of public land that need to be protected from uses that may detract from the main purpose of the public investment:

- The provincial park is located in two parts of the plan area and provides recreational activity for a great number of people, particularly in the summer months. The park also contains many trees and a great deal of under growth which acts as wildlife habitat. Development must be compatible with the park and its future.
- Highway 24 runs through the plan area serving local traffic as well as providing an alternate route to and from Calgary. Approaches to the highway must be controlled to protect the safety of the travelling public. Service road dedications have also been considered for subdivisions adjacent to primary highways.

- The Bow River Irrigation District canal traverses the plan area and is the source of irrigation and domestic water for many people for miles downstream. Contamination of this water body must be avoided.

Comments from the affected departments on applications will be necessary to determine the best method of protecting these.

3.6 PROVISION OF PUBLIC LAND AND BUFFERS

The purpose of the plan is to allow for more private development to occur, however, the valley has experienced a great deal of public use in the past. Through this plan it is hoped that access to the river can be enhanced with a system of linked walkways and buffer strips. Buffers for development and walkways are able to be taken at the time of subdivision. These portions of what would be public land may be considered for areas adjacent to the river, canal, park and highway.

3.7 GRAVEL EXTRACTION

As mentioned earlier, much of the plan area and the river valley is underlain with gravel deposits. These deposits have and are still being exploited to the north across the river. At times these operations are active 24 hours a day and have caused some disruption to some residents of the area.

Other commercial gravel deposits may exist on the County of Vulcan side of the river. Exploitation of these areas may not be consistent with residential development.

Maintenance of the tree cover may help reduce the noise impact of the existing operations.

4.0 AREA STRUCTURE PLAN POLICIES

4.1 APPLICATION INFORMATION REQUIREMENTS

It is important to determine which properties will be subject to the plan. The following proposal incorporates areas where previous demand has been demonstrated and other land nearby that also has development potential given further information.

Policy:

- 4.1.1** Map 5 shows an area of approximately 1000 acres which is the land proposed to be incorporated in the area structure plan. The area may appear larger than necessary, especially in the area to the south. Lands included are all the titles that may be affected by plan policies. It should be noted that land in the proposed plan include both bottom land and top land overlooking the valley. Different criteria may apply to each type of land.

4.2 PROPOSED USES AND POPULATION DENSITY

There are a series of uses that may be considered for development in this area given that the intention is to take advantage of the natural environment of the river valley and allow for the building of high-quality housing.

Policy:

- 4.2.1** Subdivision and development may be considered for the following uses if technical information supports the safe development:

- single family dwellings,
- private recreational pursuits,
- home occupations with developed dwellings.

Certain uses that should be avoided are:

- mobile homes,
- any industrial uses,
- additional commercial uses unless it is in conjunction with a private recreational use,
- livestock feeding operations (not including wintering of a basic herd),
- gravel extraction.

- 4.2.2** Using the criteria in this plan, the maximum population possible is between 345 and 370 persons if all of the lands identified as developable in the plan area are above the floodplain. This assumes 616 acres of developable land (excluding 35% roads and reserves) with 5-acre parcel sizes and between 2.8 and 3.0 persons per unit.

4.3 APPLICATION INFORMATION REQUIREMENTS

Both the top and bottom lands have a potential to be hazard lands and be unsuitable for development. For example, at least a portion of the land lies within the 1:100 year flood plain. If developers are to take advantage of the views offered by overlooking the river valley, they may be building permanent structures which require stable conditions. Legal advice provided to the Commission with respect to other hazard land development indicates that, as approval authorities, there is a responsibility to ensure approval is given only on sites that, using the best available knowledge, are suitable for development. A municipality must protect itself from liability in the case of damage caused by hazards by ensuring sufficient information is made available by the applicant to determine site suitability for the proposed use.

Policy:

4.3.1 Those applying for either development or subdivision on lands below the coulees on the valley floor will be required:

- (a) to provide technical data to demonstrate that the proposed parcels or permanent structure is located above the 1:100 year flood level;
- (b) data is to be prepared by professional engineers;
- (c) reports should be evaluated with the assistance of Alberta Environment staff;
- (d) the report may make recommendations on flood-proofing a structure if it is determined the structure is in a "flood fringe";
- (e) a development agreement may be required to ensure flood-proofing is carried out;
- (f) at the developer's expense, flood-proofing may include off-site improvements such as raising road heights;
- (g) to address the potential for water contamination, the engineering report should address the sewage disposal system;
- (h) other issues that may be determined by the various approval authorities to be in need of review, may also be addressed in the technical report.

4.3.2 As an alternative to providing technical data to determine the 1:100 year flood level and any remedial actions as required in policy 4.3.1(a) to (f), subdivision and development will only be permitted where a developer has entered into a development agreement satisfactory to the municipality indemnifying and saving harmless the municipality from any costs or claims associated with flooding and related damage and slope stability and related damage. The development agreement may require the Developer to carry liability insurance in the amount of not less than two million dollars (\$2,000,000.00) per occurrence with the municipality as a named insured under the policy. The development agreement shall provide for the municipality to register the development agreement as a caveat as against all lots created under the development or subdivision pursuant to the development agreement. Any costs incurred because of the preparation and registration of this agreement will be at the cost of the applicant or developer.

4.3.3 Those applying for either development or subdivision on the top land will be required to provide:

- (a) a soil stability test to ensure that the building site is suitable for development of the use;
- (b) to address the potential for water contamination, the report should address the methods proposed for sewage disposal;
- (c) the report should be evaluated by the staff of Alberta Environment.

4.4 OUTLINE PLAN

When an application for subdivision is made, it is important that the MPC and council are aware of the impact of the approval. To assess the impact, sufficient information is required.

Policies:

- 4.4.1** Applications for subdivision should be accompanied by an outline plan and other supporting data. The plan should take into account all of the property contained in the titles of the land to be subdivided.
- 4.4.2** Council or the MPC may request the applicant to provide details of how the outline plan would affect adjacent parcels. To do this, the applicant may have to prepare designs for the adjacent lands.
- 4.4.3** An outline plan should contain diagrams to scale and supporting text indicating:
- lot dimensions and acres,
 - road patterns and dimensions,
 - site data including the information required in section 4.3,
 - proposed changes to the site, i.e. tree removal or planting,
 - any proposed buffers and walkways,
 - servicing proposals,
 - other information as required by the MPC.
- 4.4.4** The outline plan and other data should be available for public review as well as be submitted for comment by various departments as discussed in section 4.7.

4.5 SUBDIVISION GUIDELINES

An early step in the development process is subdivision. Guidelines for the preparation of a subdivision application should be adopted.

Policies:

- 4.5.1** If the information required above indicates that a particular site is suitable for development and meets the other terms of the plan, then a subdivision application may be made using the following criteria:
- (a) the minimum parcel size for country residential uses will be 5 acres more or less;
 - (b) all other uses will have parcel sizes that meet the approval of the MPC;
 - (c) road widths will be 66 feet in width and developed to county standards;
 - (d) roadways should be looped where possible or cul-de-sac lengths should be kept to a minimum and in no case be greater than 1000 feet;
 - (e) on lands adjacent to the river, provision shall be made for public access along the water possibly by the dedication of municipal reserve;
 - (f) subdivisions adjacent to the park land should show a walkway system connecting the subdivision with the river or the park;
 - (g) all hazard lands identified should be designated as environmental reserve. This would include coulee land, river banks, sloughs, canal banks and unstable slopes;
 - (h) all designs should take advantage of the natural features of the land such as trees and views;
 - (i) agricultural lands would be preserved, therefore, only parcels of poor land would be considered for subdivision and therefore only parcels of land considered by the MPC to be poor quality agricultural land will be considered for subdivision.
 - (j) subdivisions adjacent to Highway 24 must meet the Access Management Guidelines outlined in Section 4.7.2.

- 4.5.2** The existing internal road system is adequate at this time, however, with further use upgrading may be required. Together with the County of Vulcan public works personnel, an off-site levy charge should be prepared and applied to each subdivision.

4.6 DEVELOPMENT GUIDELINES

Control of the actual on-site construction also relates to the way an area will develop an image. Again, the objective of the plan is to create a high-quality residential area.

Policy:

4.6.1 Development criteria should be:

- (a) on the basis of soil tests, it is possible no basements would be allowed;
- (b) on the bottom land, on the basis of soil tests, sewage disposal should be by way of a pump-out system or by way of a communal disposal system;
- (c) plans provided to the development officer should display a high level of design and the use of quality materials;
- (d) landscaping plans should be provided and implemented.

4.7 PUBLIC LAND

Both the provincial park and the highway should be taken into account in the design and development. These two facilities represent a great deal of public investment and should not adversely affect any local development. If this area structure plan is approved by the Minister of Highways and Public Works, then all subdivision for country residential use with 1000 feet of the highway can be approved without waivers to the subdivision regulation.

A further objective is to provide access onto the highway at intersection locations that meet acceptable design standards. These intersections must also be at locations where adequate intersectional treatment is in place or where intersectional treatment required to accommodate traffic generated within the plan area can be constructed in the future.

Policy:

4.7.1 The following should apply where the park or the highway is concerned:

- (a) prior to any approvals being issued, the development officer should determine if a proposal will affect the park or the highway. If some effect is likely, the application should be forwarded to the appropriate department;
- (b) additional right-of-way may be required for the highway at the time of subdivision, if requested by Alberta Transportation and Utilities;
- (c) no new direct access to the highway will be allowed.

4.7.2 Access management guidelines for Highway 24 are as follows:

- (a) access onto the highway shall only be permitted by means of the public road intersections at locations "A" and "B" shown on Map 5;
- (b) increased usage of all other direct highway accesses, located between the Bow River and the public road intersection at location "B" shall not be permitted. These highway accesses are temporary and will be phased out whenever required by Alberta Transportation. Ultimately all of these accesses will be removed;
- (c) no additional direct highway accesses shall be permitted.

4.8 PHASING OF DEVELOPMENT

Much of the roads and other infrastructure is in place in this plan area. New development may be added in any area required. Phasing is, therefore, not a major issue in this plan.

Policy:

- 4.8.1** Applications may be accepted from any owner of land in the plan area and be evaluated in accordance with the policies of this plan.

4.9 PLANNING PROCESS AND IMPLEMENTATION

It is important to outline the most important aspects of the process needed to realize the policies of the plan.

Policies:

- 4.9.1** The area should remain designated as agricultural until such time a proposal is forwarded to the council. At that time the information can be evaluated and a decision made.

- 4.9.2** This plan is general but from time to time amendments may be needed. As with other bylaw amendments, three readings are required. If the application is initiated by a private individual, a fee established by council will be required.

- 4.9.3** Prior to second reading the plan should be sent to the Minister of Transportation for approval.

- 4.9.4** Referral to appropriate authorities is an important aspect of the implementation process. Lands discussed in the plan may be subject to:

- flood conditions,
- require buffering from public land,
- affect the highway, or
- impact on the canal.

Therefore it is important to have the proper information and have the data provided reviewed. In most cases, applications for development and subdivision should be circulated to:

- Alberta Transportation and Utilities
- Alberta Environmental Protection
- Alberta Parks
- Bow River Irrigation District
- Headwater Health Authority
- Palliser Regional Schools

- 4.9.5** The development officer or Municipal Planning Commission may make a decision on an application notwithstanding that the proposed development does not comply with the land use bylaw if, in the opinion of the development officer,

- (a) the proposed development would not
- (i) unduly interfere with the amenities of the neighbourhood, or
 - (ii) materially interfere with or affect the use, enjoyment or value of neighbouring properties.

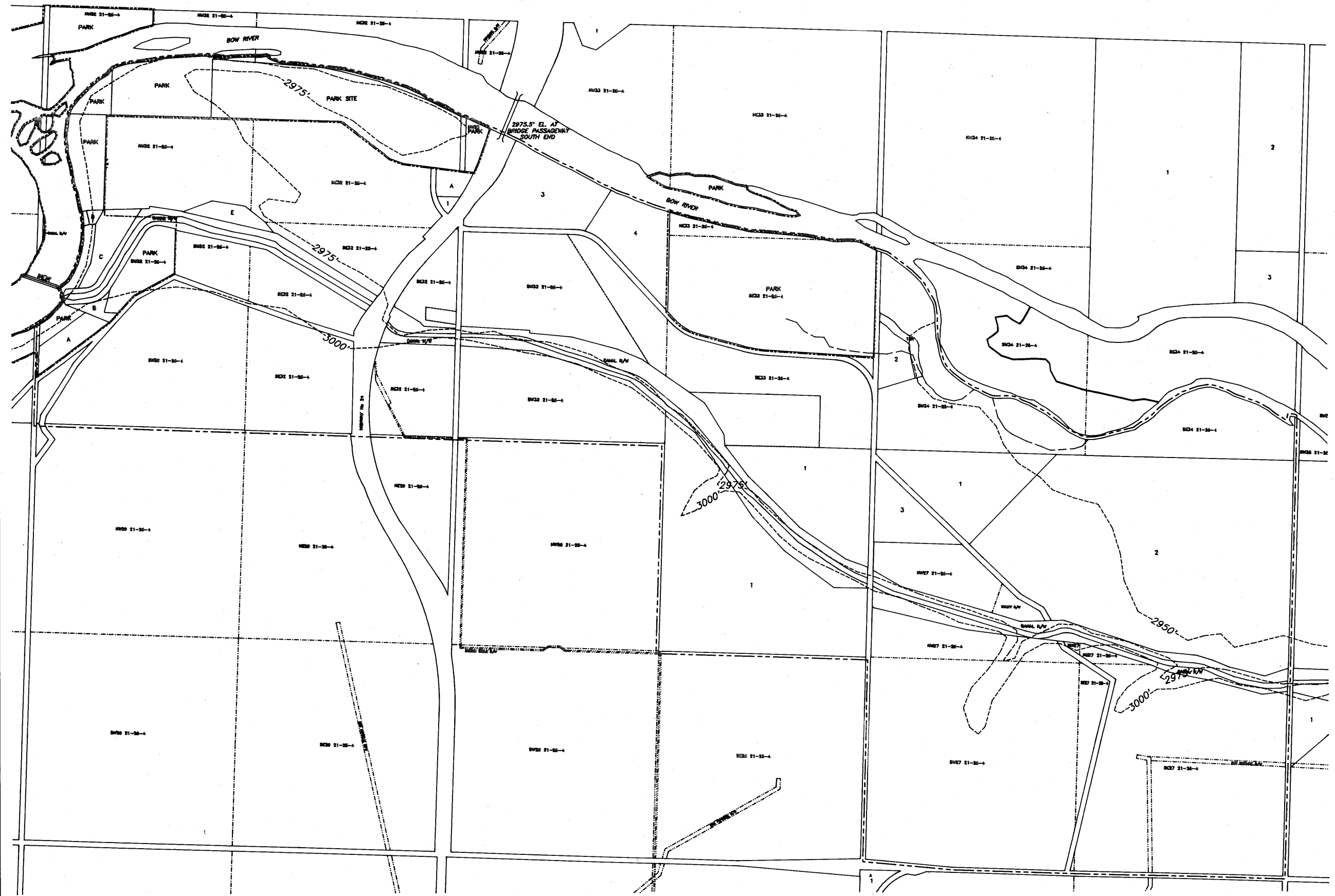
5.0 CONCLUSIONS

This plan outlines some serious concerns regarding the suitability of residential development in the plan area. However, if the required testing proves the land is suitable for development, the area affords a great opportunity. With high-quality design standards a quality residential area can be developed that will surely attract the attention of the Calgary home buyers market.

It is possible to develop additional residential units while maintaining the natural amenities that make the area so inviting. With the cooperation of various government departments, the county and private individuals, the Wyndham-Carseland river valley area will, over time, develop into a scenic, safe, residential area.

WYNDHAM-CARSELAND AREA STRUCTURE PLAN MAP 1-ASP PLAN AREA

----- Park Boundary
----- ASP Boundary



2975' = 1 In 100 Year Flood Contour
-----3000'----- Contour Interval 25'
(Digitized From 1:50,000 NTS Maps)

WYNDHAM-CARSELAND AREA STRUCTURE PLAN MAP 2-LAND ASSESSMENT

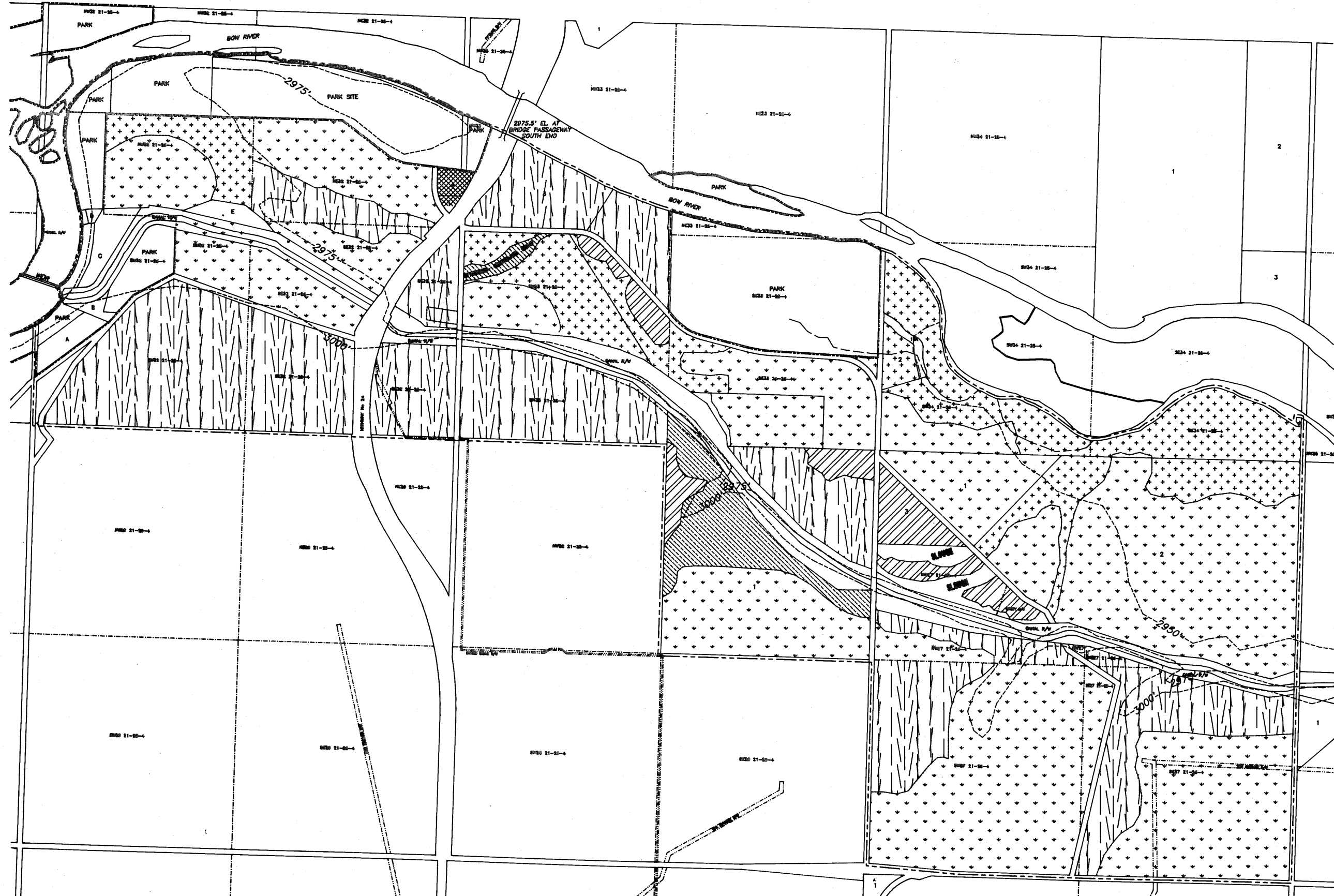
- Park Boundary
- ASP Boundary
-  Coulee
-  Cropland
-  Native Bush
-  Native Pasture
-  Non Agricultural
-  Seeded Pasture
-  Slough

2975' = 1 In 100 Year Flood Contour
 -----3000'----- Contour Interval 25'
 (Digitized From 1:50,000 NTS Maps)

PLOT SCALE: 1:15000



MAP PROJECTION UTM-12 DATE: JANUARY 17, 196 FILE: \VUL\T21R25W4



WYNDHAM-CARSELAND AREA STRUCTURE PLAN

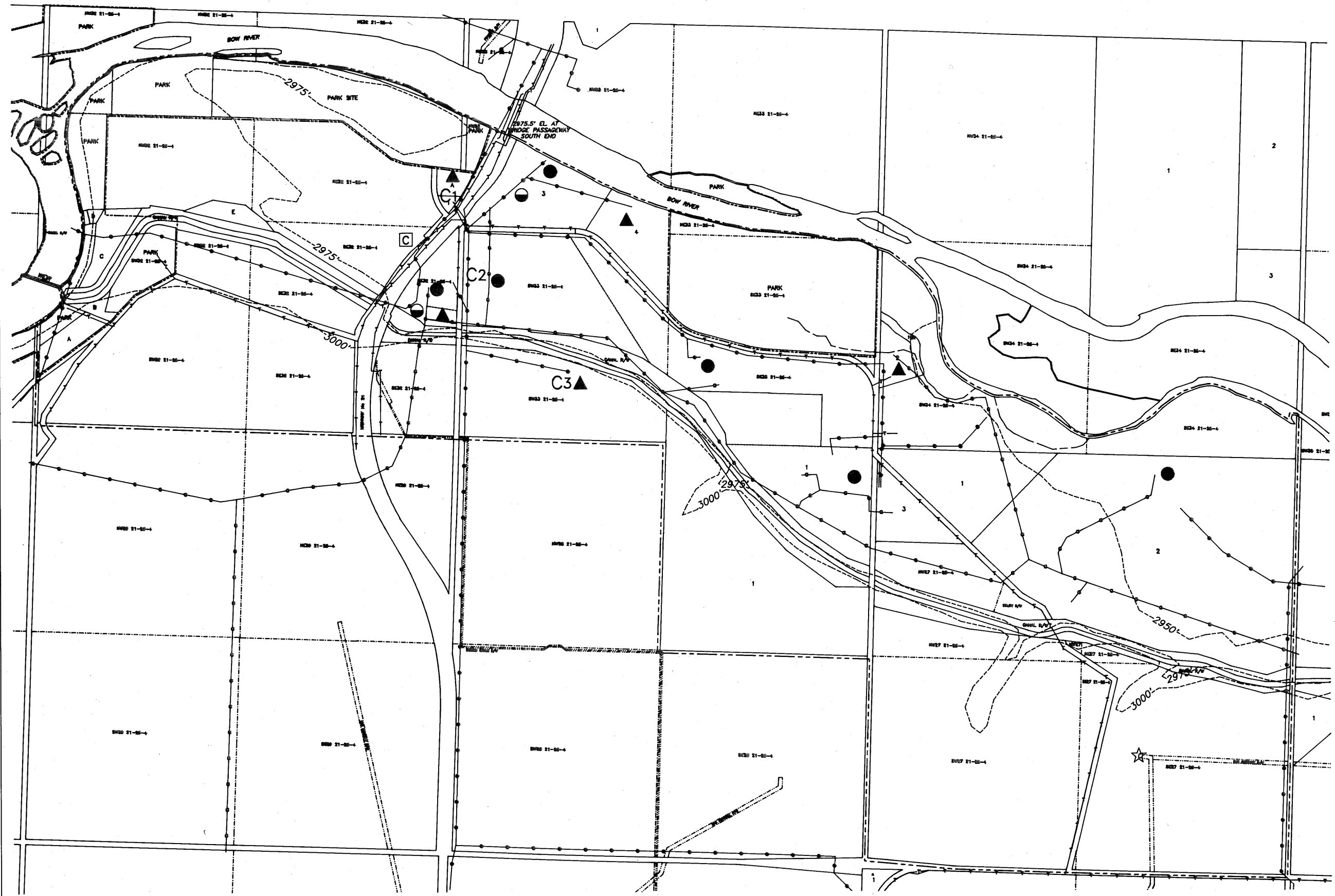
MAP 3-EXISTING LAND USE/
*GAS/*POWER/*TELEPHONE

(Land Use Nov 1993)
*(Visual Representation Only)

----- Park Boundary
----- ASP Boundary

- Ancillary Farm Residence
- C Commercial
- ▲ Country Residence
 - 1-Store
 - 2-Bed & Breakfast
 - 3-Small Engine Repair
- Farmstead
- Intensive Livestock Cattle
- ☆ Natural Gas
- Gas Line
- Power Line
- Telephone Line

2975' = 1 In 100 Year Flood Contour
---3000'--- Contour Interval 25'
(Digitized From 1:50,000 NTS Maps)



WYNDHAM-CARSELAND AREA STRUCTURE PLAN

MAP 4-LAND OWNERSHIP

----- Park Boundary
----- ASP Boundary

0021 871 783 LINC Numbers
LINC No / LAND OWNER / ACREAGE

*Linc Number 0000 000 000	
*Land Owner L. & L. Bean	
*Acreage 00.00	
0011 422 714	0021 871 991
Larry Lee	William D. P. Wyndham
Lorne McNeil	54.26
423153 Alberta Ltd.	
3.79	0021 872 007
0012 847 133	Arne & Martha Paulsen
Colin & Linda Ivory	56.53
19.27	0021 874 763
0012 847 125	0021 874 771
Douglas & Nola DeWitt	James S. Hayne
27.92	30.70
	127.40
0013 483 599	0021 891 494
Mark K. & Alice Nielsen	Gordon Harold & Wima DeWitt
42.13	16.25
0016 984 718	0022 160 527
Douglas & Carol Coutts	0022 160 535
64.65	Owen Malmberg
	25.24
0016 984 726	13.17
Michael & Gwyneth Cochran	
6.18	0024 512 486
0017 065 039	Alan J. Hayne
Robert R. & Karen Thompson	104.26
40.00	0024 747 123
0019 875 625	0024 747 198
0019 875 633	Kim & Larry Zaleschuk
Robert R. & Karen Thompson	38.01
31.63	20.91
194.72	
0020 128 948	
0020 128 956	
0020 128 963	
0020 128 971	
0020 129 466	
0020 129 474	
0020 129 482	
0020 129 490	
Owen Malmberg	
23.44	
0.01	
158.37	
8.47	
0.41	
2.50	
0.18	
138.80	
0021 870 647	
Richard & Susan Bengivingo	
1.47	
0021 870 662	
0021 870 670	
James S. Hayne	
36.13	
51.30	

2975' = 1 in 100 Year Flood Contour
-----3000'----- Contour Interval 25'
(Digitized From 1:50,000 NTS Maps)

WYNDHAM-CARSELAND AREA STRUCTURE PLAN MAP 5-UNDEVELOPABLE AREA

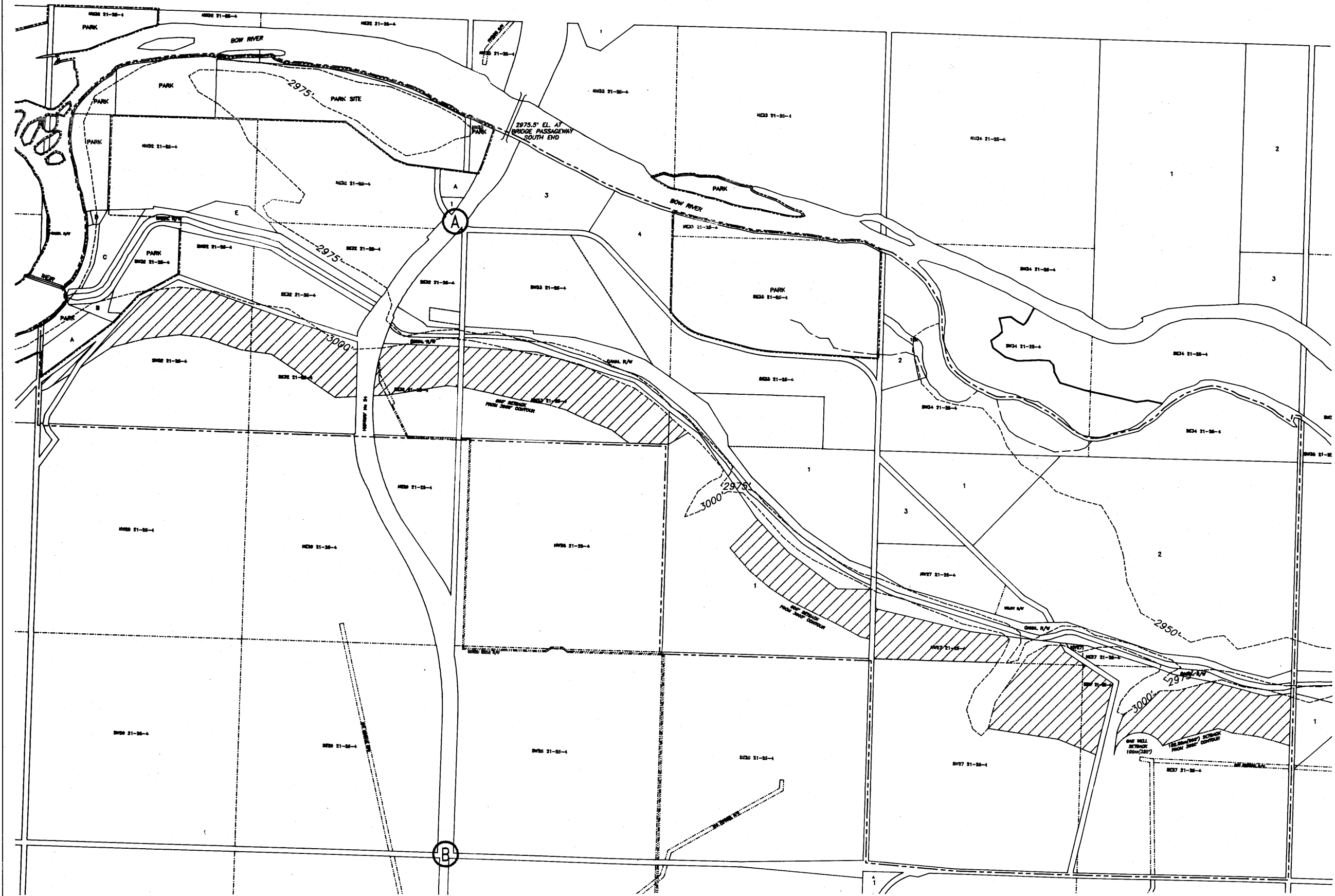
- Park Boundary
- ASP Boundary
- 182.88m (600') Setback
-  Undevelopable Area
-  Acceptable Public Road Intersection Locations

2975' = 1 in 100 Year Flood Contour
 ---3000'--- Contour Interval 25'
 (Digitized From 1:50,000 NTS Maps)

PLOT SCALE: 1:15000



MAP PROJECTION UTM-12 DATE: JANUARY 17, 196 FILE: \VUL\T21R25W4



APPENDIX 1

PUBLIC INPUT

**WYNDHAM-CARSELAND AREA STRUCTURE PLAN
PUBLIC INPUT**

The following is a list of questions asked and responses received from landowners during the telephone survey.

Question 1: How much land do you own in the study area?

**Table 1
LAND OWNERSHIP**

Landowner	Legal Description	Acres
Richard & Susan Bengivingo	SE 32-21-25	1.47
Michael & Gwyneth Cochlan	Plan 9110307, Blk. 2	6.18
Douglas & Carol Coutts	SW 34-21-25	64.65
Douglas & Nola DeWitt	Plan 8811567, Blk. 2	27.92
Gordon (Harold) & Wilma DeWitt	SW 33-21-25	16.25
Alan J. Hayne	NE 29-21-25 SW 29-21-25 931043530, Blk. 1	142.81 159.00 104.26
Alan J. & Olive Hayne	SE 29-21-25 SE 28-21-25 SW 28-21-25	155.20 158.71 156.61
James Hayne	NE 32-21-25 NW 32-21-25 SE 31-21-25 SE 32-21-25 SW 32-21-25	51.30 36.13 20.40 127.42 90.70
James S. & Allan J. Hayne	NW 29-21-25	159.11
Robert & Edna May Hiebert	NE 30-21-25 NW 30-21-25 SW 30-21-25 SE 30-21-25	150.82 29.93 135.60 160.00
Colin & Linda Ivory	Plan 8811567, Blk. 4	19.27
Larry Lee (one-third interest)	Plan 3729 JK, Blk. A	3.79
John Charles MacCormack & Olive Hayne	NW 28-21-25	160.00
Darin & Lorna Malmberg	SE 26-21-25	155.53
Lynn Alden Malmberg	SW 26-21-25	127.59

Landowner	Legal Description	Acres
Marjorie Malmberg	NE 25-21-25	160.00
Owen Malmberg	NW 27-21-25 NE 27-21-25 NW 27-21-25 SE 27-21-25 SW 27-21-25 NE 27-21-25 NW 27-21-25 SE 27-21-25 SW 27-21-25 Plan 9210667, Blk. 3	25.24 2.50 0.41 138.80 0.18 0.01 23.44 9.47 158.37 13.17
Varian Marie Malmberg	NE 26-21-25 NW 26-21-25	136.82 160.00
Marathon Realty	NW 30-21-25 SW 30-21-25	25.00 6.00
Lorne McNeill (one-third interest)	Plan 3729 JK, Blk. A	3.79
Mark & Alice Nielsen	SE 33-21-25	42.13
Arne & Marthina Paulsen	SW 33-21-25	56.63
River Bend Hutterian Brethren	NW 36-21-25 NE 36-21-25 NE 35-21-25 NW 35-21-25 SE 35-21-25 SW 35-21-25 NW 25-21-25 SE 25-21-25 SW 25-21-25 SE 36-21-25 SW 36-21-25	148.00 160.00 47.00 24.00 160.00 121.00 155.65 160.00 160.00 70.74 103.11
Rodadon Farms Inc.	SE 36-21-25 SW 36-21-25	38.85 24.09
Richard I. & Garda Thompson	Plan 9011786, Blk. 1	7.81
Robert R. & Karen Thompson	SE 34-21-25 Plan 9111902, Blk. 1 Plan 9111902, Blk. 2	40.00 31.63 194.72
William Wyndham	SW 33-21-25	54.26
Kim & Larry Zaleschuk	NE 28-21-25 SE 33-21-25	38.01 20.91
423153 Alberta Ltd. (one-third interest)	Plan 3729 JK, Blk. A	3.79

Question 2: How long have you owned your property?

Table 2
LENGTH OF OWNERSHIP

Years	Number of Landowners
less than 1	1
1	2
3	3
4	1
5	2
6	1
7	3
9	1
10	1
13	1
15	1
21	1
40	2
45	1
75	3
80	1
Total	25

Question 3: Do you currently reside on your property in the study area?

Table 3
LANDOWNER RESIDENCY

Permanently reside on their land	19
Summer or weekend residents	4
Reside elsewhere	4
Total	25

Question 4: If you reside within the study area, how many people reside with you?

Table 4
AREA POPULATION

Permanent residents	53
Summer or weekend residents	6
Tourists* (248 campsites x 4 people per site)	992
Total	1051

* information obtained from the Park office
(not including day use areas)

Question 5: Do you know of any natural scenic features or wildlife habitat that should be protected?

- Respondents mentioned bald eagles, sandhill cranes, a blue heron colony, various nesting sites for geese, ducks, a large population of deer, beavers, coyotes and other bird species found in the bird sanctuary.

Question 6: What would and wouldn't you like to see happen in the future in terms of development in the area?

- Respondents identified several key concerns, each of which will be explained and elaborated on.

Concern 1: Interaction between agricultural uses and country residential and recreational uses.

(a) Intensive Livestock Operations

In favor – 8
Opposed – 8
No comment – 9

- Respondents in favor mentioned the protection of the investment already in the area as well as a protection of the agricultural character of the area from the demands and standards of future residents.
- Respondents opposed mentioned the detrimental effect expansion of existing operations would have on the future recreational uses as well as on current and potential country residential development.

(b) General Farm Practices

- Several respondents mentioned conflicts between farm operators and non-farm residents over machinery operation, livestock, etc. as a concern.

Concern 2: The importance of recreational uses in the future within the study area.

In favor – 12
Opposed – 9
No comment – 4

- Respondents in favor of more recreation suggested a variety of activities such as cycling trails, horseback riding, more fishing, controlled river access with respect to the owner's property, par 3 golf course and driving range, mini golf, cross-country ski trails and improvements to the existing park. Several respondents felt passive recreation which would be enjoyed by residents as well as visitors and which wouldn't generate a substantial amount of traffic would be preferable.
- Respondents opposed to more recreation within the study area felt there was an adequate number of tourists and amenities already and sited problems with traffic and dust control.

Concern 3: The potential for increased country residential development within the study area.

In favor – 13
Opposed – 9

No comment – 3

- The majority of respondents in favor of more development favored acreages of 3 to 10 acres in size in keeping with the current residences. Two respondents felt having a cluster development with a large open area would be easier to service. Over half of the respondents in favor felt that there should be development guidelines or criteria for new homes so a certain "quality" of development in regards to materials and landscaping is assured and the aesthetic quality of the area is not compromised.
- Respondents that were opposed to more country residences were concerned over the potential conflicts with existing agricultural operations, the density of development already existing, protecting the rural character of the land and the high water table and the potential problems with septic fields and sewage disposal.

Concern 4: The protection of wildlife habitat in the study area.

- (a) Concern expressed that a higher density of development would affect wildlife.

Agree – 11

Disagree – 2

- (b) Concern expressed that a policy governing hunting in the area should be established as the existing density of development makes it dangerous.

In favor – 9

Opposed – 2

No comment – 14

- Several respondents in favor mentioned instances of having cows, pivots and buildings shot at as well as disrespect shown towards their land.
- Respondents opposed cited the high deer population and the damage they can do to a grain field.

Concern 5: Existing highway access is inadequate and heavy volumes of traffic make it dangerous.

Agree – 7

Disagree – 1

No comment – 17

- Respondents agreeing felt the truck traffic from the nearby gravel pits, tourists with RVs and residents' vehicles create a large volume that is often fast moving and existing turnouts aren't adequate enough.

Other General Concerns:

- Noise from the existing gravel pits was mentioned as a problem in the summer by three respondents.
- Paving of roadways to eliminate dust problems was mentioned by four respondents.
- The school bussing issue was mentioned by three respondents.
- Weed control, tree damage caused by beavers, lack of maintained fire breaks in the area, parcel access to roadways, more commercial services needed and not allowing industrial development were also mentioned.