

BYLAW 41-2001

A BYLAW OF STRATHCONA COUNTY IN THE PROVINCE OF ALBERTA, FOR THE PURPOSE OF ADOPTING THE LORRELIND ESTATES AREA STRUCTURE PLAN.

WHEREAS it is deemed advisable to adopt the Lorrelind Estates Area Structure Plan;

NOW THEREFORE, the Council of Strathcona County, pursuant to the authority conferred upon it by the Municipal Government Act, S.A. 1994 c-M26.1 and amendments thereto, enacts as follows:

1. That this Bylaw is to be cited as the "Lorrelind Estates Area Structure Plan".
2. That Schedule "A" attached hereto is hereby adopted as part of this Bylaw.


Read a first time this 5 day of June, 2001.

Read a second time this 5 day of June, 2001.

Read a third time and finally passed this 12 day of June, 2001.



Mayor



Manager,
Legislative & Legal Services

Date Signed: June 26, 2001

LORRELIND ESTATES

**Country Residential
*Area Structure Plan***

Prepared on behalf of

Lorrelind Holdings Ltd.

by

Lovatt Planning Consultants Inc.

and

Infrastructure Systems Ltd.

June 2001

Table of Contents

1.0	Introduction	1
1.1	Purpose	1
1.2	Locational Context	1
1.3	Background and Ownership	1
1.4	Policy Context	2
2.0	Existing Conditions	4
2.1	Surrounding Development	4
2.2	Existing Site Conditions	5
2.3	Development Implications	7
3.0	The Development Concept	8
3.1	Development Objective	8
3.2	Residential	11
3.3	Parks and Open Space	12
4.0	Transportation and Servicing	14
4.1	Transportation Plans and Traffic Circulation	14
4.2	Water Services	16
4.3	Sewage Treatment and Disposal	16
4.4	Storm Water Management	16
4.5	Shallow Utilities	17
5.0	Staging and Implementation	18

List of Figures

	Following page
Figure 1: Location	1
Figure 2: Existing Conditions	5
Figure 3: Development Concept	8
Figure 3A: Development Concept	10
Figure 4: 3 - 5 Year Transportation Plan	14
Figure 5: 25 - 30 Year Transportation Plan	14
Figure 6: Proposed Water Distribution Concept	16
Figure 7: Proposed Stormwater Concept	16
Figure 8: Proposed Staging	18

1.0 Introduction

1.1 Purpose

This Area Structure Plan has been prepared on behalf of Lorrelind Holdings Ltd., and is generally in accordance with Strathcona County's guidelines for the preparation of such planning documents. The plan provides a framework for the proposed country residential subdivision and development of part of the NE ¼ of 19-52-22-W4M, comprising some 61.45 hectares (151.84 acres) The Area Structure Plan may be cited as the Lorrelind Estates Area Structure Plan, and should be considered in the context of the accompanying Design Brief, prepared by Infrastructure Systems Ltd.

1.2 Locational Context

The Lorrelind Estates plan area is located along the south side of Wye Road (Secondary Highway 630), some 1.6 kilometres (1.0 miles) east and southeast of Highway 21 and Sherwood Park, respectively. Figure 1 indicates that the area is surrounded by existing and future country residential development, and is bounded by:

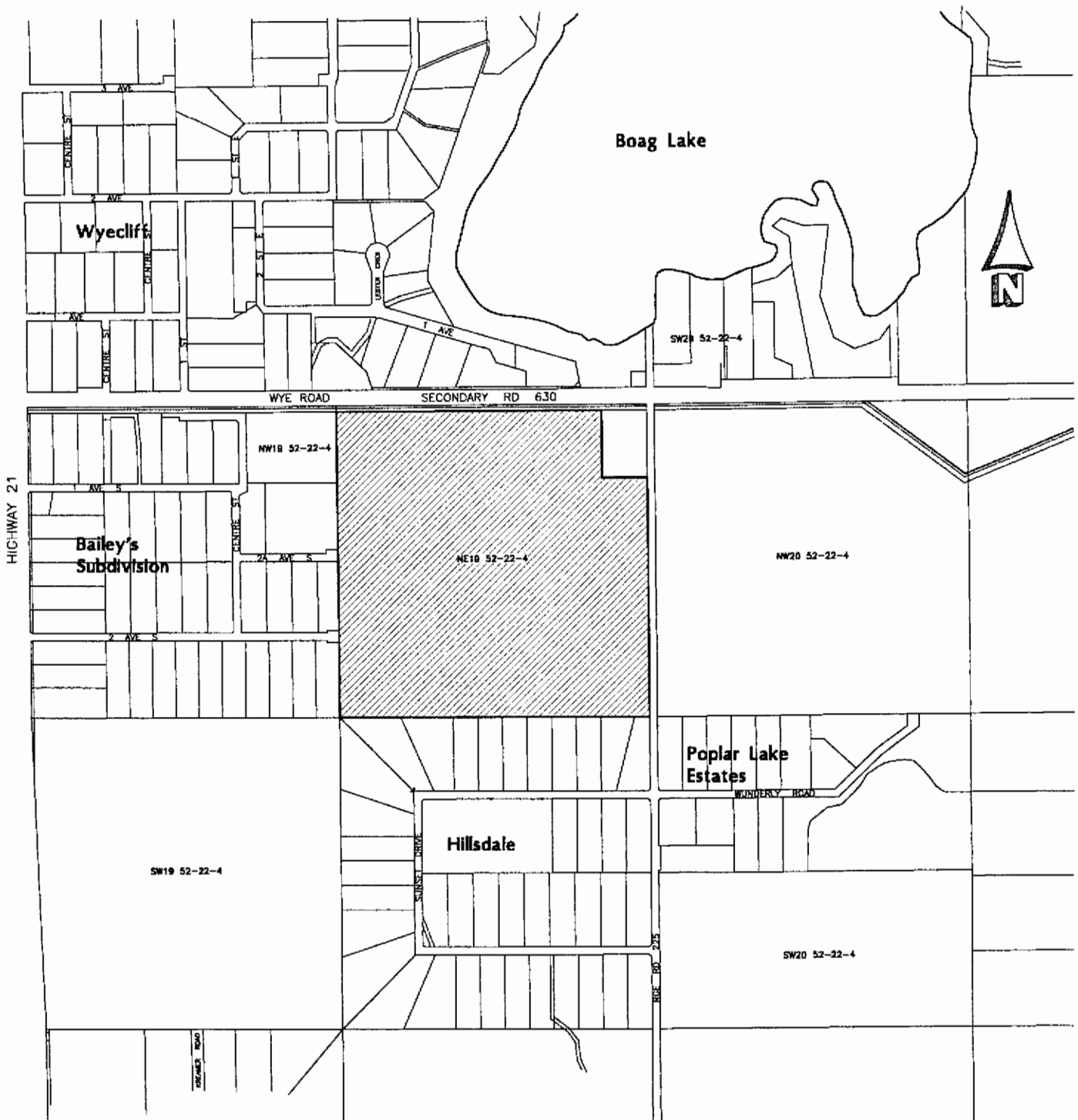
- Hillsdale and Poplar Lake Estates (country residential subdivisions) to the south;
- Range Road 225 and agricultural lands to the east ;
- Wyecliff (residential subdivision) and Secondary Highway 630 (Wye Road) to the north; and,
- Bailey's (country residential) Subdivision to the west.

The Lorrelind Estates area is one of the very few remaining unsubdivided ¼ sections located within 3.2 kilometres (2.0 miles) south and east of Sherwood Park.

1.3 Background and Ownership

Other than a 2.02 hectare (4.99 acre) country residential lot located in the northeast corner of the plan area, the subject lands are unsubdivided. The original farmstead remains directly west of the country residential lot, and is occupied by the former owner of the subject ¼ section. The former owner is leasing the ¼ section from Lorrelind Holdings for cattle grazing purposes. The lands have long been used for pasture purposes, and no evidence of former crop production exists. The agricultural ¼ section located to the east, across Range Road 225, also is pasture land, which suggests that the soil conditions in the area are not suited for producing cereal crops.

The plan area is under the single ownership of Lorrelind Holdings Ltd. The 2.02 hectare country residential lot located in the northeast corner of the ¼ section is legally described as Lot A, Plan 1521RS. The lot is owned by Annie Keith and was



**Lorrelind Estates
Area Structure Plan
Strathcona County**

Figure 1

Location Plan

registered in 1979 as a *first parcel out*. As such, Municipal Reserve was not required at the time of registration.

1.4 Policy Context

This Area Structure Plan has been prepared in accordance with Section 633 of the Municipal Government Act. As such, it describes the land uses proposed, the sequence of development, general future population levels, and infrastructure requirements.

The plan also conforms with Strathcona County's 1998 Municipal Development Plan Bylaw No. 38-98, as amended by Bylaw 89-2000. The Municipal Plan includes the subject lands in the Country Residential Policy Area, which *is intended to accommodate country residential development (Policy 10.21). Policy 10.22 states that Area Structure Plans shall be prepared for development in the Country Residential Policy Area to provide a guide for subsequent subdivision and development.* This plan, therefore, meets the statutory requirements of the County's Municipal Development Plan.

A number of specific Municipal Development Plan polices are particularly significant in identifying an optimal approach to developing the plan area for residential purposes, while still protecting the integrity of the existing natural features. These policies are:

1. **Policy 10.25 (Cluster Country Residential Design Guidelines)** - *The intent of the design guidelines for the cluster country residential development is to conserve environmental and open space features; and to reduce municipal infrastructure capital, operating and maintenance costs. These guidelines include:*
 - a) *the use of a range of protection mechanisms (i.e. Conservation easement, environmental reserve) in conjunction with the development of country residential subdivision;*
 - b) *the maximum base density shall not exceed 50 parcels per developable quarter section (65.0 hectares or 160.0 acres). This density is equivalent to one (1) parcel per 1.3 hectares (3.2 acres) of gross developable land. Lands suitable for storm water management facilities, road widening or for environmental reserve shall not be included in the calculation of gross developable land area;*
2. **Policy 10.28 (Protect Environment)** - *Future country residential uses shall be encouraged to protect and develop amenities to take advantage of natural topography and other environmental features such as unique tree stands, ravines and watercourses.*
3. **Policy 16.5 (Minimum Developable Area of 0.4 Hectare)** - *All parcels shall have an accessible minimum developable area of 0.4 hectares (1.0 acres) with near surface ground water table of not less than 2.0 metres (6.6 feet) below the surface.*

4. Policy 16.7 (Parcel Width/Length Ratio) - Each parcel shall have a width to length ratio no greater than 1:4.

Although designated as country residential by the Municipal Development Plan, the plan area is districted Rural (AR) by the County's Land Use Bylaw No. 42-89. An amendment to the Land Use Bylaw to redistrict the area will be required prior to subdivision. This Area Structure Plan provides the rationale for the required amendment. The required amendment (from Rural District to Country Residential District) is described in Section 5.0.

2.0 Existing Conditions

2.1 Surrounding Development

The Lorrelind Estates plan area is surrounded by a mix of country residential subdivisions and extensive agricultural ¼ sections. As is noted in Section 1.2, Hillsdale and Poplar Lake Estates are located to the south. Both of these established subdivisions are fully developed. The Wyecliff subdivision to the north is also fully developed, and is one of Strathcona County's oldest country residential communities. Wye Elementary School (K - 6) is strategically located to serve the proposed Lorrelind Estates development.

Boag Lake is located just north of Wye Road, within Wyecliff, and is separated from the plan area by both compatible country residential uses, and Wye Road itself. Where it borders the Lorrelind plan area, Wye Road is a four lane divided secondary highway facility (Secondary Highway 630). This means that applying Municipal Development Plan Policy 10.29 to the residential use proposed for the plan area is neither feasible nor appropriate. Policy 10.29 states that:

Future development within 800 metres (0.5 miles) of Big Island Lake and Boag Lake may be allowed on its merits with due regard to environmental provisions and compatibility with adjacent land uses.

Regardless, the integrity of the natural drainage course, which extends through the plan area and flows into Boag Lake via a culvert under Wye Road, will be protected by a combination of Municipal Reserve and Public Utility Lots, and the residential development proposed for the plan area is compatible with the uses that presently surround the lake.

Bailey's Subdivision is located between the plan area and Highway 21 to the west. This subdivision is also an older, well established residential community. The developed internal circulation system for Bailey's includes two road rights-of-way which extend to the property line of the subject site. Both these roads (2nd Avenue and 2A Avenue) are constructed up to this property line, and allow for further extension into the plan area, thereby potentially providing access to Highway 21 as well as Wye Road.

A Municipal Reserve parcel is located within Bailey's Subdivision, adjacent the northwest boundary of the Lorrelind lands. Wye Community Hall and an open playing field are contained within this adjacent parcel. The development of the Lorrelind lands for residential purposes will contribute to the continued viability of the Community Hall.

2.2 Existing Site Conditions

Figure 2 illustrates the major features of the Lorrelind plan area. These features are described below.

1. **Topography:** The topography within the area is described as primarily hummocky, gently undulating terrain, with a number of low areas.
2. **Low Areas:** The low area in the northwest corner of the plan area is a permanent water body, and is considered an Important Wetland Area under Strathcona County's 1997 Priority Habitat Ecology Assessment. This Important Wetland is expected to be claimed by the Crown, and is shown as Low Area A on Figure 2.

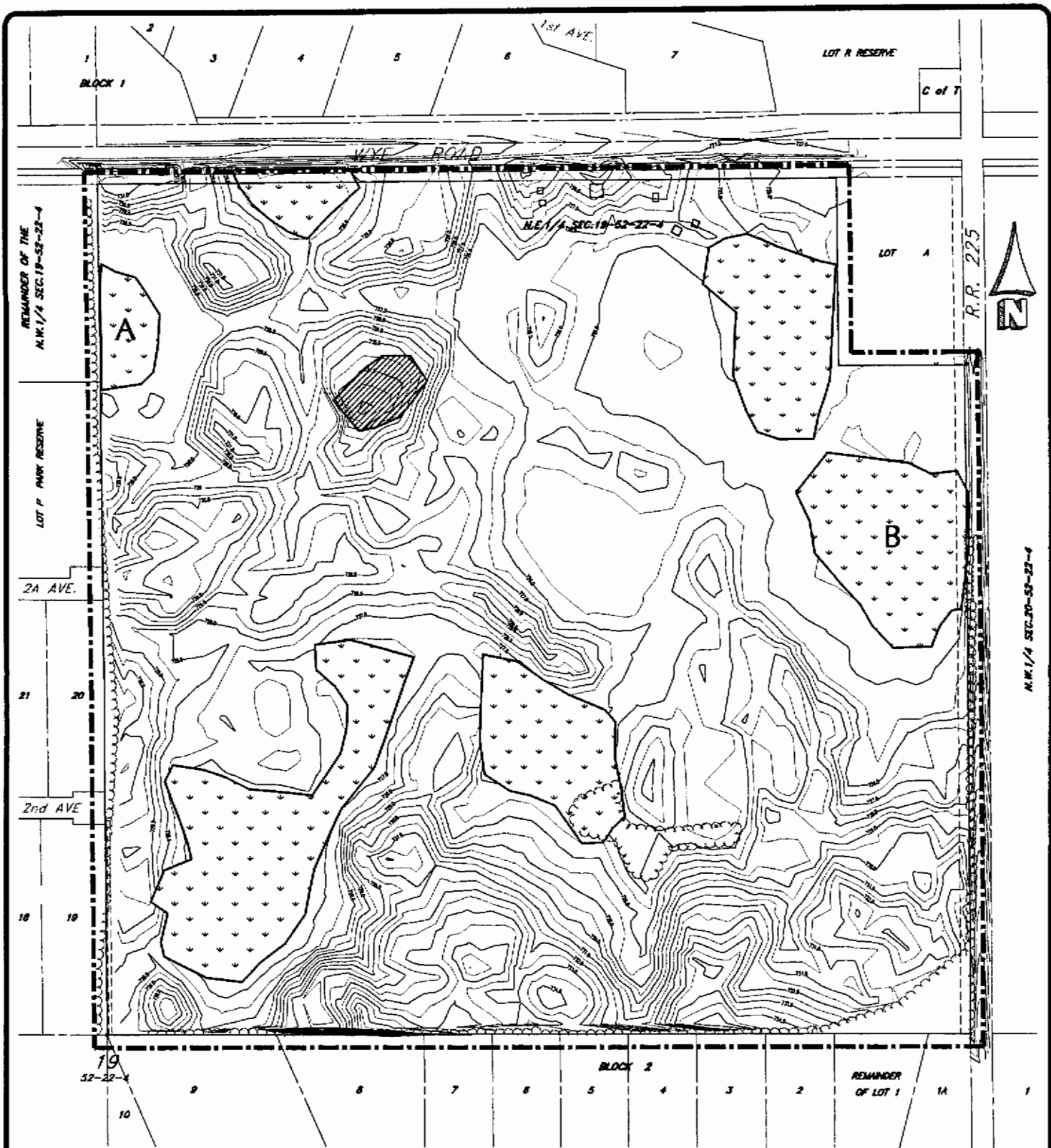
A second significant low area (shown as Low Area B on Figure 2), some of which is intermittently wet, is located just south of the existing country residential parcel (Lot A, Plan 1521RS), in the northeast corner of the subject $\frac{1}{4}$ section. The portion of the low area which typically contains water is shown as Low Area B on Figure 2.

A tributary of Oldman Creek bisects the northeast corner of the plan area, and extends through the existing country residential parcel and the farmstead. This tributary drains north, under Wye Road, and into Boag Lake.

A low area located in the southwest corner of the plan area forms part of the previously noted drainage system, which extends diagonally from southwest to northeast, through the Lorrelind lands, and eventually drains into Boag Lake. The drainage course is poorly defined in some areas, and is generally dry.

Finally, two isolated low areas exist within the plan area; one along Wye Road, and a second in the southeast quadrant of the subject $\frac{1}{4}$ section. The low area along Wye road forms part of that roadway's ditch system. This feature can be incorporated into the backs of future lots. The second low area can be filled for development purposes. Some *scrub* trees are located at the south end of this low area.

3. **Vegetation:** Because the lands have been cleared and used for decades for cattle grazing purposes, no indigenous vegetation remains. A row of trees (*wind row*), predominantly poplar, extends along the west, south and east boundaries of the plan area. The trees along the west boundary are a mix of willows and poplars, and provide an effective visual buffer between Bailey's and future country residential development within the Lorrelind area. The trees extending along the south boundary also provide an effective buffer from the Hillsdale community, and create an attractive, highly visible feature. The southeast and south central portion of the plan area rise well above the balance of the $\frac{1}{4}$ section, and are the highest lands within the quarter. The row of trees along the east boundary screen the plan area from Range Road 225. However, these trees will need to be removed at the time of road widening.



- ASP Boundary
- 0.5m Contours
- Low Areas
- Buildings
- Abandoned Landfill
- Treed Area

**Lorrelind Estates
Area Structure Plan
Strathcona County**

Figure 2

Existing Conditions

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4. Access: Development within the plan area is limited to the above noted farmstead. This farmstead is accessed directly off of Wye Road. The adjacent developed Lot A, Plan 1521 is also accessed directly off this road. A field access into the Lorrelind property exists off of Range Road 225.

5. Landfill: A former landfill is located in the northwest quadrant of the plan area. An investigation of this historic landfill has been undertaken by Stantec Consulting (see Design Brief). The investigation concludes that the landfill contains inert construction debris such as concrete, brick, electrical and steel wiring, and steel beams. The investigation also concludes that no contaminants are present, and that the construction materials pose no threat to subsurface soils. As such, Stantec determined that soil sampling is not warranted.

More detailed investigation of the former landfill has been undertaken by J.R. Paine and Associates. This investigation identified its precise location and extent (i.e. surface dimensions). The landfill site, as identified by J.R. Paine, is shown on Figure 2. The J.R. Paine report is appended to the Design Brief.

6. Rights-of-Way: An Atco Gas line (formerly Northwestern Utilities Limited) runs parallel to Range Road 225, along the eastern boundary of the plan area. Widening (5.0 metres) is required for this road, which intersects with Wye Road at the northeast corner of the subject $\frac{1}{4}$ section. No further widening is required for Wye Road.

Atco also owns a high pressure pipeline contained within a 15.24 metre wide right-of-way. This right-of-way extends along the south side of Secondary Highway 320, and is outside the plan area. Regardless, the 15 metre development setback requirement contained in Section 10 of the General Regulations of the Land Use Bylaw must be recognized in designing the subject lands.

A Shaw Cable Systems right-of-way extends along the southwest corner of the plan area, almost as far north as 2nd Avenue. This right-of-way likely provides cable service to Bailey's Subdivision, and may be extended into the plan area. No other rights-of-way or easements encumber the plan area.

7. Local Transportation System: The Highway 21 Access Management Study, prepared on behalf of Alberta Infrastructure, identifies two options for accessing the Lorrelind plan area off Wye Road, and linking it to Highway 21. One option contemplates a direct access onto Wye Road at the northwest corner of the plan area, and then via Wye Road to Highway 21. However, an approach onto Wye Road at the northwest corner of the plan area is not feasible because:

- the Important Wetland Area noted above would need to be altered and/or drained;
- significant topographic constraints exist;
- numerous pipeline crossings would be required, including a crossing of Atco's high pressure gas line; and,
- extension of a road to the north at this point to create an all directional intersection on Wye Road is not feasible because of a significant wetland located adjacent the north side of Wye Road.

Alberta Infrastructure has indicated that all directional intersections are preferred along Wye Road (Secondary Highway 630), as opposed to *T-intersections*. Alberta Infrastructure will assume control of Secondary Highway 630 in September, 2001.

The second option contained in the Highway 21 Study contemplates access to Wye Road from within the plan area via Range Road 225. As is noted above, Range Road 225 intersects with Wye Road at the northeast corner of the subject $\frac{1}{4}$ section. The second option also proposes access to Wye Road through the Bailey's Subdivision, using 2A and/or 2nd Avenues, and Centre Street. Access to Highway 21 is also available through Bailey's. However, the existing access points from Baileys onto Highway 21 and Wye Road will be closed in the near future, as per the Access Management Study. The implications of these closures on both the Baileys Subdivision, and Lorrelind Estates, are discussed in Section 4.0 (Traffic and Servicing).

2.3 Development Implications

The following development implications result from the existing conditions:

1. Although separated from Boag Lake by Wye Road, the country residential land use proposed for the plan area is compatible with, and will maintain the environmental integrity of, that lake. The proposed use is also compatible with the surrounding country residential and agricultural land use pattern.
2. The Important Wetland Area located in the northwest corner of the subject lands (shown as Area A on Figure 2) should be designated Environmental Reserve. Although not identified as an important wetland area, a portion of the northeast low area (shown as Area B on Figure 2) also should be designated for Environmental Reserve purposes. The remaining low areas are not significant and may be used as open space, or incorporated into lots. Some *fill* of low areas may be required.
3. The integrity of the natural drainage system which extends through the plan area should be maintained.
4. The tree *wind rows* extending along the west and south boundaries of the Lorrelind lands should be retained as attractive natural buffers between future development proposed for the plan area, and existing subdivisions.
5. Negotiations with the County in regard to the abandoned landfill are required to determine what, if any, setbacks are appropriate given the Subdivision and Development Regulation, and the status of the abandoned landfill (i.e. construction debris only - no contaminants which pose health and safety risks).
6. The Highway 21 Access Management Study provides two options for access from within the plan area to Wye Road. Alberta Infrastructure supports access to Wye Road via Range Road 225, and the existing linkages extending through Bailey's Subdivision as an alternate access. The development concept should channel as much traffic as possible towards the Range Road, thereby reducing traffic volumes through Bailey's.

3.0 The Development Concept

3.1 Development Objective

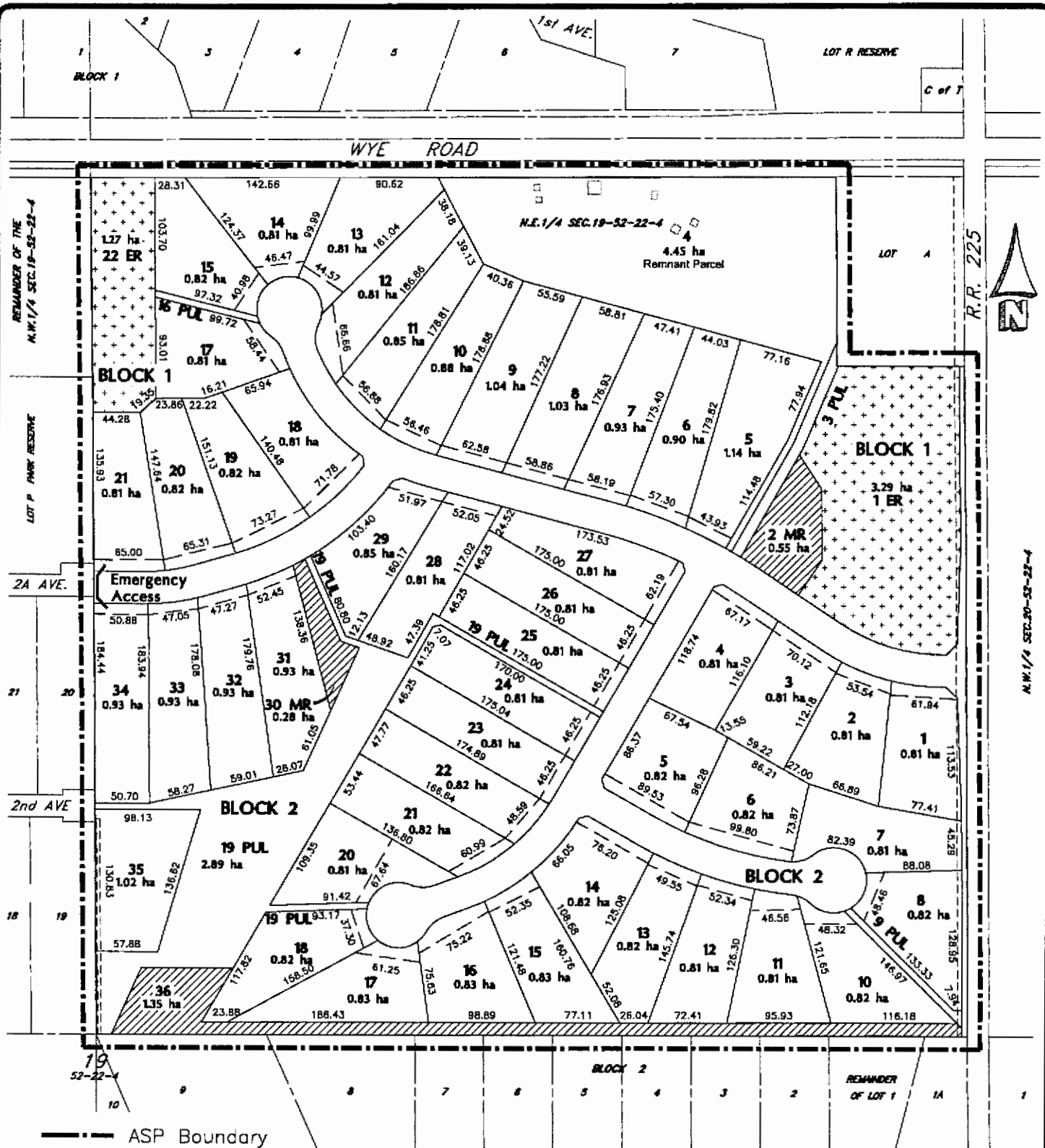
The primary objective of the Lorrelind Estates Area Structure Plan is to create a viable, attractive residential subdivision within an established country residential community. The development concept shown on Figure 3 reflects this objective, and recognizes the development implications summarized in the preceding section, as well as the Municipal Development Plan policies listed in Section 1.4.

The major features of the development concept which respond to the primary objective are listed below:

1. Most of the Important Wetland Area (Low Area A on Figure 2) located in the northwest corner of the plan area is designated Environmental Reserve, thereby protecting it from encroaching development. The most easterly, drier portion of this feature is proposed to be contained within the *backs of lots*, and will be protected by an Environmental Reserve easement.
2. The Environmental Reserve area will considerably enhance the Wye Community Hall park and open space site by creating a comprehensive, high quality recreational amenity feature for the benefit of both existing and future residents.
3. The opportunity for a trail system is provided through the plan area which could potentially link Hillsdale and Poplar Lake Estates to the Wye Community Hall site, and beyond. Integrated linear trail systems are being promoted by Strathcona County as a major component of its overall recreational policy strategy.
4. The low area located in the northeast corner of the plan area is proposed as a combined Environmental Reserve/Municipal Reserve feature. Specifically, that portion of this feature which may be seasonally wet is proposed as Environmental Reserve, while the balance is proposed as natural open space. The natural open space component is suitable for recreation purposes such as playground development.

The open space feature is not required for managing stormwater. Storm water generated by the development of Lorrelind Estates will be accommodated within road side ditches and the existing natural drainage system (see Section 4.2). Public Utility Lots are proposed to protect this system.

5. That segment of the Oldman Creek tributary which extends through the northeast portion of the plan area is proposed to be protected by an Environmental Reserve Easement.
6. The length of roadway has been reduced to the extent possible, while still ensuring functional efficiency and safety.



**Lorrelind Estates
Area Structure Plan
Strathcona County**

Figure 3

Development Concept

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7. By eliminating a continuous east/west collector road facility, the circulation pattern proposed by the development concept encourages as much traffic as possible to access Wye Road via Range Road 225. Based on a traffic impact analysis prepared by Infrastructure Systems, and assuming current conditions, only about one third of the local traffic is expected to use the road connections through Bailey's to access Wye Road.

However, the impact of the proposed improvements to Highway 21 suggest that in the long term, as a result of the closure of the existing Centre Street approach within Bailey's, some traffic from Bailey's Subdivision will be accessing Wye Road through Lorrelind Estates and Range Road 225 (see Section 4.1).

8. The proposed circulation pattern recognizes the planned linkages to 2nd and 2A Avenues from within Lorrelind Estates, as contemplated under the approved Bailey's Subdivision design and through the construction of these roads up to the subject property line. The extension of 2nd and 2A Avenues to access the plan area result in efficiencies within the local and regional road systems.

It is important to note that 2nd Avenue is proposed to provide access to only one residential lot. Any further extension of this avenue is not envisioned by the development concept.

It is also important to note that the extension of 2A Avenue is proposed as part of the long term circulation system for the area. In the short term, the extension will be *blocked off* and used for emergency vehicle purposes only. This means that all traffic generated by Lorrelind Estates will be channelled to Range Road 225. The timing for replacing this emergency access with a permanent connection between Bailey's and Lorrelind Estates will be the discretion of Strathcona County.

9. By eliminating an additional access onto Wye Road (Secondary Highway 630), the integrity of this major Secondary Highway facility is better protected by encouraging a greater degree of safety through reduced numbers of intersections.
10. The existing farmstead is contained within a remnant parcel so that, as requested by the former owner of the plan area and current occupant of the farmstead, the remnant can be purchased by the occupant who proposes to continue to reside on-site. The occupant has requested that the remnant be about 4.04 hectares(10.00 acres) in size.

Alberta Infrastructure has indicated that the existing approach onto Wye Road (Secondary Highway 630) may be closed in future since increased traffic volumes expected at that Wye Road/Range Road 225 intersection as a result of the development of the subject lands may render this existing approach unsafe. Also, Alberta Infrastructure does not support direct approaches onto a secondary highway if alternate means of accessing such highways is available. The remnant parcel, therefore, has been designed to include a 6.0 metre wide *pan-handle* to link the parcel with the future internal local road.

11. The development concept recognizes the rolling topography of the plan area, both in terms of the alignment of future internal roadways and lot layout. However, to optimize the topographic attributes of the subject lands, and to create interesting variety in lot configurations, about one half (26) of the 48 proposed country residential lots are designed with lot widths lower than the 60 metres prescribed by the County's Land Use Bylaw. The lot width dimensions are shown on Figure 3 and are measured 10 metres back of the road rights-of-way.

About one third (15) are also designed with lot depths of less than the 135 metre minimum lot depth Land Use Bylaw regulation. Regardless, the 7.5 metre side yard, as well as the 10 metre front and rear yard requirements of the Land Use Bylaw, can be easily met within each parcel. Recognizing the size of the proposed parcels, the building envelope on all lots exceeds 1.0 acre. The maximum width to length ratio of 1:4, as per Policy 16.7 of the Municipal Development Plan, is also met.

Lot dimensions and configurations will be confirmed at the time of detailed subdivision design.

12. The concept recognizes the minimum lot size of 0.81 hectares (2.00 acres) as per the Country Residential District of the County's Land Use Bylaw. A 0.4 hectare (1.0 acre) developable area is contained within each lot, as per Municipal Development Plan Policy 16.5 (see Figure 3A).

13. An attractive entrance feature may be provided off Range Road 225, thereby promoting its function as the principal entry into Lorrelind Estates. The exact location and road right-of-way requirements for this feature will be determined at the time of detailed subdivision design.

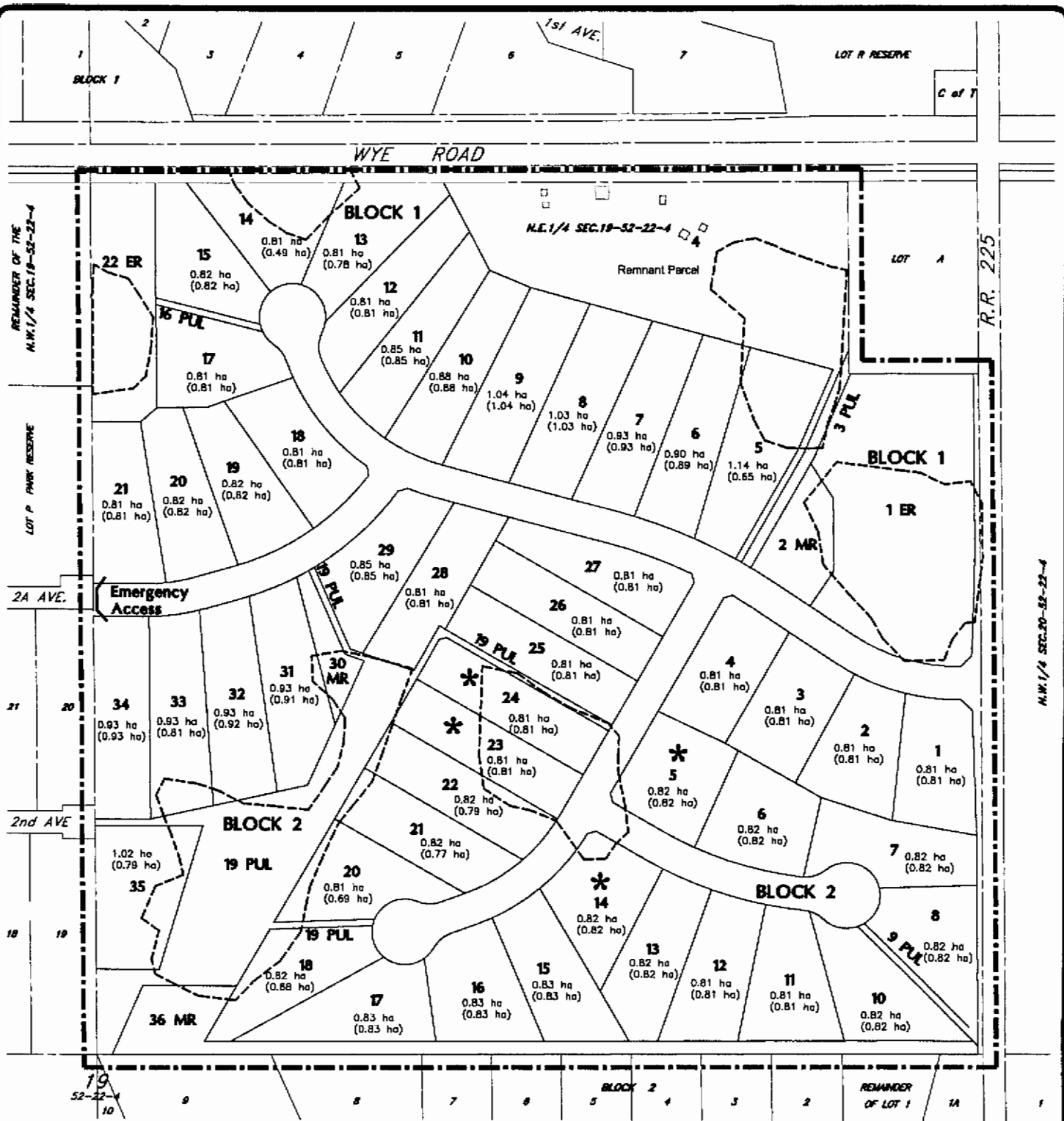
14. A high quality of residential development will be promoted through architectural and other controls, such as type and size of dwelling. These controls will be imposed by the developer through restrictive covenants.

The concept results in the following land use distribution:

Table 1 - LAND USE STATISTICS

Gross Area	61.45 ha (151.84 ac)
Road Widening (RR 225)	0.31 ha (0.77 ac)
Environmental Reserve	4.56 ha (11.27 ac)
Gross Developable Area	56.58 ha (139.81 ac)
Municipal Reserve	2.18 ha (5.39 ac)
Public Utility Lots	3.26 ha (8.06 ac)
Roads	6.26 ha (15.47 ac)
Remnant Parcel	4.45 ha (10.99 ac)
Residential	40.43 ha (112.09 ac)

The foregoing land distribution figures will be confirmed at the time of subdivision.



Lots 5, 14, 23 & 24 Blk. 2 to be regraded at time of subdivision to ensure compliance with County MDP guidelines.

--- ASP Boundary

0.83 ha
(0.83 ha) Lot Area
Developable Area



Potentially developable areas noted with standing water or wet ground conditions noted as of August 2000 topographic survey.

Lorrelind Estates Area Structure Plan Strathcona County

Figure 3A

Developable Areas (as of August 2000)

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Municipal Reserve dedication will be reconciled as part of the development agreement at the time of rezoning, subdivision and survey.

3.2 Residential

The attractive location of the plan area in terms of proximity to Sherwood Park, quality of access to the regional road network, community amenity features such as Wye Community Hall and Wye School, natural features such as Boag Lake, and established country residential subdivisions, suggests an opportunity to promote a relatively high quality residential subdivision.

Although not part of this Area Structure Plan, architectural guidelines to ensure architectural control will be applied at the time of lot sales, marketing and housing construction. Examples of the types of guidelines to be applied include:

- roofing and siding material
- colour
- fencing
- minimum house and garage size
- landscaping

In applying guidelines through the use of restrictive covenants, compatibility within the larger residential community will be considered.

The Area Structure Plan proposes to create 49 new parcels, including the remnant. The maximum density permitted under Municipal Development Plan Policy 10.25(b) is 50 parcels per developable $\frac{1}{4}$ section. The existing 2.02 hectare country residential lot located in the northeast corner of the subject $\frac{1}{4}$ section, combined with the 49 parcels proposed to be created, results in 50 lots as per the Municipal Development Plan policy.

However, the policy also stipulates a density of one residential parcel per 1.3 hectares of developable land. The Gross Developable Area in the Lorrelind plan area is 59.72 hectares (see Table 1), plus the existing 2.02 residential lot, for a total of 61.74 hectares. The number of parcels permitted under the Municipal Development Plan policy, based on the developable area density calculation, is 48 parcels. This Area Structure Plan is proposing an additional two parcels.

Although the proposed density exceeds the Municipal Development Plan policy by two lots, based on land area calculations, the Area Structure Plan does comply with the 50 lots per $\frac{1}{4}$ section component of the policy. Also, all the parcels proposed meet the minimum size requirements of the Land Use Bylaw, and can be functionally accommodated within the plan area as illustrated by the design concept. The proposed density, therefore, is reasonable and appropriate to the subject $\frac{1}{4}$ section. Because the intent of an Area Structure Plan is to provide general density levels, the actual density (number of lots created) may be adjusted at the detailed subdivision

stage, based on detailed design parameters. Any required adjustments will result in a lower, rather than a higher, density.

Population and students generated by the plan area are summarized below. Population projections assume a density of 3.1 persons per dwelling unit. School generation is based on the following public/separate student generation factors:

Table 2 - SCHOOL GENERATION FACTORS

Elementary (Public/Separate)	0.2640 per unit/0.0753 per unit
Junior High (Public/Separate)	0.1116 per unit/0.0400 per unit
Senior High (Public/Separate)	0.1298 per unit/0.0185 per unit

These factors have been updated by the Elk Island Public and Separate School Boards and are in effect for the year 2000. Assuming the 48 new lots proposed, the resultant population and students generated are:

Table 3 - POPULATION AND SCHOOL GENERATION

Population	149 persons
School Generation (Public/Separate)	
Elementary	13/4
Junior High	5/2
Senior High	6/1
Total Students	31

All figures are estimates only, and are subject to change at the time of subdivision. No school sites are proposed within the Lorrelind area, and it is assumed that students will be absorbed into the surrounding school system. Discussions with representatives of Elk Island Public School Board determined that enrolment at Wye Elementary School has been declining, and that the school is operating at below capacity (current enrolment is 334 students/capacity is 450 students). The development of Lorrelind for residential capacity will potentially result in a much needed increase in enrolment.

3.3 Parks and Open Space

The major elements of the comprehensive parks and open space system proposed for Lorrelind Estates are connected through an extensive internal trail system. This system also provides linkages to adjoining residential areas to the west and south, and is the most significant of the park and open space elements, which are described below.

- 1. Natural Open Space Feature** - A combined Environmental Reserve/Municipal Reserve Lot is proposed in the northeast corner of the plan area to protect the natural open space surrounding the intermittently wet low area. The open space component is suitable for recreation purposes such as playground development.
- 2. Important Wetland Area** - Most of the Important Wetland Area located in the northwest corner of the plan area is designated Environmental Reserve, thereby protecting it from

encroaching development. This feature enhances the Wye Community Hall open space area, and can be accessed from that area.

Because of its significance as a migratory nesting feature, access to this water body should be limited. Regardless, it provides a significant visual amenity within the community. The most easterly, drier portion of this feature is proposed to be contained within the *backs of lots*, and will be protected by an Environmental Reserve easement.

3. **Linear Open Space Feature** - The low area located in the southwest quadrant of the plan area is proposed to be maintained as a combined open space/trail connection. A drainage channel or swale extends through this open space feature. This channel is typically dry but does drain lands located beyond the plan area to the west and southwest. The channel will serve only a very minor storm water drainage function in the context of Lorrelind Estates. Most storm water within the proposed Area Structure Plan area will be drained by roadside ditches (see Section 4.2).
4. **Trail Linkage** - The 12 metre wide Municipal Reserve linear feature proposed along the south boundary of the Lorrelind lands will protect the attractive, highly visible tree buffer (*wind row*) extending along this boundary, and will allow for a future trail connection from Hillsdale, Poplar Lake Estates, and the south portion of Lorrelind. This linear Municipal Reserve feature links with the above noted open space feature, and provides access to the Wye Community Hall site.
5. **Public Utility Lot Linkages** - Five (6.0 metre wide) Public Utility Lot connections are proposed within the plan area. Four of these connections are required for internal drainage purposes, but also provide for pedestrian linkages to compliment the comprehensive linear trail system. The fifth connection, located in the southeast corner of the plan area, serves a dual emergency access/trail function.

As is noted in Section 3.1, Municipal Reserve dedication will be reconciled as part of the development agreement at the time of rezoning, subdivision and detailed survey. The dedication of Public Utility Lots and Environmental Reserve will also be reconciled at that time.

4.0 Transportation and Servicing

The proposed transportation plan recognizes the recommendations of the approved Highway 21 Access Management Study, as well as input from County Administration, Alberta Infrastructure and residents of Bailey's Subdivision and Hillsdale. The short and long term transportation plans proposed for the plan area and surrounding lands are described below. The proposed internal traffic circulation and municipal servicing systems are also briefly described below. More detailed traffic circulation and servicing information is contained in the Engineering Design Report prepared by Infrastructure Systems Ltd. in support of this Area Structure Plan.

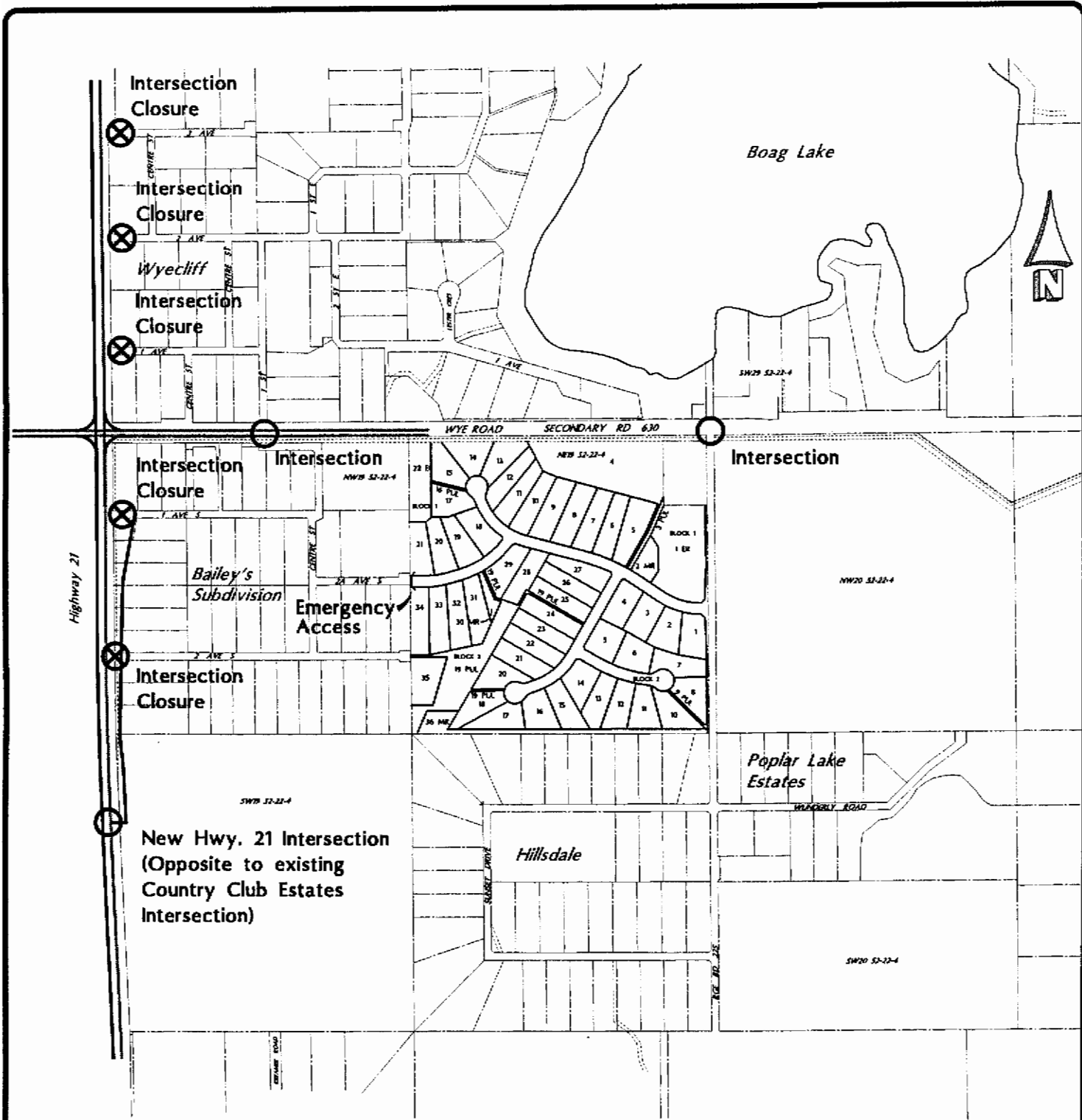
4.1 Transportation Plans and Traffic Circulation

The internal circulation pattern proposed for the Lorrelind lands is designed within the context of the regional transportation plan approved by the above noted Highway 21 Access Management Study. This Study contains short and long term scenarios which focus on the impact of future upgrades to Highway 21, and the implications of these upgrades on access onto both Wye Road and Highway 21 from adjacent residential subdivisions. The short and long term scenarios are shown on Figures 4 and 5, respectively. The circulation pattern proposed by the Lorrelind Estates design concept (see Figure 3) is assumed for the Area Structure Plan lands.

1. Short Term (3 - 5 year) Transportation Plan

This plan recognizes that Highway 21 will be twinned by 2003, and that substantial upgrades will be made to the intersection of the highway with Wye Road (Secondary Highway 630). The twinning and intersection improvements require that the two existing roads accessing Highway 21 from within Bailey's be closed, and that all traffic be channelled onto a new service road which will intersect with Highway 21 across from the existing Country Club Estates access. This new all directional intersection, and the new service road, will be constructed at the same time as the highway is twinned. The existing intersection at Centre Street onto Wye Road will remain open in the short term, and will continue to provide residents from Bailey's with direct access onto Wye Road. Control of Wye Road, designated Secondary Highway 630 under the Highways Act, will be assumed by Alberta Infrastructure. As such, access control will be under the jurisdiction of the province.

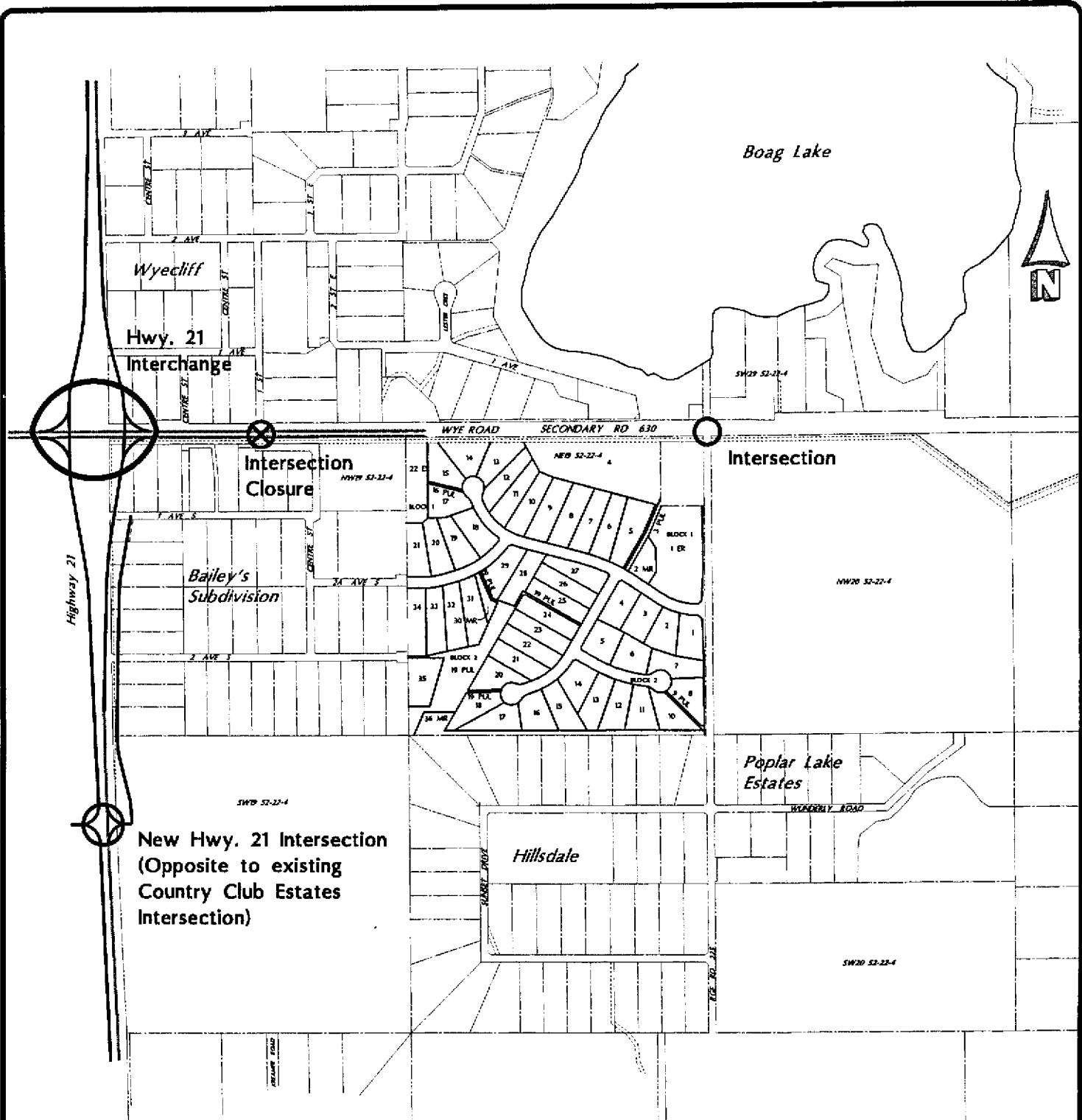
The internal circulation pattern proposed for Lorrelind had envisioned that 2A Avenue be extended through the plan area, thereby providing the area with indirect access to Highway 21 and Wye Road. About one third of the traffic generated by Lorrelind was expected to use 2A Avenue to access these regional transportation facilities. Most internal traffic was assumed to use Range Road 225 to access Wye Road and the Highway 21/Wye Road intersection. This proposed circulation pattern met with the approval of both County Administration and Alberta Infrastructure.



**Lorrelind Estates
Area Structure Plan
Strathcona County**

Figure 4

**3 - 5 Year
Transportation Plan
(Twinning of Hwy. 21)**



**Lorrelind Estates
Area Structure Plan
Strathcona County**

Figure 5

**25 - 30 Year
Transportation Plan
(Hwy. 21 / SH 630 Interchange)**

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However, the residents of Bailey's expressed considerable opposition to extending 2A Avenue into the Lorrelind plan area, and to potential increased traffic volumes within the Bailey's Subdivision.

To address these concerns, 2A Avenue will not be extended through Bailey's at this time. Instead, an emergency access, in the form of a 4.0 metre wide gravelled surface from the existing pavement within Bailey's to the plan area boundary, is proposed. Bollards will be used to prevent any traffic other than emergency type vehicles from using this access. Within Lorrelind, the road will be constructed to County country residential road standards up to the plan area boundary. However, a *turn around* feature will be provided at the end of this road, within Lorrelind, to allow for proper turning movements of service vehicles and school buses. A number of options exist for a proper turning feature (with the required radius) to allow for such movements. All can be constructed within the proposed 30 metre wide road right-of-way. The design of the *turn around* feature will be confirmed with County Administration, and will meet County standards.

Any change in status to the emergency access at 2A Avenue will be at the discretion of the County.

2. Long Term (25 - 30 Year) Transportation Plan

In the long term, the intersection of Highway 21 and Wye Road will be upgraded to a grade separated interchange. This means that the existing intersection of Centre Street and Wye Road will be closed, and residents within Bailey's will be required to access Wye Road via Highway 21. A second access is feasible through Lorrelind Estates and Range Road 225. This second access will allow for an efficient functional regional transportation system between Highway 21 and the Range Road, for both residential traffic and service vehicles, but will require that the proposed emergency access on 2A Avenue be opened to all traffic movements. The regional system as proposed for the long term is supported by both the County and Alberta Infrastructure.

The timing for potentially implementing this long term scenario is based primarily on the timing of the construction of the interchange of Highway 21 and Wye Road. Although assumed by the Highway 21 Access Management Study to take place in 25 to 30 years, the timing is dependent on many variables and will likely occur later, rather than sooner.

The major roadway connection into the Lorrelind area is proposed off Range Road 225. An extension into the south portion of the area is also proposed, as well as a linkage with 2A Avenue at the west side of the subject lands. However, as is noted above, this linkage will be closed for the foreseeable future and will be used only as required by emergency vehicles.

One lot in the southwest portion of the plan area is proposed to be accessed directly off 2nd Avenue. Internal access to this lot is feasible only across the natural open

space feature, thereby jeopardizing the natural integrity of this feature. Any improvements to 2nd Avenue required to allow for proper approaches will be undertaken to County standards.

Rights-of-way for all roads are proposed to be 30 metres wide, as per County standards. The 30 metre wide right-of-way allows for the construction of a rural cross section type road. The County's road construction standards for country residential subdivisions will be applied.

4.2 Water Services

A low pressure water distribution system is proposed to service the plan area (see Figure 6). A connection to the existing 150mm water main extending along the west side of Range Road 225 is being considered. Small diameter pipes will be constructed within the plan area, permitting on-site storage opportunities for domestic use. By extending water services into the plan area, an opportunity is created to ultimately construct a *looped* regional system by extending the Lorrelind system through Bailey's and Hillsdale. County standards will be applied in providing water services to the plan area. Additional information on the provision of water to Lorrelind Estates is contained within the Design Brief.

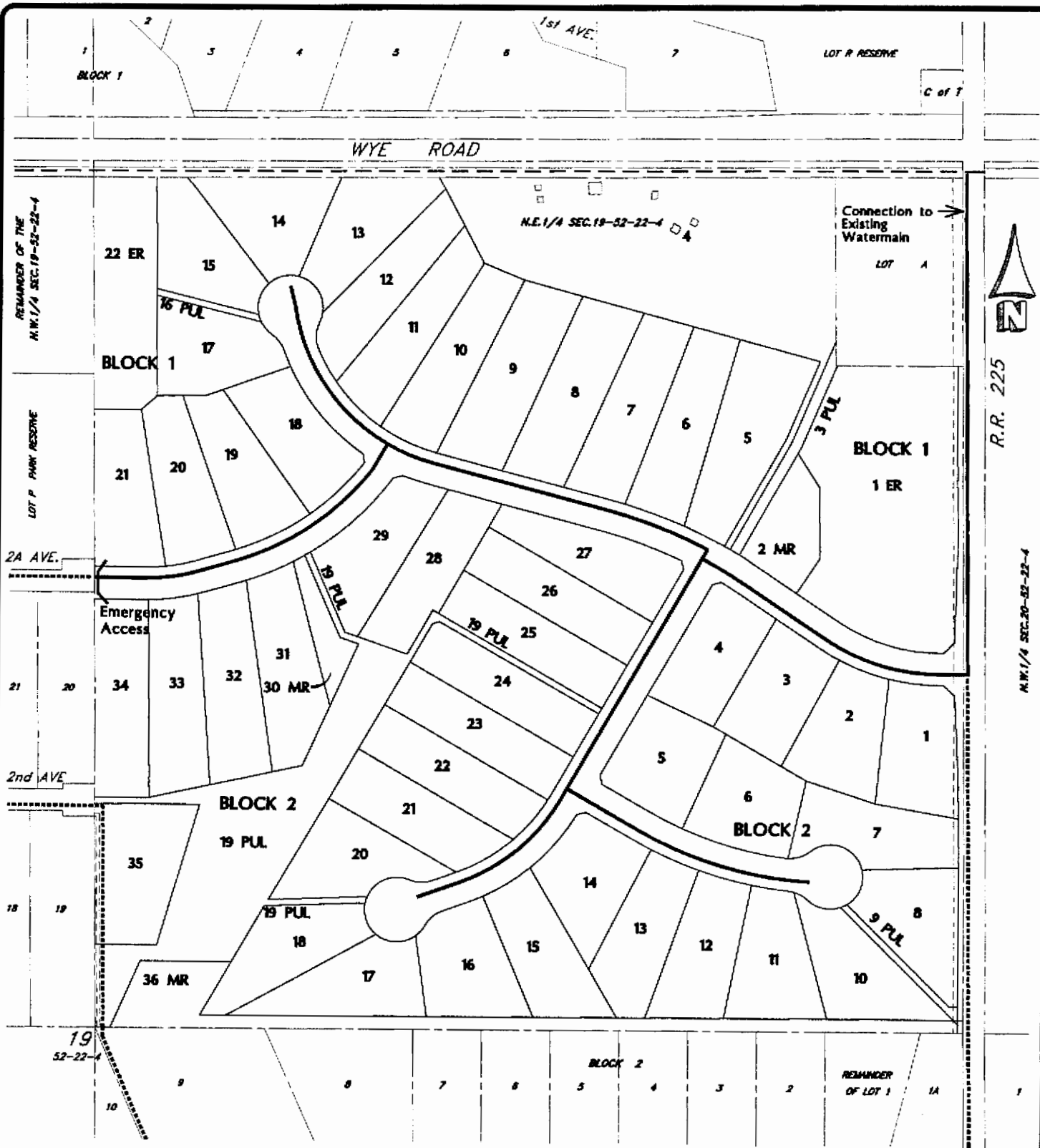
4.3 Sewage Treatment and Disposal

Sewage treatment and disposal is proposed to be on-site, either through the use of Minnesota Mounds or holding tanks. The geotechnical investigation undertaken by J.R. Paine & Associates (see Design Brief) suggests that the soils conditions within the plan area will not allow for the installation of conventional septic field type treatment systems. All sewage facilities will be constructed in compliance with County and provincial standards.

4.4 Storm Water Management

Storm water management will rely on overland flow being directed through a series of Public Utility Lots, culverts and roadside ditches to the tributary of the Oldman Creek, which extends through the northeast corner of the proposed remnant parcel, under Wye Road, and into Boag Lake. This tributary also extends through the existing country residential lot located in the northeast corner of the subject $\frac{1}{4}$ section. That portion of the tributary which extends through the remnant is proposed to be protected by an Environmental Reserve easement.

Figure 7 shows current overland flows, and the proposed realignment and improvement of the existing drainage channel. The southwest corner of the plan area has been designed to ensure that drainage from the Bailey's subdivision, specifically Lot 19, is not blocked by residential development. All storm water will continue to be directed to the Oldman Creek tributary. A comprehensive storm water study by BK Hydrology Service is appended to the Engineering Design Report.




- Existing 150mm Watermain
- Proposed Distribution Main
- Future Distribution Main

**Lorrelind Estates
Area Structure Plan
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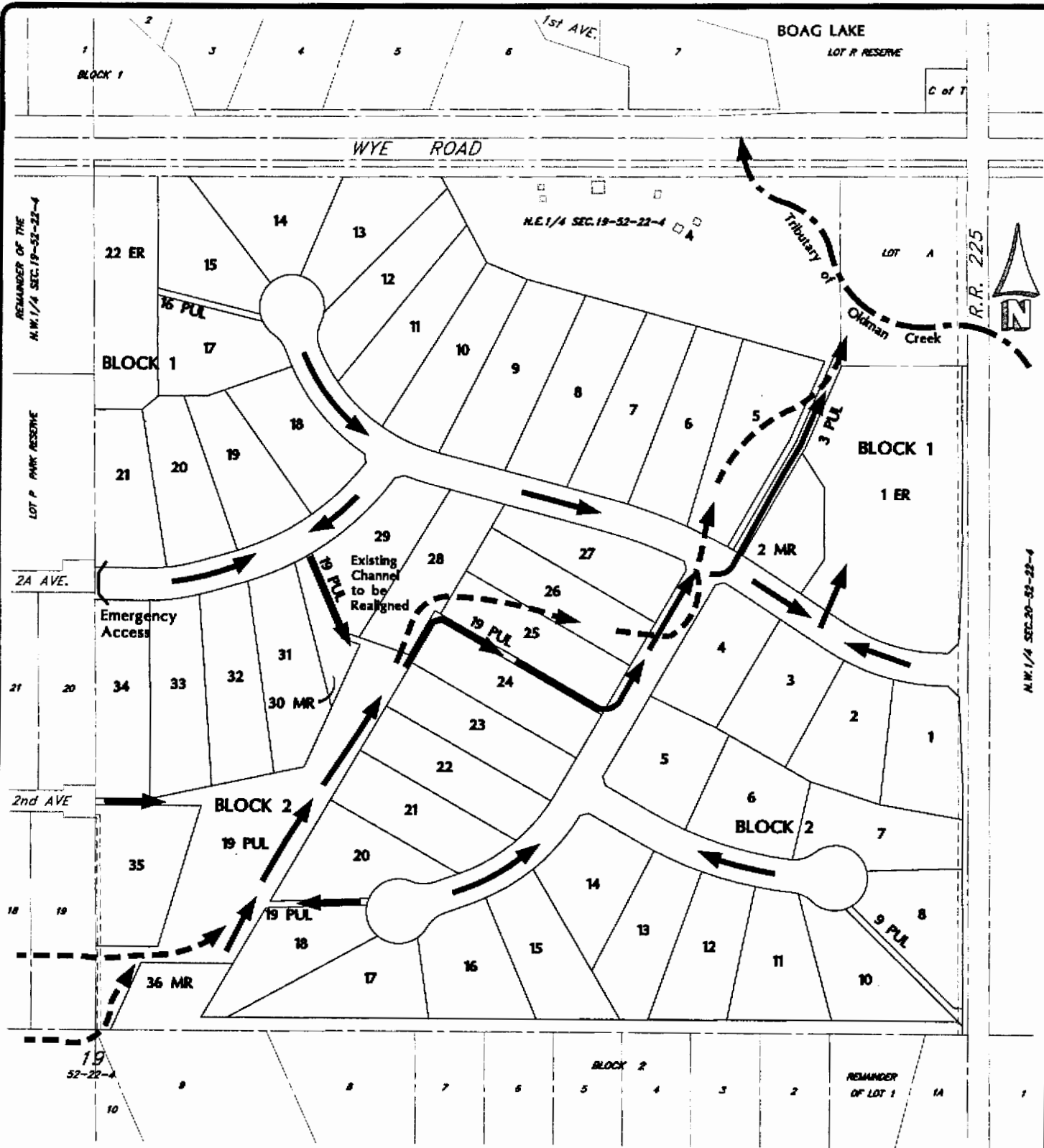
Figure 6

**Proposed Water
Distribution Concept**

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← - - - Existing Drainage Course
 ← Probable Direction of Overland Flow

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Figure 7

Proposed Stormwater
Concept

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Recent investigations by J.R. Paine has confirmed that no storage of storm water within the plan area is required.

4.5 Shallow Utilities

Existing power, gas, telephone and cable TV services may all be extended to the site. An Atco gas line extends along Range Road 225. Proper arrangements with Atco in regard to extending services off this line will be made at the time of development. The extension of all remaining shallow utility type services also will be implemented in consultation with the providers of such services. Alignments of the shallow utilities within the plan area will be in accordance with the County Servicing Manual.

5.0 Staging and Implementation

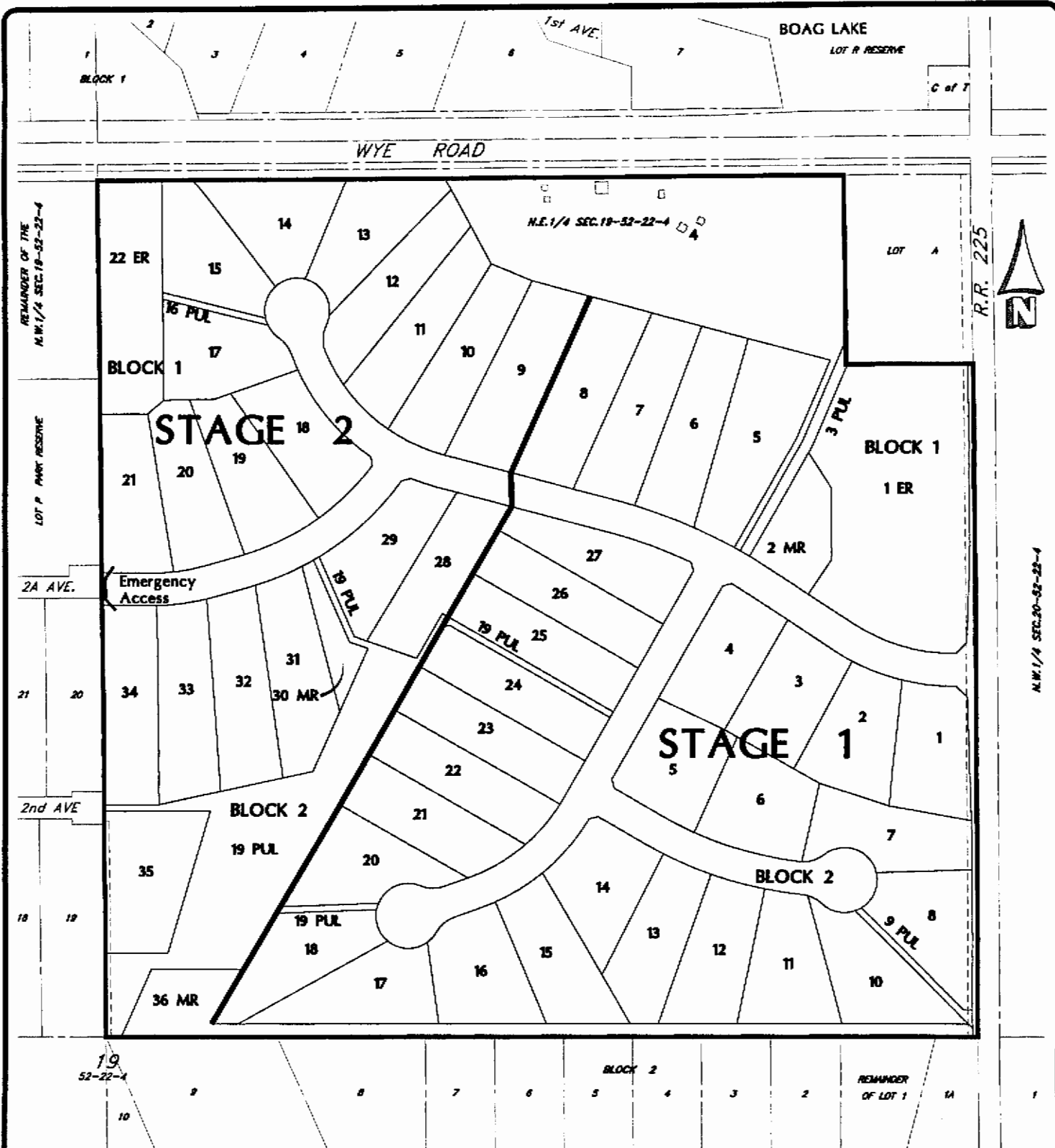
A two phase staging plan is proposed (see Figure 8). The first stage assumes construction of the major access road off Range Road 225 and about two thirds of the proposed lots. The second stage involves constructing the connections to 2nd and 2A Avenue, and the remaining lots.

A redistricting application will be required to be approved prior to subdivision. Most of the Area Structure Plan lands are proposed to be redistricted from Rural District to Country Residential District. It is important to note that, as is described in Section 3.1, although the lot dimensions do not fully comply with the current Land Use Bylaw provisions, the parcel configurations are reasonable and all setbacks can be maintained in defining a 1.0 acre developable area. Lot dimensions and sizes are shown on Figure 3.

A development setback variance from the abandoned landfill is required from Alberta Environment. However, much of the landfill material will be removed in constructing the local road. The approved plan of subdivision will recognize the setbacks requirements, and a restrictive covenant will be registered on the certificate of title of any parcel affected by the landfill.

The 4.45 hectare farmstead may be redistricted to Small Holdings District (RS). This district, with its minimum parcel size of 4.0 hectares, will prevent any further subdivision of the farmstead to accommodate the two existing dwellings. Further subdivision of the farmstead will require a separate redistricting application.

Finally, a temporary sign showing the design concept approved through this Area Structure Plan will be placed at the entrance into the plan area, off Range Road 225, as information for prospective lot purchasers.



**Lorrelind Estates
Area Structure Plan
Strathcona County**

Figure 8

**Possible
Staging Plan**

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June, 2001



Lorrelind Estates Area Structure Plan Bylaw 41-2001

Date of Adoption 12 June 2001

Country Residential
Municipal Reserve
Environmental Reserve
PUL



Road Plan
ASP Boundary



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