

BYLAW 35-98

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

WHEREAS it is deemed advisable to adopt the Shadow Ridge Estates Area Structure Plan.

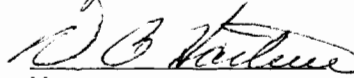
NOW THEREFORE, the Council of Strathcona County, pursuant to the authority conferred upon it by the Municipal Government Act, S.A. 1994 c-M26.1 and amendments thereto, enacts as follows:

1. That this Bylaw 35-98 is to be cited as the "Shadow Ridge Estates Area Structure Plan".
2. That Schedule "A" attached hereto is hereby adopted as part of this Bylaw.

Read a first time this 23 day of June, 1998.

Read a second time this 23 day of June, 1998.

Read a third time and finally passed this 23 day of June, 1998.

  
\_\_\_\_\_  
Mayor

  
\_\_\_\_\_  
Corporate Secretary

Date Signed: July 2, 1998

**SCHEDULE "A"**

**SHADOW RIDGE ESTATES**

**AREA STRUCTURE PLAN**

**SE 1/4 - 6-53-22-W4M  
Strathcona County #20**

**Prepared By:**

**EDWARD-NELSON CORPORATION**

**June 18, 1998**

## INTRODUCTION

The subject property (SE 1/4-6-53-22-W4M) consists of approximately 52 hectares. The property adjoins and lies immediately to the north of Baseline Road at a distance of 0.80 kilometres to the east of Highway #21.

A key plan (4 of 6) follows the report appendices and depicts it's location.

## OWNERSHIP

The property is owned under the name of Royal West Property Corp. Of Edmonton, AB.

## STATUTORY PLAN COMPLIANCE

The property is situated within Strathcona County Sherwood Park/Ardrossan Transition Plan. The proposed Land Use District designation under this plan is ES - Estate Residential. The current designation is AR - Agricultural Rural. In view of major constraints relating to servicing infrastructure, the proposed land use by the applicant is for RC - Country Residential. This Area Structure Plan conforms with the Municipal Development Plan of Strathcona County.

## ENVIRONMENTAL ELEMENTS

### a) Topography

The general slope of terrain is to the east with maximum relief of approximately 38 metres. The highest point is +/- 730 m a.m.s.l. in the south west corner of the quarter section and dropping to +/-692 m a.m.s.l. at the creek where it crosses the north/south road allowance along the eastern limits.

The eastern boundary of the property to which this Area Structure Plan applies is bordered by two (2) lots - Lot 1, Registered Plan 772 0109 and Lot 2, Registered Plan 802 1303. These two lots contain the creek and the escarpment associated with the creek.

The topography for the most part is devoid of any significant hills and depressions. The south west corner of the property is characterized by some steeper terrain. A slough area mid way along the western limits is present as well as several small shallow depressions over the remainder of the property.

#### b) Vegetation

The only treed area of the subject property is that associated with the fence lines along the western and northern limits and around the slough at the western limit. There is vegetation along the eastern limit but is located on the two parcels and is associated with the creek. The land is in an agricultural state with slightly more than one half under cultivation and the remainder in pasture.

The small amount of vegetation comprises predominantly poplar and trembling aspen with other deciduous vegetation consisting of willows, chokecherry, hazelnuts and the like.

#### c) Surficial Geology

The surficial geology of the property is glacial till deposits being the remnant of the last ice age.

#### d) Soils

The soils of the subject property are podzolic. Primarily they are Cooking Lake loam (orthic grey-wooded developed on glacial till of Edmonton Formation). Under C.L.I. Soil Capability for Agriculture the soil is classed predominantly No. 3. This designation reflects moderately severe limitations for agricultural purposes due to soil limitations and adverse topography in the southwest corner.

#### e) Surface Drainage

The topographic characteristics of the site dictate the surface drainage is to the east, northeast and southeast to the creek. The small slough in the centre of the subject property is an intermittent one due to its shallowness. It is intended to be incorporated into a central park reserve area. Given the proposed roadway layout, surface waters will be easily directed through the roadway network.

#### f) Groundwater

A series of test holes were carried out on the subject property. Eleven (11) holes were drilled to a depth of three (3) metres to test depth to groundwater table. Water levels were measured three days and one week after drilling. No groundwater was encountered whatsoever in eight of the holes. One hole showed groundwater at 2.4 m depth, another at 2.0 m depth and one at 1.4 m depth from the surface.

The groundwater table is not a serious constraint to development and the subdivision design is such that any of the localized depressions would be drained by roadway ditches. Minor lot grading may have to occur on some parcels after road construction to ensure a ground elevation of 2.4 metres above the water table in those areas which show a higher water table.

See Appendix I for test hole locations and groundwater depths information and Drawing 5 of 6.

#### g) Percolation

Ten (10) test holes were drilled to a depth of 0.90 metres to test percolation rate. The holes were saturated with water for a 24 hour period prior to testing. Percolation test indicate that all test holes showed rates which would be suitable for septic field disposal systems. Nonetheless, given variances in glacial till deposits it is advisable that each acreage lot carry out a percolation test at time of application for a building permit. Should the odd lot indicate a percolation rate which is too slow then effective sewage disposal can be provided through pump out tanks or the provision of Minnesota mounds.

See Appendix II for test hole locations and percolation tests information and Drawing 5 of 6.

#### MAN-MADE CONSTRAINTS

There are no man made constraints. A minor abandoned reclaimed excavation site exists in the southwest corner of the property but presents no problem to any development.

#### SURROUNDING LAND USES

The surrounding land uses are predominantly agricultural with some country residential and small holdings subdivisions. A church is located immediately west of the property on Baseline Road. As previously noted two (2) parcels encompassing the creek and within the quarter section are situated along the south and east side of the property.

#### EXISTING LAND USE

The existing land use is agricultural in nature. The northern portion (slightly over one half) is in crop production while the southern portion is in pasture. There are no buildings on the property.

## PROPOSED LAND USE

The proposed land use for the property is a Country Residential Subdivision. A redistricting from AR - Agricultural Rural to RC - Country Residential will be required to accommodate the proposed land use.

The concept provides for a collector roadway through the subdivision accessing Range Road 225 on the east side. Two cul-de-sacs are provided to serve the northwest and southwest corners of the property.

There are four open space areas plus an additional strip along the creek escarpment that has been incorporated into the concept plan. The central area will be accommodating a dry detention pond as will the open space areas in the south-east corner of the subject property. The central and the north-east open space areas are intended to also provide small adjoining municipal reserve areas. The slough area on the west boundary of the property is intended to be left in its natural state. The strip along the creek escarpment is classified as municipal reserve. Walkways are provided throughout the subdivision to facilitate pedestrian movement as well as provide surface drainage where necessary.

A five (5) metre strip has been allocated along Baseline Road to accommodate a buffer. An eight (8) metre buffer/road widening has been shown along Range Road 225 north of the creek crossing.

To ensure pre-development flows are maintained, three (3) detention cells have been shown and are intended to function as dry ponds with the exception of the N.E. cell. It will be part of an integrated stormwater management system, maintaining water in the cell to benefit the surrounding environmental enhancement area.

The development proposes 48 lots of a minimum of 0.81 hectares each. Each of the lots provides a minimum of 0.40 hectares for building site purposes.

The Area Structure Plan is attached and a Table of Land Use Allocation is provided below.

### Table of Land Use Allocation

Country Residential	40.7570 ha
Reserves	4.3698 ha
Buffers/Walkways	.6150 ha
Roadways	<u>6.5150 ha</u>
	52.2568 ha

## POPULATION

The total number of housing units will be 48. According to the 1992 Municipal Census, the average Country Residential household size is 3.3 persons. Based on this figure, the projected population upon full development would be in the order of 158.4.

## SCHOOL POPULATION

The 1990 New Schools and Park Sites Study of Strathcona County provides the following ratios of a combined public and private student population.

Elementary	0.27 pupils per pop.
Junior High	0.14 pupils per pop.
Senior High	0.19 pupils per pop.

On the basis of these ratios the number of students extends as follows:

Elementary	43
Junior High	22
Senior High	30
Total	<u>95</u>

The school population generated is far short to warrant the provision of any schools on the property. School busing will be required.

## MUNICIPAL INFRASTRUCTURE

### a) Roadways

The roadways are intended to be of a rural cross-section with swale ditching and located within a 30 metre right-of-way. The carriage way is proposed to have a paved surface. Culverts will be provided as necessary to facilitate drainage via ditches.

### b) Water Supply

Water supply within the subdivision is proposed to be a trickle system with supply from the Clarkdale Meadows neighborhood of Sherwood Park.

#### c) Sanitary Sewers

Individual home owners will be responsible for sewage disposal either through septic fields, pump-out tanks or Minnesota sewage mounds. While the percolation tests indicated that the soils are generally conducive to sewage fields, further percolation tests for each individual lot should be carried out prior to building.

#### d) Storm Water Management

Storm water management will be via surface utilizing the roadway ditches and where necessary via walkways. Three (3) small detention cells are proposed and are shown on the plan. They are intended to function as dry cells with the exception of the north east cell which is intended to be a part of an integrated storm water management system within an environmental enhancement area. The design analysis will be provided in an addendum. Detailed design will determine sizes required to maintain pre-development flow rates. There will be no direct discharging of surface waters from ditches into the creek.

#### TRAFFIC GENERATION

On the basis of 12 vehicle trips per day per household the traffic generated upon full development will be in the order of 576 vehicle trips per day.

The intersection of the main access onto Baseline Road has been reevaluated and discussed with the transportation department and has subsequently been removed. The cost for such a Type IV intersection as well as the safety issue were contributing factors to the change.

The current plan calls for an emergency vehicle access from the west neighboring Church lands, with the N.E. access thus becoming the main access to the development. This road will be maintained year round. The portion on the Church lands will be upgraded to emergency vehicle standards. The main access on Range Road 225 will require an upgraded intersection in accordance with County standards. The length of taper will be restricted by the bridge to the south and the boundary to the north. An eight (8) metre buffer/widening has been provided on the west side. There are plans for a permanent access to the north when that parcel of land become developed.

#### FRANCHISE UTILITIES

The subdivision is proposed to be serviced with underground power as well as natural gas, telephone and cable television. There are no constraints associated with the provision of these utilities.

## PHASING

It is the intention to develop all of the lots at one time.

## ARCHITECTURAL GUIDELINES

Architectural guidelines are intended to be established to facilitate the overall design image and appearance of the subdivision and to ensure its design character/theme. Shadow Ridge proposes to establish a collection of large custom designed homes. Detailed guidelines will be set out at a later time.

**APPENDIX I**  
**WATER TABLE EVALUATION**

DRAWING SHOWING  
TEST HOLE LOCATIONS

## WATER TABLE EVALUATION

Eleven (11) water table test holes were drilled on August 18<sup>th</sup>, 1997 to a depth of three (3) metres. Water tables were measured on August 21 and August 25, 1997. There were no differences in the water levels on the latter two dates.

<u>TEST HOLE NO.</u>	<u>WATER LEVEL IN METRES</u>	
	<u>BELOW GROUND LEVEL</u>	
	<u>August 21, 1997</u>	<u>August 25, 1997</u>
1	Dry	Dry
2	2.4m	2.4m
3	2.0m	2.0m
4	Dry	Dry
5	Dry	Dry
6	Dry	Dry
7	Dry	Dry
8	Dry	Dry
9	Dry	Dry
10	Dry	Dry
11	1.4m	1.4m

Test hole No. 3 was in an area near a localized depression and the water table is reflective of the heavy precipitation experienced this current year. Similarly test hole No. 4 is located in the area where a retention pond is proposed.

Some filling of several lots will likely be required in this immediate area to ensure that building grades are a minimum of 2.4 metres above the water table.

The provision of roadways with swale ditches will have the effect of lowering ground water tables in the development.

**APPENDIX II**

**PERCOLATION TESTS**

**DRAWING SHOWING  
PERCOLATION TEST HOLE LOCATIONS**

## SUITABILITY OF SOIL FOR SEWAGE TREATMENT

Ten (10) percolation test holes were drilled on August 25, 1997 to a depth of approximately 0.90 m. The test holes were saturated with water for a 24 hour period before testing began. On August 26, 1997 testing was carried out to determine percolation rates.

The tests indicated that all test holes had rates which would be suitable for septic field disposal systems. Two of the holes TH No. 8 and No. 10 showed slower rates but are still acceptable.

TABLE I  
**SUITABILITY OF SOIL FOR  
SEWAGE TREATMENT**

<u>TEST HOLE</u>	<u>SUITABILITY</u>	<u>PERCOLATION RATE</u> <u>Minutes/cm</u>
1	Yes	8.3
2	Yes	4.7
3	Yes	10.5
4	Yes	6.5
5	Yes	2.8
6	Yes	4.1
7	Yes	7.9
8	Yes	15.7
9	Yes	6.4
10	Yes	15.7

**PERCOLATION TEST TABLE**

<u>TEST HOLE</u>	<u>TRIAL</u>	<u>TIME IN MINUTES</u>	<u>DROP IN CM</u>	<u>PERCOLATION RATE MIN/CM DROP</u>
1	1	30	5.9	5.1
	2	32	3.9	8.2
	3	27	3.4	8.0
	4	25	3.2	7.8
	5	25	3.0	8.3
2	1	36	10.3	3.5
	2	31	8.1	3.8
	3	29	6.3	4.6
	4	25	5.6	4.5
	5	27	5.7	4.7
3	1	31	3.3	9.4
	2	40	3.9	10.2
	3	29	2.9	9.9
	4	33	3.1	10.5
	5	25	2.4	10.5
4	1	33	5.7	5.8
	2	22	3.7	6.0
	3	21	3.2	6.5
	4	36	5.5	6.5
	5	31	4.8	6.4
5	1	33	13.2	2.5
	2	30	12.5	2.4
	3	22	9.2	2.4
	4	28	10.4	2.7
	5	26	9.3	2.8
6	1	31	9.7	3.2
	2	22	5.9	3.7
	3	29	7.3	4.0
	4	33	8.5	3.9
	5	30	7.3	4.1

Percolation Test Table (cont.)

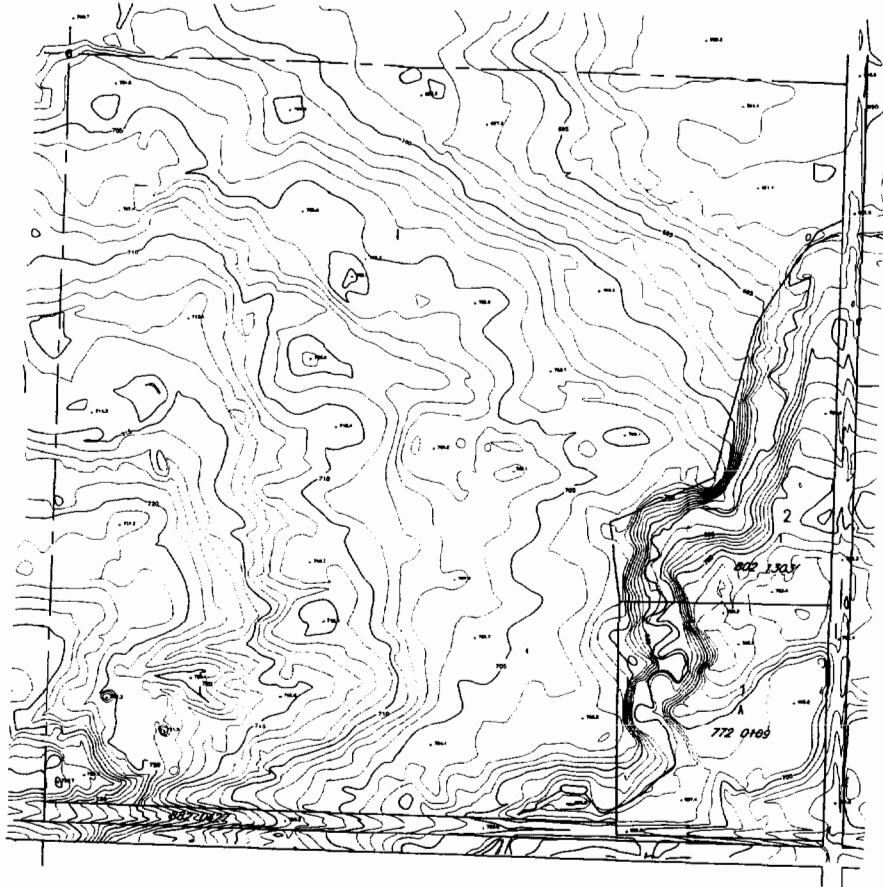
7	1	26	3.7	7.0
	2	29	3.8	7.7
	3	31	3.9	7.9
	4	24	3.0	7.9
	5	25	3.2	7.9
8	1	29	1.9	15.2
	2	33	2.1	15.7
	3	38	2.4	15.6
	4	31	2.0	15.6
	5	28	1.8	15.7
9	1	27	4.5	6.0
	2	29	4.9	5.9
	3	22	3.7	6.0
	4	31	4.9	6.3
	5	34	5.3	6.4
10	1	25	2.0	12.6
	2	32	2.2	14.8
	3	30	1.9	15.4
	4	29	1.9	15.3
	5	27	1.7	15.7

**APPENDIX III**


**STORM WATER ANALYSIS**

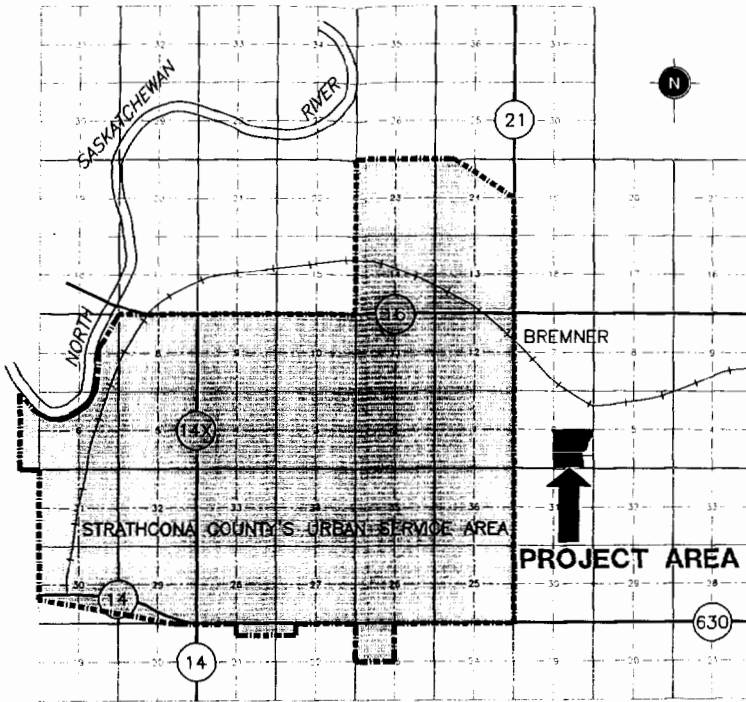
**Retention Cell Requirement Calculations**






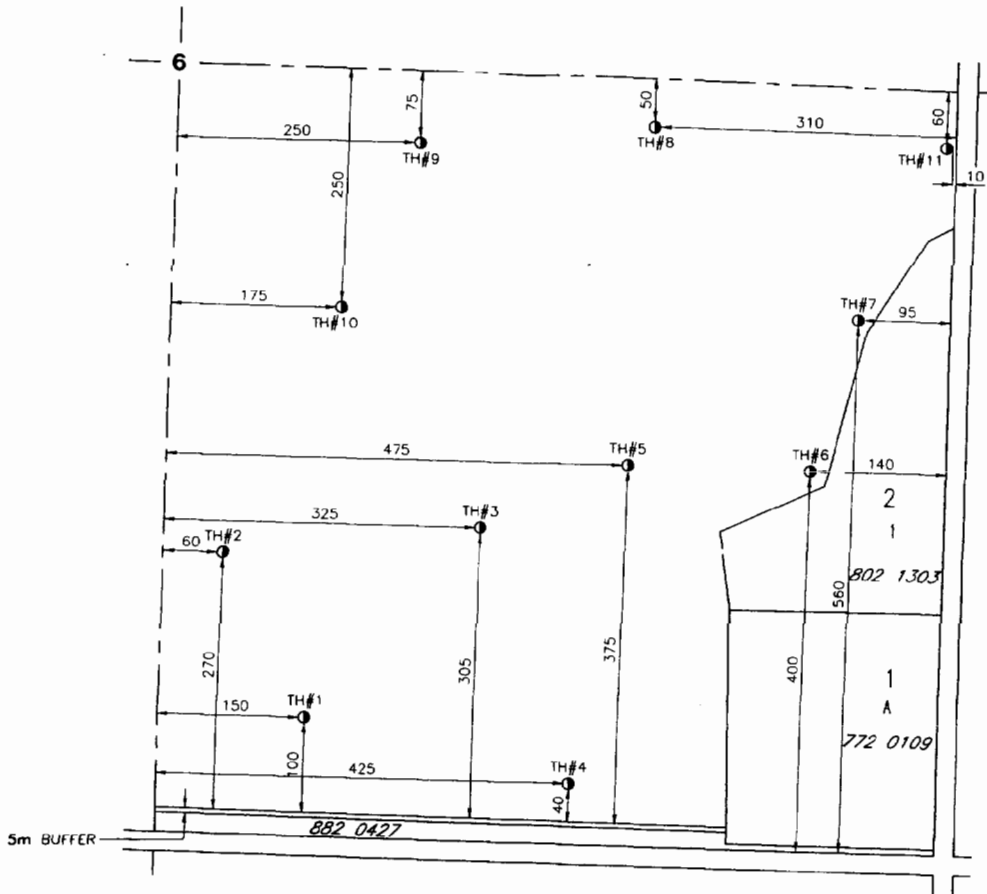
**CONTOUR PLAN**  
1:5000

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NO	NAME OF REVISION	DATE	BY			SHADOW RIDGE CONTOUR PLAN SE 1/4 6-53-22-4			




**KEY PLAN**  
1:100,000

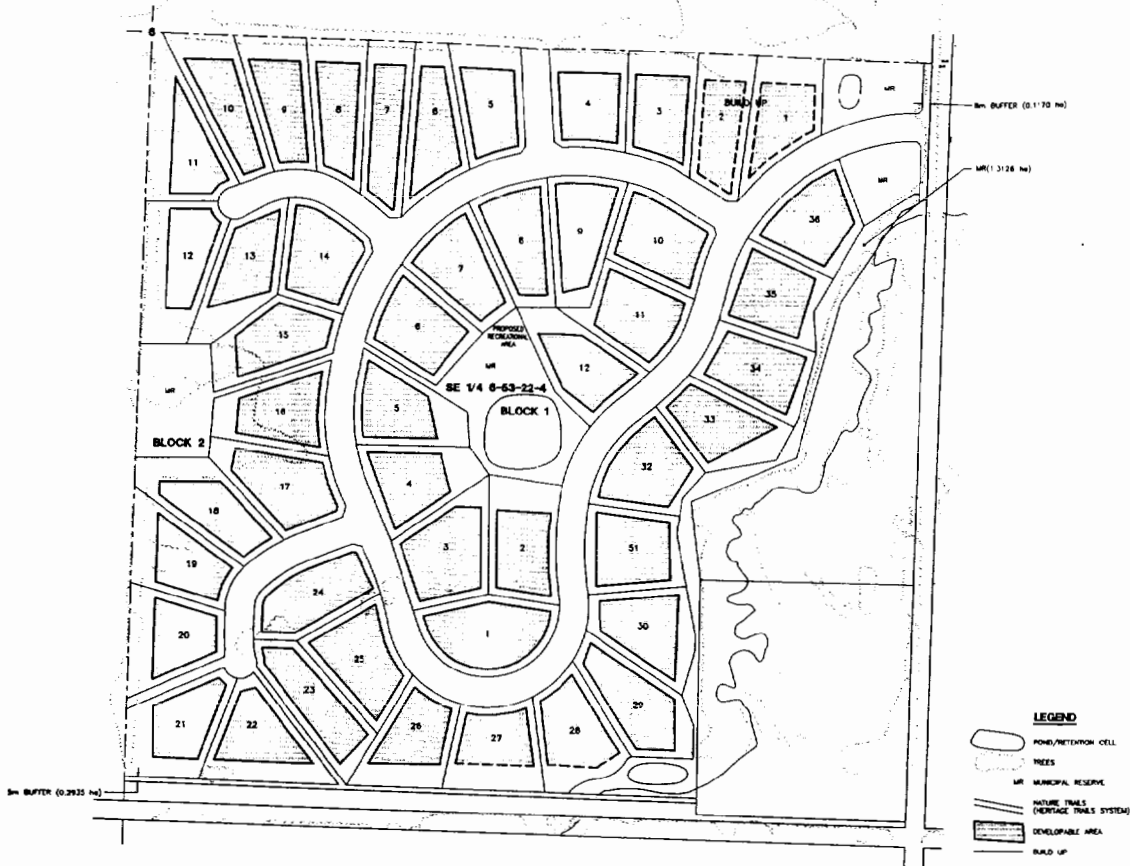
					PERMIT	SEAL	CLIENT / PROJECT	 EDWARD - NELSON CORPORATION <small>BIERWOOD PARK - ALBERTA - CANADA</small>	DRAWN BY: D.A.P. DESIGNED BY: D.E.K./N.S.Z. APPROVED: D.E.K./N.S.Z. PROJECT NO: 97580.01 DATE: 97/10/14	SCALE AS NOTED SHEET <b>4/7</b>
NO	NATURE OF REVISION	DATE	BY	CHK			SHADOW RIDGE KEY PLAN SE 1/4 6-53-22-4			



**PERCOLATION / TEST HOLE LOCATION PLAN**


1:5000

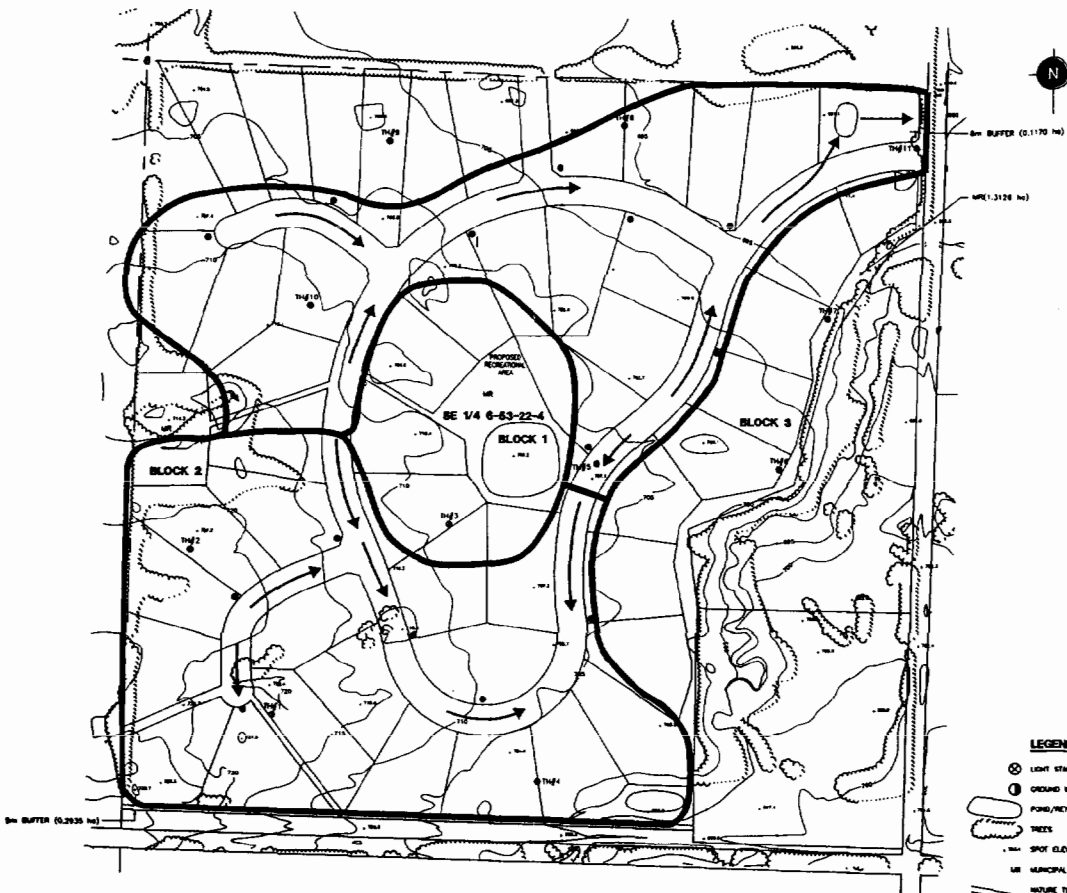
REVISIONS				PERMIT	SEAL	CLIENT / PROJECT	 EDWARD - SELDON CORPORATION <small>EDMONTON OFFICE - ALBERTA - CANADA</small>	DESIGNED BY	D.A.P.	SCALE
NO	DATE OF REVISION	DATE	BY			SHADOW RIDGE PERCOLATION / TEST HOLE LOCATION PLAN SE 1/4 8-53-22-4		DESIGNED BY B.E.A./A.S.Z.		AS NOTED
							APPROVED D.E.K./A.S.Z.		SHEET 5/7	
							PROJECT NO. 87350.01		DATE 07/10/14	



**DEVELOPABLE AREA PLAN**  
1:5000


- LEGEND**
- HOME/RETENTION CELL
  - TREES
  - MR MUNICIPAL RESERVE
  - NATURE TRAILS (HERITAGE TRAILS SYSTEM)
  - DEVELOPABLE AREA
  - ROAD UP

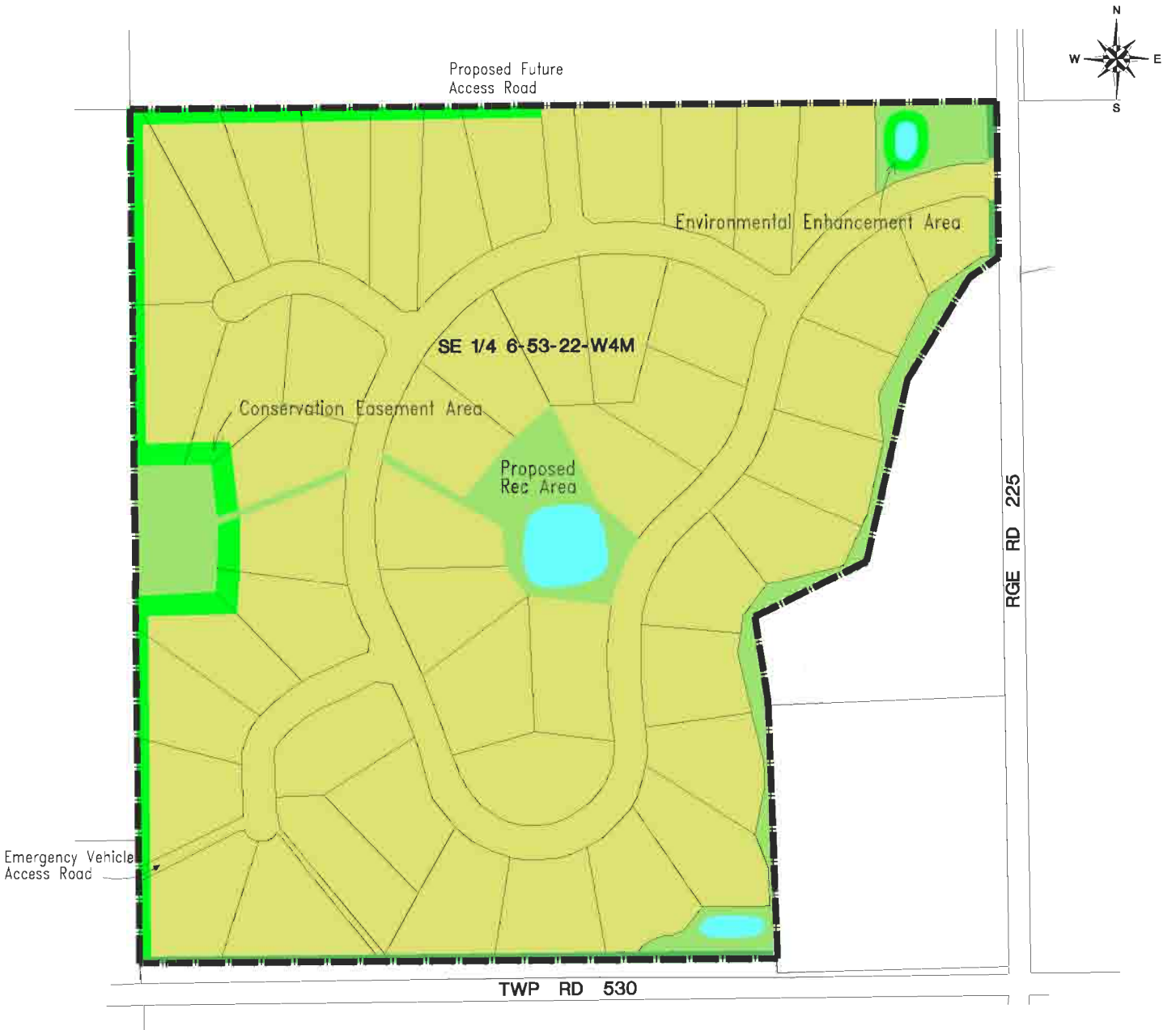
				PERMIT	SEAL	CLIENT / PROJECT	 <b>EDWARD - NELSON CORPORATION</b> SHADOW RIDGE PARK - ALBERTA - CANADA	DRAWN BY: D.A.P.	SCALE
						SHADOW RIDGE DEVELOPABLE AREA PLAN SE 1/4 6-53-22-4		DESIGNED BY: B.E.H./A.S.Z. APPROVED BY: B.E.H./A.S.Z. PROJECT NO: 97550.01 DATE: 07/10/14	AS NOTED
									SHEET
									<b>6/7</b>



- LEGEND**
- ⊙ LIGHT STANDARD
  - ⊙ CROCKING WATER / PERCOLATION TEST HOLE
  - POND/RETENTION CELL
  - MEYS
  - SPOT ELOWTON
  - MUNICIPAL RESERVE
  - HOUSE TRAILS (PERMITS TRAILS SYSTEM)
  - DRAINAGE PATTERNS
  - DRAINAGE CONTRIBUTION AREA






**DRAINAGE PATTERNS PLAN**  
1:5000

		PERMIT	SEAL	CLIENT / PROJECT	 <b>EDWARD - NELSON</b> CORPORATION 2000 PARK - ALEXANDRIA - CANADA	DRAWN BY: D.A.P. CHECKED BY: D.E.H./M.S.Z. APPROVED: D.E.H./M.S.Z. PROJECT NO: 87550.01 DATE: 07/10/14	SCALE AS NOTED SHEET <b>7/7</b>																		
<table border="1"> <tr> <td>1</td> <td>BY CONSULTANT</td> <td>08/06/11</td> <td>D.A.P.</td> <td>M.S.Z.</td> </tr> <tr> <td>2</td> <td>2ND REVIEW CONSULTANT</td> <td>08/06/11</td> <td>D.A.P.</td> <td>M.S.Z.</td> </tr> <tr> <td>3</td> <td>ENGINEER</td> <td>08/06/11</td> <td>D.A.P.</td> <td>M.S.Z.</td> </tr> <tr> <td>4</td> <td>BY CONSULTANT</td> <td>08/06/11</td> <td>D.A.P.</td> <td>M.S.Z.</td> </tr> </table>		1	BY CONSULTANT	08/06/11		D.A.P.	M.S.Z.	2	2ND REVIEW CONSULTANT	08/06/11	D.A.P.	M.S.Z.	3	ENGINEER	08/06/11	D.A.P.	M.S.Z.	4	BY CONSULTANT	08/06/11	D.A.P.	M.S.Z.			SHADOW RIDGE DRAINAGE PATTERNS PLAN SE 1/4 6-53-22-4
1	BY CONSULTANT	08/06/11	D.A.P.	M.S.Z.																					
2	2ND REVIEW CONSULTANT	08/06/11	D.A.P.	M.S.Z.																					
3	ENGINEER	08/06/11	D.A.P.	M.S.Z.																					
4	BY CONSULTANT	08/06/11	D.A.P.	M.S.Z.																					



# Shadow Ridge Estates Area Structure Plan

Bylaw 35-98 Date of Adoption 23-June-1998

Municiple Reserve		Buffer	
Residential		Road Plan	
Pond/Retention Cell		ASP Boundary	