

BY-LAW NUMBER 2009/10

BY-LAW NO. 2009/10 is a by-law of the County of Wetaskiwin No. 10 in the Province of Alberta, to authorize the adoption of an Area Structure Plan for the purpose of providing a framework for subsequent subdivision and development of the area known as The Estate's at Pigeon Lake Area Structure Plan (SW 35-47-28-W4M, Plan 082 4294, Block 1, Lot 3) in accordance with Section 633 of the Municipal Government Act, Chapter M-26.1, Revised Statutes of Alberta 2000, and amendments thereto.

WHEREAS: at the requirements of County Council, as per Policy 6606, an Area Structure Plan has been prepared for SW 35-47-28-W4M, Plan 082 4294, Block 1, Lot 3.

AND WHEREAS: the proposed Area Structure Plan has been widely circulated and discussed within the County pursuant to Section 230, 606(1), and 633(1) of the Municipal Government Act, 2000, Chapter M-26.1, and amendments thereto.

NOW THEREFORE: the County of Wetaskiwin No. 10, duly assembled, hereby enacts as follows:

1. The document attached to this By-law as "Appendix A", together with accompanying maps, is hereby adopted as "*The Estates at Pigeon Lake Area Structure Plan in (SW 35-47-28-W4M, Plan 082 4294, Block 1, Lot 3)*" subject to the following amendments:
 - a. A wider road top surface of 8 metres from 7.3 metres be built to the satisfaction of the Director of Public Works and the Director of Planning and Economic Development for that portion of the road from the entrance of the subdivision to the fire pond.
2. This by-law comes into effect on the date of third reading.

READ: A First time this 12th day of February, A.D., 2009.

READ: A Second time this 12th day of February, A.D., 2009.

READ: A Third time and finally passed this 12th day of February, A.D., 2009.


REEVE


SECRETARY-TREASURER

Still waiting on
amended

ASP.

NOV 4/09.

AREA STRUCTURE

FOR

PROPOSED SUBDIVISION

IN

SW 35 – 47 – 28 – W 4

“The Estates at Pigeon Lake”

COUNTY OF WETASKIWIN

Prepared by

Henning F. Rasmussen, P.Eng.

October 2008

Revised January 30, 2009

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1. INTRODUCTION

The owners of SW 35 – 47 – 28 – W 4 – hereinafter referred to as the Developer – are proposing to subdivide the quarter into a residential acreage subdivision. The subdivision will contain 30 Country Residential lots, ranging generally in size from 1 hectare (2.5 acres) to 2 hectares (5 acres).

The proposed subdivision is located 2 km north of Secondary Highway 616, north of Mulhurst Bay and Pigeon Lake.

The Pigeon Lake area has seen rapid development over the past 5 – 10 years with several new acreage subdivisions. There appears to be a continuous demand for acreage size lots and the site of the proposed development in SW 35 is considered within commuting distance of larger centres such as Leduc, Edmonton and Wetaskiwin. The Pigeon Lake area has also become popular with retirees.

An Area Structure Plan (ASP) is required by the County of Wetaskiwin before Council will approve a rezoning and subdivision. This ASP has been prepared based on information obtained from the County of Wetaskiwin, West Central Planning Agency, Sabatini Earth Technologies, Land Data Technologies Inc., local utility companies and the Developer.

A Preliminary Groundwater Availability Study (Aquifer Evaluation) has been prepared by Sabatini Earth Technologies. Several test holes were drilled throughout the subdivision and the water levels were read by a representative from West Central Planning Agency. Land Data Technologies has prepared a contour plan in 1:2000 scale of SW 35. The above reports and plan will be submitted with this ASP as supporting documentation.

2. EXISTING CONDITIONS

The land is located approximately 2 km north of Secondary Highway 616 and north of Mulhurst Bay at Pigeon Lake. Access to the proposed subdivision is by an existing County road.

2.1 Site Characteristics

The site of the proposed development is mostly tree covered. A portion of the area at higher elevations was cleared several years ago but the trees have now grown back to 100 – 150 mm trunk dia. in most places.

The trees are mostly poplar, aspen, birch and in lower areas alder and willow. There are also some mature coniferous trees in a few locations. The southeast portion of the quarter (approximately 30 acres) is cleared and currently in pasture.

Generally, the site slopes from the centre of the quarter towards the north, east and west as indicated on the contour plan. The ground slope is 2 – 4 % - steeper in some locations and becoming flatter towards the perimeter.

The site is generally very well drained, with the exception of the northeast corner where there is a shallow depression. This will be the location of the proposed storm water retention area. There does not appear to be any well defined water courses.

The water table was measured by West Central Planning Agency (Please see report in the Appendix). The soils consist of a relatively thin organic layer over a sandy, silty clay subsoil.

There are no buildings on the site.

2.2 Use of Surrounding Land

The land surrounding SW 35 is zoned Agricultural and is used for mainly pasture, although a relatively large portion is treed. The soils in the area are of rather poor quality for crop growing.

There are no intensive livestock operations, sour gas installations or other industrial activities nearby that would impact the proposed subdivision.

The nearest other residential subdivision – Pigeon Lake Haven – is located 2 km to the south of SW 35.

2.3 Former Land Use

The site of the proposed subdivision appears to have been partly cleared some years ago but has now grown back for the most part. The 30 acre portion at the SE corner of the quarter, which is currently in pasture, may have been seeded in crops in the past.

There is no evidence of activities that may have caused contamination to the land. There does not appear to have been farm buildings on SW 35.

2.4 Present Land Use

The land is not currently used for any purpose other than pasture for cattle. There is a dugout for watering cattle near the west central portion of the quarter.

2.5 Historic and Archaeological Features

It is considered unlikely that the subject land contains any features of historical or archaeological interest. However, as required by Provincial Regulation, a copy of this ASP will be forwarded to the applicable Departments within the Government of Alberta for comments.

3. PROVINCIAL AND FEDERAL REGULATIONS EFFECTING DEVELOPMENT

The proposed subdivision is located almost 2 km away from Secondary Highway 616. The access requirement to the subdivision normally falls outside Alberta Transportation jurisdiction if the subdivision is more than 0.8 km from a highway. However, the County may be forwarding the ASP to Alberta Transportation for comments.

There are no pipelines or well sites within SW 35 that would limit the development by set-back requirements or by any other requirements.

There are no water bodies other than an existing dugout and no water courses on the land.

The storm water management facilities design will be forwarded to Alberta Environment for review and approval during the detailed design phase of the project.

4. PROPOSED DEVELOPMENT

The layout of the proposed subdivision development is shown on the attached plan in the Appendix.

The development falls within the Country Residential category of the current Land Use Bylaws with a maximum parcel size of 5 acres.

There will be 30 lots with a parcel size ranging between 2.5 and 5 acres.

4.1 Reserves

Generally the County requires a minimum of 10 % of the subdivision land area to be set aside for Municipal Reserve (MR). The Reserves, as shown on the Preliminary Lot Layout Plan, comprises a total of over 6.55 hectares (16.2 acres) which exceeds the 10 % minimum requirement.

There are no areas that are considered of sufficient environmental importance to warrant Environmental Reserve (ER) status.

The MR consist of a narrow 8 m buffer along the south, west and east sides. There will also be a 30 m wide MR along the north side and an expanded MR at the northwest corner in addition to a large area between lots 12 and 13.

In addition to the Municipal Reserves there will be two Public Utility Lots (PUL). These two lots will accommodate the fire pond, which will also function as a storm water retention pond, and a storm water retention area at the northeast corner. The total area of PUL is approximately 2.1 hectares (5 acres). The access to the storm water retention PUL at the northeast corner will be 15 m wide which will allow for the construction of a sufficiently wide access road in addition to the proposed drainage ditch.

4.2 Road Access

The proposed development did not originally have immediate access to a County road. Due to the Correction Line (Meridian) there is a narrow piece of land between the existing County road and SW 35. However, the Developer has purchased a 30 m Road access Right-of-Way across this narrow property thus establishing access to the proposed development.

The existing County road is gravel surfaced with a top width of approximately 7.7 m and is in good condition. The sight distance from the access road to the proposed subdivision in both directions along the existing County road exceeds the requirements. The actual sight distance – estimated on site – is 1000 m in the southerly direction and 500 m in the northerly direction.

The County road intersects Secondary Highway 616 approximately 2 km south of the proposed subdivision access. It appears – from measurements on site – that the highway intersection has been upgraded to a Type 2 with tapered turn-out lanes. The sight distance from the north approach is estimated at 1.6 km in the easterly direction and 420 m in the westerly direction which is more than adequate for safe turning. There appears to be composite turning radius on the south approach to 616 and a simple 15 m radius on the north approach. With an estimated Annual Average Daily Traffic on the highway of less than 1000 vehicles per day it is considered rather unlikely that the traffic from the proposed subdivision will require upgrading of the intersection with the possible exception of an upgrading to composite turning radii on the north approach.

The internal subdivision road will have a 30 m R.O.W. and will be formed as a loop as shown on the layout plan. The internal subdivision roads will be build to current County Standards with a top width of 7.3 m and a minimum 100 mm thick gravel surface including 50 mm of 20 mm (3/4 ") crushed gravel over 50 mm of 38 mm (1 ½ ") gravel.

It is understood that the County requires a 30 m road allowance to allow for future expansion to the area east, north and south of SW 35. These road allowances will connect with the looped internal subdivision road as shown on the Preliminary Lot

Layout Plan. The roadway on these R.O.W.'s will not be developed until development takes place outside of SW 35.

The Developer agrees that a \$ 2,000.00 per lot Road Contribution Fee is required to be paid to the County immediately prior to registration of a Plan of Subdivision for the Area Structure Plan.

4.3 Water Supply

Water supply to the proposed subdivision will be by individual wells, i.e. each lot will have its own well.

Sabatini Earth Technologies Inc. has prepared an aquifer evaluation report. The report indicates that there is sufficient water available for the proposed subdivision and the intake will not adversely affect existing users in the surrounding area.

The aquifer evaluation report is submitted as a supporting document to this ASP.

4.4 Storm Water Management

Storm water management in the subdivision will be by an open roadside ditch system, combined with a detention/sedimentation pond that will also act as a fire pond and an evaporation/infiltration area.

The proposed development is located outside of the Pigeon Lake Watershed area.

The post-development rate of storm flows within the proposed subdivision is not expected to increase significantly over pre-development, given the relatively large size of the lots and the tree cover, which is expected to be retained except for a small area for buildings, patios, driveways and yards. It is the intention of the Developer to encourage the new lot owners to follow Best Management Practices (BMP) for grading and landscaping around houses and other buildings in order to maintain maximum retention. It is also the intention – through covenants – to only allow a maximum of 15 % of the lot area to be cleared of its natural tree cover.

SW 35 currently drains in four directions from the highest point near the centre of the quarter. However, the runoff from the entire quarter eventually drains via the existing County roadside ditches and overland towards the north side into Weed Creek which runs in a northerly direction towards Thorsby and into the North Saskatchewan River. Weed Creek is located approximately 2 km to the north of SW 35.

The proposed development will cause a change in the runoff pattern of SW 35 due to the construction of the internal roadways and roadside ditches. The purpose of the Storm Water Management is to ensure that the post-development rate of flow will not exceed that of the pre-development rate of flow and that the quality of the storm water will not deteriorate by the Development.

The subdivision will basically consist of 4 sub-basins as follows:

Sub-Basin # 1

This area includes lots 17 – 21 and a portion of lot 16 and occupies 10.3 ha. It does not include roadways with the exception of the short portion from the existing County road to the junction of the two branches of the internal subdivision road system. The post-development runoff will drain directly into the existing County ditch towards Weed Creek located approximately 2 km to the north. The post-development flow is not expected to increase over the pre-development flow.

Sub-Basin # 2

This area includes lots 1- 5 and comprises 10.9 ha. with no roadway except for the short access from the subdivision to the existing County road. The area drains to the existing County roadside ditch towards Weed Creek as in basin # 1.

Post-development flow – as in basin # 1 – is not expected to increase over pre-development flow due to the fact that with only very little road surface and little change to surface cover, the infiltration rate and runoff coefficient will basically remain unchanged.

Sub-basin # 3

This is the largest of the four sub-basins with an area of 22.4 ha and will include lots 6 – 8, lots 22 – 30 and almost the entire internal roadway system. The south west portion of the roadway system and lots 29 and 30 will drain into the existing dugout which will act as a retention and settlement pond and help keep the pond – which also acts as a fire pond – full. The overflow will be directed back into the north roadside ditch and together with the remainder of the contributing area will drain towards the proposed storm water retention/infiltration/evaporation area on the PUL at the northeast corner of SW 35, which is also the lowest portion of the land. The PUL will be flat graded with a low berm along the east and north side to contain the runoff. There will be an overflow structure for emergency discharge into the adjacent land. However, it is considered highly unlikely that such overflow will ever take place. The post-development peak flow at the point of entering the PUL is estimated at approximately 0.6 cubic metre/sec. for the 1 in 100 year storm event. It is estimated that for the very high intensity storm, which typically lasts up to 30 minutes, the flood level on the PUL will not exceed 50 – 100 mm (2 – 4”) in depth as average over the 1.5 ha. (3.7 acre) area PUL. The infiltration rate is estimated at minimum 20 – 25 mm per hour, resulting in a total infiltration time of 2 – 3 hours. For the longer lasting lower intensity storms the maximum flood level is expected to be less than 100 mm. The PUL will be seeded in grass for maximum infiltration.

Storm water management by infiltration is a concept that has gained popularity in recent years. The infiltration areas, when seeded in grass and if maintained, may be used for sports grounds or other recreation, for example, the PUL may be used as a soccer field for the residents of the subdivision or as a ball park. As an added bonus, the infiltration of surface water will improve the recharging of the ground water aquifer.

It is noted, that due to the change in drainage pattern by the development, the estimated post-development flow of 0.6 cubic metre/sec. will not be a significant change over the pre-development flow. The ditches in this case will cause a “detour” for the

runoff rather than direct overland flow and the runoff will also be directed through the existing dugout, i.e. recharging the fire pond.

Sub-basin # 4

This sub-basin includes lots 9 – 15, and a portion of lot 16. There is no roadway surface included in this sub-basin.

The basin drains to the east towards the adjacent quarter. No measureable increase in flow is expected with the proposed development.

The runoff from sub-basin # 4 drains overland and eventually reaches Weed Creek to the north.

It is noted that a storm water management plan will be prepared during the detailed design stage. The management plan will be submitted to Alberta Environment for approval.

A lot grading plan is not considered feasible since it is the intention of the Developer to encourage maximum tree cover and since the lots are rather large. However, during the detailed design stage a thorough field investigation will be conducted to ensure that none of the lots get flooded due to the road and ditch development.

4.5 Sewage Disposal

Each individual lot will have its own sewage disposal system. The lots are of sufficient size to allow for onsite disposal, provided that the soil conditions are favourable.

Alternatively, a holding tank may be installed. The sewage would then be pumped out and hauled to the municipal lagoon northeast of Mulhurst Bay.

All sewage disposal systems must, of course, be installed in accordance with current Provincial and Municipal Regulations.

The Developer agrees that a caveat can be placed on the title of each lot requiring the County's Off-site Sewer Levy of \$ 2,034.00 be paid if a residential development is required to have sewer treated off site.

4.6 Utilities

Natural gas will be supplied by the local provider. The distribution line will be located within the 30 m roadway R.O.W.

Telephone will be by underground cable with the main line located within the 30 m R.O.W.

Power will be by overhead lines from the main grid. The power lines will primarily be located along the R.O.W. boundary on the side where most of the lots are located.

4.7 Solid Waste Disposal

The nearest solid waste disposal site operated by the County is located 2 km east of Mulhurst Bay and 0.7 km south of Secondary Highway 616. This is a Solid Waste Transfer Station.

The site is located approximately 9 km from the proposed subdivision. Individual lot owners are expected to take their waste to this site.

4.8 Fire Protection

Fire protection services will be provided through the volunteer fire brigade stationed in Mulhurst Bay, about 7.5 km from the proposed subdivision.

A water source (pond) for firefighting will be provided within the subdivision. The pond, which is currently a dugout for cattle watering, is located adjacent to the proposed subdivision road next to lot 2 as shown on the Preliminary Lot Layout Plan. A PUL will be established and the lot will be of sufficient size to allow for an all weather Developer constructed access, dry hydrant and parking of a fire truck off the roadway during loading. The pond will be fenced and properly bermed and marked for safety purposes.

In accordance with the National Fire Code, a volume of 18 cubic metres of water per residential lot must be available year round, i.e. a total of approximately 540 cubic metres for the 30 residential lots as a minimum.

A 1.0 m ice cover and a 0.5 m sediment build-up at the bottom of the pond over a 20 – 25 year time span must be allowed for in calculating the dimensions of the pond. It is anticipated that the current pond size will be sufficient but the pond will be expanded as required to meet the demand. It is noted that the pond will also become part of the storm water management system with proper overflow mechanism in place.

4.9 Policing

The subdivision will be policed by the RCMP detachment in nearby Thorsby. The County also has a constabulary that will be policing the area.

4.10 Schools

Children from the proposed subdivision aged kindergarten to grade 6 will be attending Pipestone Elementary School. The Pipestone school has recently been upgraded and has a capacity of 174 students but currently has an attendance of only 84 students, with some grades having only 6 – 8 students, so the school would benefit from having an increased enrollment.

Children in grades 7 – 12 will be attending the newly upgraded Pigeon Lake Regional School at Falun. This school has sufficient capacity to accommodate the students from the proposed subdivision.

5. ASSESSMENT OF OVERALL IMPACT

There is currently a demand for residential acreages in the Pigeon Lake area. Several new acreage subdivisions have been built around the lake in recent years and the lots have been selling quite well. The new acreage owners are a mix of commuters to larger centres – such as Leduc and Wetaskiwin and even Edmonton – and locally employed and small home based business people. There are also a number of retirees and seasonal dwellers.

The proposed development of SW 35 will provide an additional 30 residential acreages. It is anticipated that – when fully developed – the subdivision may comprise a population of up to around 90 people.

A new subdivision, such as the one proposed for SW 35, will always have a certain impact on the surrounding area. The main impact will be on traffic, public services and on the environment.

The increase in traffic caused by the development is not anticipated to have a measureable effect on the existing road system. As indicated in 4.2 Road Access, the existing intersection of the County Road with Secondary Highway 616 is expected to accommodate the increase in traffic from the proposed development with the possible exception of minor upgrading of the turning radii. It is noted that there will mainly – over the longer term – be only light vehicle traffic from the development, i.e. no truck traffic of any significance.

There will of course be an increased demand in public services due to the increase in residences and population, with related potential need for an expansion and/or increase in investment in public services as part of a cumulative effect. However, the increase in the tax base from the development will offset such costs and the development will not cause any increase in the tax burden for current residents of the County.

The proposed subdivision will be located on land that has very little value for agriculture. Although the environmental value of full undisturbed tree cover on SW 35 should not be underestimated it is interesting to note that wildlife in general quite often become very comfortable with an acreage subdivision as habitat. Acreage owners often take an interest in enhancing the wildlife habitat on their property and seek to protect the birds and animals. The Developer intends to maintain maximum tree cover by imposing restrictive covenants that would allow no more than 15 % of the total lot area to be cleared of its original tree cover.

An adequate quality of the storm water runoff from the proposed subdivision will be ensured through proper retention. For example, the fire pond at the west end will trap

small particles from a portion of especially the internal roadway system – particles that may otherwise have a harmful effect on the downstream ecosystem. The retention/infiltration area on the PUL at the northeast corner of SW 35 will eliminate any risk of the runoff sediments from storms up to the 1 in 100 year event of being carried beyond the subdivision boundary.

Acreage owners – especially those located several kilometers away from Pigeon Lake – are not known to use the lake to any great extent. The boat ramp at Mulhurst Bay has recently been upgraded to accommodate any increase in launching. The fish population in the lake is being managed by the Province to ensure sustainability. It is noted that the proposed development is located outside of the Pigeon Lake Watershed.

6. PROPOSED ZONING

The Developer requests that the entire SW 35 be rezoned Country Residential.

7. PROPOSED PHASING

The Developer proposes to develop the subdivision all in one phase.

8. PUBLIC PARTICIPATION PROCESS

Nine adjacent landowners were hand delivered letters concerning the Area Structure Plan and advising of an open house orientation session which was held for landowners at the Mulhurst Legion Hall October 20, 2008. No people attended the open house and no other response has been received concerning the invitation letter and attached response forms. A copy of the persons contacted and invitation letter are included in the Appendixes.

APPENDIX

January 11, 2009

To whom it may concern,

RE: SUBDIVISION APPLICATION FOR SW35 – 47 – 28 – W4

Please find attached a copy of the “notice of subdivision” letter and attached response letter with S.A.S.E. that was hand delivered on October 20, 2008 to adjacent landowners on or near Range Road 10 as follows.

- 1- Ms. Lorena Kowalski
- 2- Mr. and Mrs. Les Kowalski
- 3- Mr. and Mrs. Wes Peterson
- 4- Mr. and Mrs. William Klatt
- 5- Mr. and Mrs. Daryll Maclean
- 6- Mr. Ralph (Don) Wilson
- 7- Mr. and Mrs. Glen Sutton
- 8- Mr. Curtis Kuzio
- 9- Mr. and Mrs. Brent Hunker

An open house was held at the Mulhurst Legion Hall on November 8, 2008 at 11:00 am with myself and Terry Stein hosting. There was no attendance. At this time, we have not received any reply forms back in response to the “ notice of subdivision “ letter.

I trust that this information is sufficient and remain.

Yours truly,

Robert MacRae

October 17, 2008

Dear resident (s),

RE: SUBDIVISION APPLICATION FOR S.W. ¼ - SEC 35 – TWP 47 – R 28 – W4M

This letter is to inform you that a subdivision application is being formatted for a 30 lot rural acreage subdivision on the aforementioned land. This subdivision is low density, with no commercial applications being allowed. All lots will be for single family dwellings with architectural guidelines, and county approved water and septic systems. As well as your receiving this letter, a public open house will be held at the Mulhurst Legion hall on November 8, 2008 at 11 am until noon, for any questions or concerns. We encourage you to stop in. We look forward to your comments, if any.

Please find attached, a preliminary drawing of the proposed subdivision layout, a response letter and a SASE for your convenience.

Regards,

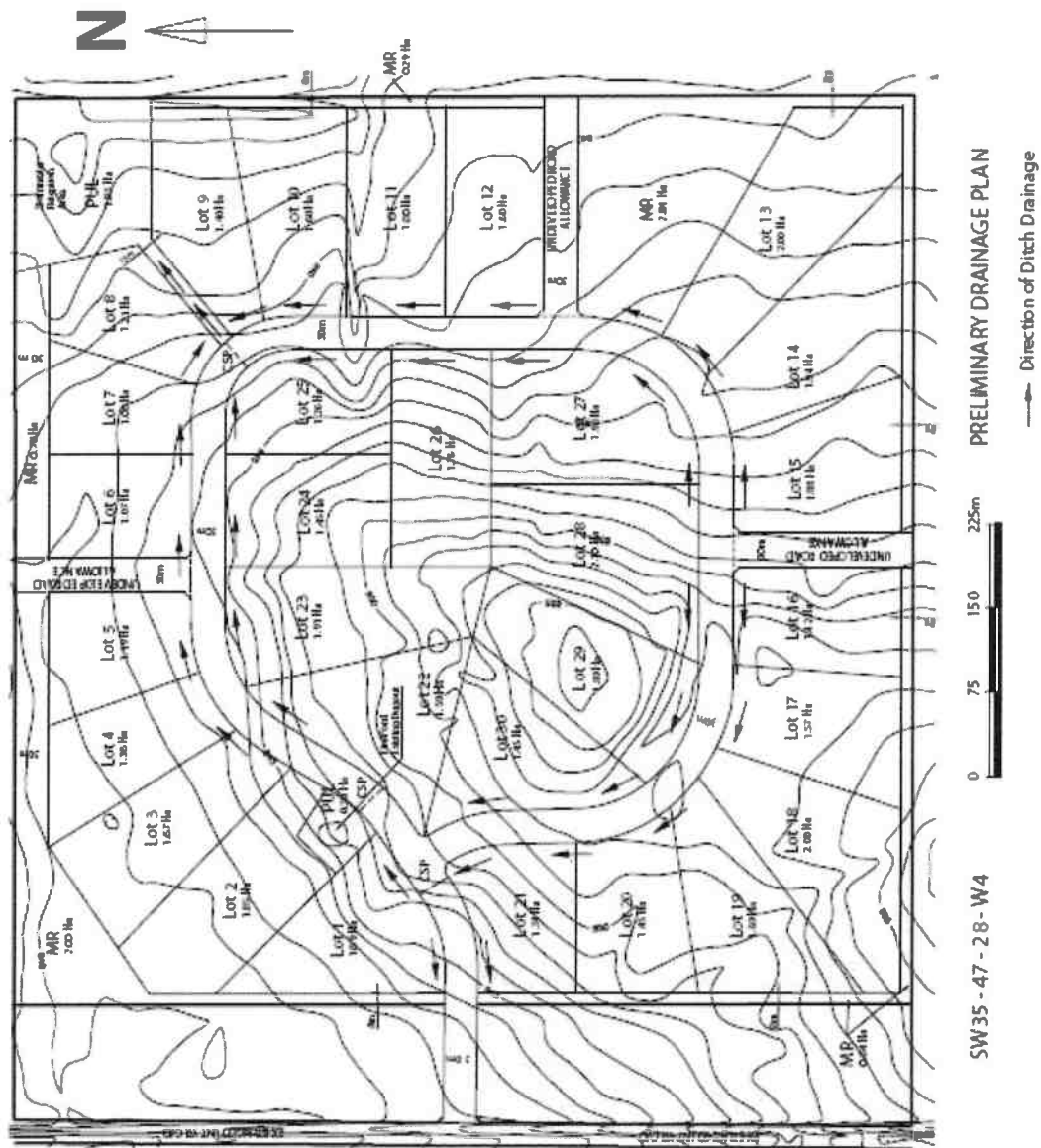
Robert MacRae

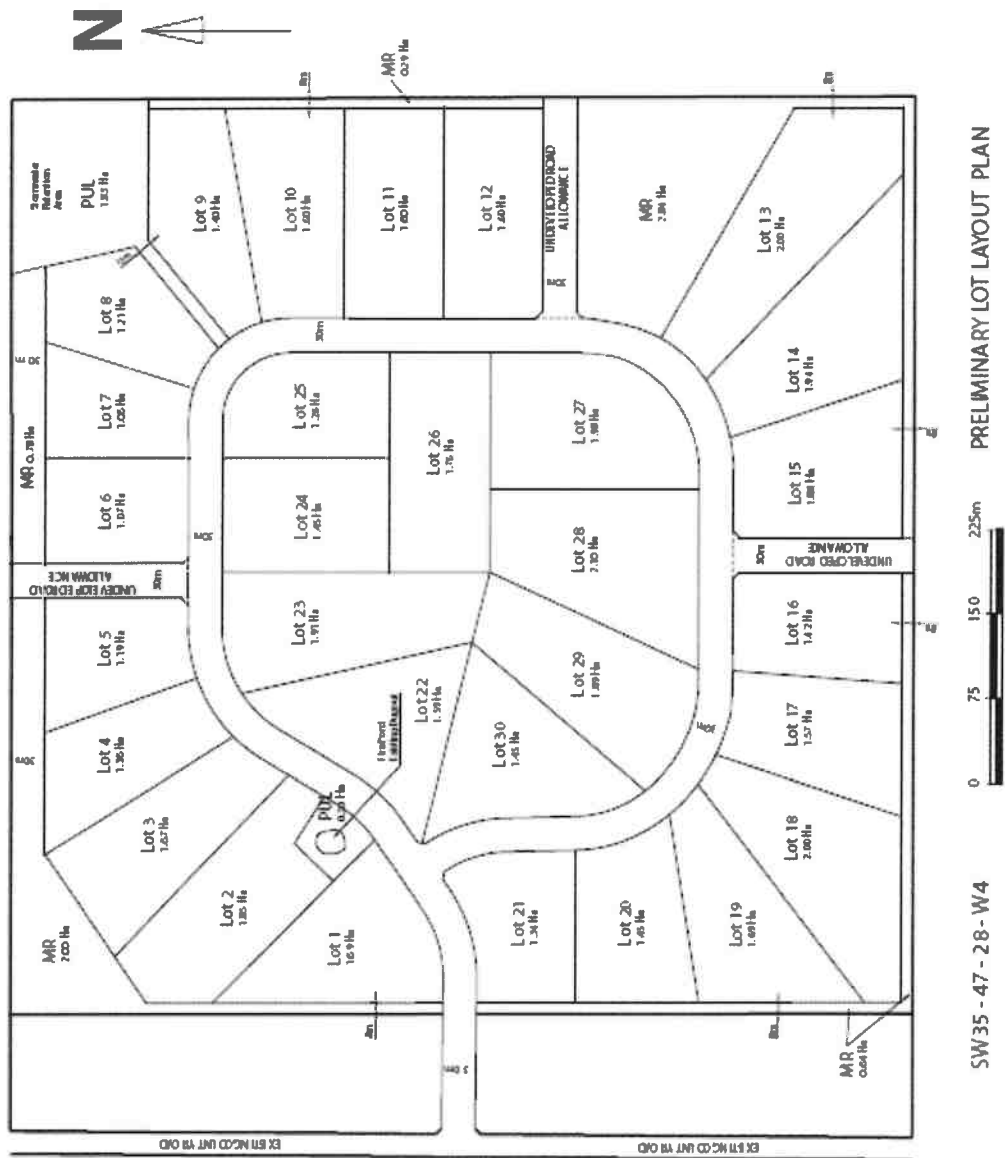
President

Paige Development Corp.

Agent

ROYAL LEPAGE GATEWAY REALTY





HENNING F. RASMUSSEN, P.Eng.**Consulting Civil Engineer****763 Maplewood Lane****Gibsons, BC****Canada, V0N 1V8****Phone/Fax (604) 886-2726****E-mail: raseng@telusplanet.net**

County of Wetaskiwin no. 10
 P.O. Box 6960, Wetaskiwin, AB
 T9A 2G5

January 21., 2009

Att.: David Blades, Director of Development and Planning

Re.: Proposed subdivision in SW 35-47-28-W 4 (The Estates of Pigeon Lake)

Assessment of traffic volumes and upgrade evaluation at intersection of Rg. Rd. 10 and sec. hwy. 616 north of Mulhurst Bay.

This brief report in letter form addresses traffic issues with regards to the intersection of sec. hwy. 616 and Rg. Rd. 10 (on the 5th Meridian) in the County of Wetaskiwin no. 10.

The purpose of the report is to determine if an upgrading of the existing intersection – due to the proposed development in SW 35-47-28-W 4 – is required. The report is to be considered a supporting document to an Area Structure Plan (ASP) that has been submitted by the Developer for review and approval by the County. It is noted that this report is not to be considered a Traffic Impact Assessment (T.I.A.), but rather an assessment of whether a T.I.A. may be required.

Current Traffic Volumes on Sec. Hwy. 616 Past the Intersection with Rg.Rd.10

Alberta Transportation provides traffic counts at certain points on all Alberta Highways. Traffic is usually counted at these points annually and tabulated.

The latest traffic count on sec. hwy. 616 is from 2007. The nearest point of traffic count is at the intersection of sec. hwy. 616 and sec. hwy. 778 and shows an east going traffic volume of 630

vehicles per day. This figure corresponds with the Annual Average Daily Traffic (AADT). It is noted that the point of count is located approximately 3 km west of the intersection with Rg. Rd.

10. It is estimated that the AADT volume of 630 vehicles per day is representative for the Rg. Rd. 10 intersection as well – even considering local traffic between points of counts.

The 20 year projected volume on sec. hwy. 616 at the intersection – using a 2 % non-compounded value as recommended by Alberta Transportation – is estimated at 882 vehicles per day (AADT).

Traffic Volume on Rg. Rd. 10 at Intersection with Sec. Hwy. 616

The proposed development, which is located approximately 2 km north of sec. hwy. 616, comprises a 30 lot Country Residential Subdivision.

Using a trip generation of 10 vehicles per day per residence (as recommended by Alberta Transportation) it is estimated that the development will generate 300 vehicles per day on Rg. Rd. 10. Some of this traffic will be directed towards the north, i.e. towards Glen Park Road which is considered a commuter road to Leduc and Edmonton from the Pigeon Lake area – and some of the traffic will be going south towards sec. hwy. 616. It is assumed that there will be a 50/50 split in direction, i.e. 150 vehicles in each direction.

There is some additional traffic from existing residences along Rg. Rd. 10 as well. This additional traffic is estimated at 50 vehicles per day (corresponding with 5 residences) that will be heading south towards the intersection with sec. hwy. 616.

In summary it is estimated that 200 vehicles per day will be entering sec. hwy. 616 at the intersection with Rg. Rd. 10.

Intersection Evaluation

The existing intersection of sec. hwy. 616 and Rg. Rd. 10 has been upgraded to a Type 2 intersection some years ago. A Type 2 intersection provides acceleration/deceleration lanes.

Alberta Transportation Geometric Design Guide provides design guidelines for highway intersections. Figure D-7.4 in the Guide (at grade intersection) indicates that a Type 2 intersection will accommodate up to 1800 vehicles per day (AADT through-traffic) in combination with an intersecting road traffic of 500 vehicles per day.

The development – including existing traffic – is expected to generate 200 vehicles per day on the intersecting Rg. Rd. 10 at the intersection with sec. hwy. 616, i.e. far less than the existing capacity.

The 20 years projected volume of 882 vehicles per day as through-traffic on sec. hwy. 616 is also far less than the existing capacity.

It is therefore concluded that the proposed development will not require a need for an upgrading of the existing intersection at sec. hwy. 616.

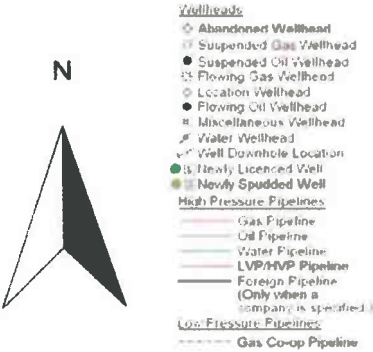
It is noted, however, that the turning radii on the north going Rg. Rd. 10 may need upgrading from existing 15 m simple radii to composite (multiple) radii in order to better accommodate larger vehicles such as the WB 17 and up (large semitrailers) although the current configuration will not pose a traffic risk even for large semitrailers. It is only a matter of comfort/convenience.

It is also noted that the stopping sight distance in both directions on sec. hwy. 616 exceeds the minimum requirements.

Please contact the undersigned if further information is required.

Henning F. Rasmussen, P.Eng.

SW35-47-28-W4



AERIAL PHOTO

LOCATION PLAN