



HIGHLAND PARK
CONCEPT PLAN
Lacombe County

February 2012

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* Previously submitted to Lacombe County's development department.

1.0 Purpose of the Concept Plan

This Concept Plan has been prepared in accordance with Lacombe County's Multi-Lot Residential Development: A Guide to the Approval Process. Specifically, the Concept Plan complies with the Terms of Reference contained in Appendix B of the guide.

The purpose of the Concept Plan is to provide a framework for the rezoning and subdivision of an agricultural parcel located near the north shore of Sylvan Lake in Lacombe County. The parcel is referred to hereinafter as the Highland Park Plan area and is proposed to be used for a higher density housing development pursuant to the policies and regulations of:

- The Sylvan Lake Management Plan - 2000 Update
- Lacombe County Municipal Development Plan - 2007
- Lacombe County Land Use Bylaw No. 1056/07

The relevant provisions of each of these documents are described below.

1.1 The Sylvan Lake Management Plan

The Plan area is located within the Lake Development Area of the Sylvan Lake Management Plan. This area covers lands within about 1.6 kilometres of the lake where residential development will be considered. An environmental review is required for a residential development proposal and the subdivision provisions of the municipality must be met. The plan also encourages the use of a clustered type subdivision pattern to minimize the impact of the development on both the lakeshore and upland areas, leaving the majority of any natural area undisturbed. In response to these requirements, a comprehensive environmental (biophysical) assessment has been undertaken for Highland Park, and a cluster subdivision design is being proposed.

1.2 Lacombe County Municipal Development Plan

The Municipal Development Plan recognizes the provisions of the Sylvan Lake Management Plan by allowing for higher density lakeshore residential development within about 1.6 kilometers of Sylvan Lake. The subject site is designated Higher Density Lakeshore Residential by the County's Municipal Development Plan Map 2 – Future Land Use Concept. Specific Municipal Development Plan policies that apply to the site are as follows:

Policy 4.7 Higher Density Lakeshore Residential – The County may consider higher density housing development along Sylvan Lake provided publicly accessible open space with lakefront access is provided as a trade off for increased density. The following planning policies shall apply:

- a) a density transfer/bonus system will be used to dedicate publicly accessible open space as outlined in the Land Use Bylaw;
- b) residential and commercial lots shall be serviced only by communal water supply and wastewater collection systems or alternatively, may be directly connected to municipal or regional water and wastewater systems;

c) the dedication of reserve shall be required to protect environmentally sensitive lands, such as riparian areas, and to provide interconnected green spaces for trails and connections to other public recreation facilities; and

d) along lakeshores the County shall require 20% of the lakeshore frontage to be provided as municipal reserve.

Although Highland Park site is not located along the lakeshore, this concept plan complies with remaining requirements listed under Policy 4.7

Policy 4.8 Requirements for Higher Density Lakeshore Residential Rezoning Application

A concept plan and supporting technical studies must accompany a rezoning application for a Higher Density Lakeshore Residential District. The requirements of a concept plan are addressed in Appendix B of Multi-Lot Residential Development Proposals: A Guide to the Approval Process.

This Concept Plan has been prepared in compliance with Municipal Development Plan Policy 4.8 and Appendix B of Multi-Lot Residential Development Proposals: A Guide to the Approval Process.

1.3 Lacombe County Land Use Bylaw No. 1056/07

The Highland Park Plan area is currently zoned (A) Agricultural District. This Concept Plan supports rezoning of the site to (R-RLA) Residential Lake Area District. The R-RLA district allows for the implementation of the above noted Lake Management Plan and Municipal Development Plan policies. The purpose of the Residential Lake Area District is to provide an area for the development of residential land uses in proximity to a lake.

The Land Use Bylaw requires that subdivisions zoned R-RLA be serviced with communal water and wastewater systems. The district also allows, at the discretion of Council, a reduction in minimum lot size from 0.51 hectares (1.25 acres) if additional open space is provided in excess of the maximum reserve dedications under the Municipal Government Act. Any reduction of lot size shall be calculated on the basis that a decrease of 0.02 hectares (0.05 acres) may be permitted for every additional 1% of the gross developable land which is provided as open space to the extent that no lot shall be smaller than 0.30 hectares (0.75 acres) in size.

Some 26% of the gross developable area of Highland Park is proposed to be dedicated as Municipal Reserve to allow for the smaller lot size and increased density.

2.0 Plan Area

The Plan area is legally described as Lot 2 Block 1 Plan 0620435 in the NE ¼ 17-39-1-W5M (see Figure 1). It is owned by Lance Skinner, comprises some 27.45 hectares (67.83 acres) and is located on the west side of Range Road 14 directly northeast of the Summer Village of Birchcliff. Apselund Road and Highway 20 are located one mile to the north and east, respectively. Jarvis Bay Road links the site to Highway 20.

The Highland Park site is separated from the developed portion of the Summer Village and the parcels fronting onto Sylvan Lake by a mix of dense woodlots and hay fields. The dense woodlots provide an

effective visual buffer between the site and existing cottages in Birchcliff. Lands to the east, west and north are also a mix of woodlots, and hay and crop fields. Surrounding land uses are described in greater detail in Section 3.

3.0 Existing Situation

3.1 Surrounding Land Uses

Existing uses surrounding the Plan area are shown on Figure 1 and are described as follows:

- To the east, a cleared cultivated agricultural $\frac{1}{4}$ section exists with a farmstead located at the mid-point of the $\frac{1}{4}$ section along its west boundary. This farmstead is accessed off Range Road 14.
- To the south, a partially cleared residential parcel exists. The residence is located in the southeast corner of the parcel directly across from the Summer Village of Birchcliff. This residence is accessed off Birchcliff Road.
- To the west, a partially cleared residential parcel also exists. The residence is located near the centre of the parcel and is accessed via a 15 metre wide panhandle type driveway that extends along the north side of the Plan area where it connects to Range Road 14. However, the driveway veers off the legal panhandle parcel into the northwest portion of the Highland Park site and extends through the site in a northeast/southwest alignment following the tree line and paralleling the gas pipeline right-of-way. The portion of Highland Park containing the driveway is proposed as Municipal Reserve so that the driveway will potentially be located on land owned by Lacombe County.
- To the north, a partially cleared agricultural $\frac{1}{4}$ section exists with a farmstead located in its northeast corner that is accessed off Range Road 14. The portion of the northerly $\frac{1}{4}$ section abutting the Plan area is cleared although a hedgerow extends along the south boundary of this $\frac{1}{4}$ section. An abandoned municipal landfill is located directly northeast of the Highland Park. This landfill and the implications on the developability of the Plan area are described in Section 3.4.

An easement agreement is registered on the title of the subject site as Document 982 096 404. This agreement provides for a relaxation of a setback from a Confined Feeding Operation (hogs) to allow for the development and occupancy of a residence on the SE $\frac{1}{4}$ 20-39-1-W5M located directly north of the Highland Park site. However, the hog operation is located northeast of Highland Park on the SE $\frac{1}{4}$ 21-39-1-W5M and is owned by Lance Skinner who also owns the Highland Park site. Mr. Skinner intends to close down this hog operation if the Highland Park development proceeds so that the easement agreement will no longer be required.

3.2 General Site Conditions

Figure 3 shows existing site features including 1 metre contour intervals. The subject site is characterized by rolling topography that slopes towards the west and southwest providing extraordinary views of Sylvan Lake and the Rocky Mountains. It has been largely cleared for agriculture and contains two high plateaus on the east side of the site that are separated by a steep draw. The draw terminates in a shallow

depression on the west side of the property providing an opportunity for a storm water management facility.

The south and southwest portions of the site drain towards Sylvan Lake and the intervening treed lands. The residential design concept proposed for Highland Park ensures that the majority of lots are located outside those portions of the subject site that contain slopes with grades in excess of 15%. Those few lots that are affected by excessive slopes contain only a small area of such slopes which are concentrated at the backs or along the sides of the lots. This means that all proposed lots contain a suitable building site although some lot grading may be required to allow for walk outs. A geotechnical investigation of the Highland Park Plan area supports the development concept as shown on Figure 5.

No permanent watercourses or wetlands exist on the Highland Park site although an ephemeral drainage course flows across the north portion of the site to Sylvan Lake, the treatment of which shall be addressed in the development's forthcoming stormwater management plan. Some sporadic tree cover exists on the north half of the site while the balance is cleared crop land. Natural site features are described in greater detail in Section 4.

An abandoned farmstead is nestled in the tree stand with an approach onto Range Road 14. A 12.91 metre wide pipeline right-of-way easement owned by Provigo gas cuts through the northwest corner of the site.

3.3 Geotechnical Investigation

J.R. Paine & Associates Ltd. completed a comprehensive geotechnical investigation of the site in spring of 2009. Nine test holes were drilled to determine depth to the groundwater table. The groundwater table level was below the bottom of all nine test holes. The groundwater table is low and is not a concern for house, underground utility and road construction.

A slope stability analysis conducted using GSLOPE software for computer modeling concluded that the slopes do not present a natural hazard to development. This conclusion is supported by field observation wherein no failure or active erosion was observed. Mature medium dense tree or grass coverage exists on all the site slopes. Overall, the slopes appear stable with no signs of sliding. However, the investigation also determined that it is critical that design, construction and ongoing maintenance of the development do not adversely affect the ground conditions.

The J.R. Paine report contains recommendations to assist in maintaining continued slope stability. Most of the recommendations of the investigation which is attached as Appendix A will be relevant for site grading, housing foundations, and for construction of underground and surface utilities and stormwater management facilities.

3.4 Municipal Landfill

An abandoned landfill, owned by Lacombe County, is located directly northeast of the Plan area in the southwest corner of the SW ¼ of 21-39-1-W5M (see Figure 4).

The subdivision design has taken into account the 300 metre regulatory setback to residential development as per section 13(5) of the Subdivision and Development Regulation of the Municipal

Government Act. Though three of the subdivision's lots are partially within the 300 metre regulatory setback, all feature a large, safe and suitable building site. In addition the three effected lots shall have a caveat preventing the construction of residences within 300 metres of the landfill so as to ensure compliance of future lot owners with section 13(5) of the Subdivision and Development Regulation of the Municipal Government Act.

3.5 Historical Resources

The Archaeology Group has completed a Historical Resources Overview (Appendix C) of the Plan area. The overview has been submitted to Alberta Culture and Community Spirit, Historic Resources Management. Ministry staff has reviewed the overview and the potential for the proposed subdivision to impact resources. Staff concurs with the recommendation of The Archaeology Group that an Historic Resources Impact assessment is not required. The letter response from Alberta Culture is also contained in Appendix C.

4.0 Biophysical Assessment and Environmental Considerations

A comprehensive biophysical assessment has been completed for the Plan area. The assessment was undertaken by AMEC Earth and Environmental in the fall of 2008. The final report prepared by AMEC in January 2009 is attached to the Concept Plan as Appendix D. A brief summary of the report's significant findings and recommendations that impact the development concept is provided below.

The Highland Park area consists primarily of disturbed/cultivated farmland with some patches of remnant upland deciduous forest. No discernable natural environmental features exist on the south half of the site. The southern half is currently under cultivation with a canola crop. This area was a cleared pasture/hay land as far back as 1949.

Upland deciduous forest is the only forest type occurring on the subject site and is concentrated in the north portion of the site. Aspen is the dominant tree species, although some balsam poplar is also present and is more common in depressional/drainage areas along the west side of the Plan area. Sections of this forested area have been cleared as pasture land separated by hedgerows comprising elements of the aspen forest. Cattle are pastured on the property.

The north portion of Plan area has been identified as Key Ungulate Habitat by the Sylvan Lake Management Plan (Lacombe County 2000) and is considered an Environmentally Sensitive Area. The assessment recommends that a wildlife corridor be retained to the extent possible to allow for connectivity for wildlife movements between the agricultural lands to the north and east and the transitional forested uplands to the southwest. Although most of the lands to the east and north are cleared, hedgerows exist along fence lines. The extensive Municipal Reserve natural area proposed by the Development Concept all along the west side of the Plan area will maintain an effective wildlife corridor that will continue to link to the hedgerows and agricultural lands to the north and east.

A naturally occurring ephemeral watercourse drains through the north portion of the Plan area. Surface water generally drains from upper elevation sites located to the north and east of the site and is directed to the lower elevation site in the naturally forested area. Based on historical aerial photograph interpretation, the watercourse drains into Sylvan Lake. The watercourse does not support a defined channel or discernable high water mark and is delineated by a shallow vegetated gully with an estimated top-of-bank to top-of-bank width of four metres in the unaltered westerly section. During years when flow

occurs, it generally lasts only two to three days. However, in most years snow accumulation or snow melt is too limited to support surface flow, and snowmelt occurs slowly and infiltrates into the ground.

For water management purposes, it is recognized that prolonged mechanical or physical alteration of the watercourse within the cleared areas has resulted in a poorly defined section of drainage channel that may have been altered. Channel restoration may be required to restore natural flow conveyance capacity from the existing cross drain culvert crossings to the natural undisturbed section of confined drainage downstream. Drainage restoration may also be required to minimize potential flooding of residential lots that may occur due to existing unconfined drainage conditions. Restoration will be implemented as part of a comprehensive stormwater management plan.

Based on the provisions of the Municipal Government Act and Lacombe County's Municipal Development Plan, the AMEC assessment recommends that the natural and restored drainage course be protected as follows:

1. The ephemeral watercourse encompassing the top-of-bank to top-of-bank width estimated to average four metres for its entire length is recommended for designation as Environmental Reserve. Based on the drainage restoration plan, this Environmental Reserve potentially totals 0.177 hectares.
2. A strip of land not less than six metres in width adjacent to the top of bank on either side over the entire length of the ephemeral watercourse is recommended for designation as Environmental Reserve. Based on the drainage restoration plan, this Environmental Reserve potentially totals 0.532 hectares.
3. An Environmental Reserve /Environmental Reserve Easement of an additional 24 metre setback along the designated Environmental Reserve is recommended to comply with the setback policy of 30 metres from the top of bank pursuant to section 7.2 of the Municipal Development Plan. Based on the drainage restoration plan, this Environmental Reserve/Environmental Reserve Easement potentially totals 2.126 hectares.
4. For the purposes of the integrating natural areas and maintaining/restoration of habitat connectivity at a broader landscape level, the recommended objective of designating Municipal Reserve is to encourage the designation, location and management of habitat areas that will conserve key buffers between or through the proposed development property, and adjacent reserve lands, the forested corridor along Sylvan Lake and forest woodlots/habitat linkages to the north and east of the property. As such, it is recommended that, wherever possible, Municipal Reserve be incorporated as follows:
 - lands adjacent to the ephemeral watercourse Environmental Reserve/Environmental Reserve Easement;
 - the steeper south, southwest and north-facing slopes; and/or
 - the lower relief draw between the north and south upper terraces on the property.

The foregoing Municipal Reserve recommendations are recognized by the Concept Plan. The Environmental Reserve and Environmental Reserve Easement recommendations to protect the natural and reconstructed drainage course will be implemented at the time of subdivision once the drainage

course is surveyed and a restoration plan is identified as part of the detailed stormwater management plan. However, it is important to note that the segment of the drainage channel which will be reconstructed applies to the segment within the cleared area that has been mechanically or physically altered. This means that it may not meet the requirements of the Municipal Government Act for designating Environmental Reserve.

5.0 Proposed Development Concept

The objective of the Development Concept shown on Figure 5 is to maximize the extraordinary view amenity of the appropriately named Highland Park site by creating an attractive compact residential community that will eventually be fully serviced with piped water and sewer. The proposed subdivision will be an asset to the County by providing for high value residential lots at a size that compliments the density of development in the Summer Village of Birchcliff and results in a unique lifestyle option for County residents. As was previously noted, existing tree cover creates an effective visual buffer from Birchcliff cottages so that impact on the Summer Village will be minimal.

Significant principles and elements of the development concept are as follows:

- As is noted in Section 1, the R-RLA District of the Land Use Bylaw is proposed to be applied to the Plan area. This district allows for minimum lot sizes of 0.3 hectares if additional Municipal Reserve is provided as per section 17.2(3)(1)(3) of the Land Use Bylaw. An additional 10 percent of Municipal Reserve is required to achieve the 0.3 hectare lot size. The actual amount of Municipal Reserve proposed to be dedicated to the County is 26 percent of the gross developable area. The location of the Municipal Reserve recognizes the recommendations of the biophysical assessment that has been completed for this site and is described in Section 4.
- The development concept results in 49 lots that are grouped into two compact clusters centered on the two plateaus. Given the topography of the site, the clusters can best be served with separate approaches onto the Range Road.
- By assuming the 0.3 hectare lot size, density is increased so that the Plan area will generate higher municipal revenues. This increased revenue will result in greater municipal fiscal sustainability given the need to maintain and operate the same length of road and piped water and sewer systems, regardless of density.
- The biophysical assessment recommends that an ephemeral drainage course that extends through the north portion of the Plan area be protected through a combination of Environmental Reserve and Environmental Reserve Easement. The drainage course is not clearly defined and will need to be surveyed in advance of subdivision. Based on air photos, most of the drainage course appears to be contained within the proposed Municipal Reserve. A portion of the drainage course that has been disturbed is recommended for reconstruction to better define a channel in the open pasture area located along the north central site perimeter. The disturbed section may not qualify as Environmental Reserve pursuant to the Municipal Government Act. The reconstruction of this disturbed section will be undertaken as part of a comprehensive detailed stormwater management plan.
- A wide swath of linear open space separates the clusters allowing for a view trail extending west

towards the central stormwater pond. The pond will be constructed as a naturalized wetland amenity feature. The proposed trail system is shown on Figure 6 and extends throughout the site with a linkage to the south along an undeveloped government road allowance. Trail linkages are provided to the west and north of Highland Park in the event that the adjoining parcels are developed as residential communities.

- A relatively flat portion of the swath located along the Range Road provides an opportunity for accommodating parking and picnic facilities that may function as a staging area for trail related activities. Figure 6 provides a landscape concept showing these features and proposed site enhancements.
- A 10 metre Public Utility Lot parcel is proposed immediately adjacent the Range Road to accommodate interim water servicing and the regional collection system.
- Widening of 5.18 metres for Range Road 14 is provided.
- A road connection to the west is proposed to accommodate future development.
- A 10.0 metre wide strip of land is proposed to be dedicated to the County for road widening along the northerly panhandle parcel in the event that the lands to the west are developed as a multi-lot residential subdivision. A 20 metre wide municipal road will be required for access. In the event that the strip of land is not required for road widening, the County may use it as Municipal Reserve since it links to the reserve lands to the west.

The land use by area breakdown resulting from the development concept is shown below:

Table 1 - Land Use Breakdown

	Land Use Hectares	% of GDA
Gross Developable Area	27.45	100%
Range Road Widening	0.41	1.5%
North Access Road Widening	0.16	0.6%
Possible Road	0.19	0.7%
Public Utility Lots	2.05	7.5%
Internal Subdivision Roads	2.20	8.0%
Municipal Reserve	7.17	26.1%
Residential	15.27	55.6%

Note: The areas shown in Table 2 are approximate, and will be verified at the time of subdivision and detailed survey. The area that may potentially be proposed for Environmental Reserve and Environmental Reserve Easement will also be determined at the time of subdivision and detailed survey, and is included in the Municipal Reserve area that totals some 26% of gross developable area.

The 49 lots being proposed by the design concept will result in a population of 147 assuming a household size of 3.0 persons.

6.0 Transportation and Access

Highland Park will be accessed by three new intersections onto Range Road 14, as shown on Figure 7. Intersection spacing will allow a minimum of 200 metres between proposed accesses. The existing panhandle access, located at the north limit of the development will remain in place as the primary access to the adjacent parcel to the west in NE 17-39-1-W5M (Lot 1, Block 1, Plan 062 0434). As is noted in the preceding section, widening of 5.0 metres for the panhandle is proposed.

In accordance with Lacombe County Policy, the proposed design designates 10.0 metres (32.8 feet) for potential future widening to the west of Range Road 14 right-of-way.

All roads within Highland Park will consist of a 20.0 metre wide rural cross-section, asphalt pavement and roadside ditches, in accordance with the Lacombe County Road and Infrastructure Standards Manual.

A Public Utility Lot will be located adjacent to Range Road 14, with access being provided by the north and middle accesses. This will allow maintenance vehicles to access the sanitary and water facilities from either direction, without having to turn and exit from a single access location. The PUL access road will require a heavy duty road structure to accommodate the truck traffic.

Based on the results from the Traffic Impact Assessment (TIA) (see Appendix E), traffic volumes on Range Road 14, under full build-out conditions, will remain relatively light. The increased traffic volumes will only require Type 1 intersections, which will not warrant tapers, acceleration or deceleration lanes. In addition, the anticipated future 20-year traffic volumes will remain under the Lacombe County 400 vehicles/day threshold for the upgrade and paving of Range Road 14.

A section of road right-of-way referred to as Possible Road on Figure 7 will be dedicated linking Highland Park to the lands to the west (Lot 1 Block 1, Plan 062 0434). However, the road will not be constructed as part of the development of Highland Park. If this access is required in the future, it will be the responsibility of the adjacent land owner to construct the road.

7.0 Trails & Amenities

The Highland Park subdivision design incorporates a winding, scenic trail system, affording both residents and the general public with a view of beautiful Sylvan Lake. In addition the amenities plan includes a playground, an outdoor gym and public restrooms.

7.1 Trail System

Running the length of the subdivision, Highland Park will feature over 1.75 kilometers of trails constructed to county standards. Winding through light forest and rolling hills, the trail shall feature several scenic viewpoints overlooking Sylvan Lake, and shall link to both the County's regional trail system and the trail system of the Slopes - a neighbouring subdivision. (see Figures 6 & 12 for further details).

In addition the trail system shall provide access to a 14 stall parking lot, public restrooms, an outdoor gym and a children's playground.

7.2 Playground

Centrally located beside the outdoor gym, Highland Park's ADA compliant playground shall feature a play fort overlooking Sylvan Lake, a swing set and a climbing area.

- The play fort shall include two slides, climbing walls for young children, a rugged children's telescope and a play panel. Suitable for children ages 5 to 12 and handicapped accessible.
- The heavy duty swing set will be equipped with four swings with slash-proof belts, and be suitable for children ages 2 to 12.
- A climbing area, suitable for children ages 5 to 12, shall consist of four curved climbing panels installed over a impact-absorbing surface and featuring textured aluminum hand/fooholds for extra safety.

7.3 Outdoor Gym

Located close to the playground so that parents utilizing the amenity can oversee their playing children, the outdoor gym shall feature six pieces of state-of-the-art fitness equipment selected to facilitate flexibility, strength and cardio training. All outdoor gym equipment shall be constructed of rust-proof stainless steel and feature both automotive grade all-weather bearings and tamper-proof hardware.

7.4 Public Restrooms

Situated beside the parking lot for convenient access and servicing, the public restrooms shall be constructed in accordance to County standards found in the County's Operations Standards Manual, section J1.8.

8.0 Municipal Services and Shallow Utilities

8.1 Water Supply

A communal water treatment and distribution system will be located in the Public Utility Lot (PUL) adjacent to Range Road 14. A new communal well, located north of the PUL near the public parking lot, will provide the source water for the treatment plant (see Figure 8).

The communal well was drilled in March 2009 and aquifer testing was also completed at that time. The aquifer testing was conducted by Hydogeological Consultants Ltd. (HCL). The findings indicate that the well will have sufficient yield for the 49 lots and will not compromise the aquifer and the water supply for neighbouring residents. It is proposed that the well be licensed for a diversion of 120 m³/day (43,800 m³/year) in order to meet the peak residential water demand for the 49 Lots. (See Appendix F for HCL Groundwater Availability Report).

Since the well will operate as the raw water supply for a communal water system, water treatment prior to distribution will be required. Once treated, the water will be supplied via a regular pressure distribution system.

In the future, once a Regional Water System is installed along Range Road 14, the water treatment plant may be eliminated and the trickle flow system can be connected to the Regional System. In the event that the water supplied by the Regional System requires rechlorination, the treatment plant may be utilized for this purpose.

8.2 Water Treatment and Disposal

The proposed development will be serviced by a low pressure sanitary sewer collection system connected to the regional collection system (see Figure 9).

8.3 Stormwater Management

Stormwater drainage will be conveyed by a series of roadside ditches and culverts to a stormwater management facility (SWMF) located in the natural depression along the west property line, in the north half of the site (see Figure 10). The SWMF will manage the quantity and quality of the runoff generated from most of the developed area in Highland Park. The SWMF will discharge to the ephemeral (seasonal) drainage course which passes diagonally through the north half of the site; drains through the adjacent west parcel and eventually discharges into Sylvan Lake.

Due to the natural south-west sloping topography of the south one-third of the site, it is not practical to collect this runoff and convey it to the SWMF. Therefore, drainage from approximately 3 hectares of developed area will follow the current natural drainage direction. Due to other stormwater management measures in other areas of the site, the total post-development runoff will not exceed the predevelopment runoff in this area. Any runoff leaving Lots 28-37 to the southwest will drain through the existing vegetated area, so the runoff will have adequate natural quality control before it leaves the site.

A stormwater management plan will be required during detailed design, which will outline the drainage pattern impacts, stormwater quality and quantity control and general stormwater issues relating to the development of the proposed area. Once prepared, the stormwater management plan will be submitted to Alberta Environment as support for the licensing of the SWMF.

An existing ephemeral watercourse is located in the north portion of the site. It originates in the north-east corner of the site and drains to the southwest and ultimately discharges to Sylvan Lake. The watercourse consists of a length of approximately 167m of undisturbed watercourse and an approximate 276m length which has been disturbed due to prolonged mechanical and physical alterations. According to the Biophysical Assessment completed by AMEC Earth & Environmental (Appendix C), the watercourse only conveys water for 2-3 days in the spring following winters with above average snowfall accumulation. In most years the snow melt is too limited to support surface channel flow. Due to the undefined nature of the disturbed watercourse section, it is proposed that this length will be rerouted to the north property line where a channel will be clearly defined. The rerouted channel would be located within the 5m widening of the panhandle lot access. Approval under the Public Lands Act and Water Act may be required for the watercourse rerouting. No disturbance will occur without the necessary environmental approvals.

8.4 Shallow Utilities

An existing 38mm Gull Lake Deer Creek Gas Co-op gas main crosses the site in a north to south direction. The main follows the tree line approximately 50-60m from the east property line. A utility right-of-way is registered on the title, but it is not defined by survey. Once development proceeds, this main will need to be relocated.

Power and communications will be provided to the area by an extension of existing facilities.

9.0 Implementation

As is noted in Section 1, the Plan area is already designated Higher Density Lakeshore Residential by the County's Municipal Development Plan Map 2 – Future Land Use Concept. However, the area will need to be rezoned from (A) Agricultural District to (R-RLA) Residential Lake Area District.

Lacombe County will be requested to apply for a waiver of the 300 metre setback provision pursuant to section 13(5) of the Subdivision and Development Regulation of the Municipal Government Act.

Recognizing the time required to obtain a waiver from Alberta Environmental that would allow the County to vary the setback distance, Highland Park is proposed to be developed in two stages as shown on Figure 11.



RANGE ROAD 14

PLAN AREA
LOT 2
BLOCK 1
PLAN 062 0434

HIGHWAY 20



CFC CONSULTING LTD.
RED DEER ALBERTA

PD: 80X972 RED DEER ALBERTA T4W 5N3 R1: 403854-1945

FIGURE 1 REGIONAL CONTEXT HIGHLAND PARK

LOCATED WITHIN
LOT 2, BLOCK 1, PLAN 062 0435
LACOMBE COUNTY
FEBRUARY, 2018



PLAN AREA

LOT 2

BLOCK 1

PLAN 062 0434

RANGE ROAD 14



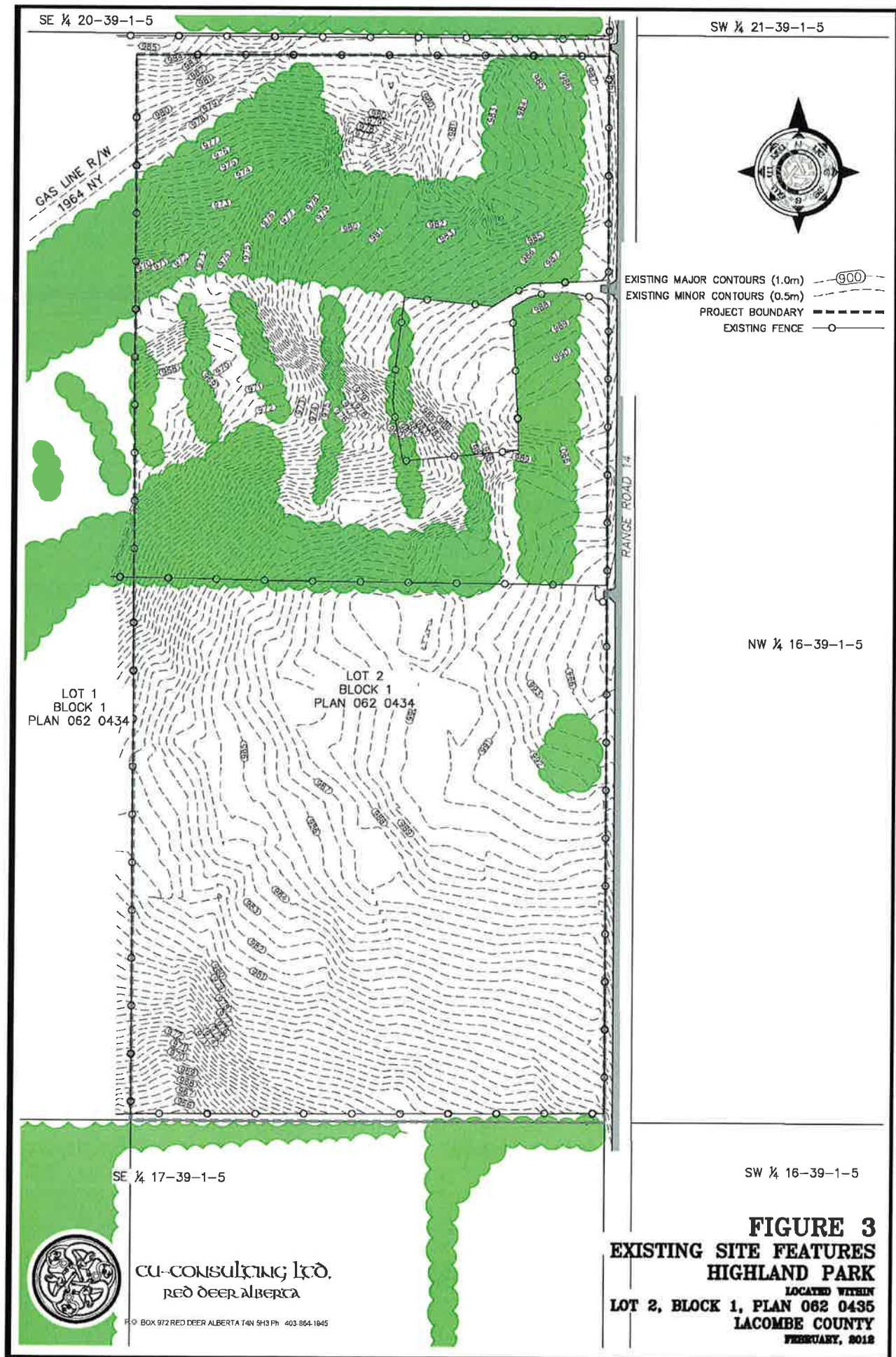
CU-CONSULTING LTD.
RED DEER ALBERTA

P.O. BOX 972 RED DEER ALBERTA T4N 5H3 Ph 403-884-1945

FIGURE 2
PLAN AREA
HIGHLAND PARK

LOCATED WITHIN
LOT 2, BLOCK 1, PLAN 062 0435
LACOMBE COUNTY

FEBRUARY, 2012





RANGE ROAD 14

300m SETBACK FROM
LAND FILL

CLOSED MUNICIPAL
LANDFILL SITE

EDGE OF
LANDFILL

HIGHWAY 20

FIGURE 4
MUNICIPAL LANDFILL SITE
HIGHLAND PARK
LOCATED WITHIN
LOT 2, BLOCK 1, PLAN 062 0436
LACOMBE COUNTY
FEBRUARY, 2012

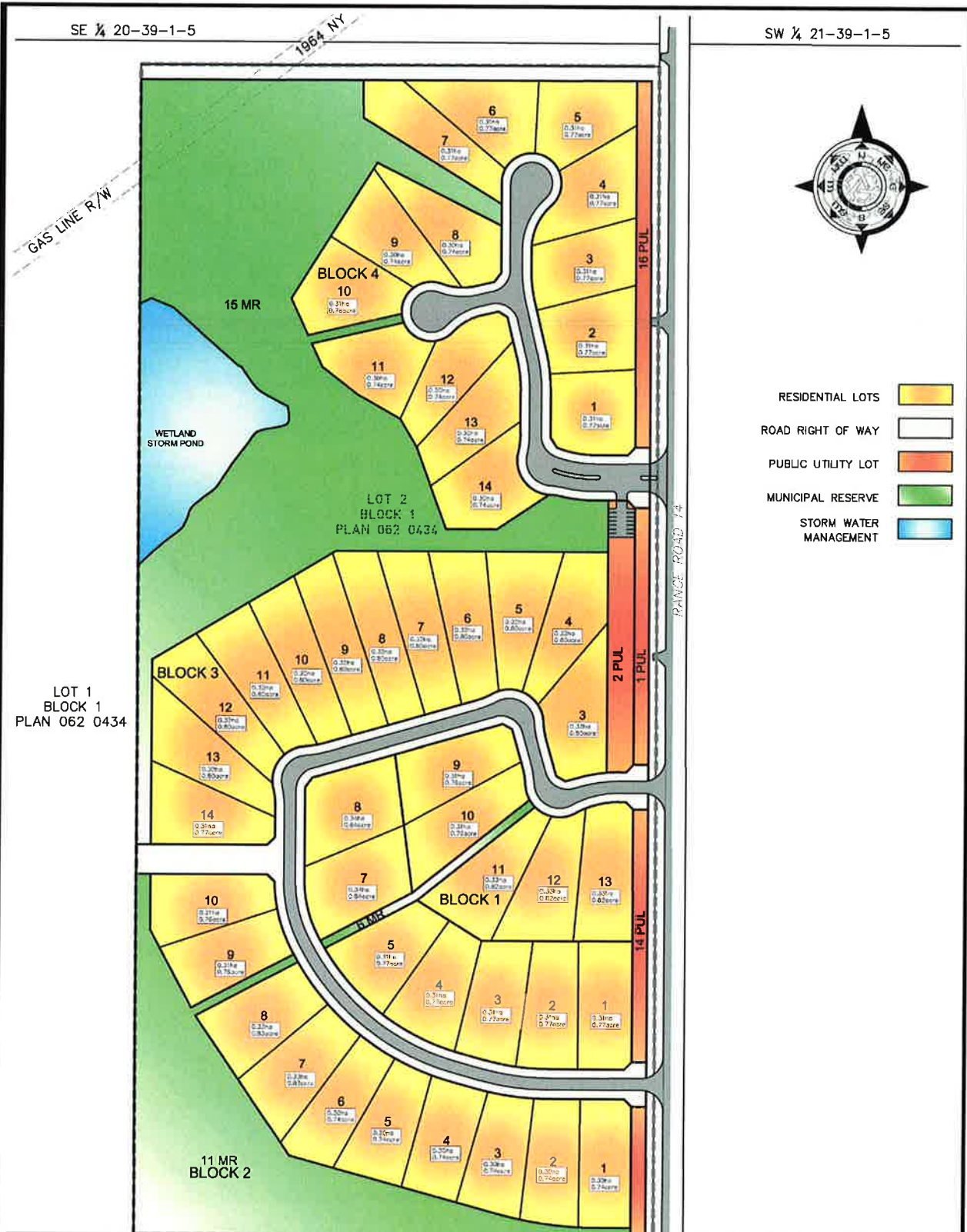


CCL CONSULTING LTD.
RED DEER ALBERTA

P.O. BOX 972 RED DEER ALBERTA T4N 5H3 PH: 403-254-1945

SE ¼ 20-39-1-5

SW ¼ 21-39-1-5



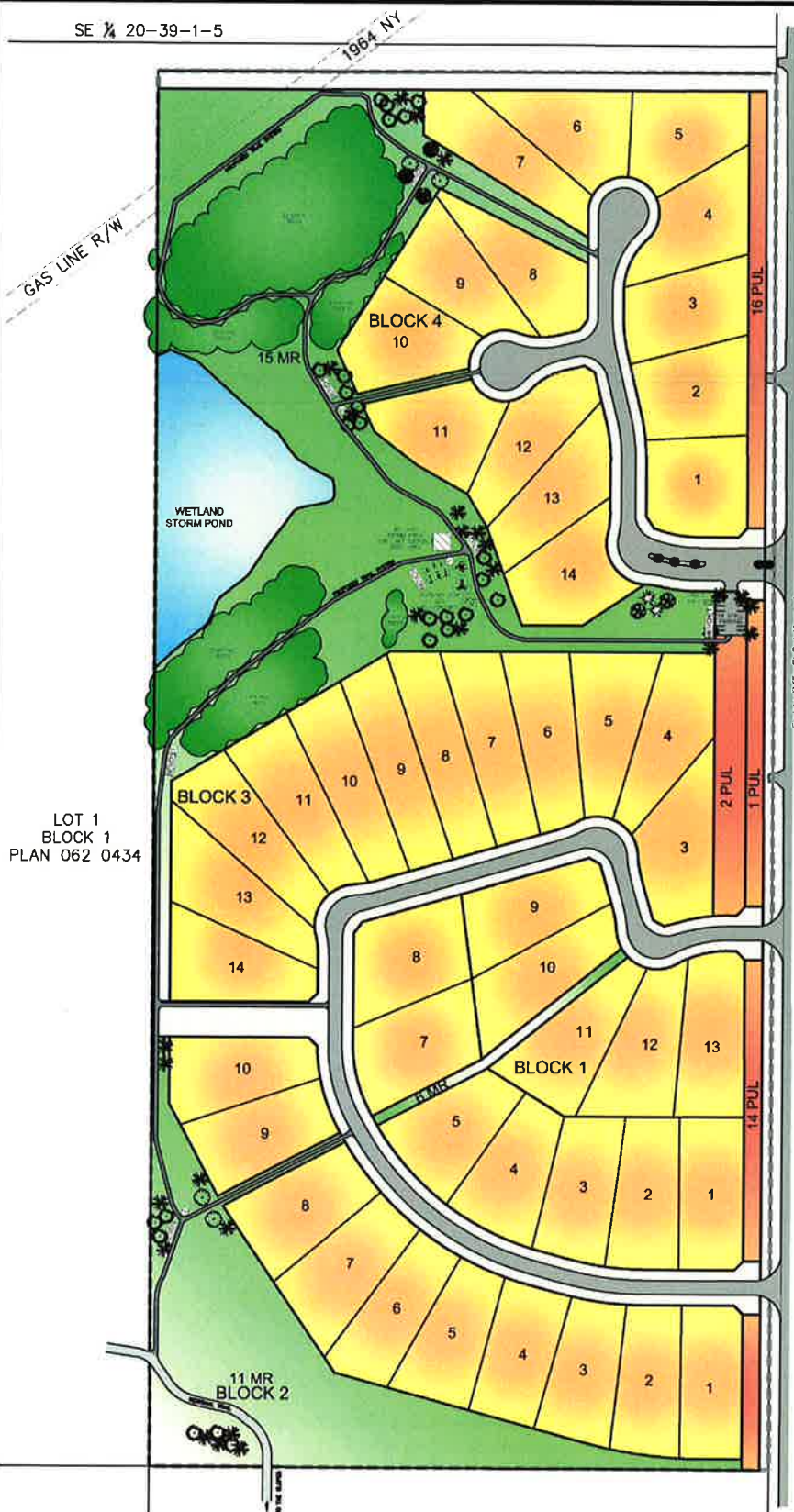
CU-CONSULTING LTD.
RED DEER ALBERTA

P.O. BOX 972 RED DEER ALBERTA T4N 5H3 PH: 403-884-1945

FIGURE 5
DEVELOPMENT CONCEPT
HIGHLAND PARK
LOCATED WITHIN
LOT 2, BLOCK 1, PLAN 062 0435
LACOMBE COUNTY
FEBRUARY, 2012

SE ¼ 20-39-1-5

SW ¼ 21-39-1-5



LOT 1
BLOCK 1
PLAN 062 0434



- LOCAL ROADS
- REGIONAL TRAIL
- LOCAL TRAIL
- ROAD ACCESS
- PROJECT BOUNDARY
- PROPOSED TREES
- PROPOSED BENCHES
- PROPOSED TRASH BINS

NW ¼ 16-39-1-5

SE ¼ 17-39-1-5

SW ¼ 16-39-1-5

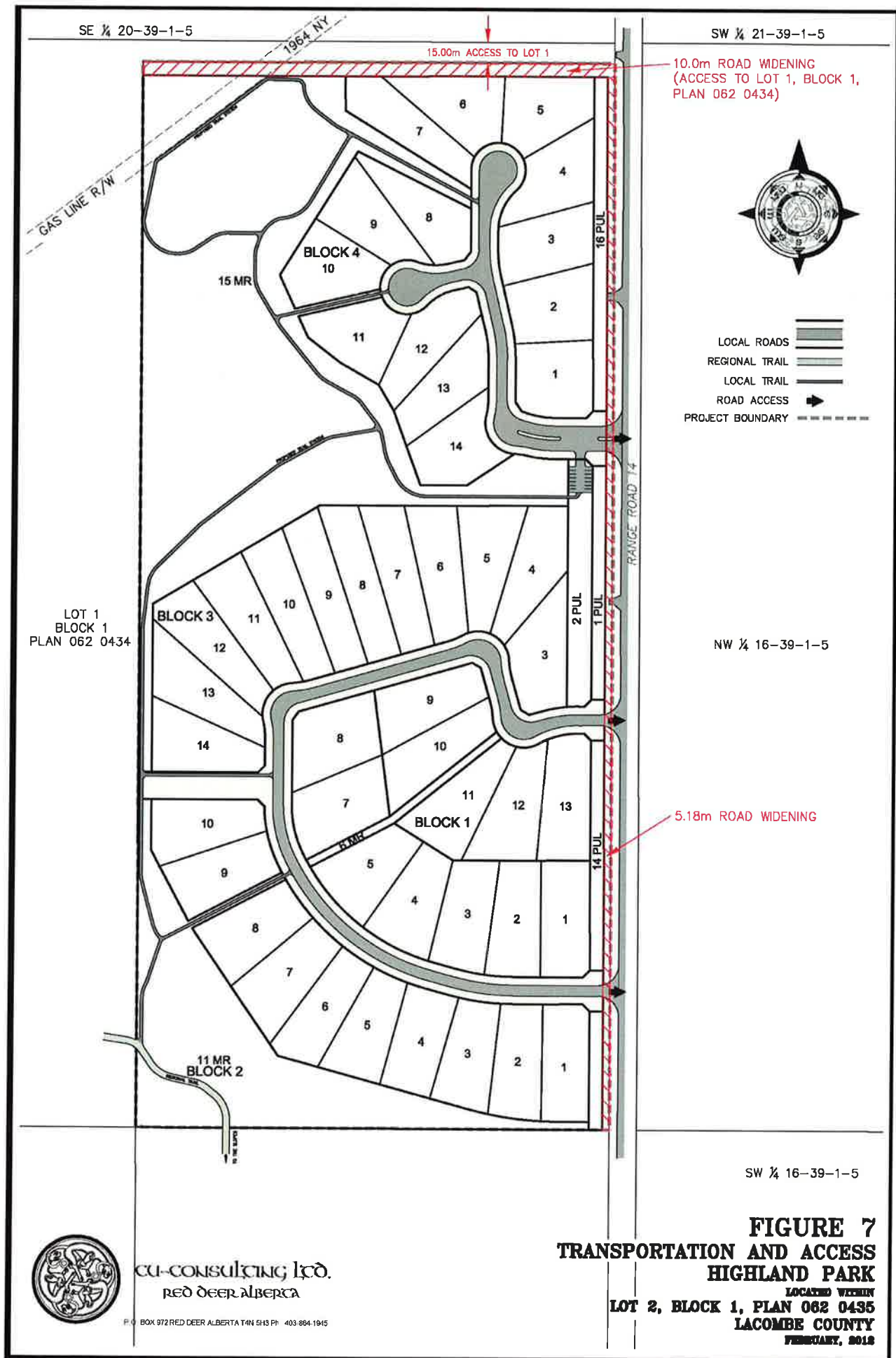


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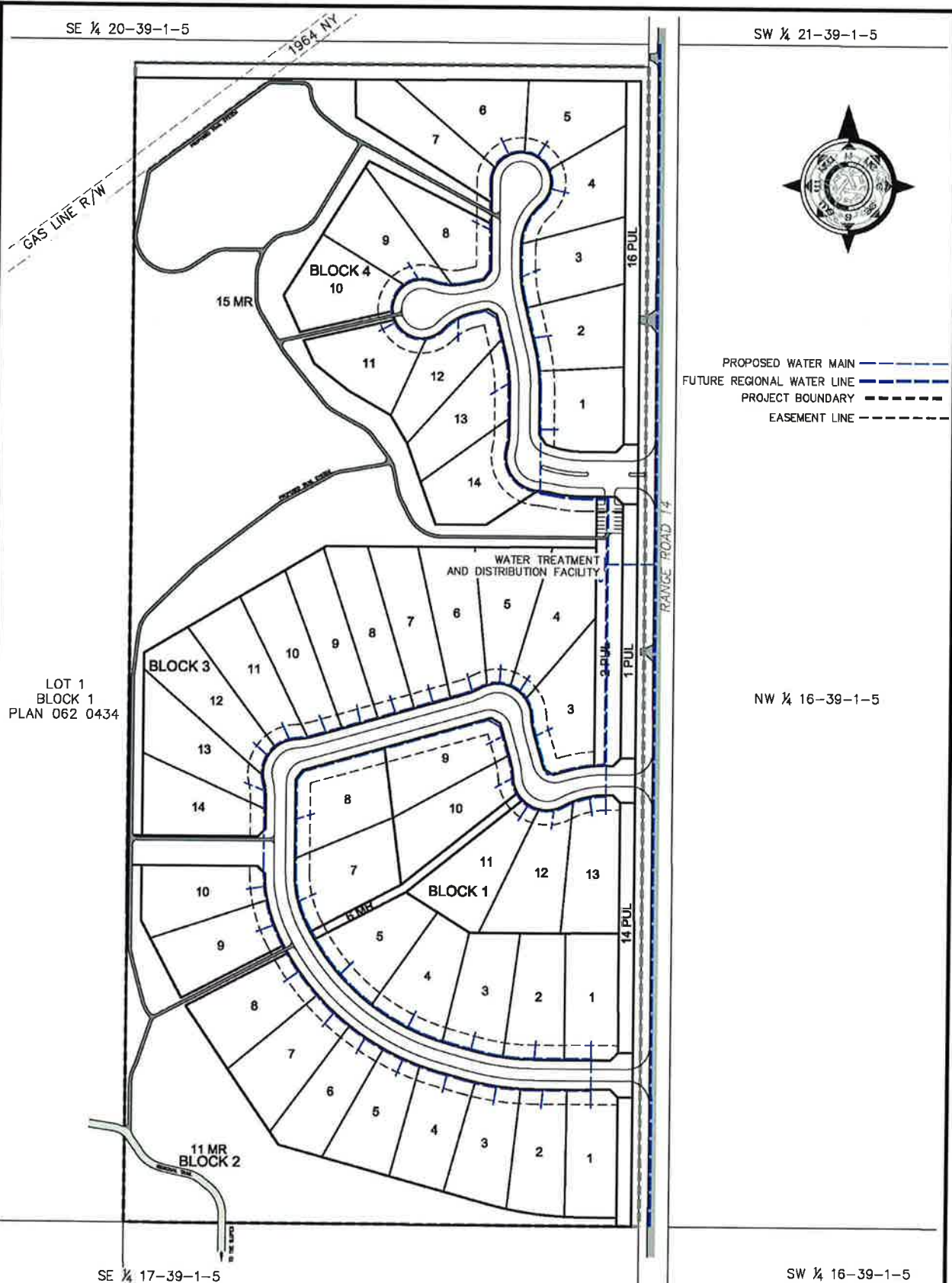
FIGURE 6 LANDSCAPE CONCEPT HIGHLAND PARK

LOCATED WITHIN
LOT 2, BLOCK 1, PLAN 062 0435
LACOMBE COUNTY
FEBRUARY, 2012



SE ¼ 20-39-1-5

SW ¼ 21-39-1-5



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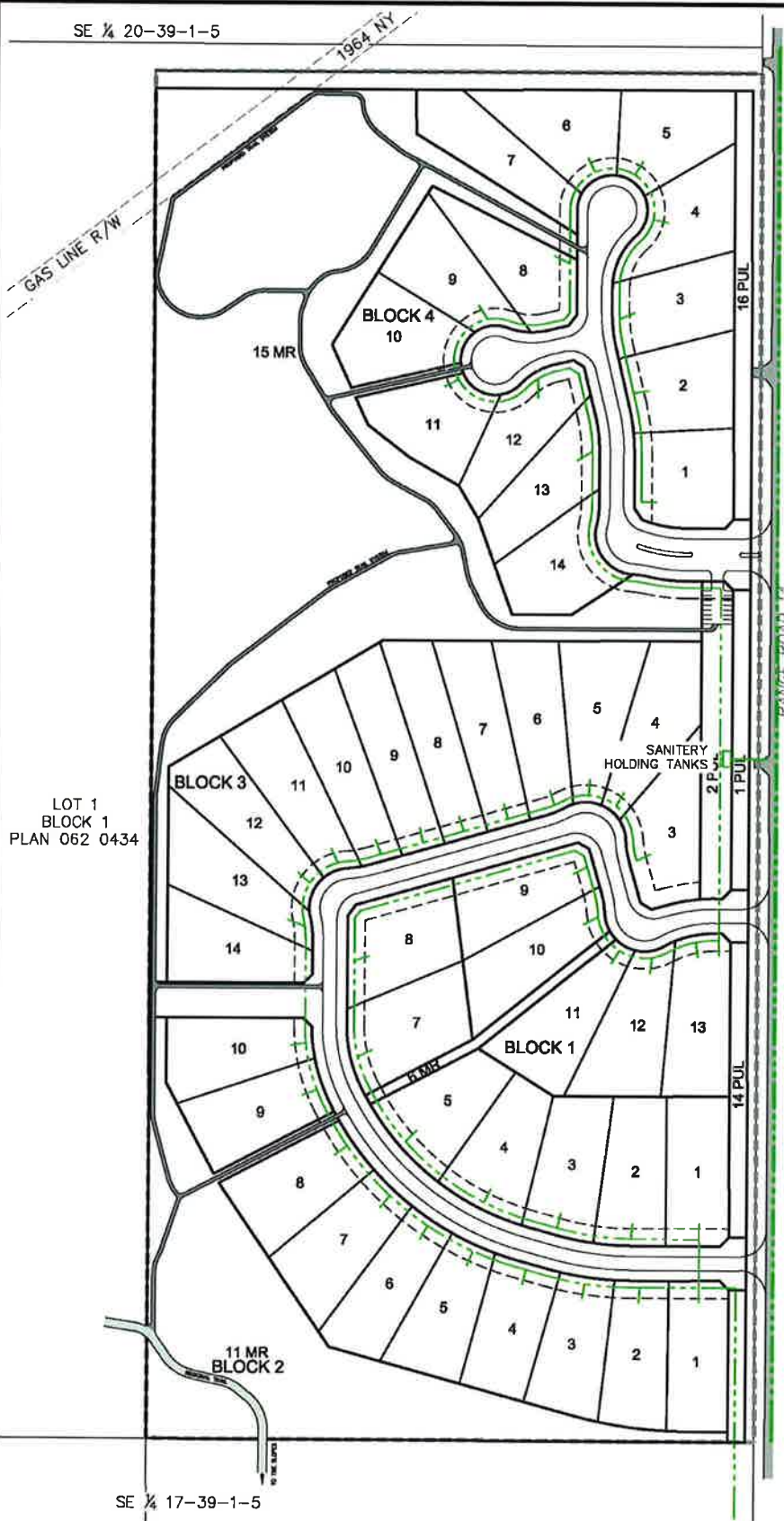
P.O. BOX 972 RED DEER ALBERTA T4N 5H3 PH: 403-864-1945

FIGURE 8 WATER DISTRIBUTION CONCEPT HIGHLAND PARK

LOCATED WITHIN
LOT 2, BLOCK 1, PLAN 062 0435
LACOMBE COUNTY
FEBRUARY, 2012

SE ¼ 20-39-1-5

SW ¼ 21-39-1-5



PROPOSED SAN MAIN
FUTURE REGIONAL SAN LINE
PROJECT BOUNDARY
EASEMENT LINE

LOT 1
BLOCK 1
PLAN 062 0434

NW ¼ 16-39-1-5

SE ¼ 17-39-1-5

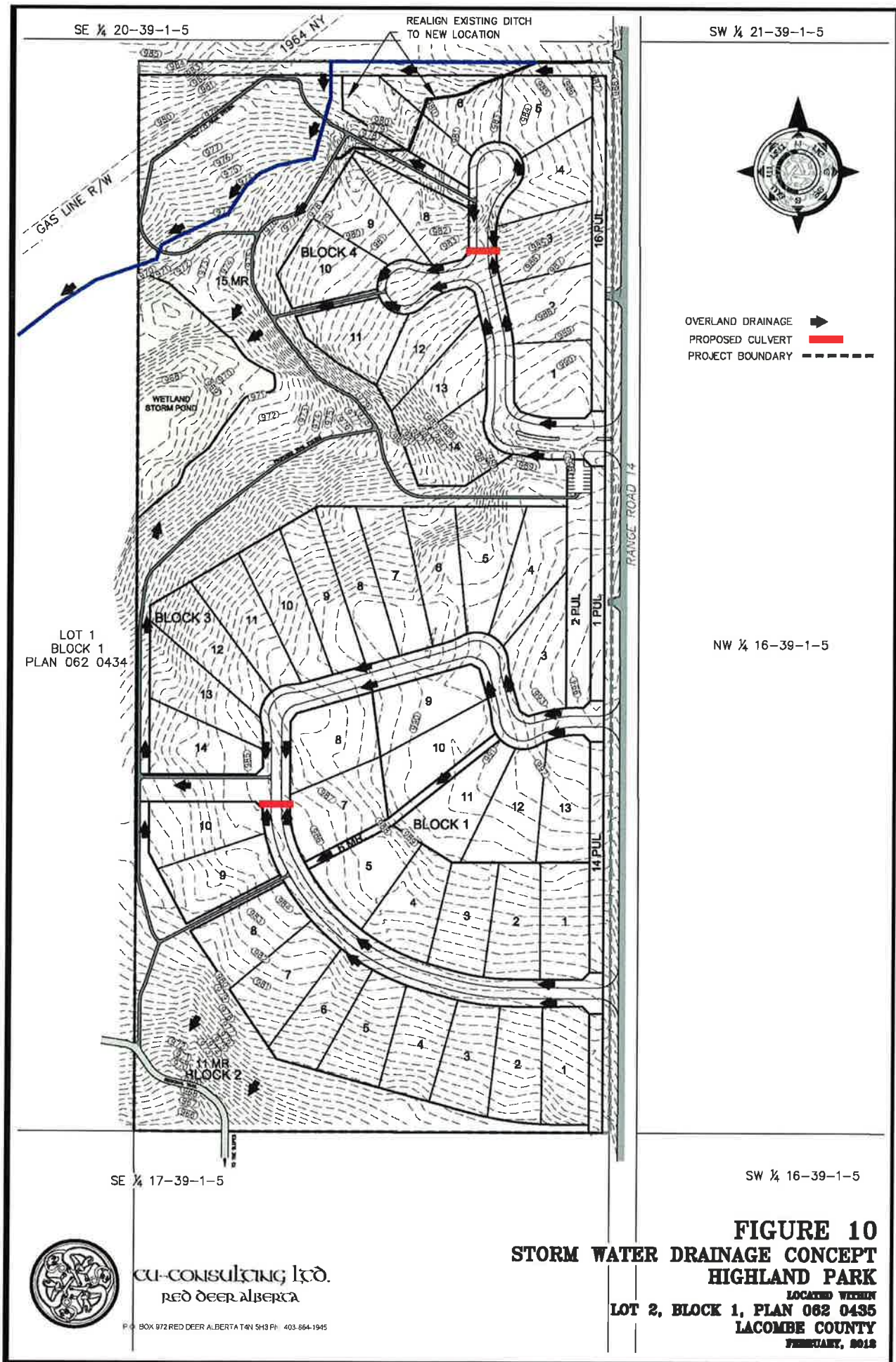
SW ¼ 16-39-1-5



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FIGURE 9
SANITARY SERVICE CONCEPT
HIGHLAND PARK
LOCATED WITHIN
LOT 2, BLOCK 1, PLAN 062 0435
LACOMBE COUNTY
FEBRUARY, 2012



SE ¼ 20-39-1-5

SW ¼ 21-39-1-5

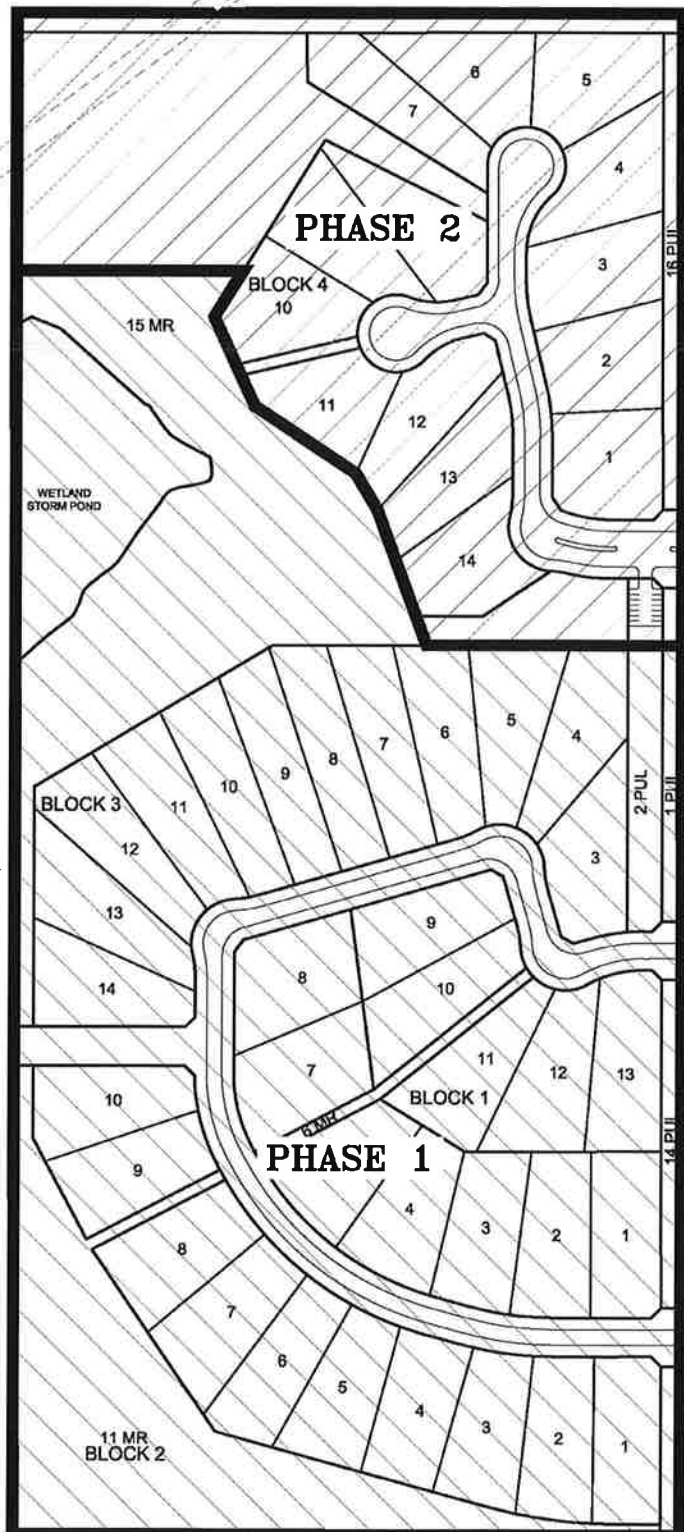
GAS LINE R/W

1964 NY



LOT 1
BLOCK 1
PLAN 062 0434

NW ¼ 16-39-1-5



SE ¼ 17-39-1-5

SW ¼ 16-39-1-5



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8111 BOA 912 RED DEER ALBERTA T4N 5H3 P1 403-854-1345

FIGURE 11 PHASING CONCEPT HIGHLAND PARK

LOCATED WITHIN
LOT 2, BLOCK 1, PLAN 062 0435
LACOMBE COUNTY
FEBRUARY, 2012

