Welcome

NETOOK NORTH

Welcome to the Netook North Public Information Session. We are here today to:

Share information about the Proposed Netook North Concept Plan

Collect feedback on the proposed Concept Plan

Respond to questions, comments and ideas

Thank you for taking the time to visit with us tonight. The information shared this evening is in support of the proposed applications for a Concept Plan, Land Use Redesignation and Subdivision Plan.

NetookNorth.com

The Development Team

Please ask questions and share your feedback with our development team:

Greg Brown
Project Manager

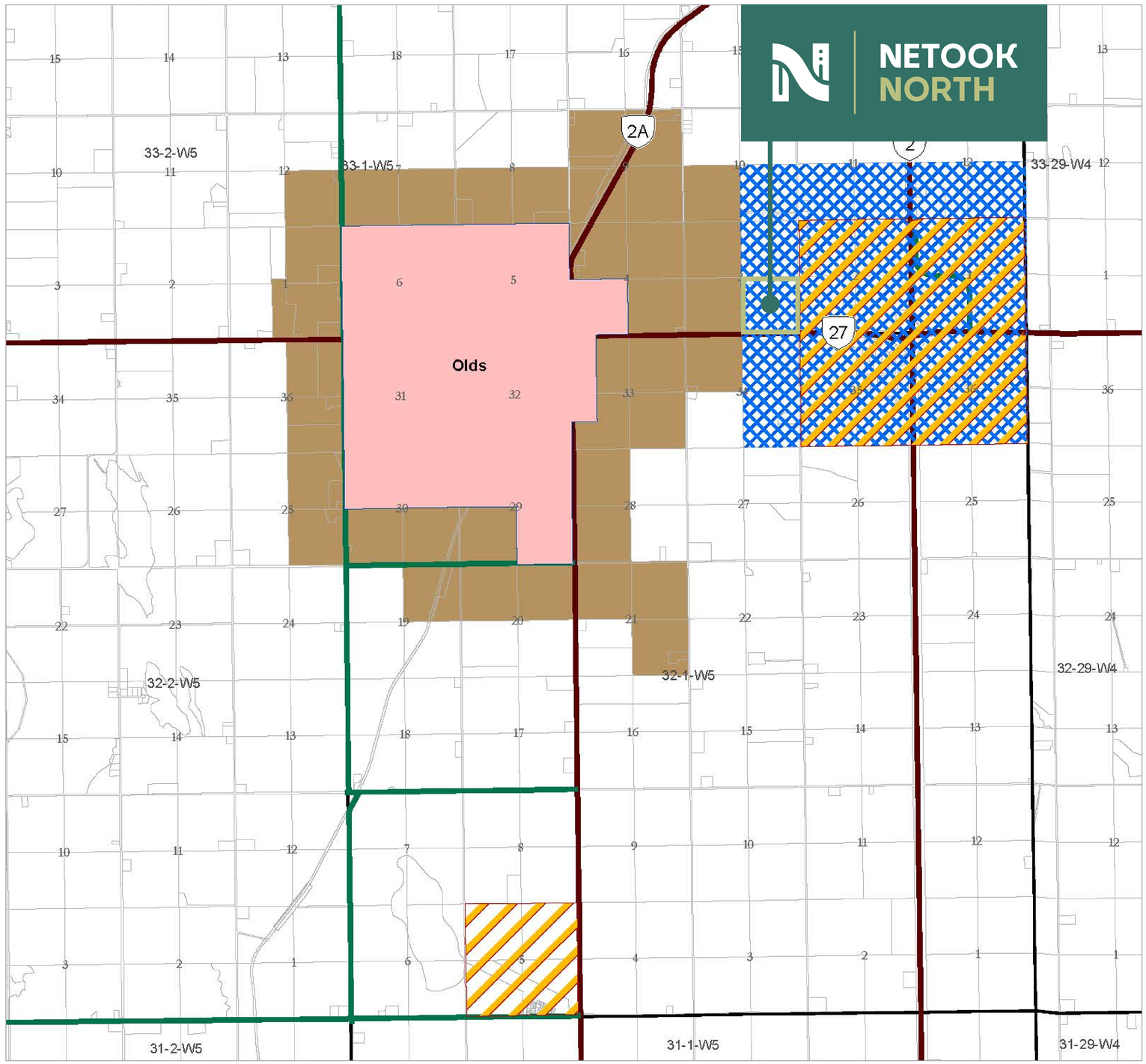
Ken Hugo
P.Geo, Senior Hydrogeologist,
Arletta Water Resources

Dave Watt
P.Eng, Former President
Watt Consulting Group

Dave Hogarth
Realtor
Century 21

Location & Context

Policy Context



Mountain View County

Economic Nodes &
Special Policy Area:
Highway 2/27
Appendix B(b)

Legend

- Town/Village (Subject to Annexation)
- Township
- Highway
- County Collector Network(CCN)
- Economic Nodes (ASPs / Concept Plans Required)
- Special Policy Area: Highway 2/27 (Concept Plans Required)
- Growth Centres (ASPs / Concept Plans Required)
- IDP

The Netook North site is located within the **Special Policy Area: Highway 2/27** in the approved County MDP

7.0 GROWTH CENTRES & ECONOMIC NODES

With the objective of protecting most agricultural lands from the pressure to convert to other uses, the County has identified three (3) growth centres as the areas appropriate for future development (Appendix B). Lands not within a growth centre are considered to be identified for continued agricultural use. The designation of these growth centres is focused on higher density growth within existing South East Sundre, Water Valley-Winchell Lake and South McDougal Flats. Identification as a growth centre does not imply that these lands will be developed within the lifespan of this plan, nor does it imply that the landowner must develop the land.

Bylaw No. 25/21

This MDP requires long term planning and identifies the areas where development is logical, advantageous, and appropriate. The market, landowners and the County will decide when the time is right for the actual development of the land. In addition to the growth centres, Council has identified Economic Nodes as an area within the County that is potentially suitable for more commercial, industrial and related developments. Development applications are subject to site analysis and development of lands within these areas is not guaranteed.

7.1 GOALS

7.1.1 To identify areas for long term growth and development through the development of ASPs.

7.1.2 To identify growth centres in strategic locations in the County.

7.1.3 To allow for a variety of opportunities for residents and landowners.

7.2 OBJECTIVES

7.2.1 To recognize the economic advantage of the Highway 2 Corridor.

7.2.2 To enhance the existing infrastructure and facilities in existing communities.

7.2.3 To recognize the future demand for second homes, commuter homes, home offices, and subsidiary occupations.

7.2.4 To recognize opportunities provided by economic development partnerships between the urban centres and the County.

7.3 POLICIES

7.3.1 Future development of higher density residential (five (5) lots or greater per quarter section), highway commercial and industrial park, and/or higher intensity uses should be directed to the identified growth centres and Economic Nodes supported by an ASP/ARP and/or a detailed Concept Plan(s), where deemed applicable by Council.

7.3.2 Development within growth centres and an Economic Node may require piped communal or municipal treated water and sanitary sewer services, and asphalt internal roads with paved access to the County Collector Network. Developers may provide communal water and sewer services for all new developments exceeding four (4) titles per quarter section and shall meet or exceed the standards of both the County and Alberta Environment except where interim servicing standards have been approved. IDPs prepared by the County and an adjacent urban centre may require that municipal water and wastewater infrastructure be provided to the same standards as lands within the urban centre. This Plan acknowledges that IDPs should require that infrastructure in the IDP Plan area be planned and if built, shall be consistent with the standards of the urban centre.

7.3.3 Notwithstanding Policy 7.3.2, staged servicing solutions for water and sanitary services may be permitted at the County's discretion, provided that it meets County and Provincial regulations and is consistent with any applicable IDP.

7.3.4 Notwithstanding other policies in this Plan, major developments and subdivision proposed outside of the identified growth centres and an Economic Node may be considered only if supported by an ASP and/or Concept Plan approved in accordance with the direction and intent of this bylaw. The preparation of an ASP or Concept Plan shall require permission and direction from Council.

7.3.5 All development applications shall provide for appropriate buffering and interface between current and/future land uses.

7.4 SPECIAL POLICY AREA: HIGHWAY 2/27

The Highway 2/27 ASP area east of the Town of Olds is considered a Special Policy Area. There is an existing business park with potential future expansion at the Highway 2 interchange.

It is the intent of this Special Policy Area that subdivision and development proceed in a phased and coordinated manner. It is the County's intent that development be allowed in a manner that is fiscally responsible, environmentally sound and preserves the area's valuable agricultural lands. Where municipal servicing is required, it will be installed by the Developer prior to registration of subdivision plans and development occurring.

7.4.1 The intended future land use concept for the Special Policy Area is business park uses, and where appropriate, residential subdivisions. The maximum number of residential lots shall be 48 per quarter section and the minimum lot size shall be two (2) acres (0.81 ha).

7.4.2 Concept Plans shall be required to obtain greater detail of the proposed development and its future impact on adjacent lands. Preparation of the plan shall comply with section 7.5 and include a minimum of one quarter section.

7.4.3 If municipal water and sanitary systems are extended to service the area, all costs shall be the responsibility of the Developer and/or lot owners.

7.4.4 An application for redesignation and subdivision may be considered prior to the preparation of a Concept Plan if the application is for a residential first parcel out/farmstead/fragmented parcel subdivision, subject to Council redesignating the proposed parcel to the appropriate land use district.

7.5 AREA STRUCTURE PLAN, CONCEPT PLAN AND AREA REDEVELOPMENT PLAN POLICIES

7.5.1 Preparation of ASPs, Concept Plans and/or ARPs shall be in accordance with the requirements of the MGA as well as those requirements outlined in Section 1.3 of this MDP.

7.5.2 Existing ASPs and/or ARPs may be reviewed to ensure conformity with the MDP.

7.5.3 Preparation of an ASP, Concept Plan and/or ARP shall require permission and direction from Council.

7.5.4 Preparation of an ASP, Concept Plan and/or ARP adjacent to an urban centre shall include consultation with the affected urban centre.

7.5.5 Where landowners, developers or parties other than MVC propose and/or prepare an ASP, Concept Plan and/or ARP, the County may require a due diligence study in the form of a market analysis/assessment to verify and provide justification for proposed land uses, densities and servicing.

7.5.6 The preparation of a Concept Plan should not precede the preparation of an ASP and/or ARP unless otherwise stated within this plan.

7.5.7 Where supported by an ASP and/or ARP, a Concept Plan may be required for all proposed Business Parks.

7.5.8 All future ASPs, Concept Plans and/or ARPs shall include detailed studies identifying environmentally sensitive and hazard lands and wildlife corridors, and may include other requirements deemed necessary by the County.

7.5.9 All future ASPs, Concept Plans and/or ARPs shall consider the impacts of natural resource extraction operations on adjacent lands.

7.5.10 If an application for higher density subdivision (five (5) lots or greater per quarter section) is in an area of the County not subject to an ASP and/or ARP, the applicant may be required to wait until an ASP and/or ARP is complete or request to prepare an ASP and/or ARP, at the applicant's cost.

7.5.11 The applicant may be required to prepare a Concept Plan if an application for higher density subdivision (5 lots or greater per quarter section) or a Business Park is in an ASP and/or ARP.

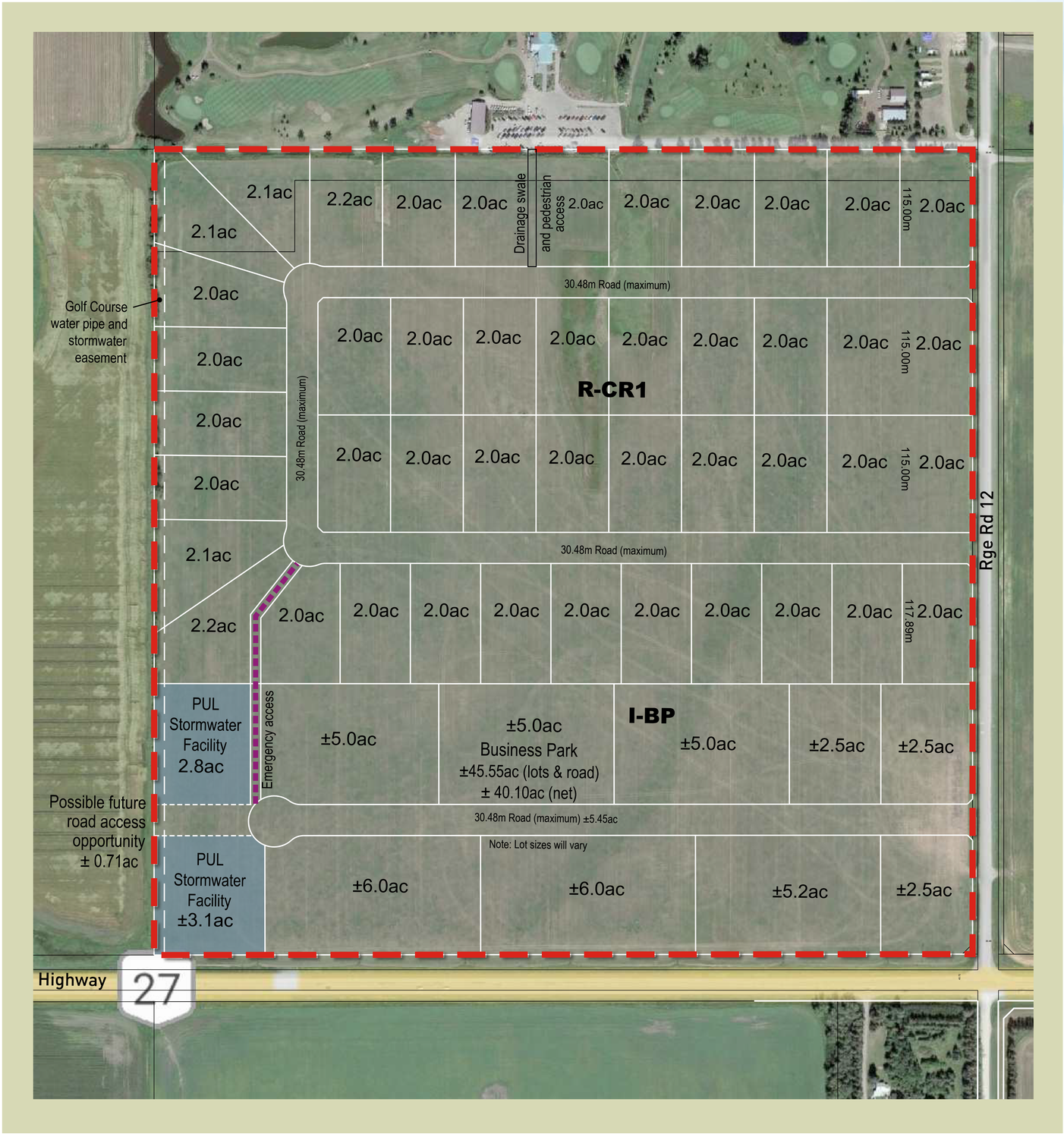
7.5.12 ASPs and/or ARP shall be prepared for the County's defined growth centres and Economic Nodes.

7.5.13 Notwithstanding 7.5.12, minor development applications may be considered by the County prior to the preparation of an ASP and/or ARP.

7.5.14 Lot sizes and servicing strategy shall be determined by the ASP and/or ARP process within the County's defined growth centres and Economic Nodes.

7.5.15 The County may require Design Guidelines and/or Architectural Controls to be prepared at the applicant's cost and these may be included within ASPs and/or ARPs.

Netook North Concept Plan



The proposed Country Residential subdivision and Business Park is considered appropriate in this quarter section of the Special Policy Area as per Section 7.4.1 of the MDP. We believe:

- **Country residential lots are appropriate backing onto the Olds golf course and when a crescent road and minimum 2 acre lots are laid out, there is an opportunity for 45 lots. This is less than the 48 country residential lot maximum set out in the Council policy for the Hwy 2/27 Special Policy Area.**
- **Without an apparent County need for a Municipal Reserve parcel in this area, it is proposed that Municipal Reserve be provided as cash-in-lieu, enabling the County to help purchase a Municipal Reserve parcel in a location where there is a Country recreational or open space need.**
- **The land adjacent to Highway 27 is proposed as a Business Park and a Stormwater Facility accessed by a single road with the potential to be extended to the west in the future. This land is highly visible to traffic on Highway 27 so will be sought after by businesses and services as the population of the Olds region increases.**
- **It is proposed that, consistent with County policy, all costs associated with the development will be paid for by the developer. This includes the developer paying to add asphalt to Range Road 12 from Highway 27 to the northern residential access road to allow the 75% road restriction to be removed and the road being able to be classified as a 100% load bearing County road.**
- **We believe the proposed development is appropriate in this location and consistent with the policies of the County Municipal Development Plan.**

Concept Plan Area

Subdivision & Land Use Redesignation

A decision has not been made by the landowners at this time as to the size of the first phase, or the number of phases for construction of the development.

- **The country residential area is proposed to be designated R-CR1, Country Residential District, and the business park to be designated I-BP, Business Park District.**
- **Development is proposed to be consistent with the County land use and development regulations and standards.**
- **Regardless of the size of the first phase land use redesignation and first phase subdivision, the landowners are committed to maintaining agricultural operations for as long as possible on the lands until they are needed for development.**
- **A decision on the size of the land use redesignation area and subdivision will be made prior to the applications to the County, targeted for the end of June.**

– – – Concept Plan Area

Phase 1 Environmental Site Assessment

Author: Mark Lehar, P.Geo
Company: Bifrost Environmental and Remediation Services Inc

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The purpose of the Phase 1 Environmental Site Assessment is to collect readily available current and historical information in order to determine, on the balance of probabilities, whether there are likely to be significant environmental liabilities associated with a particular property, particularly in the form of contamination.

The assessment revealed that a former well site on the quarter had been licensed in October 1978 and only drilled for two months in LSD 7. The formal abandonment date was in January 1979. A Reclamation Certificate was issued on August 31, 1979. In addition, historical air photos revealed a clearing and possible access road to a potential well site in LSD 8. Surface testing did not reveal a metal well shaft. During the week of May 13, methane testing will be undertaken around both these sites to fully assess the situation relative to potential remediation prior to development.

OUTCOME

At this time, the only evidence of potential environmental liabilities associated with the subject property is associated with the known well and the potential well site. The results of the methane testing will indicate if there is any actual or potential environmental issues to be remediated prior to potential development.

Subject Property

Subject Property Lease Area Site Diagram

Biophysical Impact Assessment

Author: Michael Shorter, P.Biol.
Company: Tannas Conservation Services Ltd.
Date: March 2024

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OUTCOME

Due to the fall/winter start of the project, a desktop BIA has been completed that documents biophysical resources in the Concept Plan area, outlines development inputs on the biophysical resources and outlines all applicable municipal, provincial and federal environmental regulations. Field work will be conducted in late May/early June to complete the assessment. Much of the greater section has been heavily utilized for agriculture. The desktop review indicates that given the agricultural use, there are no tracked rare planet species and the potential for rare plant species is low, and the impact to wildlife habitat and wildlife is minor.

There are few areas within the greater area that have not been largely impacted by annual cropping. All wetland areas have been cropped. Impact to biodiversity, native species or rare plant species is expected to be of minimal significance across the site, due to the current state of use by agriculture. The potential spread of invasive species from the development can be reduced through weed control during the construction and maintenance once the development is completed. The greater section contains an ephemeral and temporary cultivated, wetland complex in the centre north portion of the plan.

The greater section contains four wetlands and four ephemeral water bodies. All wetlands are likely to be classified as temporary due to their likely emergent wetland, vegetation, full cultivation and lack of surface water in all but the wetland times of the year wettest years. Ephemeral water bodies are not classified as wetlands based on the provincial wetland classifications system. The wetlands will be presented to Alberta EPA with reference to the Water Act application. The removal of these water bodies will occur with approval under the Water Act following the completion of a Wetland Assessment and Impact report and pay an in lieu replacement fee as required under the Alberta Wetland Policy.

The assessment provides mitigation measures to prevent the growth of noxious weeds through weed management. It recommends any development within the breeding bird window of April 14–August 28th be preceded by a wildlife and bird breeding sweep. It recommends erosion and sediment central measures during construction. It recommends wetlands be addressed as the Alberta Water Act.

Due to the ongoing agricultural use across virtually the entire greater section, the impacts of developments to biodiversity, wildlife, native species or rare plant species is to be of minimal significance. Given the lack of surface water in all periods, the wettest years and seasons, the wetlands are considered as temporary. All potential Project inputs to biophysical resources have a significance of moderate or lower following implementation of mitigation measures. Presently, the only anticipated regulatory approvals/authorization relate to wetland removal where Water Act Approval is required and the constriction of the stormwater pond where EPEA Authorization is required.

Transportation Impact Assessment

Author: Zeeshan Abdy, P.Eng
Company: Watt Consulting Group
Date: February 2024

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The purpose of the TIA is to assess the impact of the proposed development on the existing transportation network, as well as review the proposed site plan. The TIA reviews and analyses the existing and future conditions for the 10 and 20 year horizons with a focus on a Background Information Review, Trip Generation and Distribution and Capacity Analysis of Range Road 12 and Highway 27 using the Synchro software package and the TIA's for surrounding developments of Netook Business Park and Noble Business Park.

OUTCOME

Capacity analysis was conducted on Range Road 12 and Highway 27 intersection based on the proposed development. Based on the analysis, the results and recommendations are as follows:

Analysis Results and Recommendations	
Existing Conditions	No Recommendations
2035 Horizon (100% Built-Out)	Re-paint the intersection pavement markings to clarify the existing two-stage left turn for vehicles traveling east from Range Road 12 to Highway 27.
2045 Horizon (100% Build-Out)	No further recommendations.

FIGURE 4 Existing Traffic Volumes

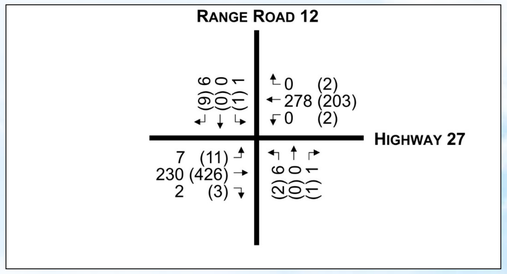
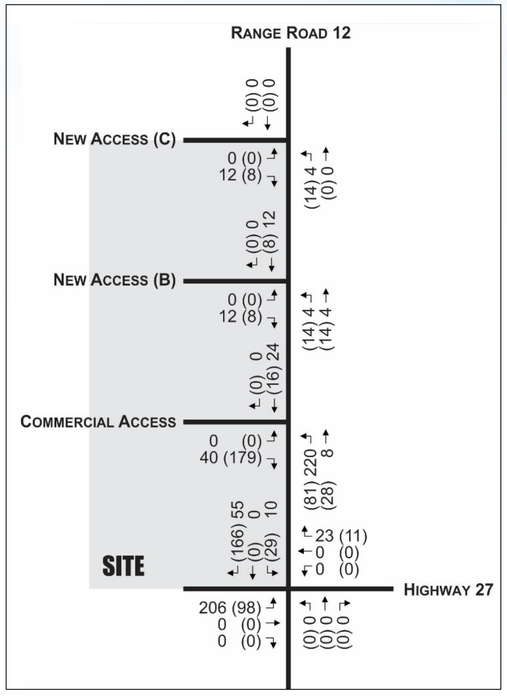


FIGURE 6 Site Generated Traffic Volumes



LEGEND:
XX (YY) → AM (PM) PEAK HOUR VEHICLE TURNING MOVEMENTS

FIGURE 9 2035 Post Development Traffic Volumes

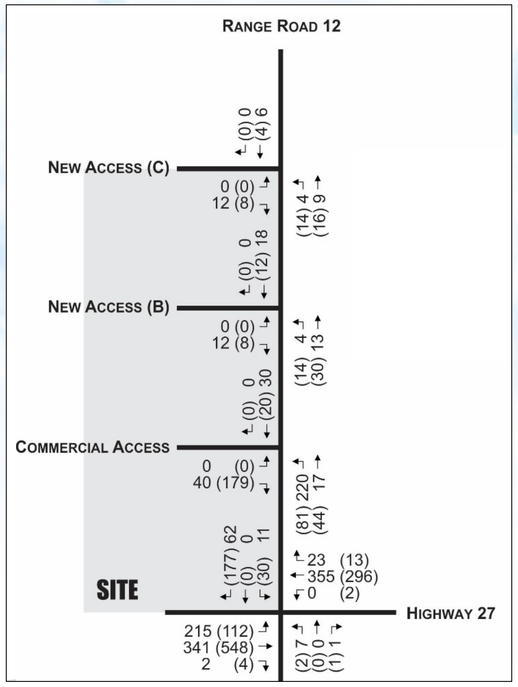
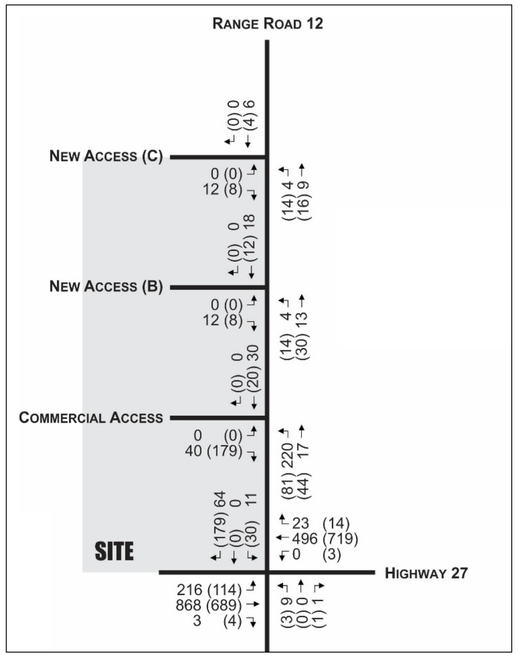


FIGURE 11 2045 Post Development Traffic Volumes



Geotechnical Assessment

Author: Joel Rombough, P.Eng.
Company: Watt Consulting Group
Date: March 2024

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Watt Consulting completed 27 geotechnical boreholes (labeled as blue) on the greater section on December 1st and 2nd, 2023. This supplemented the 9 boreholes (labeled as red) completed and analyzed on the section in 2008. Based on the subsurface stratigraphy revealed at the discrete borehole locations the quarter is comprised of topsoil (ranging from 0.2 - 0.3 metres) and fill, underlain by silty clay til and completed to highly weathered bedrock. Very little groundwater seepage was observed in all boreholes. The ongoing water level readings in the boreholes indicated the highest depth to the water was dry to 2.2m - 5.6m (in 15 boreholes).

Based on the analysis of the boreholes samples, the Geotechnical Assessment provides detailed design and construction comments and recommendations for the proposed development in the following sections; site preparation, backfill and completion, strip and spread footings, non-structural floor slabs-on-grade, lateral earth pressures, seismic considerations, frost protection, temporal excavation and dewatering, site grading and drainage, pavement design considerations, concrete exposure class and review, testing and field inspection.

OUTCOME

The assessment concludes that the subsurface ground and groundwater conditions encountered on the greater section are considered suitable for the proposed country, residential and business park development.

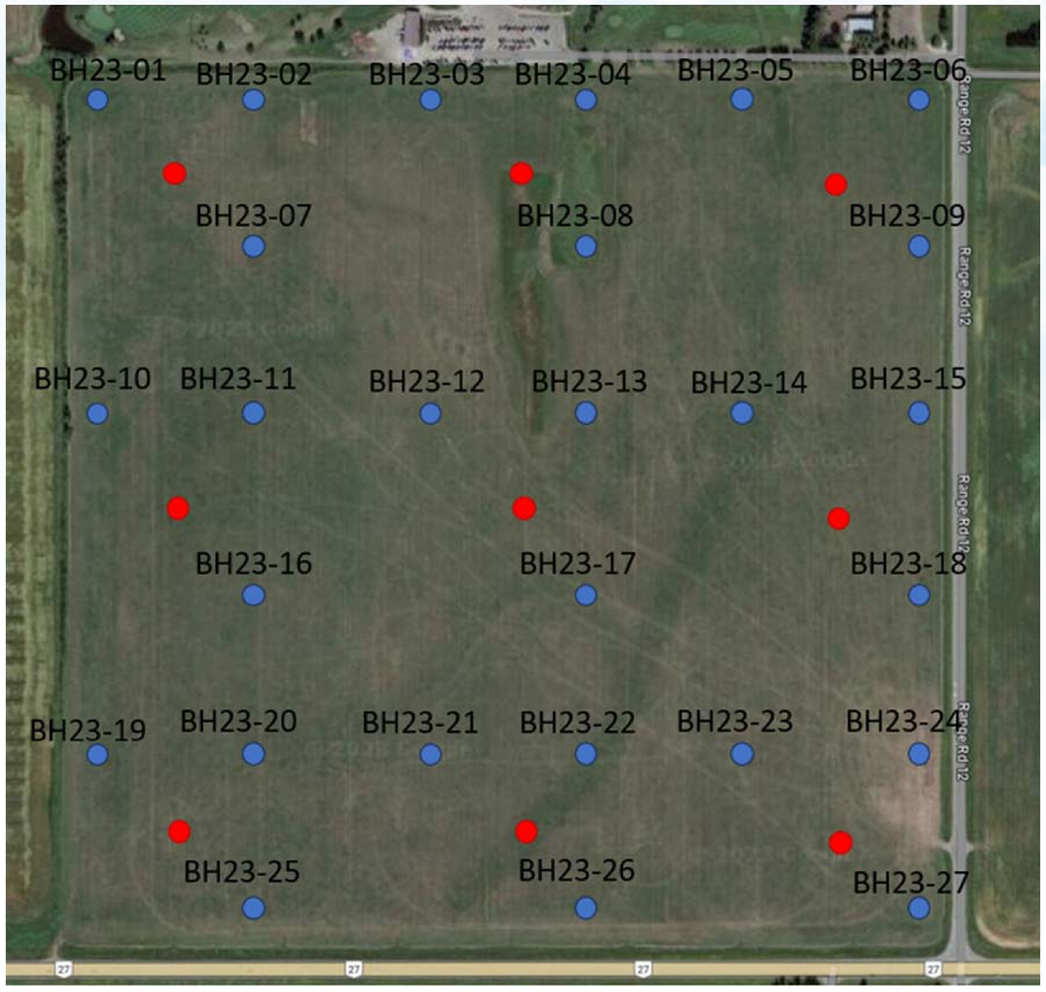

FIGURE 1 Borehole Location Plan

Note:
Additional geotechnical information is provided on the Private Sewage Treatment System exhibit.

Level II Private Sewage Treatment System Assessment

Authors: Alanna Felske, P.Geo. & Ken Hugo, P.Geo.
Company: Arletta Water Resources
Date: March 2024

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The Private Sewage Treatment System (PSTS) assessment was completed following the 2021 Alberta Private Sewage Systems Standard of Practice (SOP) and the Model Process for Subdivision Approval (Alberta Association of Municipal District and Counties, 2011).

Eight test pits were excavated on Site November 17, 2023, to get an assessment of the soil profile, log the soil samples for grain size analysis, and determine if any shallow water table or restrictive layers are present. Strata underlying the site consists mainly of clay loam, loam and sandy loam. Review of the drilling logs for water supply wells within the Site quarter section indicate that the upper strata consist of 24.4 meters of fine-grained soil overlying the bedrock surface. Wells in the area are completed over confined bedrock aquifer units which are not in direct communication with surface water sources. The surficial deposits and bedrock should serve as a barrier to the migration of septic field effluent to deeper aquifers.

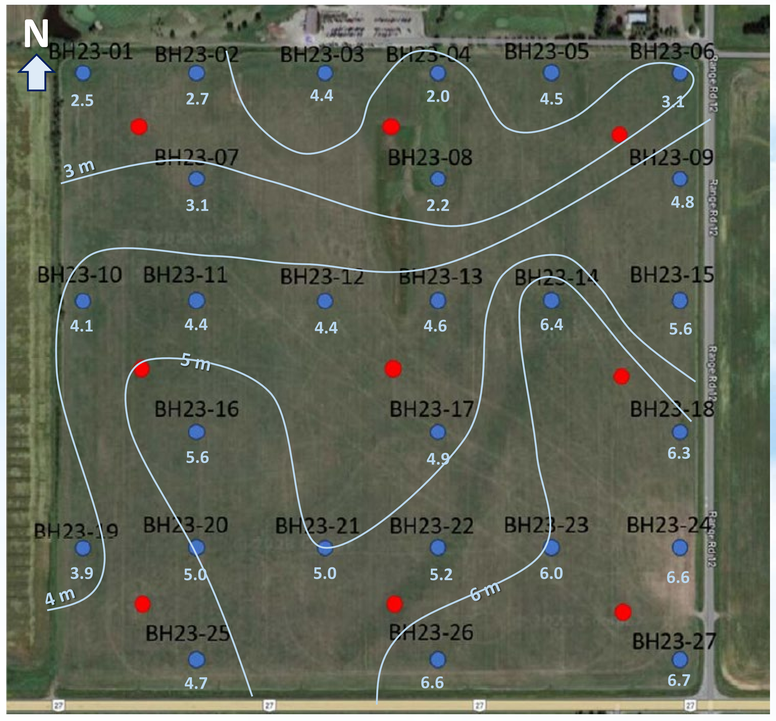
The geotechnical investigation conducted by Watt Consulting Group showed an area along the north side of the site where groundwater was located at a depth of 2 m below the surface. The test pits as part of this investigation also showed some soils with evidence of seasonal saturation (gleying/mottling) and certain areas with limited vertical separation distances between a surface septic field and this shallow groundwater restrictive conditions. Mounded septic fields will provide a sufficient infiltration distance.

The report outlines the design and construction requirements for mounded treatment fields.

Final siting of the PSTSs should maintain the required setback distances from the treatment mound toe to property lines, water wells, water courses, buildings, and septic tanks as outlined in the Alberta Private Sewage Systems Standards of Practice (SOP).

OUTCOME

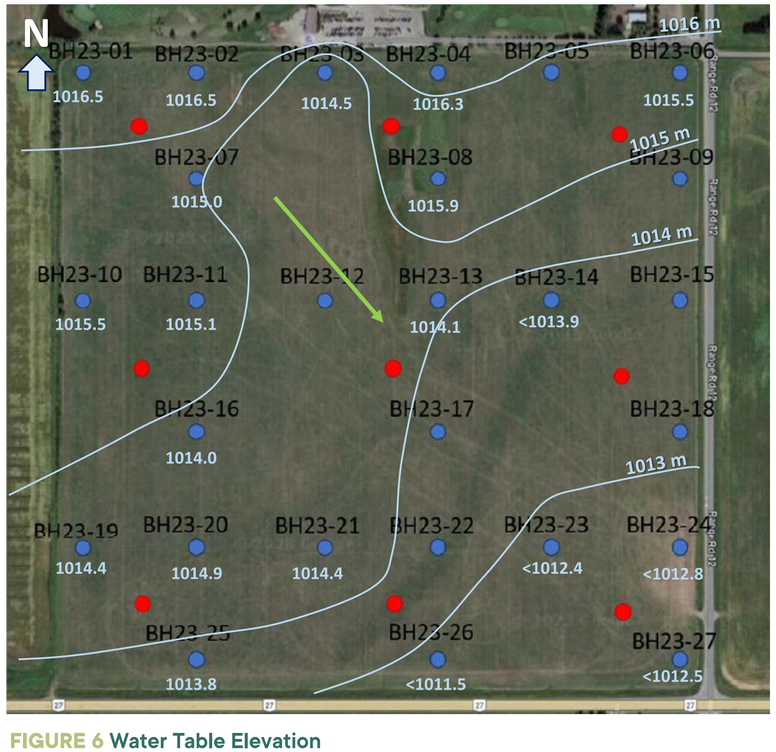
Soil texture and structure within the area investigated indicate that the site is acceptable for a mounded (above grade) septic field with primary (at some locations), secondary or greater treated effluent. The proposed subdivision of 45 lots can accommodate mounded private septic fields appropriate to the specific ground conditions of each proposed lot as per the SOP without negatively impacting the underlying groundwater aquifers or private wells on adjacent land.



Note:
The business park will be serviced using pump out tanks similar to what was recently approved for the Noble Business Park south of Highway 27.

Depth to Groundwater Contour (1 metre Intervals)
2.5 Posted Depth to Groundwater (metres)
Geotechnical Borehole Location 2023
Groundwater Borehole Location 2008

FIGURE 5 Depth to Groundwater



Depth to Groundwater Contour (1 metre Intervals)
1015 Posted Depth to Groundwater (metres)
Geotechnical Borehole Location 2023
Shallow Groundwater Flow Direction
Groundwater Borehole Location 2008

FIGURE 6 Water Table Elevation

Conceptual Stormwater Management Plan

Author: Paul Jacobs, P.Eng.
Company: Stormwater Solutions
Date: March 2024

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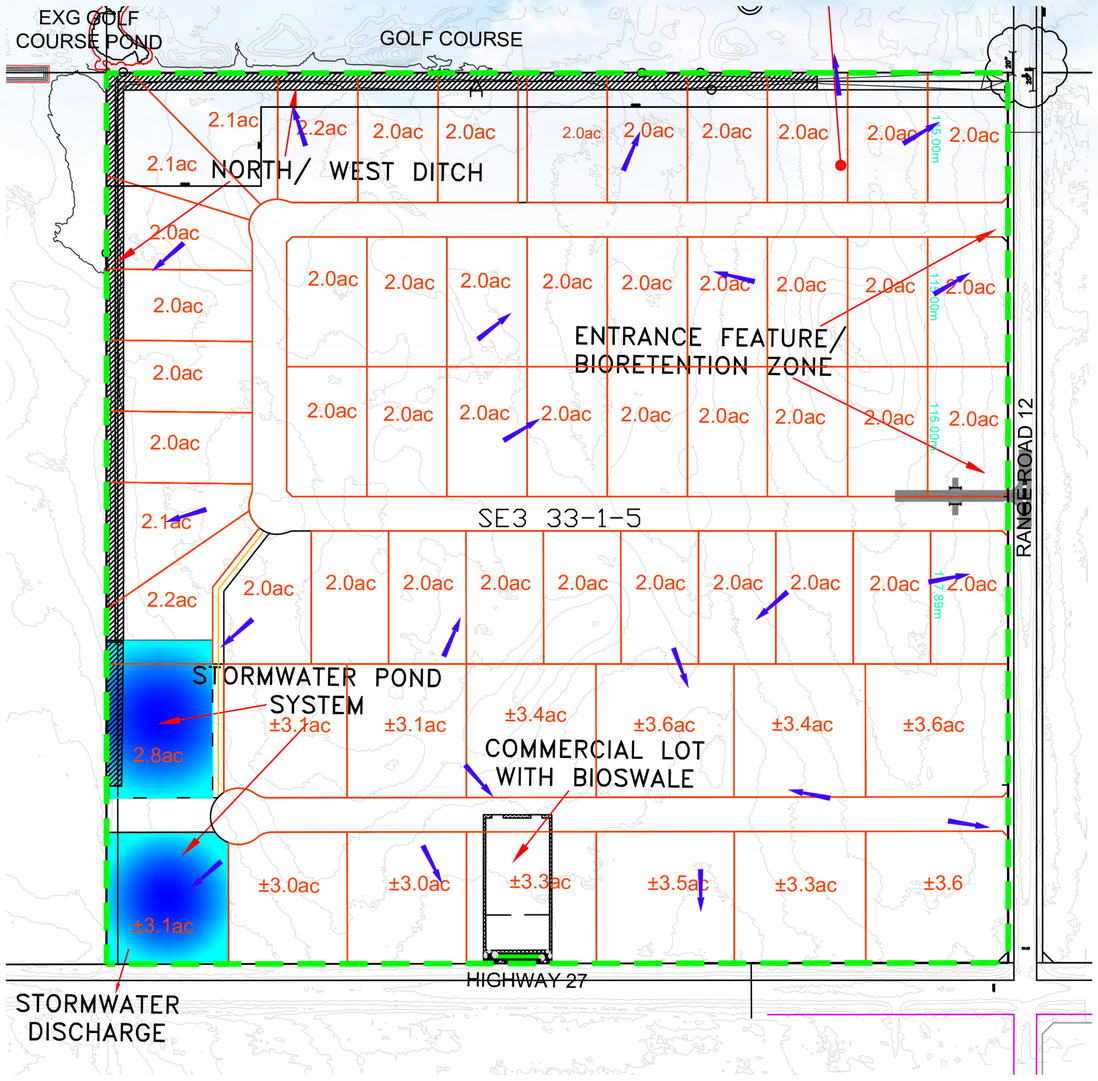
Paul Jacobs, President Stormwater Solutions, is finalizing a stormwater management plan for the Concept Plan.

Discussions are underway with Jason Clouston, Superintendent of the Olds TurfCare Team, about a stormwater management plan whereby stormwater from the Concept Plan development, would be collected in a permanently wet stormwater facility in the SW corner of the quarter and either pumped back to the Olds Golf Course for use on the golf course or released downstream to Lonepine Creek in order to ensure that the off-site stormwater flow does not exceed that which would occur from the existing quarter section in a pre-development state. Drainage will be channelled to the stormwater ponds via the boundary ditches and roadway ditches.

The plan includes small bioretention facilities at the roadway entrances to the development off Range Road 12 and on several of the business park lots in the south-central portion of the quarter adjacent to Highway 27. The bioretention facilities enable more infiltration of stormwater than if it was immediately discharged downstream. These bioretention areas will be wet after rain events but dry for the majority of the year. See adjacent panel.



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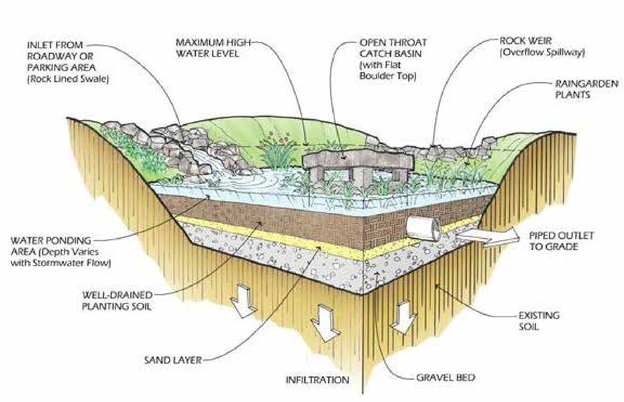
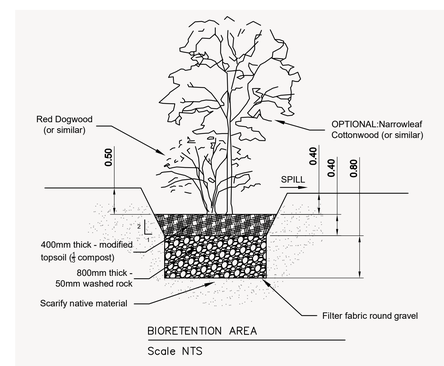
Generic Example of Bioswale



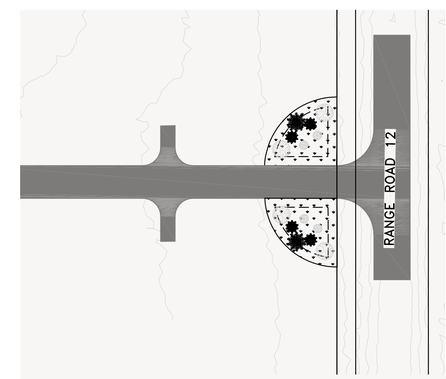
Generic Example of Bioswale

BIORETENTION

Bioretention areas are Low-Impact Development (LID) Measures which allow stormwater runoff to be infiltrated rather than to discharge offsite. They not only protect downstream watercourses from excessive runoff, but also filter the water to protect fish habitat. They are typically placed at the side of a road to collect runoff from an overland swale or catchbasin. They consist of a sand/ gravel or other well-draining subsoil, below a deep, well-draining growing medium. Above this there is a ponding area of variable depth and a high-level discharge pipe or spillway. The figure opposite is an example of a bioretention zone. Trees, shrubs or other vegetation can be planted in the bioretention area as required. For this project, a bioretention zone placed adjacent to the treed area can be planted with vegetation to match to existing flora. The location of the proposed bioswale is shown to the right. In addition to the bioretention area, an additional LID measure is proposed. This is called absorbent landscaping. One approach to absorbent landscaping is simply adding topsoil to the proposed lots and roadway ditches. Construction of the roads and houses typically results in excessive topsoil. This can be stockpiled and used by homeowners during development of their lots. Further, from the Geotechnical Evaluation the topsoil across the site varies from 100–225 mm. Excess topsoil, resulting from grading can be spread across the site.



Bioswale Cross-Section Proposed off RR12



Entrance Feature Proposed off RR12

Typical Stormwater Pond

STORMWATER PONDS

Wet ponds are impoundment areas used to temporarily store stormwater runoff in order to promote settlement of runoff pollutant, as well as to restrict downstream discharge to predetermined rates to reduce downstream flooding and erosion potential. Wet ponds are similar to lakes in that there is always a permanent body of water. During rainfall events, additional temporary storage is provided above the permanent level. After the rainstorm, the water level gradually recedes back to its original level. Wet ponds can be constructed by an embankment or through excavation of a depression. Design of the facility usually includes the upper stage (above NWL), where the volume from storm events is stored, and the lower stage (below NWL), where sedimentation is promoted. It is the lower stage that provides the pond's primary source of water quality enhancement. Sediment forebays are required on all wet ponds to help confine settlement for larger pollutant particles. In the case of wet ponds where the water is re-used for irrigation or other purposes, the normal water level is not constant, but rather fluctuates between a (U)NWL and a (L)NWL level. Discharge to receiving waters or a downstream drainage system commences when the water level in the wet pond exceeds the (U) NWL. Re-use ceases when the water level has dropped to the (L)NWL.

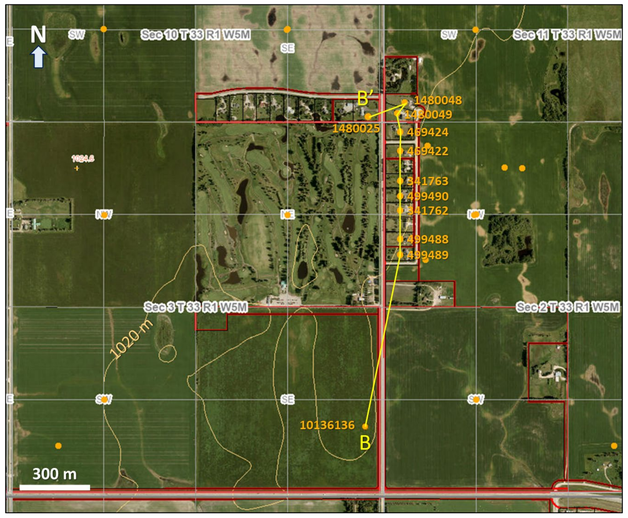
Phase 1 & 2 Groundwater Supply Evaluation

8. EFFECT ON EXISTING GROUNDWATER USERS

8.1. NEIGHBOURING GROUNDWATER USERS WITHIN NW-02-33-01W5

There are approximately 10 neighbouring domestic groundwater users adjacent to the proposed development, located in the quarter section to the northeast of the Site in NW-02-33-01W5. Of the 10 neighbouring lots, seven wells were able to be matched to each lot using the lot number listed on the wells Water Well Drilling Report (WWDR). The remaining three lots were not able to be matched to a WWDR. An aerial photo showing the location of the new well on Site relative to the domestic use wells to the northeast is included in the figure below. An additional three wells located in quarter sections not adjacent to the Site were included.

Figure 9. Air photo showing neighbouring well locations and B-B' cross section line



Relevant information from the Water Well Drilling Report for the Site supply well and each of the adjacent 10 wells shown in Figure 9 is shown in Table 4.

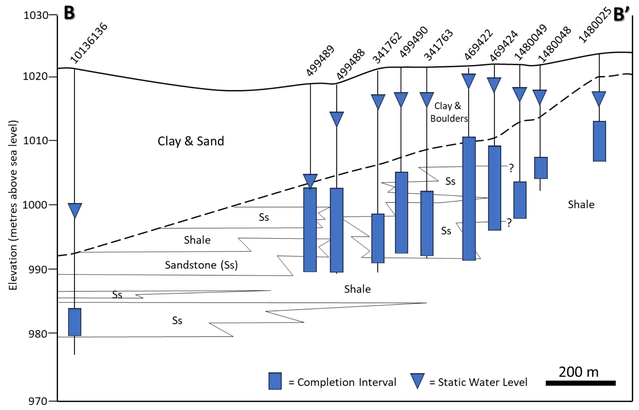
Table 4. Well details of neighbouring wells and Site supply well

GIC Well ID	Well Location	Completion Date	Depth (m)	Production Zone (m)	Static Water Level (m)	Distance to Site Well (m)
10136136	**SE-03-33-01W5**	**2023/12/15**	**42.7**	**35.1 – 39.6**	**22.01**	**N/A**
499489	NW-02-33-01W5	2001/06/20	28.0	15.2 – 28.0	15.85	728
499488	NW-02-33-01W5	2001/06/06	29.0	15.2 – 29.0	5.79	787
341762	NW-02-33-01W5	2002/07/22	29.9	21.3 – 29.9	5.79	915
499490	NW-02-33-01W5	2001/06/05	27.4	15.2 – 27.4	5.79	972
341763	NW-02-33-01W5	2001/10/04	28.0	18.3 – 28.0	6.28	1,030
469422	NW-02-33-01W5	1997/06/16	29.0	10.7 – 29.0	3.20	1,158
469424	NW-02-33-01W5	1997/06/04	24.4	12.2 – 24.4	3.81	1,230
1480049	SW-11-33-01W5	2008/05/27	21.3	16.8 – 21.3	5.18	1,301
1480048	SW-11-33-01W5	2008/05/13	18.3	13.7 – 16.8	5.79	1,359
1480025	SE-10-33-01W5	2003/07/29	15.9	9.8 – 15.9	7.32	1,287

The neighbouring domestic supply wells are completed over shallow depth zones than the Site supply well and also generally have much shallower water levels.

A cross section (Figure 10) was constructed using Water Well Drilling Reports along the line B – B' to illustrate aquifer distribution and to show if the completion zones of these existing domestic wells coincide with the production interval used by the Site supply well (#10136136).

Figure 10. Geologic cross section B – B'



The supply well on Site accesses water from a deeper confined sandstone aquifer unit compared to the existing domestic wells to the northeast of the Site, which access water from shallower confined sandstone or shale aquifer units. The static water level in the Site well (#10136136) is deeper than those of the existing domestic supply wells, indicating the Site well produces from an aquifer zone that is hydraulically isolated from the aquifers accessed by the existing domestic wells. Existing domestic supply wells produce water from either shallow confined sandstone aquifers or shallow confined shale aquifers, with static water levels generally within 7 metes of ground surface.

We can determine from the cross section that production from the Site well should not hinder the production ability of the existing domestic supply wells as they produce water from two different, hydraulically isolated zones.

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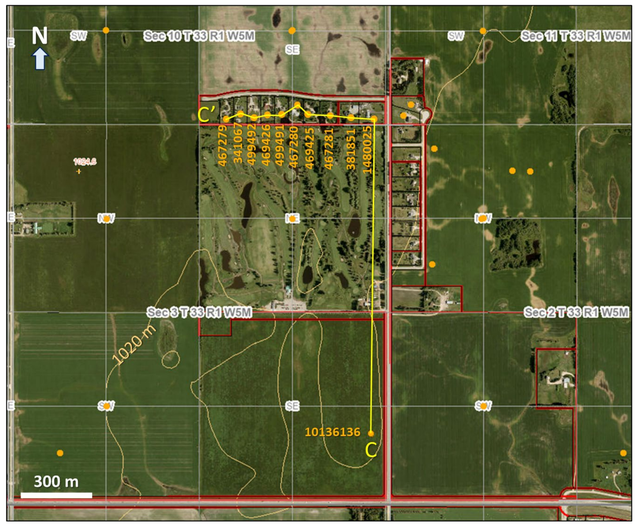
8.2. Neighbouring Groundwater Users Within SE-10-33-01W5

There are approximately 10 neighbouring domestic groundwater users close to the proposed development, north of the Site in NW-02-33-01W5. Wells were able to be matched to each lot using the lot number listed on the wells Water Well Drilling Report (WWDR). An aerial photo showing the location of the new well on Site relative to the domestic use wells to the north of the Olds Golf Course (and Site) is included in the figure below.

Figure 11. Air photo showing neighbouring well locations and C-C' cross section line



Relevant information from the Water Well Drilling Report for the Site supply well and each of the adjacent 10 wells shown in Figure 11 are shown in Table 5.

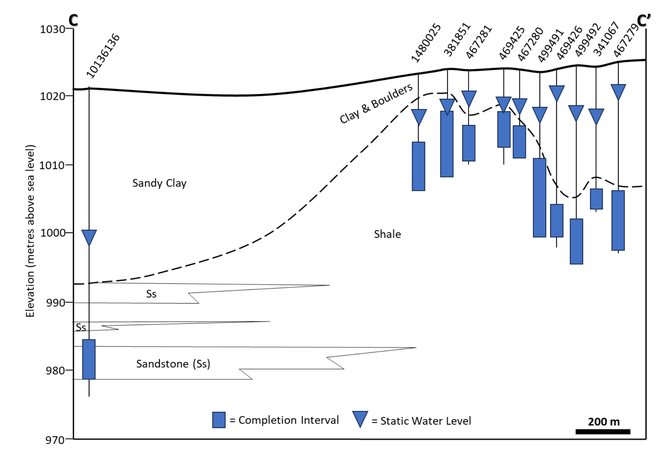
Table 5. Well details of neighbouring wells in SE-10-33-01W5 and Site supply well

GIC Well ID	Well Location	Completion Date	Depth (m)	Production Zone (m)	Static Water Level (m)	Distance to Site Well (m)
10136136	**SE-03-33-01W5**	**2023/12/15**	**42.7**	**35.1 – 39.6**	**22.01**	**N/A**
381851	SE-10-33-01W5	1994/04/08	15.2	6.1 – 15.2	6.40	1,366
341067	SE-10-33-01W5	2001/11/15	19.8	16.8 – 18.9	7.92	1,492
467279	SE-10-33-01W5	1996/09/01	25.9	17.7 – 25.9	5.18	1,498
467280	SE-10-33-01W5	1996/08/29	12.2	7.6 – 12.2	5.79	1,451
467281	SE-10-33-01W5	1996/08/27	12.8	7.6 – 12.2	4.88	1,362
469425	SE-10-33-01W5	1998/07/09	12.2	6.1 – 10.7	5.79	1,374
469426	SE-10-33-01W5	1998/07/02	24.4	18.3 – 22.9	4.57	1,443
499491	SE-10-33-01W5	2001/06/14	21.3	12.2 – 21.3	7.01	1,426
499492	SE-10-33-01W5	2001/06/25	27.4	21.3 – 27.4	7.32	1,457
1480025	SE-10-33-01W5	2003/07/29	15.9	9.8 – 15.9	7.32	1,364

The neighbouring domestic supply wells are completed over shallow depth zones than the Site supply well and also have shallower water levels.

A cross section (Figure 12) was constructed using Water Well Drilling Reports along the line C – C' to illustrate aquifer distribution and to show if the completion zones of these existing domestic wells coincide with the production interval used by the Site supply well (#10136136).

Figure 12. Geologic cross section C – C'



The supply well on Site accesses water from a deeper confined sandstone aquifer unit compared to the existing domestic wells to the north of the Site. The static water level in the Site well (#10136136) is deeper than those of the existing domestic supply wells, indicating the Site well produces from an aquifer zone that is hydraulically isolated from the aquifer accessed by the existing domestic wells within SE-10-33-01W5. Existing domestic supply wells produce water shallow confined shale aquifers, with static water levels generally within 5 metes of ground surface.

We can determine from the cross section that production from the Site well should not hinder the production ability of the existing domestic supply wells as they produce water from two different, hydraulically isolated zones.

Phase 1 & 2 Groundwater Supply Evaluation

Authors: Alanna Felske, P.Geo. & Ken Hugo, P.Geo.
Company: Arletta Water Resources
Date: May 2024

NETOOK NORTH

Arletta Water Resources (Arletta) was retained by 1273927 Alberta Ltd. to complete a combined Phase I and Phase II Groundwater Supply Evaluation for a proposed 45-lot residential and 56.5-acres commercial development to determine the aquifer potential underlying the Site located within SE-03-33-1W5 (the "Site"). The purpose of the investigation was to evaluate the depth, quality and yield of aquifer units underlying the Site and how they relate to the future development of the property and its water requirements. The analysis will be used to indicate if water can be supplied to the future development without causing adverse effects to existing groundwater users in the area.

A pumping test was conducted on the supply well December 15th, 2023, by personnel from Black Dog Drilling Inc The supply well was pumped at a rate of 15 imperial gallons per minute for (igpm) for 360 minutes. Water levels were measured during the pumping period and for an additional 360 minutes following pumping cessation.

A twenty-year safe yield (Q20) 530.2 m3/day (81.0 imperial gallons per minute or 193,647 m3/year) was calculated. At the calculated Q20 rate, the well could supply 155 domestic lots at the rate of 1,250 m3/year. Typical homes use less than half this amount of water per year. For a potential community supply well, typical consumption rates are approximately 400 m3/year for both residential lots and commercial sites that need water for just sinks and toilets. This well would be able to supply approximately 484 lots at this rate.

A water sample was obtained from the supply well for routine dissolved constituents and microbiology analysis. The water from the supply well exceeds AO guidelines for the concentration of sodium, sulfate, iron and total dissolved solids (TDS). The MAC guideline for manganese concentration and fluoride concentration were exceeded. The water from the supply well is suitable for drinking water use with recommended treatment to reduce manganese and fluoride concentrations. Depending on if the nature of the future water use is for sinks, toilets, shower, kitchen or for drinking water the water from the supply well may be suitable for use without treatment (e.g. for commercial use).

NETOOK NORTH

CONCLUSIONS

The water well data available in the area shows that aquifer units are distinct, with permeable aquifer units (sandstone) hydraulically isolated (separated) from each other by low permeability shale bodies. As the aquifers are hydraulically separated from each other, wells completed in one aquifer unit are not in direct competition for the same water resources accessed by wells completed in another aquifer unit.

Aquifer quality in the area is moderate to high, with available pumping tests analyzed to determine a sustainable pumping rate of 100.3 – 551.9 m3/day. At the calculated Q20 rate the well completed on Site could supply 155 domestic lots at the rate of 1,250 m3/year required by the Water Act, which exceeds the 45 proposed domestic lots.

The existing domestic supply wells near the proposed development are completed over shallow shale or interbedded shales and stone aquifers from 12 – 30 metres below ground. The Netook North well is completed over a deeper, distinct sandstone aquifer unit present from 35 – 40 metres below ground. There are no neighbouring wells within NW-02-33-01W5 and SE-10-33-01W5 that are completed over the aquifer accessed by the Netook North supply well. To be conservative, future supply wells drilled to service the domestic and commercial water supply needs of the Netook North Site might be completed over the deeper, distinct sandstone aquifer in order to not compete with existing neighbouring groundwater users producing from shallower aquifers. The requirement to drill wells within the Netook North development to at least 40 metres could be made a condition of subdivision approval by the county.

BEDROCK GEOLOGY

The underlying bedrock geology consists of the early/lower Paleocene fluvial sandstones of the Paskapoo Formation. The Paskapoo Formation is a non-marine fluvial deposit consisting of interbedded sandstone channel bodies and overbank mudstone, siltstone and shale. The formation is one of Alberta's largest and most prolific aquifers, supporting more wells than any other aquifer in Alberta's prairies. The priority target aquifers in the formation are the permeable and porous channel sandstones, while the surrounding mud and shale act as confining aquitards.

It was reported by Toth (1963) that a volcanic deposit, termed the Olds Tuff Bed, is present in the area. As this deposit is usually associated with lake deposits, likely deposited in a back water swamp adjacent to the river deposits. The Olds Tuff is found at an elevation of around 900 m above sea level, or at a depth of approximately 21 m in the well. This zone is reported to be a grey sandy clay in the Water Well Drilling Report, consistent with the soft nature of tuffs.

Aquifers in the area consist of shallow bedrock sandstones or shales of the Paskapoo Formation. Groundwater use in the area is low, consisting largely of individual unregistered residential acreages with low licensed groundwater usage. Available pumping tests for existing nearby wells were analyzed to determine long term yield rates. Well yields of existing wells are generally high, with long term yields on the order of 110.3 – 551.9 m3/day. These existing wells produce from a shallower sandstone aquifer than that accessed by the supply well on Site. A supply well (GIC Well ID 10136136) was installed on Site December 14th, 2023, by personnel from Black Dog Drilling Inc to determine aquifer conditions underlying the Site. The well obtains water from a confined bedrock sandstone aquifer present at depths of 35.7 – 40.2 metres below ground, which is 14 – 25 meters below the aquifer units accessed by existing neighbouring domestic supply wells. Approximately 25 metres of mixed sand and clay, and at least 10 metres of interbedded sandstone and shale bedrock overlying the screened interval should aid in preventing surface water contaminants, such as septic field effluents, from migrating to the aquifer.

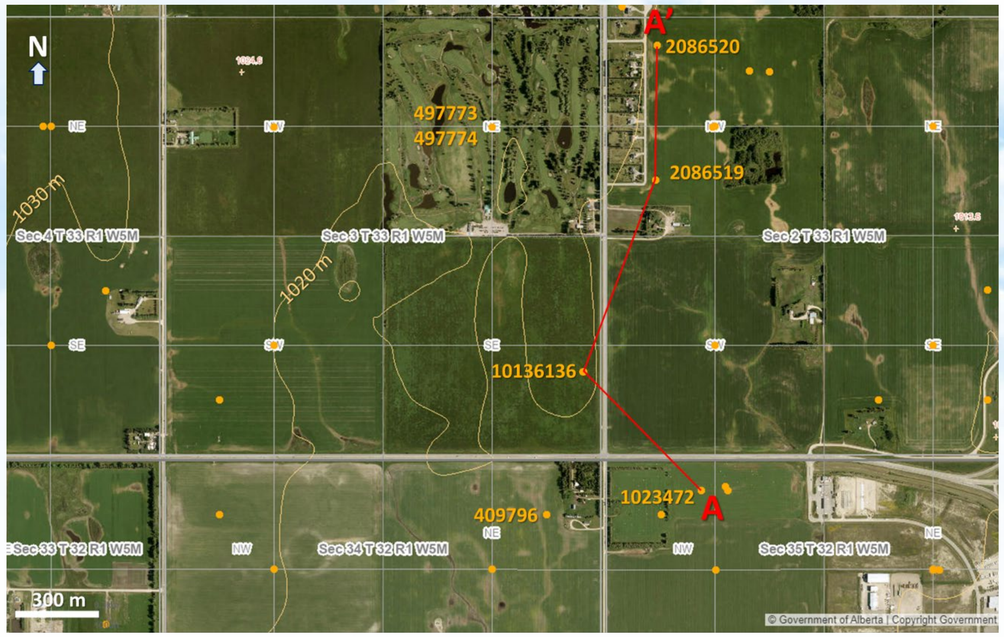


FIGURE 3 Aerial photo with surface topography contours and A-A' cross section well locations

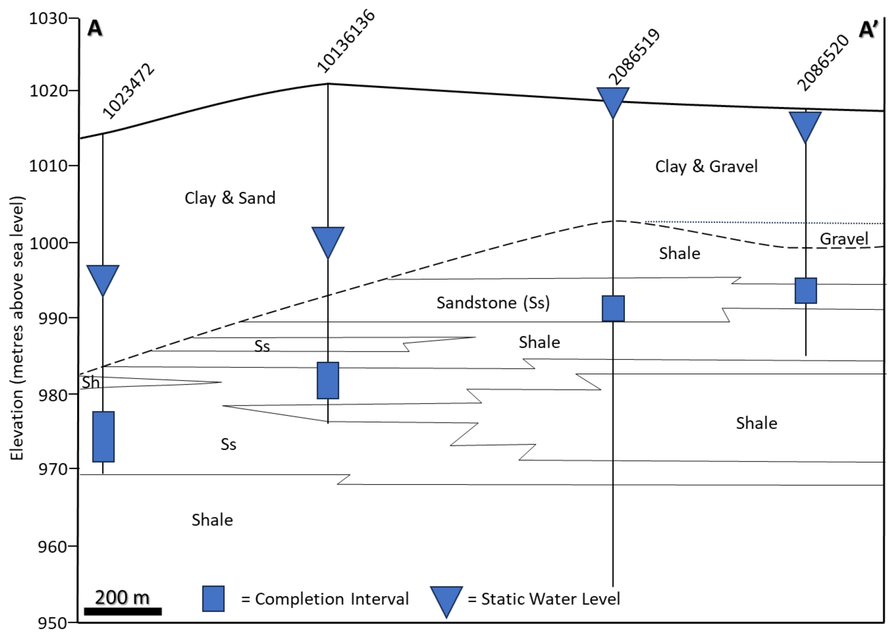


FIGURE 4 Geologic Cross Section A-A

Development Control in Land Use Bylaw

The Proposed I-BP Business Park District will establish the following development guidelines:

I-BP

Section 14 INDUSTRIAL DISTRICTS

14.1. I-BP Business Park District

Purpose

To accommodate a broad range of commercial and industrial uses in business and industrial parks, some of which may have outdoor storage or work activities. Any nuisance associated with such uses should generally not extend beyond the boundaries of the site.

Uses

a) The following uses shall be permitted or discretionary with or without conditions provided the application complies with the regulations of this district and this Bylaw.

EXEMPT	DISCRETIONARY
Agriculture, Extensive – see Other Development Regulations	Accessory Building and Use
PERMITTED	Abattoir
Accessory Building and Use	Agricultural Processing
Animal Health Care Services	Agricultural Support Services
Automotive, Equipment and Vehicle Services	Alternative/Renewable Energy Development, Commercial
Commercial Retail Services, Major	Amusement and Entertainment Services
Commercial Retail Services, Minor	Auctioneering Services, Livestock
Cultural Facilities	Auctioneering Services, No Livestock
Day Care Services	Berming
Eating Establishment, Indoor	Cannabis Production Facility
Eating Establishment, Outdoor	Cannabis Retail Sales
Educational Services	Bulk Fuel Depot
Government Services	Cardlock Fuel Dispensing Facility
Hotel	Crematorium
Liquor Sales / Distribution Services	Communication Tower
Medical Treatment Services	Dwelling, Security Suite
Motel	Funeral Home
Office	Horticultural Use
Park	Horticultural Use, Medicinal
Personal and Health Care Services	Industrial Manufacturing / Processing, General
Professional, Business, Financial & Office Support Services	Industrial Storage and Warehousing
Protective and Emergency Services	Kennel, Commercial
Recycling Depot	Recreation Services, Indoor Participant
Service Station	Recreational Vehicle Storage Indoor
Signs, On-Site Commercial	Recreational Vehicle Storage Outdoor
Utility Building	Riding Arena, Public
Utility Services, Minor Infrastructure	Semi-Public Use
	Signs, Third-Party Commercial
	Spectator Sports Establishments
	Tree Clearing/Clear Cutting when in ESA Level 1, 2, 3, & 4
	Utility Services, Major Infrastructure
	Waste Management Facility, Minor
	Work Camp, Long Term
	Work/Lay Down Camp

Site Regulations

b) The following regulations shall apply to every development in this district.

PARCEL SIZE	All of the land contained in the existing titled area, unless otherwise approved by the Approving Authority
	Minimum Commercial Parcel Size is 1.01 ha (2.5 ac)
	Minimum Industrial Parcel Size is 2.02 ha (5.0 ac) (under Inter-Municipal agreements)
FRONT YARD	Minimum 30.0 m (98.4 ft) from the property line from any paved or hard surface County road allowance
	Minimum 40.0 m (131.2 ft) from the property line from any gravel County road allowance
	Minimum 12.0 m (39.4 ft) from an internal subdivision roadway
REAR YARD	Minimum 9.0 m (29.5 ft)
SIDE YARD	Minimum 9.0 m (29.5 ft)
FENCES, GATES, SIGNS	On the property line for fences, gates, other means of enclosure, and signs
YARDS SETBACKS FROM EXISTING & PROPOSED HIGHWAYS & SERVICE ROADS	As determined by Alberta Transportation
CORNER PARCEL RESTRICTIONS	In accordance with Subsection 9.6.
YARD SETBACKS FROM EXISTING RESIDENTIAL DISTRICTS	Where the yard abuts an residential district it shall be increased by 50%
BUILDING HEIGHT	Maximum 18.0 m (59.1 ft)
PARCEL COVERAGE FOR THE PRINCIPAL AND ALL ACCESSORY BUILDINGS	Maximum 60% of the parcel area provided that provision has been made for off-road parking, loading, storage waste disposal and landscaping to the satisfaction of the Approving Authority

Other Development Regulations

c) Agriculture, extensive shall be exempt on designated land until such time as development and construction commences according to the primary intent of the district.

d) The minimum setback requirement for all Permitted and Discretionary Uses may be increased at the discretion of the Approving Authority. The storage of goods and equipment within setbacks may be considered at the discretion of the Approving Authority.

e) As a condition of subdivision or development approval, the County may require guaranteed security to ensure the timely completion of the subdivision and/or development approval conditions

f) Permitted and Discretionary Uses are subject to the appropriate provisions and requirements contained within PART 4 – RULES GOVERNING ALL DISTRICTS.

(i) For General Regulations refer to Section 9.0.

(ii) For Specific Use Regulations refer to Section 10.0.

g) Permitted and Discretionary Uses in this district shall comply with the Business, Commercial, and Industrial Guidelines as adopted by Council.

Development Control in Land Use Bylaw

The Proposed R-CR1 Country Residential District will establish the following development guidelines:

R-CR1

12.2. R-CR1 Country Residential (1) District

Purpose

To accommodate clustering of residential uses on smaller parcels that encourage the preservation of ecologically significant areas, historical sites, and agricultural land.

Uses

a) The following uses shall be permitted or discretionary with or without conditions provided the application complies with the regulations of this district and this Bylaw.

EXEMPT	DISCRETIONARY
Note: "Exempt" means development that does not require a Development Permit if it meets all the provisions of the Bylaw. For additional guidance please refer to Subsection 4.2.	Accessory Building and Use
	Bed and Breakfast
	Berming
Accessory Building and Use, less than 10.0 m² (107.6ft²)	Boarding House
Agriculture, Extensive – see Other Development Regulations	Business, Home Based
Business, Home Office	Day Care Services
Recreational Vehicle Storage Outdoor up to 2 vehicles	Dwelling, Duplex
Sign, Identification	
PERMITTED	Dwelling, Move In/Relocation
Accessory Building and Use	Dwelling, Secondary Suite
	Group Home, Limited
Dwelling, Prefabricated	Recreational Vehicle for living accommodation may be applied for as a temporary residential use in combination with a Development Permit application to construct a dwelling unit
Dwelling, Single Detached	Selective Logging when in ESA Level 1
Selective Logging when in ESA Level 2, 3, & 4	Show Home
Sign, Gateway & Directional	Tree Clearing/Clear Cutting when in ESA Level 1, 2, 3, & 4
Sign, On-Site Commercial (with an existing DP)	

Site Regulations

b) The following regulations shall apply to every development in this district.

PARCEL DENSITY	In accordance with statutory plans and approved Concept Plans
PARCEL AREA	Minimum 0.81 ha (2.0 ac); Maximum 1.20 ha (2.99 ac)
FRONT YARD	Minimum 30.0 m (98.4 ft) from the property line from any paved or hard surface County road allowance
	Minimum 40.0 m (131.2 ft) from the property line from any gravel County road allowance
	Minimum 7.0 m (23.0 ft) from an internal subdivision roadway
REAR YARD	Minimum 6.0 m (19.7 ft)
SIDE YARD	Minimum 4.0 m (13.1 ft)
FENCES, GATES, SIGNS	On the property line for fences, gates, other means of enclosure, and signs

YARD SETBACKS FROM EXISTING AGRICULTURAL DISTRICTS	Where the yard abuts an agricultural district it shall be 17.0 m (55.8 ft)
CORNER PARCEL RESTRICTIONS	In accordance with Subsection 9.6.
YARD SETBACKS FROM EXISTING & PROPOSED HIGHWAYS & SERVICE ROADS	As determined by Alberta Transportation
BUILDING HEIGHT	Dwelling unit: Maximum 10.0 m (32.8 ft)
	For all other Permitted and Discretionary Uses: Limited to such height as is deemed suitable and appropriate for the intended use
DWELLING FLOOR AREA	Shall meet required Alberta Building Codes for permanent year-round occupancy
	Standards for other uses shall be as required by the Approving Authority
DWELLING DENSITY	The base density for all parcels shall be one (1) dwelling unit per parcel
	A secondary suite may be considered in accordance with Section 9.10. except when the principal building is a multiple dwelling unit then no secondary suite shall be considered.

Other Development Regulations

c) When an accessory building is used as a Farm Building as defined in Section 2.5 of this Bylaw a Building Permit may not be required.

d) Agriculture, extensive shall be exempt on designated land until such time as development and construction commences according to the primary intent of the district.

e) As a condition of subdivision or development approval, the County may require guaranteed security to ensure the timely completion of the subdivision and/or development approval conditions.

f) Permitted and Discretionary Uses shall adhere to PART 4 – RULES GOVERNING ALL DISTRICTS.

(i) For General Regulations refer to Section 9.0.

(ii) For Specific Use Regulations refer to Section 10.0.

g) Permitted and Discretionary Uses in this district shall comply with the Business, Commercial, and Industrial Guidelines as adopted by Council.

Next Steps - Project Timeline

2023–2024 Preparation of technical studies

May 22, 2024 Drop-in Public Information Session, Olds Golf Club

June 2024 Submission of Concept Plan, Land Use Redesignation & Subdivision Applications to Mountain View County

July - October 2024 County technical review and external circulation of applications

Summer & Fall 2024 Updates to Concept Plan & applications based on feedback

Fall 2024 - Winter 2025 Municipal Planning Commission recommendations

Winter 2025 Mountain View County Council decisions

Thank You For Joining Us

We will listen to stakeholder comments, please fill in a feedback form

We will prepare a summary of all feedback received

We will finalize the Concept Plan, Subdivision and Land Use Redesignation Applications

Applications will be submitted to County for its review and decisions

For questions & updates contact **Darby Henshaw** at 403.692.4534 • dhenshaw@bastudios.ca or **Greg Brown** at 403.512.4180 • gbrown@bastudios.ca or visit our website at **NetookNorth.com**