



STARLAND COUNTY

MUNICIPAL DEVELOPMENT PLAN



October 9, 2019

Prepared with the assistance of:



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1.0 INTRODUCTION

1.1 Plan Purpose

The County Council realizes that the process of revitalizing the local economy is a long-term undertaking that must be responsive to the constantly changing economic and social conditions. Although it is considered with the light of current information that the proposals and policies in this plan together represent the best means of alleviating many of the problems in the area, it may be that these implements do not have the desired effect or indeed' owing to changing circumstances, certain aspects may not in fact be implemented. Thus, the Plan may need to be altered or amended if it does not stand the test of time. For these reasons, the County Council will periodically monitor and, where necessary, adjust the Plan to reflect needs and priorities occurring over time. The public and other interested parties will be given the opportunity to comment on any proposed changes to the Plan.

1.2 Plan Implementation

Section 632 of the Municipal Government Act (RSA 2002, Ch M-26) provides that every council of a municipality must by bylaw adoption a Municipal Development Plan (MDP).

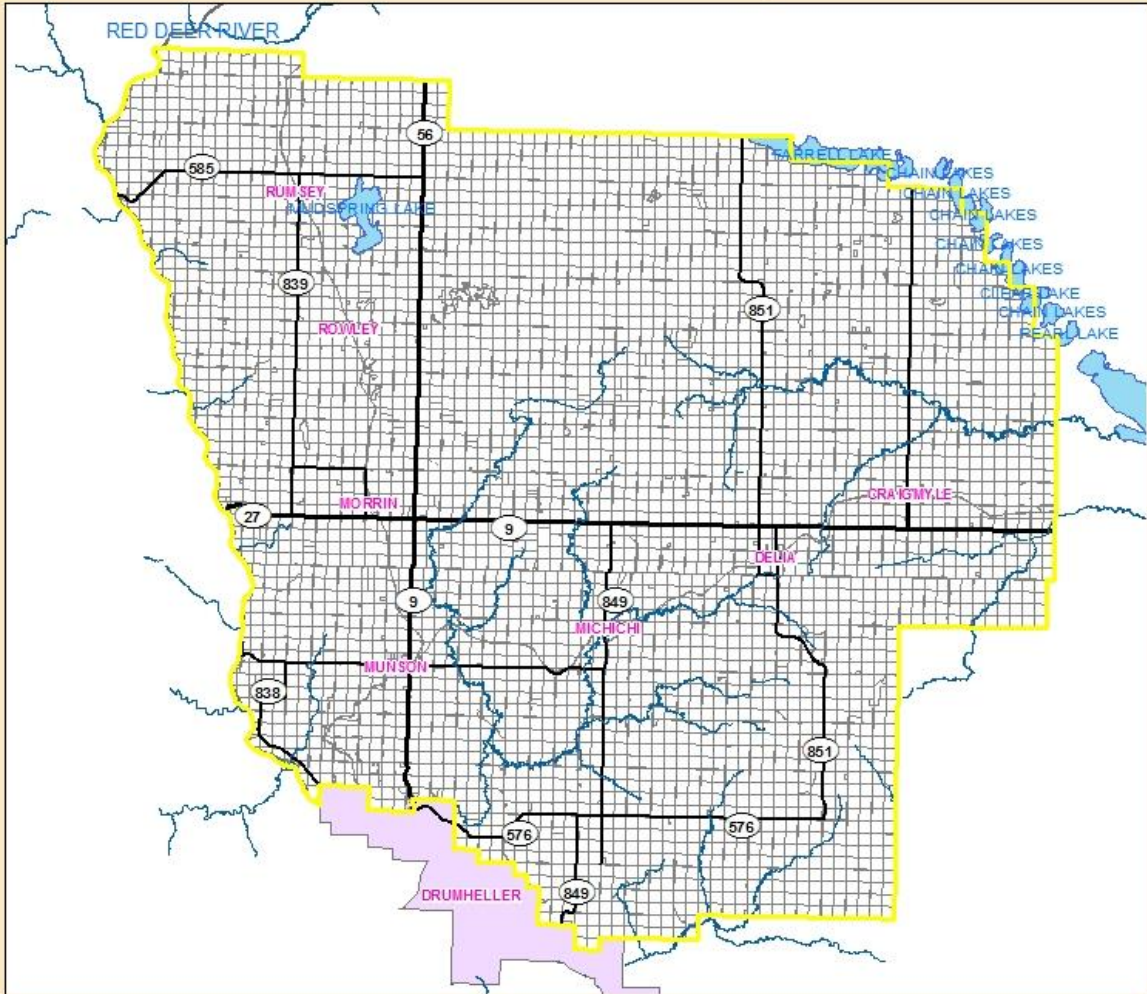
The Municipal Development Plan shall become a statutory document of Starland County on the day it is adopted by Council. This plan shall not relieve a person from compliance with the Land Use Bylaw nor any other document established pursuant to the Municipal Government Act. It is intended to provide the framework that will guide and inform more detailed plans and policies. In particular, the Land Use Bylaw will be an important tool for implementing the policies of this Plan.

2.0 PHYSICAL LANDSCAPE

2.1 Environmentally Significant Areas

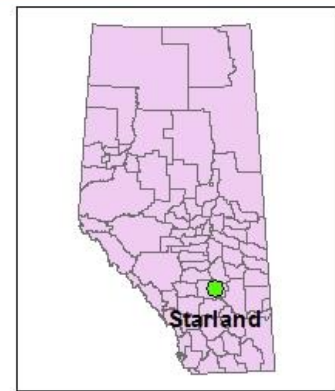
Starland County covers approximately 2579 square kilometres (1000 square miles). The Town of Drumheller is located on the County's southern boundary, and within the County are three separately incorporated villages (Delia, Munson and Morrin), and four hamlets (Craigmyle, Michichi, Rowley and Rumsey) (Map 1).

Starland Location Map



Map Produced February 2012
Not responsible for Errors or Omissions.

Legend	
	County Boundary
	Minor_River
	Lake
	major_river
	Urban Boundary



Most of Starland County is fairly level, with flat undulating plains that have been extensively modified by glacial action. The Hand Hills, in the south of the County form an exception to this pattern, rising approximately 250 - 350 metres above the surrounding plains. Striking topographical contrasts are also found along the Red Deer River valley, which forms a large portion of the boundary of the County, where spectacular coulees and badlands have been created from the underlying sedimentary rock formations. The northern areas of the County tend to have a strongly rolling topography, with many small hummocks and low slough areas, in conjunction with the parkland ecosystem found in the northern areas.

Starland County occupies a transition zone between the Grasslands and the Parklands natural Eco-regions. The extreme southern area consists of Mixed Grassland, while the majority of the County consists of Northern Fescue Grassland. Central Parkland vegetation occurs in the northern areas of the County.

Environmentally Significant Areas (Map 1) are sites of environmental concern, based on factors such as rare geological features, rare or endangered plant or animal species, unique or disappearing habitats, or areas with a high level of plant or animal diversity. Much of the Red Deer River valley was included in these sensitive areas, because of the diversity of plant and animal habitats, and the rare geological features associated with the badlands topography. Large areas of the Hand Hills were listed as having provincial importance because of its geology and vegetation. Two areas in the County, however, were ascribed importance at the national level, because of the fact that they represent the last remnants of the particular type of ecosystem. These are the Hand Hills Fescue, representing Northern Fescue on deep soils, and the Rumsey South area, representing non-sandy aspen parkland. The Rumsey South and a portion of the Hand Hills ESA's are Provincial Ecological reserves that are owned and leased out through the Province.

The Environmentally Significant Areas document also highlights hazard areas (Map 2) which have major physical constraints on most, if not all types of development. The types of hazards considered were flood plains of rivers and creeks, steep and unstable slopes, permanent wetlands, sand dunes and areas of artesian flow. Artesian flow areas are areas where groundwater aquifers reach the ground surface, and they can create costly construction problems.

2.2 Climate

Starland County is located within a dry semi-arid (steppe) BSK climate as defined by the Koppen Climate Classification System. A BSK climate exists when there is a moisture deficiency and the mean annual potential evapotranspiration exceeds the mean annual precipitation. The average mean annual precipitation for Starland County is 360 mm (14.2 inches) and the annual potential evapotranspiration is 546 mm (21.5 inches) creating a moisture deficit of approximately 173 mm (6.81 inches) annually. A BSK climate is normal throughout the Prairies region of Canada and the Starland County moisture deficit is less apparent than most areas.

Temperature ranges from a low mean temperature of -13.2 C (8.2 F) in January up to a high mean temperature of 16.8 C (62.2 F) in July.

2.3 Water Resources

Apart from the Red Deer River which borders on the County, there are only two small creeks (Map 3) which drain majority of the County. The Michichi Creek and West Michichi Creek system drain the southwest half of the County towards the Red Deer River. The Wolf Creek System drains approximately one-quarter of the County in the Northeast into Dowling Lake (within Special Area No. 2). The north / northwest quadrant of the County drains into a number of small seasonal lakes with no outlets. These lakes tend to dry up or contain very low water levels in the summer months.

Surface water quality is known to be marginal to poor. A high level of treatment would be required to use surface water for domestic purposes in majority of the County. While surface water sources are still used by some residents, ground water forms the predominant water source for most residents of Starland County. Majority of existing water wells (approximately 60%) are located within the Horseshoe Canyon Bedrock aquifer. The remaining 40% of wells are located within the upper surficial deposits aquifers. The depth of the upper surficial deposits aquifer is approximately 20 metres (21.9 yards) at most while the Horseshoe Canyon bedrock aquifers are from 20 to 140 metres (21.9 – 153 yards) in depth. This information displays that majority of the wells within the County are shallow. Map 3 indicates the apparent yield of groundwater from bedrock aquifers. Assuming that yields of 1.5 - 15 imperial gallons per minute is sufficient to handle most residential and agricultural needs, most of the County has sufficient ground water reserves. However, there are large areas in the southwest and northeast portions of the County where the average expected yield is less than 1.5 gallons per minute depending on the aquifer. According to the PFRA Groundwater Assessment Report (1999), it is possible that the combination of unlicensed and licensed groundwater allocation is greater than the available supply. The unlicensed groundwater allocation is presumed to be up to five times greater than the licensed diversion. Groundwater shortages could be a reality if this speculated data is correct. The report states that due to the generality and difficulty of accurately measuring groundwater flow rates this determination may be incorrect and may be greater or lesser than expected.

While this data is not very detailed and is based on expected yields, it is indicative of potential shortages of ground water to meet minimal needs. Actual yields of ground water can only be discovered through pump testing. It should also be remembered that none of this data indicates water quality. While water may be adequate quantity, it is of no use if the quality is such that it is not potable or useful for agricultural.

2.4 Groundwater Contamination Risk

Contamination risk of groundwater is greatest where there is 'first sand and gravel' located within 1 metre of the ground surface. Contamination risk is usually due to liquid contaminant of some type leaching into the soil. The most common contaminants originate on or near the ground surface. Common contaminants include leachate from landfills, effluent from leaking lagoons or septic field, and petroleum products from storage tanks or pipeline breaks. Agricultural activities may also cause contamination in the form of leaching from spreading of fertilizer, pesticides, herbicides, and manure. Road salt in large amounts may also cause water quality issues.

Map 4 indicates the risk of groundwater contamination. As shown in Map 4 approximately 20 - 25% of the County contains areas where the risk of groundwater contamination is rated high to very high. It is good practice to locate activities or operations which have a contamination risk or that may produce a liquid which could essentially contaminate groundwater where the risk of groundwater contamination is minimal. In certain circumstances where it appears a contamination risk operation must locate in a high to very high contamination risk area, risk minimizing techniques should be employed. It should be mentioned again that the PFRA Groundwater Assessment Report is only a guide and localized detailed hydrogeological studies may be required to determine the contamination risk on a per-site basis.

2.5 Regional Water Distribution

Starland County operates several regional water systems to serve those areas where ground water is either not available or is under the influence of ground contamination. The South Western portion of the municipality is serviced by the Starland Regional Water System which is a joint water supply for the municipalities of the Village of Munson, the Village of Morrin, Starland County and portion of the Town of Drumheller. All municipalities are included under joint service agreement for those jurisdictions called the Starland Regional Water Authority.

The CLV Water System is solely operated by Starland County and distributes water to the South Eastern portion of the County which includes a Booster Station in Drumheller and a water truck fill and reservoir as part of the regional system.

The Craigmyle Regional water system receives treated water from the Henry Kroeger Water Commission in Hanna. The service area includes the Hamlet of Craigmyle and rural and continues North to the Stettler County border. The main water line feeding from the Hamlet of Craigmyle pumps water to feed the rural system as well as supply water to the County of Stettler.

The Kirkpatrick water distribution line is connected to the Kneehill County supply system at Kirkpatrick which feeds across the Red Deer River feeding the North Drumheller area including the commercial campground in the area. This line was constructed for future development and water needs along the Dinosaur Trail corridor and North Drumheller districts.

The water to service the regional systems is treated and supplied through either the Henry Kroeger or Drumheller Water Treatment facilities. The water is further treated and maintained at several locations within the systems including the CLV, Craigmyle, Morrin and Munson reservoirs.

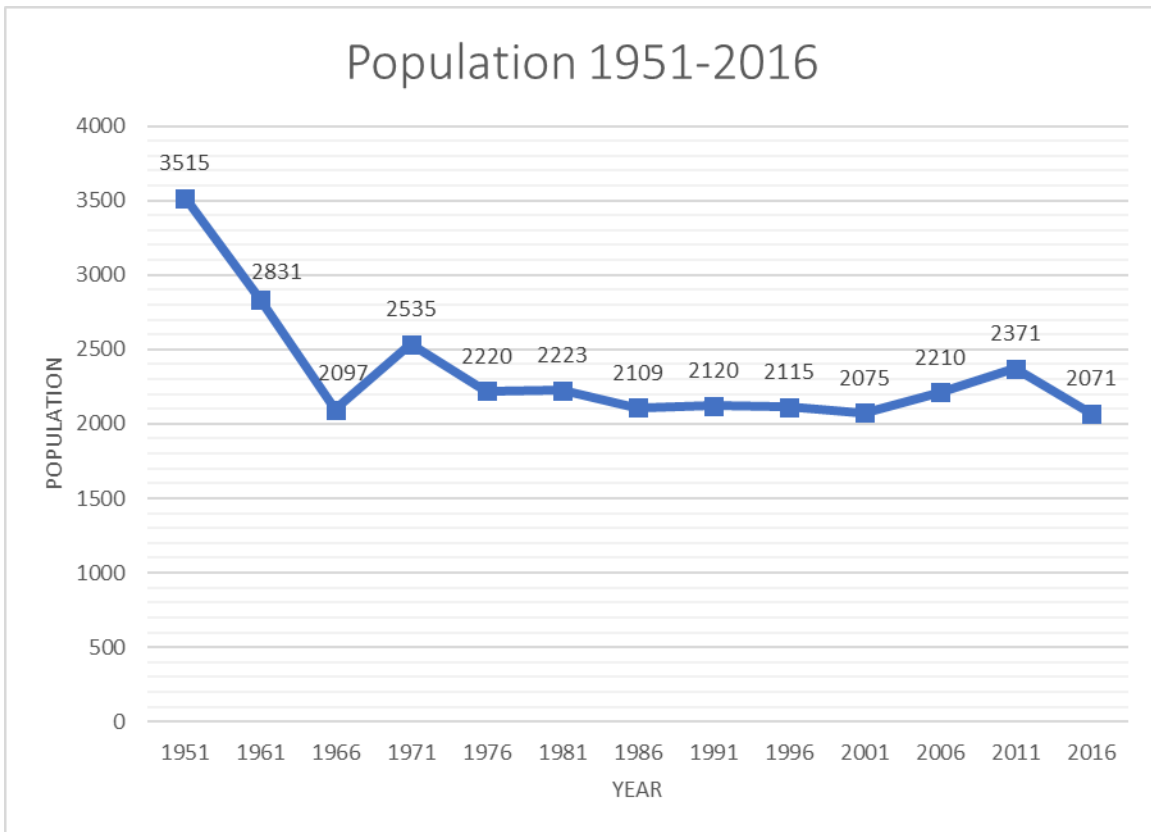
Rural water users are supplied and serviced under a water use agreement which includes the terms and obligations for treated water supply. The regional systems were designed as a "Low Flow" concept with use of smaller diameter piping to prevent higher construction costs associated with high pressure and larger diameter piping.

3.0 POPULATION

Native American settlement and activity in Starland County can be traced back thousands of years through the archaeological record. Larger numbers of inhabitants have only been seen in the area with the arrival of the first pioneers and settlers in the 1800's. The region was south of the main fur trading routes, and did not experience much activity related to the fur trade. The earliest settlers in the area were ranchers, in the late 1800's, but they were relatively few in number.

The first homesteaders began to arrive in the early 1900's, marking the rise of cultivation in the area, and the relative decline in the importance of ranching. However, in the northern areas of the County, where soils and the topography are less conducive to arable cropping, ranching is still the predominant form of agricultural activity.

Population figures date back to 1951, when the County's population was estimated at 3515. Since that time the population dropped until the 1970s. The population since 1970 appears to have stabilized around 2,000 (Fig. 2). In fact, the County has experienced an increase in population in the past ten years. From 1996 to 2006, the population increased 14.5% (from 2075 to 2371) or approximately 1.5% per year, much greater than the trends over the same time period in other east central Alberta communities. However, from 2006 to 2016, the population decreased 12.65% (from 2371 to 2071) while the province population has increased 10.8% (from 3,290,350 to 3,645,257).



4.0 GENERAL POLICIES

4.1 Plan Goals

The statutory Municipal Development Plan and the goals of this plan indicate the overall direction the County has determined to take in managing land use. In preparing these Plan goals, recognition has been given to the important role the agricultural and natural resource industries have played in contributing to the growth and development of the County.

Based on this understanding, the following plan goals have been identified:

1. To ensure opportunities for well-planned growth are available throughout the County.
2. To ensure opportunities for increased economic development are available throughout the County.
3. To protect agricultural land and natural landscapes from undesirable or incompatible land uses and/ or developments.
4. To balance all of the above through sound land use planning and development principles and policies.

4.2 General Policies

- (1) All subdivision and development shall be in accordance with the policies established in this Municipal Development Plan and all Provincial Regulations including the Subdivision and Development Regulation AR 43/2002 and the Municipal Government Act.
- (2) The Municipal Development Plan should be reviewed by Council every five (5) years to ensure that the Plan remains consistent with the objectives of the community.
- (3) Existing land use patterns set the stage for development of adjacent lands. The distribution of existing agricultural, residential, commercial, industrial, recreational and educational facilities influences future development patterns as per Starland County Land Use Bylaw Maps.
- (4) No amendments to this MDP are required by for land use bylaw amendments or first parcel out farmstead/residential developments which meet the criteria of Section 4.2(3).
- (5) The Land Use Bylaw shall be amended to conform to the Municipal Development Plan, and lands should be reclassified to the appropriate district prior to any subdivision or development. All County Policies and Bylaws must conform to Provincial or Federal Statutes and Regulations.
- (6) Future development should be contiguous with existing developed areas, and shall have regard for the adequacy of existing services and the feasibility of extending them.

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- (7) Council and/or the Development Officer should consider the environmental impacts of any proposed subdivision or development in the County in accordance with the policies in this Municipal Development Plan and any other Starland County planning documents.
 - (8) Prior to a significant subdivision or development, Starland County may require the preparation of an Area Structure Plan or alternative planning document to the satisfaction of Council.
 - (9) Council and the Development Officer should utilize development agreements as a means of financing new services for subdivisions and developments in the County.
 - (10) Development shall not be permitted on land which may be needed in the future for mineral extraction, transportation corridors, or utility right-of-ways.
 - (11) County Council shall support regional economic initiatives that are deemed beneficial to all parties involved.

5.0 NATURAL ENVIRONMENT

INTENT: The natural environment of Starland County contains features such as the Red Deer River Valley, the Hand Hills, and other natural areas that are unique. These areas may require protection, but also have potential for development due to the unique topographic features and associated scenic and aesthetic landscape value. The Starland County Environmentally Significant Areas document (1991) recognizes areas for various reasons including hazard lands, vital environmental functions such as aquifer recharge, rare or unique geological or physiographic features, unique habitats with limited representation in the region or remnants of once larger habitats, and areas that contain an unusual diversity of plant and/ or animal communities due to local features and/ or microclimatic effects. These areas are intended to be protected but also, subdivision and development potential may exist due to these same environmental features. Subdivision and development within or surrounding environmentally significant areas may require studies or reports by a qualified professional to determine if any negative impacts are anticipated and also the proper steps to be taken to mitigate any possible environmental disturbance.

GOAL: *To maintain and enhance a healthy natural environment by providing protection to identified and unidentified environmentally significant areas such as ravines, valleys, stream corridors, lakeshores, reservoirs, wetlands and any other unique landscape area to the extent necessary that any possible negative impacts are minimized.*

Policies:

- (1) The County Council shall take efforts to secure further studies of the feasibility and possible effects of water supply projects for County residents.
- (2) Any subdivision or development within recognized environmentally significant areas may require technical reports that determine the suitability of the proposed use or development and any possible impacts of such development, and mitigation measures to be taken at the cost of the developer.
- (3) Any development within an environmentally significant area should be aesthetically concurrent with the surrounding area. No developments should be approved that do not fit with the character and appearance of the natural landscape.
- (4) Care will be taken to ensure that areas of landscape value, particularly along the Red Deer River Valley and the Hand Hills, are not unduly prejudiced by visually intrusive developments.
- (5) The County Council may take measures in cooperation with local landowners to encourage the proper protection and management of environmentally significant areas so that conservation, scientific and educational interests are safeguarded.

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- (6) The County Council will work with landowners and local interest groups, such as Ducks Unlimited, to conserve and enhance wildlife habitats.
 - (7) Residents and industries shall be encouraged to use appropriate conservation practices in regards to water, soil, and waste reduction to protect the natural environment and resources of the County.
 - (8) All extractive operations will be required to perform satisfactory reclamation of natural resource extraction sites to a beneficial after use.
 - (9) The County shall acquire environmental reserves for the protection of natural areas such as coulees, ravines, natural drainage courses, shore lands, and unstable or flood susceptible areas as identified through the subdivision process in order to prevent pollution, provide public access to shorelines, and protect natural features and hazard areas from development.
 - (10) No development will be allowed in areas prone to flooding (defined as the 1:100 year flood level) as determined by Alberta Environment and/or the County Council, unless appropriate flood-proofing measures are taken.
 - (11) The County is located within a transition zone of grassland to parkland eco-regions and there is a diversity of plant and animal life specific to this region. Thus, the County Council deems it a priority to respect and retain the natural habitat on the land such as tree stands and sloughs.
 - (12) Landowners are encouraged to use soil conservation practices to protect the soil conditions so that the agricultural productivity of the land remains for future generations.
 - (13) The County may utilize environmental reserve and environmental conservation easements as mechanisms to protect environmentally significant areas.
 - (14) The County may use Conservation Reserves to protect environmentally significant features when deemed necessary by administration and Council.

6.0 RESIDENTIAL

INTENT: It is the intention of Starland County to minimize land use conflicts between non-compatible land uses. Rural residential land uses are generally not compatible with agricultural, industrial, and commercial activities due to nuisance factors such as noise, dust, smells, and increased traffic. Primary sector resource development such as agriculture and oil and gas activities are the primary industries within the County and are necessary economic producers. To minimize the possibilities of land use conflicts between residential and other land uses the following polices provide separation distances between incompatible uses along with other measures that will reduce land use conflict potential.

GOAL: *To provide a variety of residential options within the County including existing developed farmstead parcels, Hamlet residential and Country Residential land uses in appropriate locations in order to minimize potential land use conflicts with existing or proposed agricultural, commercial, or industrial uses.*

Policies:

- (1) Extensive agriculture is the predominate use of land in the County and there may be smells, dust, noise, or other facets of agriculture which may be disagreeable but which constitute normal farming practices. Confined Feeding Operations are governed by the Province through the Natural Resources Conservation Board and any complaints should be directed to the appropriate government department.
- (2) Wherever possible, vacant residential lots in hamlets should be developed prior to the subdivision of new lots to provide orderly and efficient servicing and reduce future costs.
- (3) Prior to approval of any subdivision or development, the County Council may require Area Structure Plans or other alternative planning document as a planning framework providing details for the proposed development and the subdivision design. This may include the development's impact on the environment and/or landscape.
- (4) If growth in a Hamlet warrants, the County Council may investigate the feasibility and desirability of providing a water distribution, waste collection, and/or sewage collection system.
- (5) Further residential subdivision of the hamlets may include the creation of small acreage parcels where determined to be feasible in consideration of water and sanitary studies deemed appropriate.
- (6) The development of land for country residential use will have regard for the need to minimize disturbance to agriculture.

- (7) All residential development shall have regard for the need to minimize conflict with adjacent agricultural operations. Further, subdivisions may not be allowed where there is evidence that additional residential development may be incompatible with adjacent agricultural operations.
- (8) Good quality agricultural land should be safeguarded from country residential development. Good quality agricultural land will be generally defined as Class 1, 2, 3, and 4 soils under the Canadian Land Inventory agricultural rating system or their equivalent (28% or greater) as determined by the County's farmland assessment records.
- (9) Country Residential development may be allowed on good quality agricultural land if the parcel of land is deemed uneconomical or inefficient to farm due to physical or landscape limitations, the parcel is cut off from the remaining quarter or fragmented, or other reasons as deemed acceptable by the County Council.
- (10) Country residential development shall be encouraged to located so as not to adversely affect or intrude upon significant natural environmentally or ecologically significant areas.
- (11) Referrals shall be sent to adjacent municipalities when considering any country residential development in accordance with the applicable Intermunicipal Development Plan.
- (12) Parcel area for existing developed rural residential sites (farmsteads) shall be kept as small as possible while including any existing developments such as, but not limited to, shelterbelts, private sewage systems, farm related outbuildings, and water wells.
- (13) New country residential parcels shall be kept as small as possible, preferably not greater than 5 acres, and may be made larger to include areas of landscape features such as trees, ravines, hilly terrain or other topographic features, which would provide an attractive residential environment and minimizes the removal of agricultural land from production.
- (14) A parcel created for Country residential land uses shall contain a minimum of 0.405 ha. (1 acre) of developable land to ensure as much as possible the sustainability of the site for private water and sanitary services.
- (15) Multi-Lot Country Residential Subdivision:
 - (a) A multi- lot country residential subdivision is a subdivision that creates two or more contiguous country residential or farmstead lots on a quarter section.
 - (b) Multi-lot country residential subdivisions shall be controlled by the County Council through the Land Use Bylaw amendment process.
 - (c) Multi-lot country residential developments shall be clustered or grouped to reduce potential land use conflicts and minimize service costs.
 - (d) Multi-lot country residential developments shall not be located on good quality agricultural land.

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- (e) Multi-lot country residential subdivisions shall not be permitted within the Minimum Distance Separation from Confined Feeding Operations as defined in **Appendix A**.
 - (f) Access to existing or proposed public infrastructure services, namely sewer and water, should be considered for any multi-lot country residential subdivision.
 - (g) No multi-lot residential subdivisions will be allowed where:
 - i. adequate sewage disposal systems cannot be properly installed and maintained, and
 - ii. there is not a sufficient supply of potable water to serve the proposed development as determined by reports that meet the requirements of the Water Act.
 - (h) When considering Land Use Bylaw amendments for multi-lot country residential subdivisions or developments County Council should consider the following criteria:
 - i. the site should possess features such as trees, ravines, hilly terrain or other topographic features, which would provide an attractive residential environment. Where a site is fully or partially treed, all possible means should be employed to retain the maximum amount of tree cover.
 - ii. the density of development shall be directly related to the development capability of the land resources such as potable water supply, topography, vegetation, soil and drainage. In this regard, development proposals shall include a detailed analysis of any environmental constraints on the site, the means whereby the development will harmonize the natural environment and the means whereby any negative impacts on the environment will be mitigated.
 - iii. access to individual lots will be provided by internal roads or service roads developed to standards acceptable to the County and not directly onto Provincial roadways or County local roads.
- (16) Any future development shall be encouraged to locate along existing developed local roads to provide greater efficiency in service delivery by the County.
- (17) Where a private subdivision and/ or development is to occur in an area without an existing developed local road or requiring a service road, the County may enter into a development agreement for the construction and maintenance of an access road to the site.
- (18) Where practical, future residential development will be encouraged to implement green initiatives, such as water conservation practices, energy-efficient building design, and stormwater management techniques which utilize low impact development techniques. Low impact development techniques may include, but are not limited to, absorbent landscaping, limited use of impervious surfaces, decrease lot coverage and stormwater reuse.

7.0 EXTENSIVE AGRICULTURE

INTENT: Extensive agriculture is the primary land use within Starland County. A large proportion of the soils in the County are classified as productive (CLI 1 – 3) and thus, have provided for agricultural success in the area. The protection of agricultural land is important to the County Council and the following policies have been formed for this purpose.

GOAL: *To protect and enhance quality agricultural land and minimize the fragmentation of agricultural land within the County.*

Policies:

- (1) The County Council gives the highest priority to the protection and productive development of agricultural land as a valuable economic resource.
- (2) Every effort will be made to ensure, so far as practical, that viable farm holdings are neither severed nor fragmented by non-agricultural development and that extensive areas of good quality agricultural land are protected in order to encourage continued investment. Good quality agricultural land will be generally defined as Class 1, 2, 3, and 4 soils under the Canadian Land Inventory agricultural rating system or their equivalent (28% or greater) as determined by the County's farmland assessment records.
- (3) The development of land for non-agricultural uses shall have regard for the need to minimize disturbance of agricultural operations.
- (4) Due consideration will be given to the needs of farm families for supplementary income by taking on additional (non-farming) enterprises, such as home occupations and small-scale recreation and tourism developments.
- (5) While it is recognized that agricultural operators may wish to establish commercial and/or industrial operations which exceed home occupations and small-scale developments, such developments shall be considered as rural commercial and/or industrial developments rather than as agricultural developments and shall require the appropriate land use amendments prior to subdivision or development.
- (6) The County Council will support and encourage the development of agricultural value-added facilities.
- (7) The County Council will support agricultural operators to diversify their operation, including but not limited to specialty crops and livestock, greenhouses, bee keeping, and agri-tourism operations.

8.0 CONFINED FEEDING OPERATIONS (CFO's)

INTENT: Confined feeding operations (CFO's) have become a prominent land use within Starland County. The Provincial government, through the Natural Resources Conservation Board (NRCB), currently has legislative and administrative control over CFO's. The Agricultural Operations Practices Act, Chapter A-7; Alberta Regulation 257/2001 and 268/2001 contain the legislative requirements regarding CFO's. According to the Provincial legislation "In considering an application for an approval or an amendment of an approval, the approval officer must consider..... whether the application is consistent with the municipal development plan land use provisions....." and in respect to approvals, "must consider the effects on the environment, the economy, and the community and the appropriate use of land".

The following policies are intended to protect existing Confined Feeding Operations from incompatible land uses such as country residential and to protect the quality of life of existing residents by providing an appropriate buffer separation between incompatible land uses and separation between CFO's and appropriate environmentally significant areas such as floodplains and hazard land areas. **Map 6: Confined Feeding Operations Restricted Areas** displays the policies outlined below in regards to protection of Environmentally significant areas, existing urban and/ or country residential areas, and future areas for country residential subdivision and development that have been identified through area structure plans or alternative planning document.

GOAL: *To protect and enhance conforming Confined Feeding Operations and the quality of life of existing and future residents by providing an appropriate buffer separation that would limit the negative impacts between these incompatible land uses within the County and to ensure the location of new or expanded CFO's are directed away from areas where contamination risks of groundwater, and development of other resources, are eminent.*

Policies:

- (1) The following County policies regarding CFO development have been thoroughly researched to ensure that CFO locations are determined in accordance with the most appropriate studies and County information available. The Natural Resources Conservation Board (NRCB) approval officers, CFO developers and operators shall abide by the following policies when considering confined feeding operations and manure storage facilities within Starland County.
- (2) For the purpose of this section, the term "urban areas" includes the Town of Drumheller, Villages of Delia, Morrin, and Munson, and the Hamlets of Rowley, Rumsey, Michichi, and Craigmyle. Where grouped country residences are located, they shall be considered an Exclusion Zone. No new and/or expanding

Confined Feeding Operations shall be permitted within the Exclusion Zone as identified on Map 6.

- (3) In respect to Exclusion Zones identified in this section and on Map 6, the Exclusion Zone shall be:
 - (a) The boundary of the grouped residential area shall be utilized for the purpose of measuring minimum setback distances. If an area structure plan or alternative planning document has been established for a multi-lot country residential area, the country residential land use district boundary shall be used to determine the minimum distance separation.
 - (b) With the exception of residential areas identified in 3(a), the setback shall be measured from the middle of the defining feature (i.e. calculate the setback from the middle of the waterbody/road/ravine).
 - (c) Any quarter section that touches any area identified on Map 6 as being an Exclusion Zone.
- (4) Due to the fact that this area has remained at a low population density for generations with the tradition of allowing a comfortable space between neighbours, the minimum distance separation as defined in the Agricultural Operations Practices Act (AR 267/2001) should be doubled. Anything less would not be acceptable in this community and may have a detrimental effect on the rural population.
- (5) Due to a high dependence on groundwater for residential, municipal, and agricultural use, new confined feeding operations and expansions thereto shall not be located within an area of 'very high risk' of groundwater contamination as determined in the County of Starland County Groundwater Assessment 1999 or successor thereto.
- (6) In areas of 'high risk' of groundwater contamination, new confined feeding operations and expansions thereto should not be allowed unless it can be proven that the groundwater contamination risk has been minimized and appropriate mitigation measures have been taken to prevent possible groundwater contamination in accordance with best practices and scientific methods.
- (7) Due to this region's unique natural landscapes and the reliance on this landscape for tourism and recreational pursuits, expansion of existing confined feeding operations and new confined feeding operations shall not be located:
 - (a) within the valley of the Red Deer River, Michichi Creek, Wolf Creek, Farrell Creek, or any other major creek or river;
 - (b) within the shores of any recognized lake or within the banks of an inlet creek,
 - (c) within 3.2 kilometres (2 miles) of any recognized recreational area.
 - (d) Areas identified in Section (6) shall be considered an Exclusion Zones. No new and/or expanding Confined Feeding Operations shall be permitted within the Exclusion Zone as identified on Map 6.
- (8) There are a number of Environmentally Significant Areas (ESA's) as determined by the 'Environmentally Significant Areas' (March 1991) document that continue to have significance within the County today. The major types of features of ESA's include significant landscapes, significant wildlife habitats, key fish

habitats, other areas of biological importance, and significant geological sites.

The Environmentally Significant Areas within Starland County are:

- (a) Handhills Ecological Reserve (Handhills Fescue)
- (b) Rumsey South
- (c) Tolman Badlands
- (d) Mudspring Lake
- (e) Willow Creek
- (f) Victor Wetlands
- (g) Michichi Creek
- (h) Drumheller Badlands
- (i) Chain-Farrell Lakes
- (j) Bullpound Creek

These ESA's may potentially be affected by Confined Feeding Operations and all CFO applications should be evaluated on an individual basis. Confined Feeding Operations should not be allowed within Environmentally Significant Areas.

- (9) Confined feeding operations shall not be located within 3.2 kilometres (2 miles) of any urban areas, this area shall be considered an Exclusion Zone. No new and./or expanding Confined Feeding Operations shall be permitted within the Exclusion Zone as identified on Map 6. This policy is based on a concern for the residents' quality of life and the potential future growth of the urban areas.
- (10) Confined Feeding Operations shall not be located within 3.2 kilometres (2 miles) of any municipal water source this area shall be considered an Exclusion Zone. No new and./or expanding Confined Feeding Operations shall be permitted within the Exclusion Zone as identified on Map 6.
- (11) Prior to a submission of the affected party comments from Starland County to the NRCB on any Confined Feeding Operation application, the County shall organize a meeting with the applicants to discuss the relevant policies within this Municipal Development Plan and any other related County policies and documents whereby the operational requirements of mutual interest, and that may affect the quality of life of County residents, are to be discussed and negotiated to a fair and mutually agreeable settlement:
 - (a) For those confined feeding operations, which require an approval from the Natural Resources Conservation Board, or its provincial successor, all liquid manure shall be injected.
 - (b) The application of all manure that is not covered by (a) above must either involve the notification of adjacent landowners prior to application or shall follow the guidelines of the Agricultural Operations Practices Act or its provincial successor.
 - (c) Manure incorporation and/ or application shall not be allowed within 3.2 Kilometres (2 miles) of any urban or multi-lot country residential boundary.
 - (d) Manure incorporation by direct injection shall be allowed within 1.6 Kilometres (1 mile) of an urban or multi-lot country residential boundary.
 - (e) Nutrient management plans shall be required for all confined feeding operations as well as the accompanying soil tests. A copy of all nutrient management plans shall be submitted to the County for their record.
 - (f) Odor control devices and methods, such as covers and wind diffusers, shall be employed in all manure storage facilities of confined feeding operations. Natural crust formation does not constitute odor control.

- (g) The location of lands for manure incorporation are to be identified and mutually agreed upon between the applicants and the County.
 - (h) Spreading of manure on weekends and holidays shall not be permitted.
 - (i) Recognizing its responsibility to effectively manage the road infrastructure to the location of a confined feeding operation and/or manure storage facility, the County will require as a condition of any registration, approval or authorization it grants, that the applicant enter into an agreement with the County to do any or all of the following:
 - (i) to construct or pay for the construction of a road required to give access to the operation and/or
 - (ii) to maintain or pay for the maintenance of any and all roads that service the development including the application of dust control, to the most reasonable extent possible, taking into account all other traffic using the roads.
- (12) The County may initiate a public meeting to inform residents of all Confined Feeding Operation applications with an invitation to the CFO applicants to explain the details of the application and an invitation to the NRCB to explain the details of the NRCB approval process.

9.0 ENERGY AND RESOURCE EXTRACTION

INTENT: Non-renewable resources provide a boost to the local economy through oil and gas well and pipeline leases and taxation revenues for the County. Currently conventional and unconventional (coal bed methane) gas production is being practiced within the County. The oil and gas industries are under Provincial jurisdiction through the Alberta Energy and Utilities Board (AEUB) however, the County provides policies as to how the community would like to see the industry operate within Starland County.

Renewable energy is gaining momentum in Alberta in recent years. Wind Energy Projects have been developed in surrounding Counties and a proposal has been received for the Hand Hills area in Starland County and Special Area No. 2. Solar energy projects have been developed by Starland County in conjunction with the local Villages for community facilities such as water plants and arenas. These projects are developed with regard to government environmental programs that make renewable energy options more economically viable. It is expected that renewable energy development will continue to expand as reduction in greenhouse gas emissions is becoming a higher government priority at all levels.

GOALS: *To retain recognized non-renewable extractive resource energy locations and to direct subdivision and development activity in a way that does not conflict with extractive resource development.*

To recognize renewable energy opportunities with wind, solar and other renewable energy options and to direct the development of large commercial renewable energy projects appropriately to not conflict with other incompatible development within the County.

Policies:

- (1) The County Council may safeguard opportunities for future development of established and recognized oil and gas fields and for the exploration of other areas of good potential from incompatible land uses.
- (2) The County Council will ensure that appropriate separation distances are established and maintained between resource extraction sites and incompatible land uses.
- (3) Development setbacks on land impacted by sour gas extraction shall be in accordance with the minimum setbacks established by the Alberta Energy and Utilities Board and in the provincial Subdivision and Development Regulation. In terms of the development and/or expansion of sour gas facilities, the County recommends that these do not occur within 1 mile of a hamlet, village, or town.

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- (4) Subdivision and development on land within the minimum sour gas facility setbacks shall not be allowed unless the Alberta Energy and Utilities Board has given approval to a lesser setback distance.
 - (5) Pipelines and right-of-ways should follow quarter section lines, property boundaries or existing easements in order to avoid the unnecessary fragmentation of land.
 - (6) Pipelines and right-of-ways should not be permitted within environmentally significant areas and areas of special recreational and landscape value unless mitigative measures are taken to retain the natural integrity of the area during and after the extractive operation ceases.
 - (7) Safety aspects will be fully taken into account when considering routing proposals for pipelines and for development proposed in the vicinity of pipelines.
 - (8) The County discourages the use of potable water for deep well injection.
 - (9) Any resource extraction industry that requires a development permit that is not exempt by Provincial Legislation shall enter into a development agreement with the County.
 - (10) The developer of a gas and/ or oil well site shall be required to obtain approval from the County regarding the construction, upgrading and maintenance of access roads.
 - (11) Care will be taken to safeguard gravel deposits in the County from developments that would sterilize the deposits or be a serious hindrance to their extraction through the applicable regulations contained within the Land Use Bylaw.
 - (12) The County may support the development of alternative energy opportunities such as wind and solar energy in suitable locations throughout the County with appropriate land use considerations developed as part of the land use bylaw.
 - (13) Wind energy is under the jurisdiction of the Alberta Utilities Commission. Consultation and municipal development permits are currently being used to approve wind energy projects at the local level prior to an AUC decision. Appropriate local land use regulations shall be considered through the applicable regulations contained within the Land Use Bylaw to ensure local land use matters related to wind energy development are considered that do not conflict with the AUC regulations and requirements.
 - (14) County Council shall discourage the development of Coal Bed Methane (CBM) where wet coal seams are determined to exist due to the limited water resources within the County and the possible dewatering or increased contamination risks associated with the CBM process in wet coal seams.

10.0 INDUSTRIAL AND COMMERCIAL

INTENT: Rural industrial and commercial developments include the oil and gas sector, agriculture, and tourism. The types of industrial operations that may locate in rural areas include large vehicle storage and maintenance, pipe yards, or other large item storage that require larger tracts of land and limited servicing. An industrial park may be a viable option within Starland County located along a main transportation route such as Highway No. 9 to serve the needs of oilfield and agricultural operators within the County. Commercial operations may include tourist related industries, recreation, or highway commercial developments.

GOAL: *To accommodate suitable forms of industrial and commercial development in appropriate locations along major transportation routes throughout the County.*

Policies:

- (1) Industrial developments will generally be encouraged to locate in urban centres; however, provision will be made for industrial developments seeking a rural location. Consideration will be given to the site requirements, the operations to be carried out, and incompatibility with an urban environment. Arrangements must be made for adequate infrastructure services.
- (2) The County Council will support and encourage the development of local value-added facilities.
- (3) The County Council will consider commercial and/or industrial development in the hamlets of Craigmyle, Michichi, Rumsey, and Rowley provided that such development does not detrimentally affect the character of the community.
- (4) The County Council, together with area municipalities, local business leaders, farmers, public agencies, and senior governments will consider preparing an economic development strategy that identifies realistic opportunities worth pursuing and sets out direction and an agenda for action.
- (5) County Council shall control industrial subdivisions and developments through the Land Use Bylaw amendment process. Where appropriate, areas will be reclassified to a Rural Industrial or Commercial District in the Land Use Bylaw prior to subdivision or development.
- (6) Industrial or Commercial uses are encouraged to locate on lower capability agricultural land wherever possible.
- (7) Highway Commercial and Industrial development may be accommodated along the major transportation routes throughout the County in appropriate and strategic locations.

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- (8) Highway Commercial and Industrial development along major transportation routes shall take into account the compatibility of surrounding land uses and the health and safety of the traveling public.
 - (9) Industrial land uses that the County Council considers noxious should retain a minimum separation distance from incompatible land uses of a minimum of 0.5 miles.
 - (10) The County may require an Area Structure Plan or alternative planning document prior to the development of a rural industrial park. If industrial operations begin to concentrate in an area an Area Structure Plan or alternative planning document may be required to provide a transparent planning framework and to provide long-term stability of the area.
 - (11) Where practical, future industrial and commercial development will be encouraged to implement green initiatives, such as water conservation practices, energy-efficient building design, and stormwater management techniques which utilize low impact development techniques. Low impact development techniques may include, but are not limited to, absorbent landscaping, limited use of impervious surfaces, decrease lot coverage and stormwater reuse.

11.0 MUNICIPAL AND SCHOOL RESERVE

INTENT: It is the intention of Council to promote development within the County. The provision of municipal and school reserves is an acceptable method, according to the Municipal Government Act, for the municipality to collect funds for the creation of parks and recreational areas within the County. Municipal and/ or school reserve may not be taken if one lot is to be created from a quarter section of land, the land is to be subdivided into lots 16 hectares (40 acres) or more for agricultural purposes, the land area is 0.8 hectares (2 acres) or less, or reserve land or money in place was provided previously on the parcel of land being subdivided.

In order to promote development and not create a hindrance on potential developers, municipal and school reserves would not be taken on subdivisions unless there is a defined need for reserve lands within the subdivision area. However, there shall be exceptions when reserve allocation will be taken.

GOAL: *To provide consistent and relevant policies for the allocation of municipal and school reserve and only take reserve where there is a defined need for the allowable land uses of parks and recreational uses, buffer strips, or school sites.*

Policies:

- (1) Municipal reserves shall be taken as part of subdivisions in the amount of a minimum of 10% of the gross developable area to create new park areas if it is determined that a park will be located within the subdivision area through recognized County planning documents.
- (2) The County shall defer the reserve allocation by caveat against the remaining title within 0.5 miles of urban boundaries in accordance with Section 669 of the Municipal Government Act.
- (3) In situations where reserve allocation is necessary, municipal reserve may be taken as land unless it can be shown that acceptance of a cash equivalent would not hinder the provision of long-term community recreation needs. In terms of single-parcel subdivisions within required reserve locations, the preference will be a deferral of the reserve requirement until such time that a park or recreational area is to be developed.
- (4) If the development of a future public-school facility has been determined on lands where a subdivision is taking place and where reserve dedication is possible, the subdivision authority should designate the agreed upon lands as school reserve for future school authority purposes in accordance with Section 671(2) of the Municipal Government Act.

12.0 RECREATIONAL AND COMMUNITY FACILITIES

INTENT: Starland County supports many active and passive recreational opportunities within the rural and urban areas throughout the County. Facilities include rural community halls, and operations grants for ice hockey and curling arenas in Delia and Morrin. The County Council realizes that additional recreational opportunities may exist throughout the County and are to be determined over time as community recreational needs are established.

GOAL: *To retain existing recreational opportunities through facility and operational grants and to develop further recreational pursuits through natural site preservation and enhancement to further local recreation and tourism opportunities.*

Policies:

- (1) The County Council will monitor the adequacy of local facilities and upgrades will be supported as required in order to ensure a standard that meets local needs.
- (2) The County shall develop a long-term parks and recreational areas upgrade and maintenance plan for parks and facilities owned by the County.
- (3) The County will continue to cooperate with area municipalities in respect to the development of recreational facilities and programs.
- (4) Family and Community Support Services are encouraged to monitor program and service delivery to ensure that it is responsive to local needs.
- (5) The County Council recognizes and values the work of volunteers and will encourage their continued participation in the delivery of many community services.
- (6) In association with urban councils and other area interests, the County Council will be involved in a coordinated strategy for taking advantage of local tourism development opportunities.
- (7) The County Council shall support and encourage regional adult education opportunities that benefit the County and local residents.
- (8) Where practical, those buildings and other features, which make a significant contribution to the quality, character, and interests of the local environment, should be protected and used for the general benefit of the community.
- (9) Sites that are architecturally or archaeologically significant, associated with important historic events, associated with the lives of persons of historic importance, or illustrate a cultural tradition or way of life should be identified and designated as historic resources in accordance with Provincial and Federal assistance programs.

13.0 EMERGENCY AND HEALTH CARE SERVICES

INTENT: Starland County strives to provide the best access to emergency and health care services possible for our residents. The municipality strongly supports all local efforts to make our community safer through policing and rural crime watch opportunities and programs.

GOAL: *To ensure the health, safety and welfare of the citizens are adequately managed in the County. To this end, the County will strive to promote an acceptable level of health care in the region, ensure an optimum level of protective and emergency services are maintained, and finally, to cooperate with neighbouring municipalities and other agencies to fully provide these services.*

Policies:

Health Care:

- (1) To continue to work with the Alberta Health Services to ensure an adequate level of health care and access is preserved for all County residents.

Fire Protection:

- (2) To continue to employ a Volunteer Fire Department augmented with mutual aid agreements with the goal of providing the optimum level of fire protection available.
- (3) To continue to work regionally with other Fire Departments to provide appropriate training sessions and ensure our fire fighters have the necessary knowledge to safely and adequately provide a fire service.
- (4) The County will work to implement the recommendations contained in the Starland County Fire Master Plan, and will work with the Fire Protection Committee to ensure that the Plan is appropriately updated.

Protective Services:

- (5) To continue to work with the local Royal Canadian Mounted Police detachments to adequately provide policing services in the municipality.
- (6) The County will continue to employ a Special Constable to meet the objectives of the Starland County Traffic Safety Plan.

Ambulance Services:

- (7) To continue to work with the Alberta Health Services to ensure an adequate level of ambulance service is provided to all County residents.

Disaster Services:

- (8) Starland County will ensure that the municipality has an up-to-date Disaster Response Plan, and to ensure that the Plan is tested on a regular basis.
- (9) The municipality will ensure that all Council members and staff that have a role in Disaster Planning and implementation are adequately trained.
- (10) The municipality will review all mutual aid agreements with adjoining municipalities to facilitate a regional response to any disaster beyond the local scope.

14.0 TRANSPORTATION

INTENT: The majority of transportation of people and goods throughout Starland County is provided via the road infrastructure. County roads are an important resource for agriculture, industry, and local residents. Transportation safety is important to the County Council and the maintenance of local roads is a key priority.

GOAL: *To maintain a safe and efficient transportation system of local roads throughout the County.*

Policies:

- (1) The County's local road system services the local residents, agricultural, oil and gas, and gravel industries. The traffic volumes on the local road system are generally low but some of the major collector routes have a high percentage of truck traffic. The County Council will strive to ensure that travel along county roads is safe through regular road maintenance procedures.
- (2) County Council shall encourage the Province to pave and maintain the secondary highways in accordance with the long-term County plan.
- (3) A yearly Construction Priority Plan will be maintained for outlining priorities and financial commitments for local road improvement based on the County five-year plan.
- (4) The County Council will make sure that the necessary undeveloped road allowances are protected for their eventual construction, unless it can be proven that the road allowance will not be needed for a public road in the foreseeable future.

15.0 UTILITIES

INTENT: Starland County residents enjoy a quality rural lifestyle. However, economies of scale and distance separation tend to leave rural areas with minimal public services such as piped water availability. Starland County has been working toward increasing opportunities for piped potable water throughout the County. Starland County encourages the development of high-speed internet and broadband services throughout the County.

GOAL: *To provide safe and effective water distribution, sewage disposal, and waste disposal systems and to lobby other levels of government and utility companies to increase the effectiveness of utility servicing to enhance the quality of life and opportunities for a rural lifestyle.*

Policies:

- (1) The expansion of the Regional Water Distribution system shall be done in accordance with the Water Utilities Bylaw.
- (2) The County Council shall encourage the provision of high-speed internet services / broadband to rural users through private partners.

16.0 INTERMUNICIPAL COOPERATION

INTENT: Intermunicipal cooperation is important and can provide mutual benefits for multiple municipalities in areas of economic development, land use planning, and environmental protection. Starland County realizes that greater economies of scale are realized through joint municipal partnerships and initiatives and intends to make use of such initiatives wherever the Council deems additional benefits are maintained.

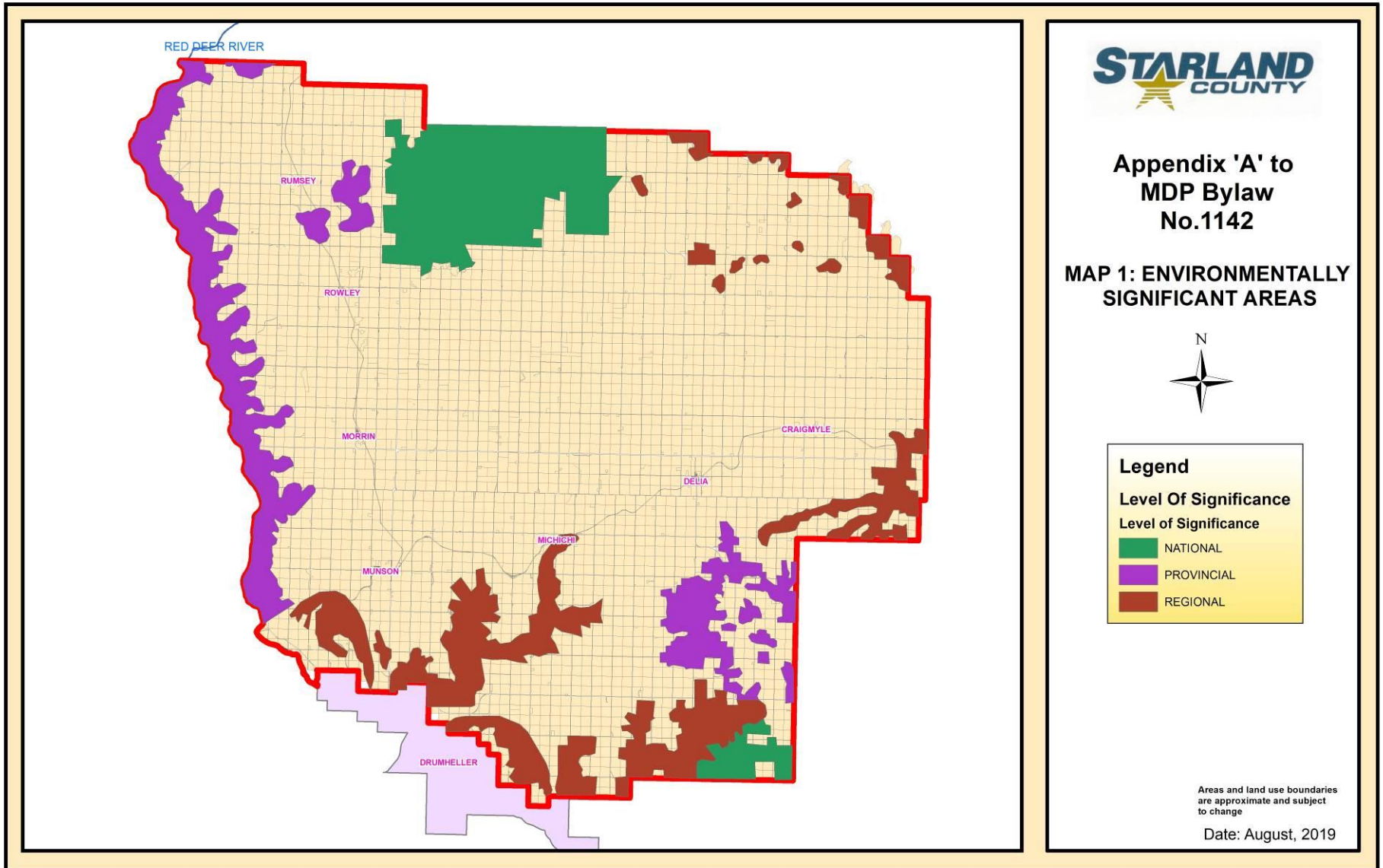
GOAL: *To foster cooperation and coordination with neighbouring municipalities in regards to common planning issues in urban and rural fringe areas, and in the vicinity of airports.*

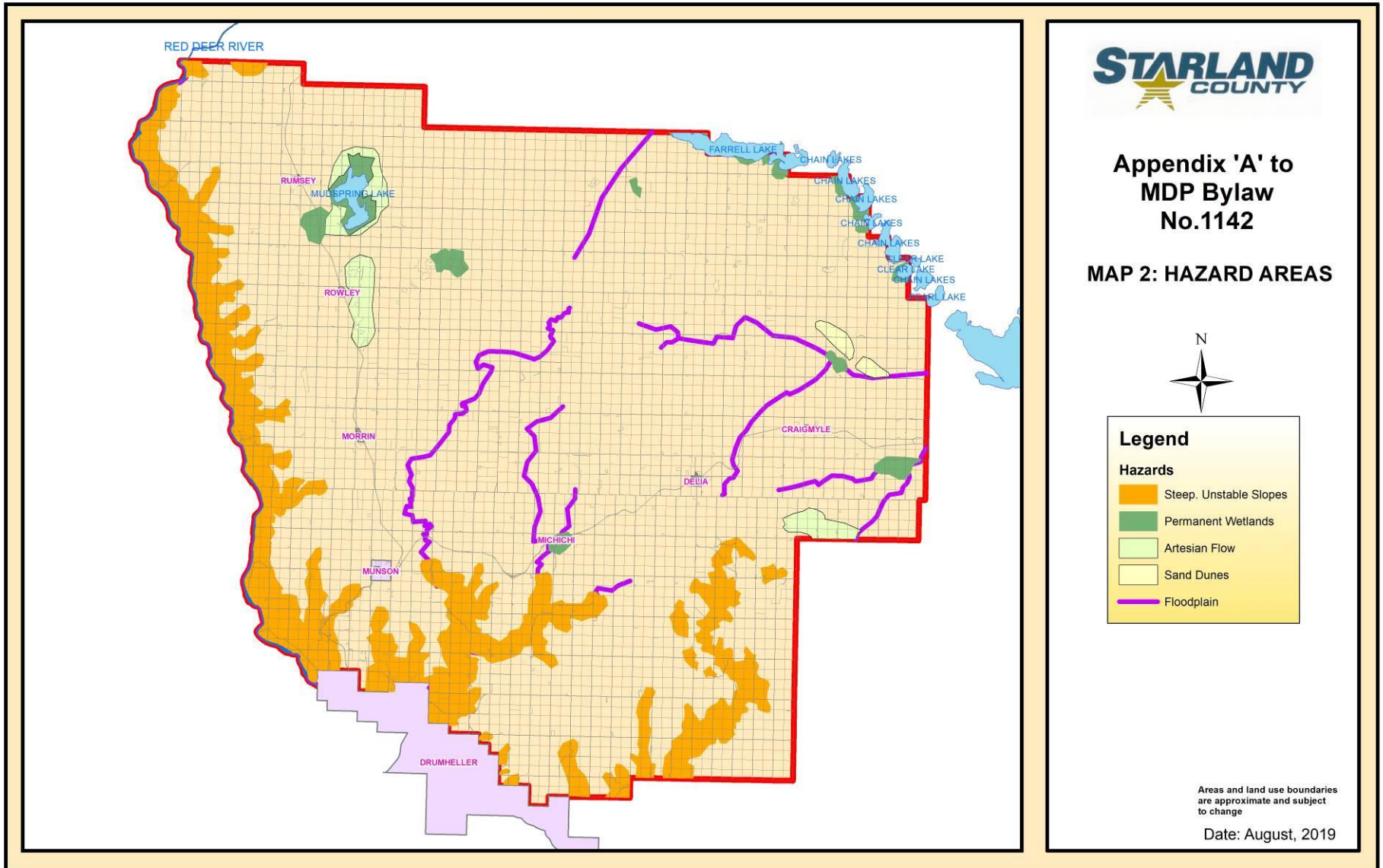
Policies:

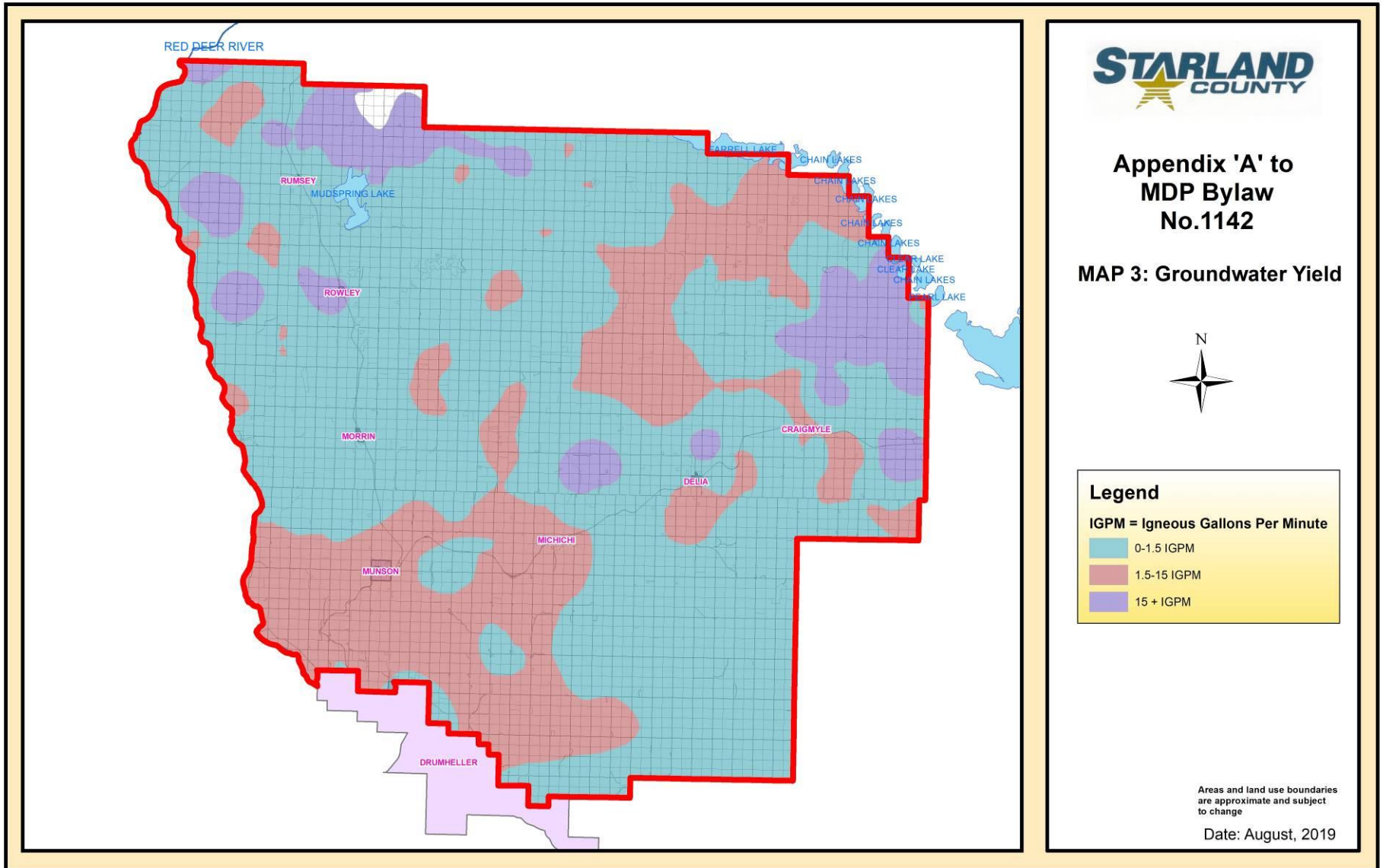
- (1) Starland County will consider and in accordance with Intermunicipal Collaboration Frameworks may enter into joint initiatives that provide mutual benefits and greater economies of scale for economic development, tourism, transportation, and other uses as required.
- (2) In order to achieve an informed basis for coordinating the development and use of land, the County will provide an opportunity for the adjacent municipality either within or surrounding Starland County to comment on any adjacent subdivision and/ or development in accordance with the applicable Intermunicipal Development Plan.

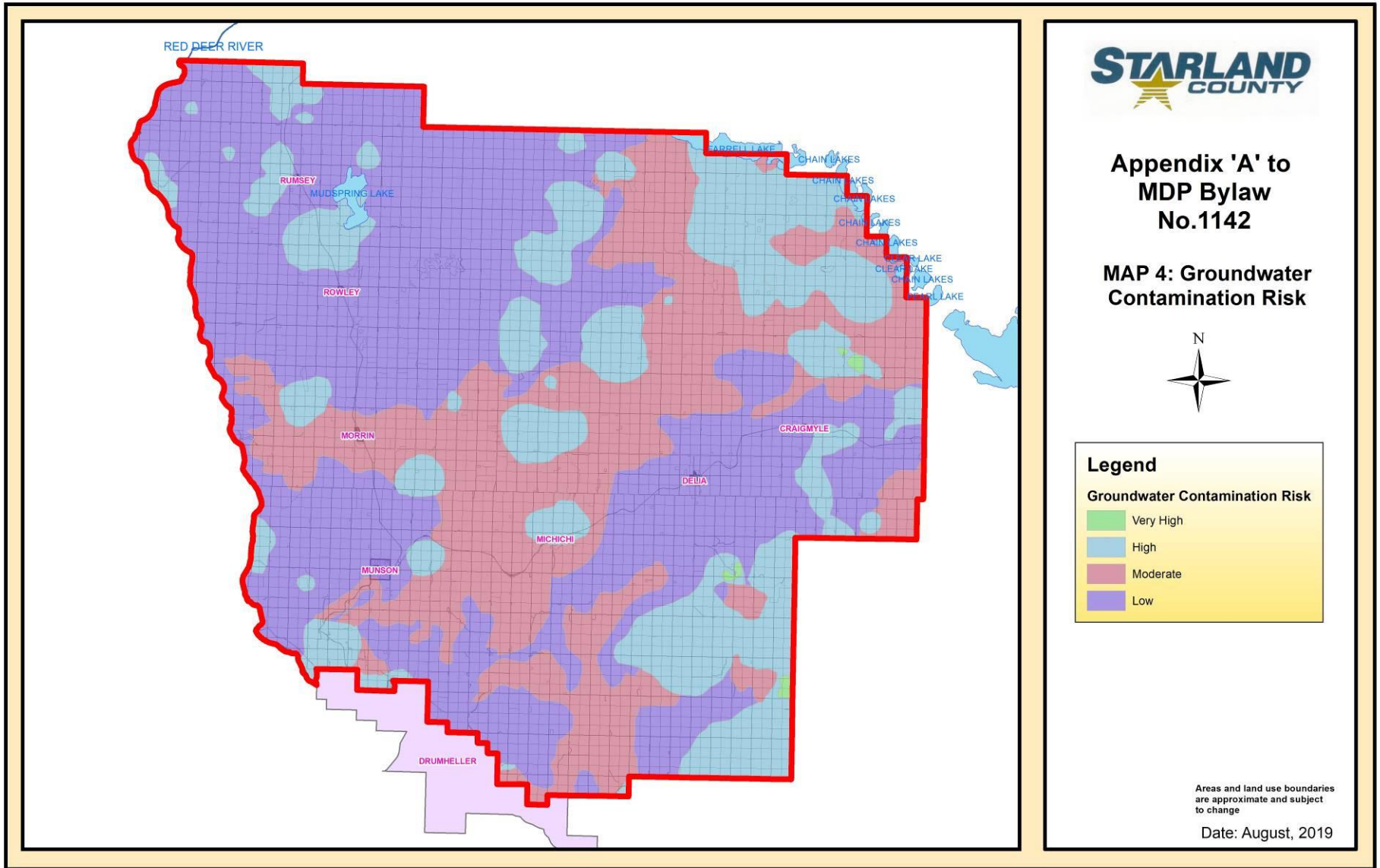
APPENDIX 3: Maps

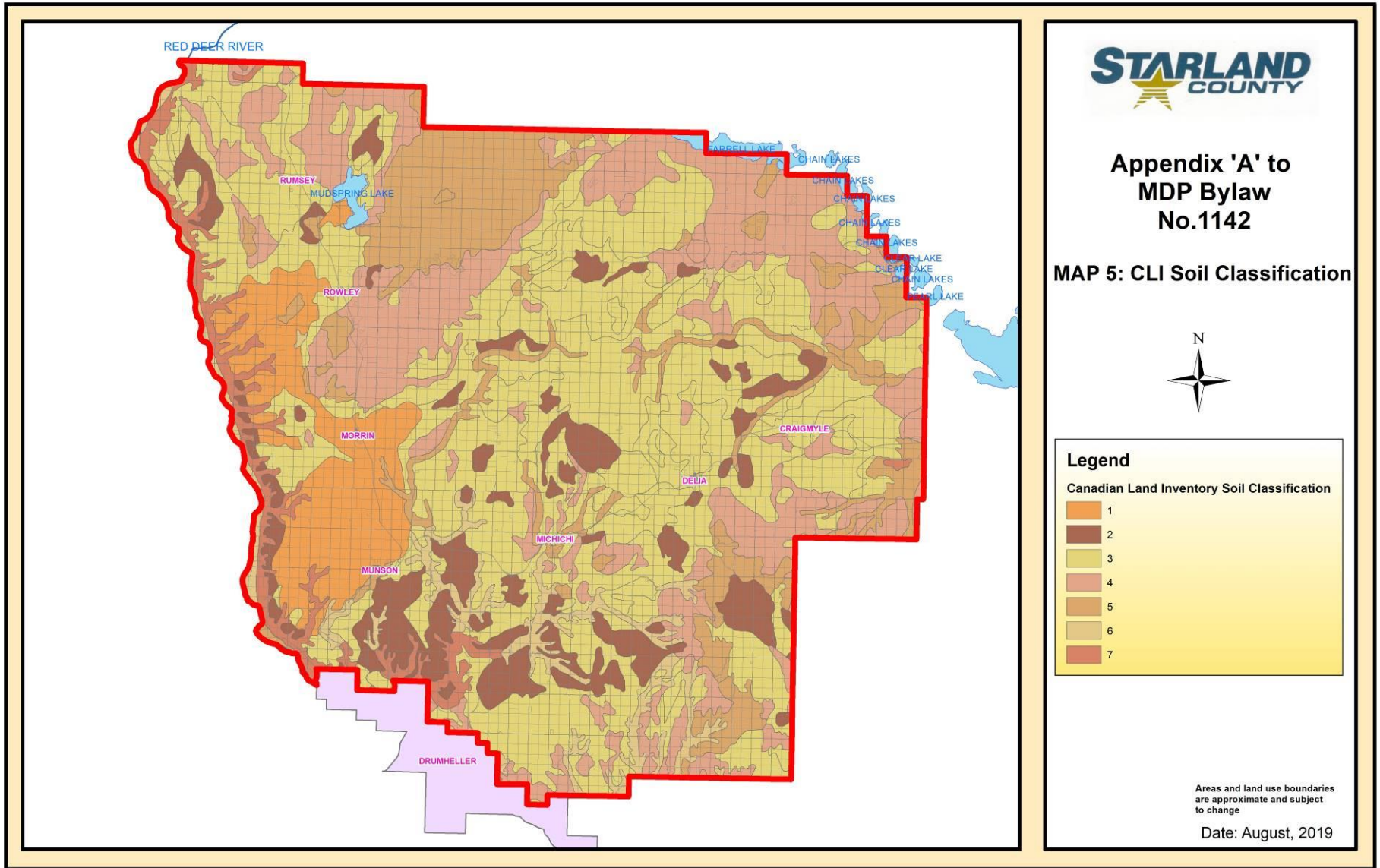
- Map 1: Environmentally Significant Areas
- Map 2: Hazard Areas
- Map 3: Groundwater Yield
- Map 4: Groundwater Contamination Risk
- Map 5: Canadian Land Inventory Soil Classification
- Map 6: Confined Feeding Operations Restricted Areas / Exclusion Zones

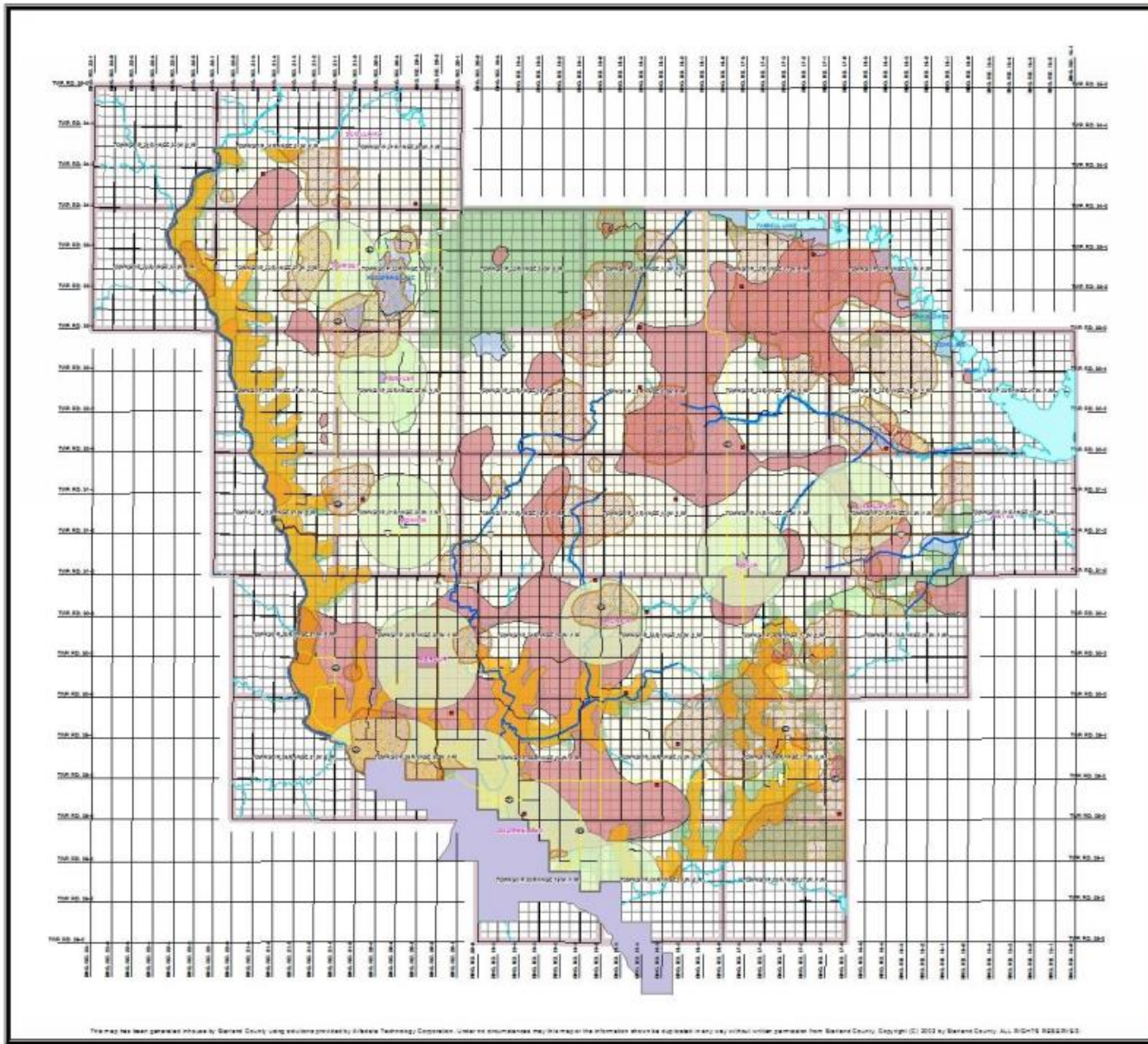












**MUNICIPAL DEVELOPMENT PLAN
MAP 6: CONFINED FEEDING
OPERATIONS RESTRICTED AREAS
/ EXCLUSION ZONES**

LEGEND

CONFINED FEEDING OPERATIONS EXCLUSIONARY AREAS:

- URBAN AREAS
- GROUNDWATER CONT RISK-HIGH
- GROUNDWATER CONT RISK-VERY HIGH

HAZARDS

- FLOODPLAIN
- STEEP UNSTABLE SLOPES
- PERMANENT WETLANDS
- ARTESIAN FLOW
- SAND DUNES

CONFINED FEEDING OPERATIONS AREAS REQUIRING DETAILED ANALYSIS:

- INSUFFICIENT GROUNDWATER YIELD
- GROUNDWATER CONT RISK-HIGH
- ENVIRONMENTAL SIGNIFICANT AREAS

EXISTING CFO'S



MODIFICATIONS & ADDITIONS BY: