

RM OF RITCHOT WATER SUPPLY

Water Licensing Engagement Process



Friesen
DRILLERS

Landmark
Planning & Design

BACKGROUND

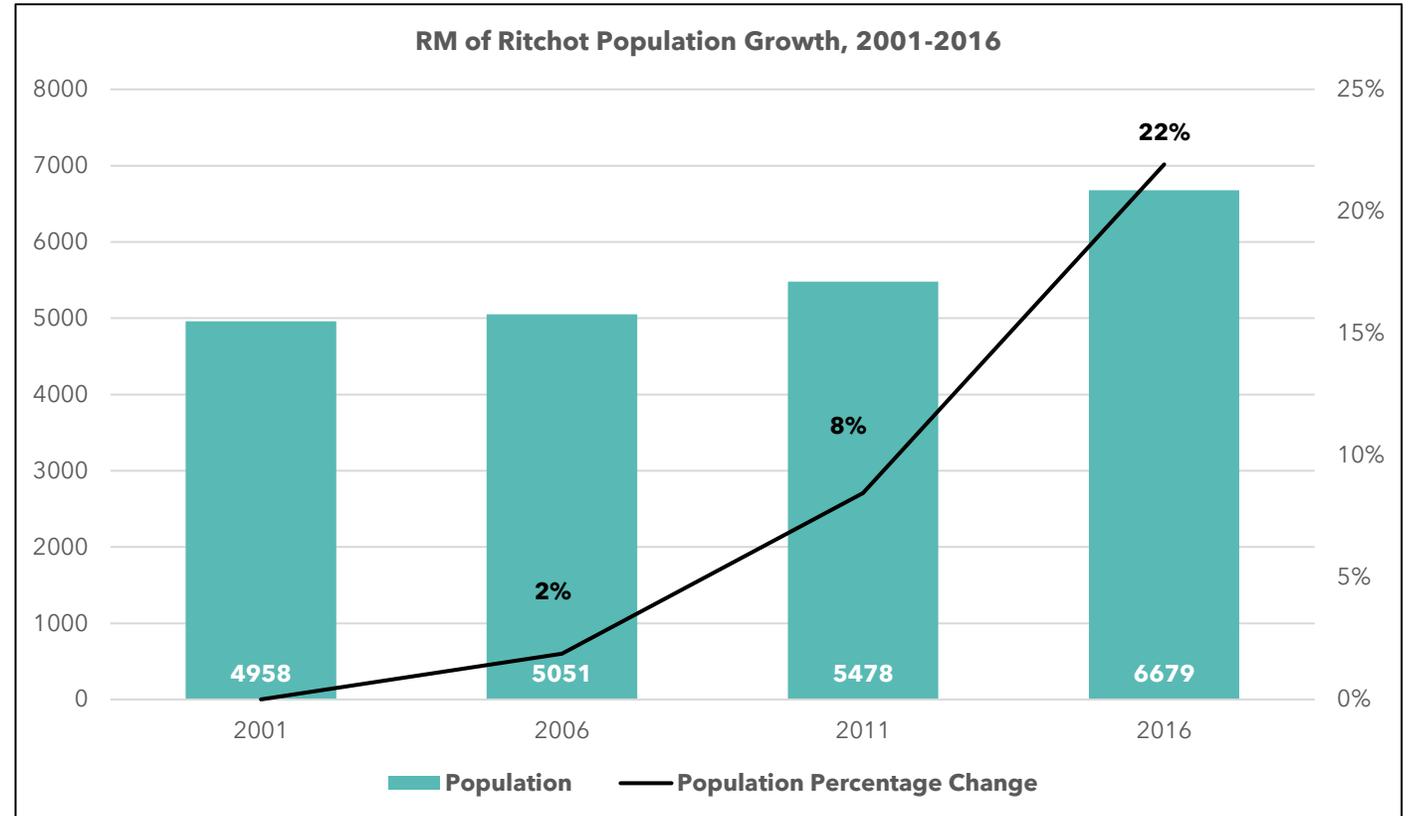
- The existing water supplies for the RM of Ritchot have served the needs of the RM for many decades
- Planning for the future means the RM should look at additional water supply needs to serve the RM over the coming decades, while continuing to work at measures for conserving more water
- Landmark Planning & Design is working with Friesen Drillers, the RM of Ritchot and the Manitoba Water Services Board (MWSB) to increase the water supply
- A new well or additional water supply requests will require amending the existing Water Rights Licence and Environmental Act Licence

BACKGROUND

- The statistics on the following slides illustrate considerations relevant to a water supply for the RM of Ritchot:
 - Rapid local population growth fuelling domestic supply needs
 - Existing businesses require a strong, reliable water supply
 - New economic investment in industrial and commercial operations
 - A steady rise in local construction and development
- As a result of these factors, the RM will be challenged to match amenities and services with their current and future needs
- The RM will need to consider looking for an alternative water supply as one of its priorities in order to sustain the viability of the community

BACKGROUND

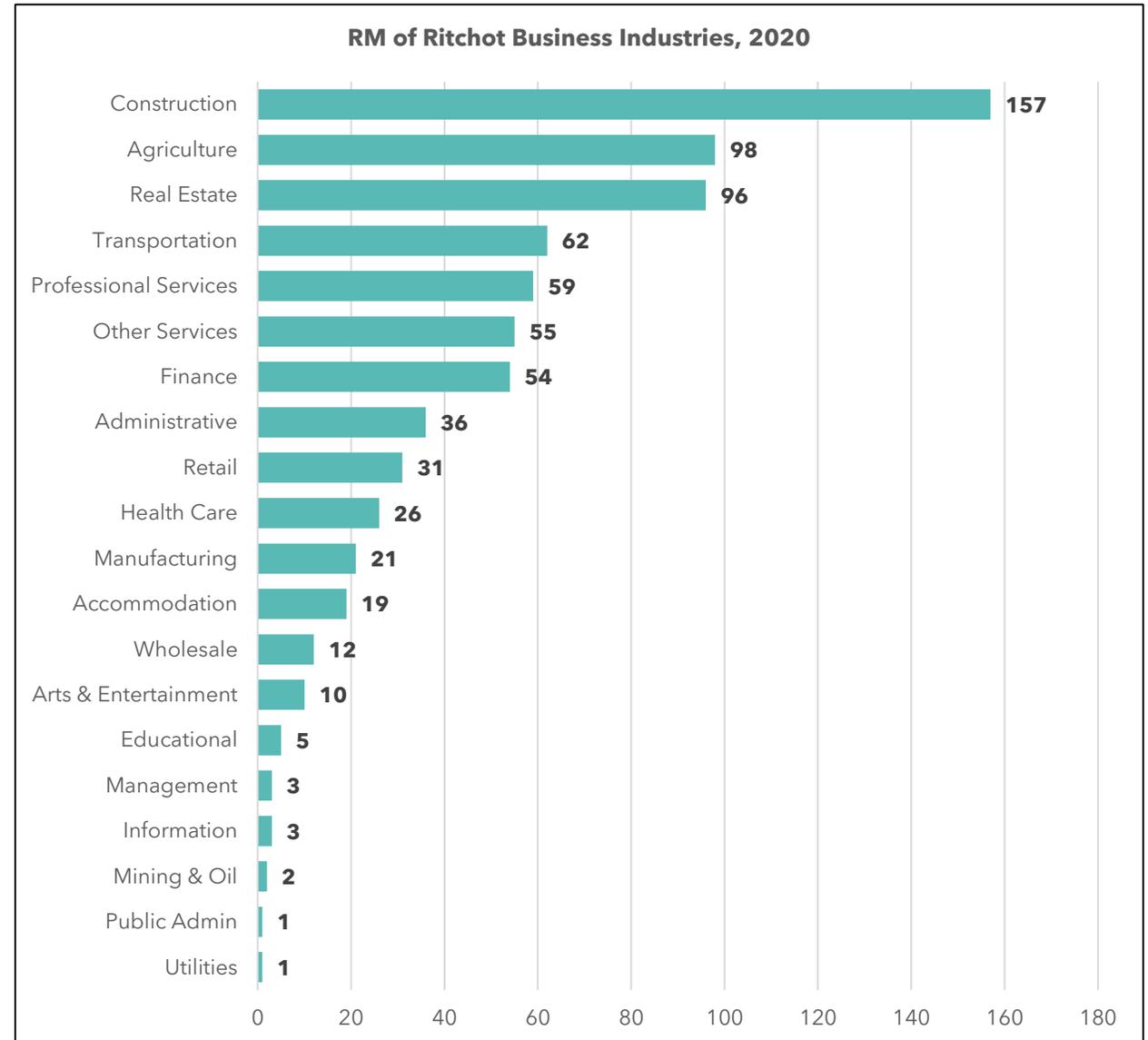
- The RM of Ritchot population reached 6,679 people in 2016, making it Canada's eighteenth fastest growing municipality
- From 2001 to 2016, the population grew 22% (1,201 people)
- In comparison, the population growth in Manitoba over the same period was only 5.8%, and the national average was only 5.0%



Source: Statistics Canada, 2016 Census

BACKGROUND

- The three most common businesses by industry 2020 were Construction, Agriculture and Real Estate
- Most of these businesses rely on a reliable water supply in order to continue to fuel the local economy



Source: Statistics Canada

BACKGROUND

- There are two new industrial and commercial developments at the Riel Industrial Park (Ste. Agathe), and at the Grande Pointe Industrial Park
- The RM is ready for continued economic growth with 38 acres of undeveloped industrial land and over 300 acres of undeveloped commercial land

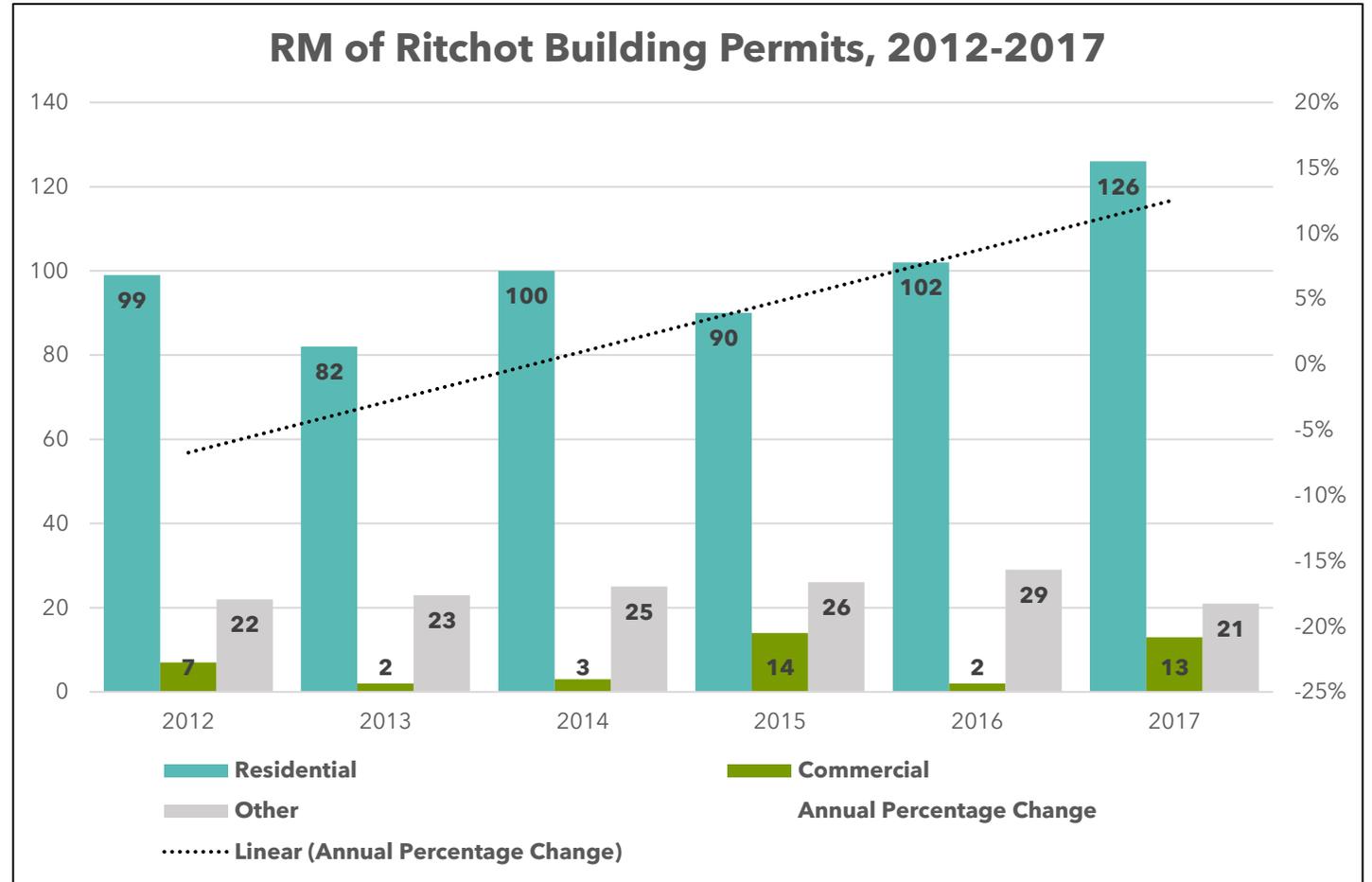
	Riel Industrial Park (acres)	Grande Pointe Industrial Park (acres)
In Use	56	70.6
Vacant	50	0.4
Total Acres	106	71
Industrial	75	29
Commercial	31	42

RM of Ritchot	Industrial Land	Commercial Land
Acres Developed	89	453
Acres Undeveloped	38	321
Total	127	774

Source: RM of Ritchot, Invest in the Municipality of Ritchot, MB, Canada: 2018 Community Profile

BACKGROUND

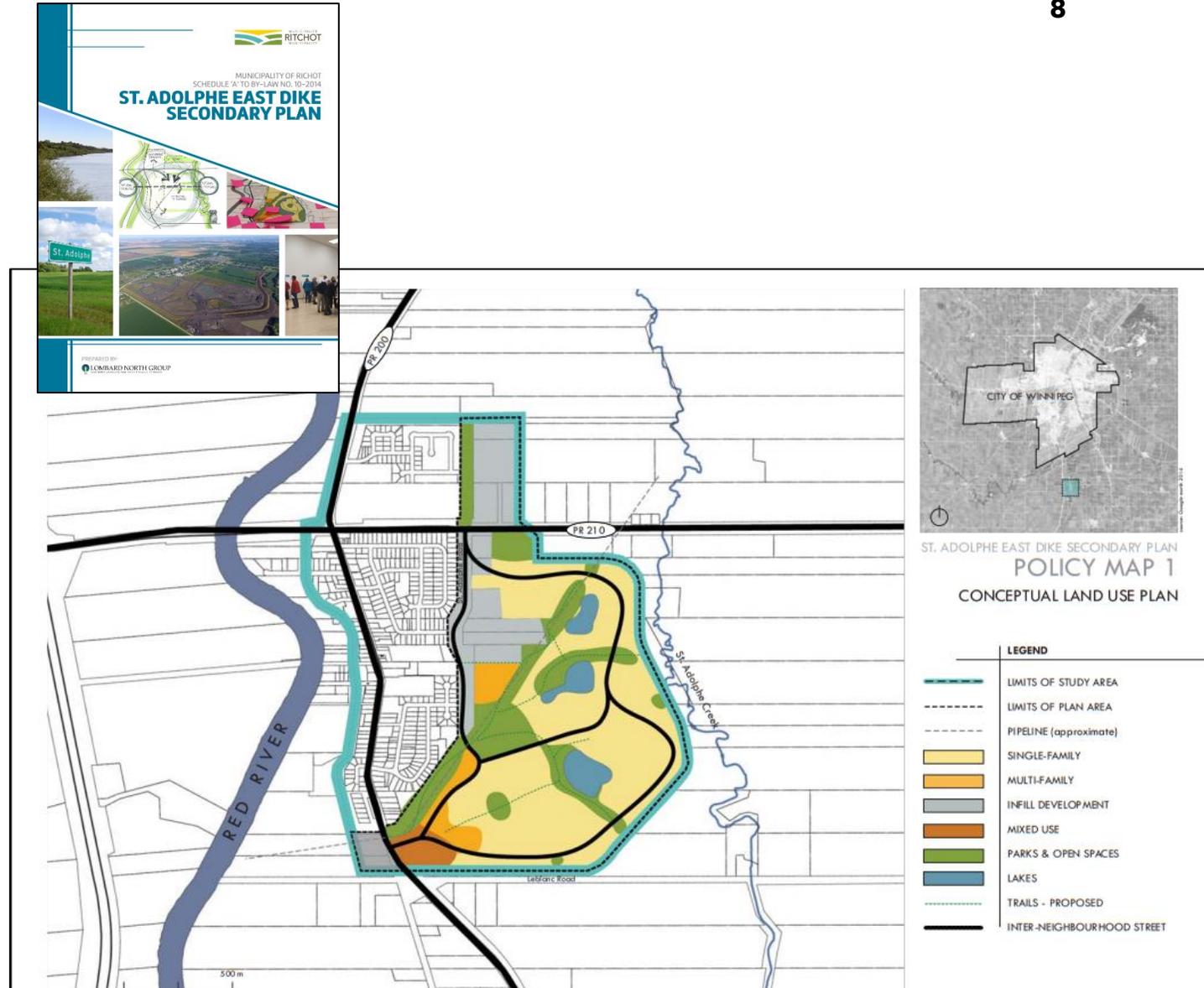
- The RM of Ritchot has experienced a steady annual increase in building permits issued since 2013
- In 2017, the municipality approved a total of 160 building permits, a rise of 17% from 2016
- Increased growth of all types, require a dependable plan for water supply



Source: RM of Ritchot, Invest in the Municipality of Ritchot, MB, Canada: 2018 Community Profile

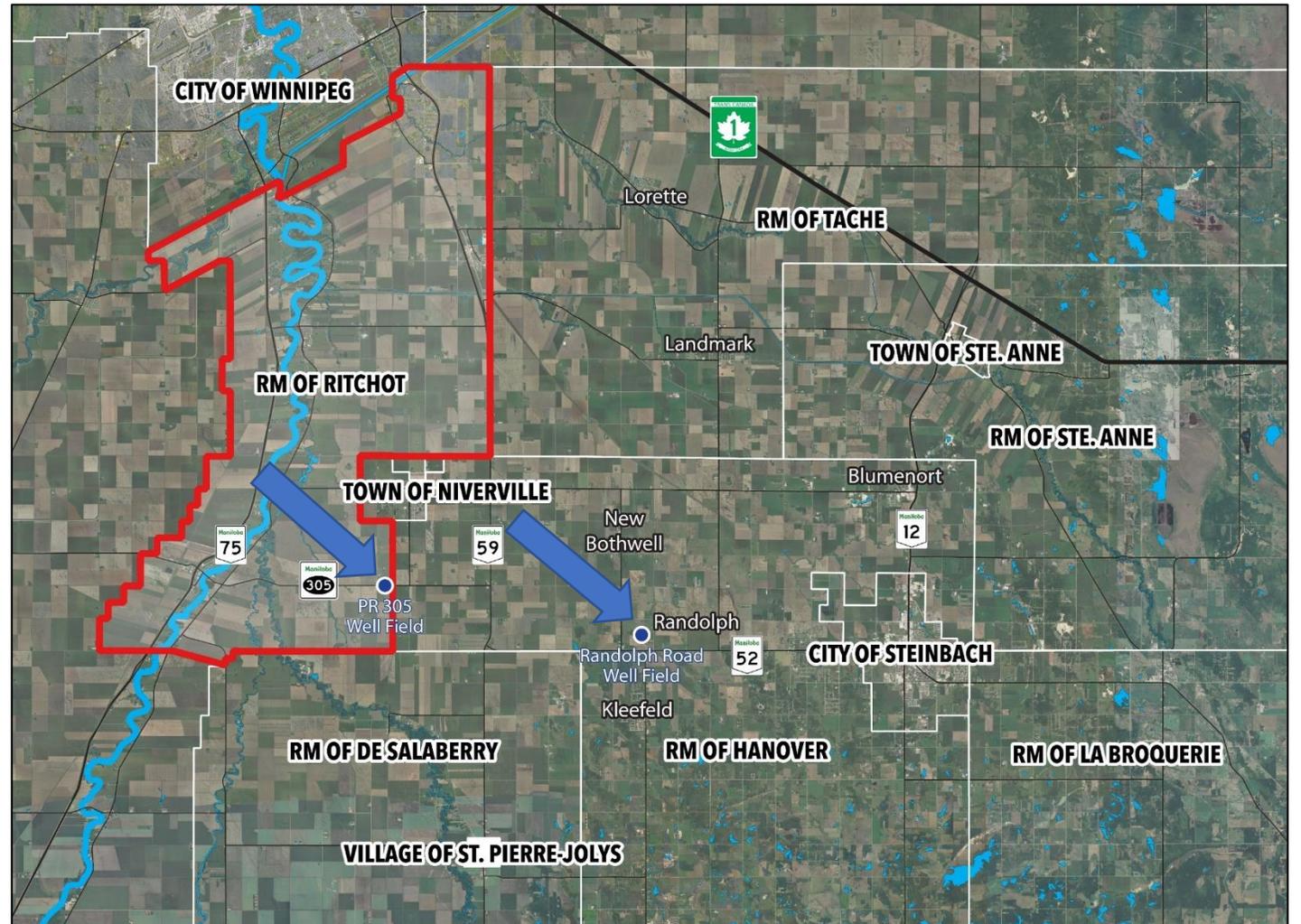
BACKGROUND

- The *St. Adolphe East Dike Secondary Plan* (2014) provides the RM of Ritchot with a comprehensive, long-term plan to guide growth and development in St. Adolphe
- The dike expansion helps provide St. Adolphe with a large supply of land for local residential development and positions the RM to accommodate projected growth
- Supporting this new community and others with a reliable water supply will be critical to the success of the overall municipality



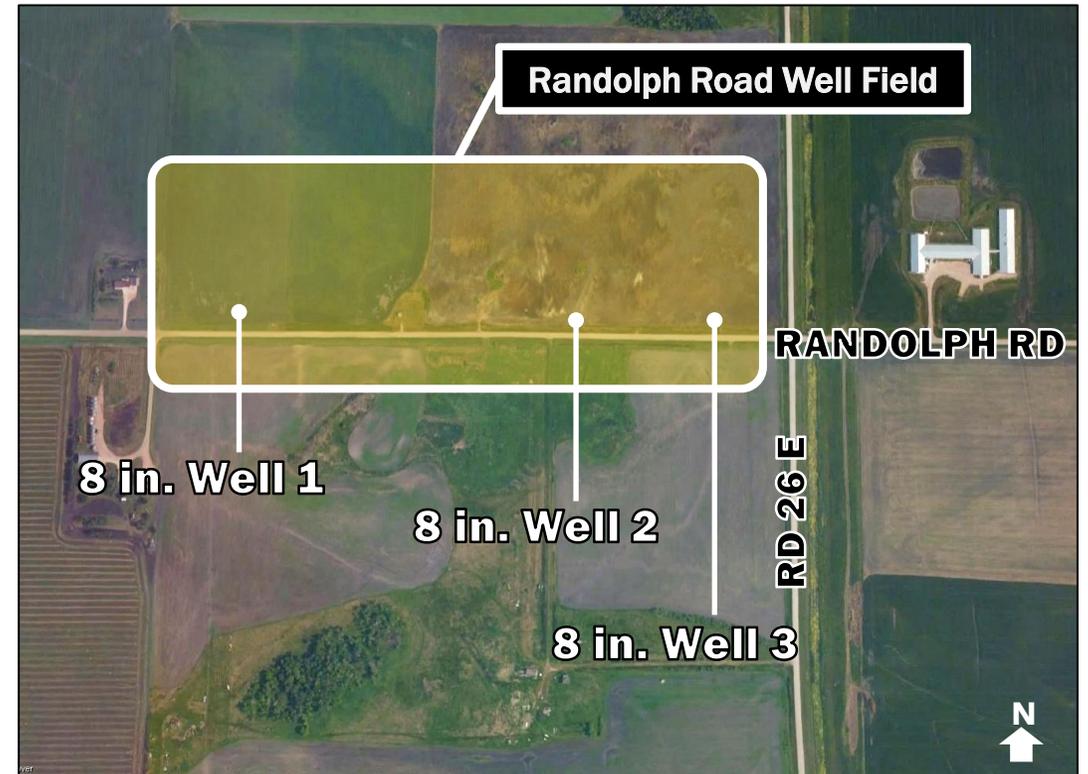
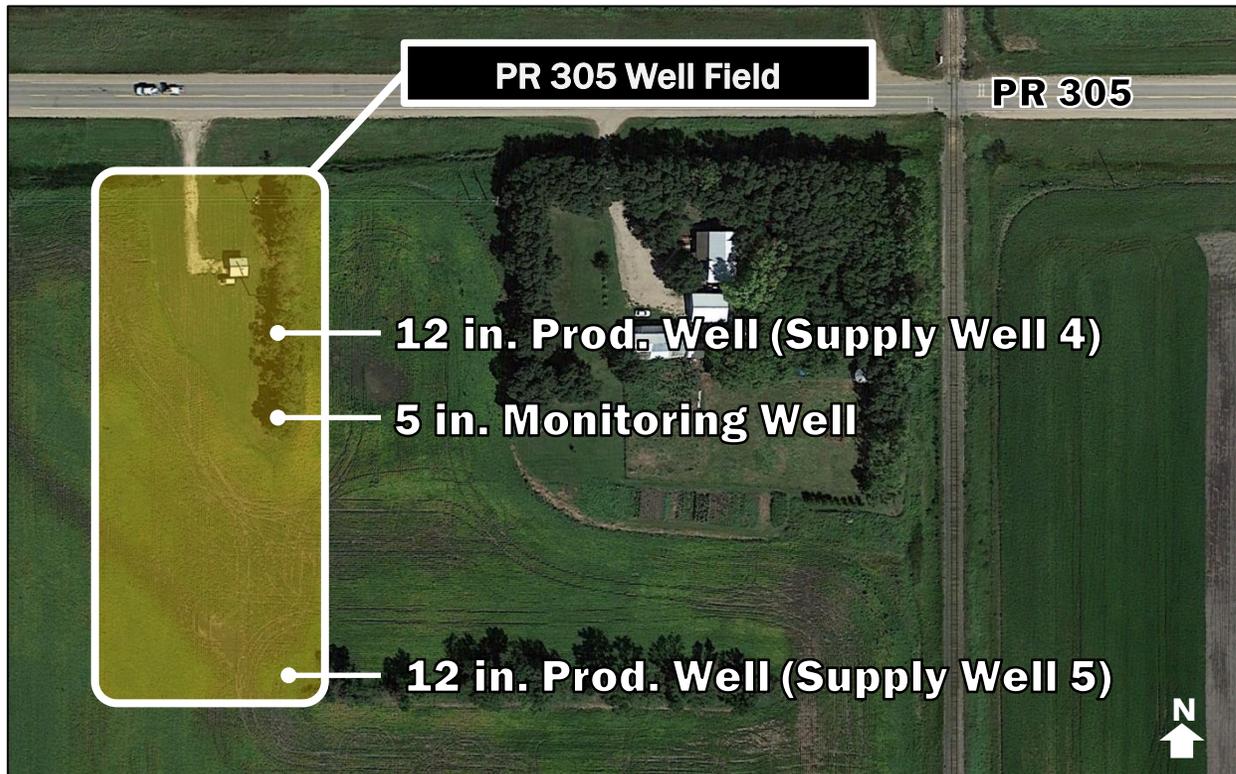
BACKGROUND

- The RM of Ritchot currently has two well fields
- The Randolph Road well field is located on SE 8-7-5 EPM
- The PR 305 well field is located on NE 12-7-3 EPM
- Water is piped from these locations to the RM of Ritchot Water Treatment Plant and from there to users throughout the RM
- There are no pumps in the existing wells (located in the Randolph Road well field). There are well pumps in the PR 305 well field.



EXISTING WELL FIELDS

- This slide illustrates the layout of the PR 305 and Randolph Road well fields



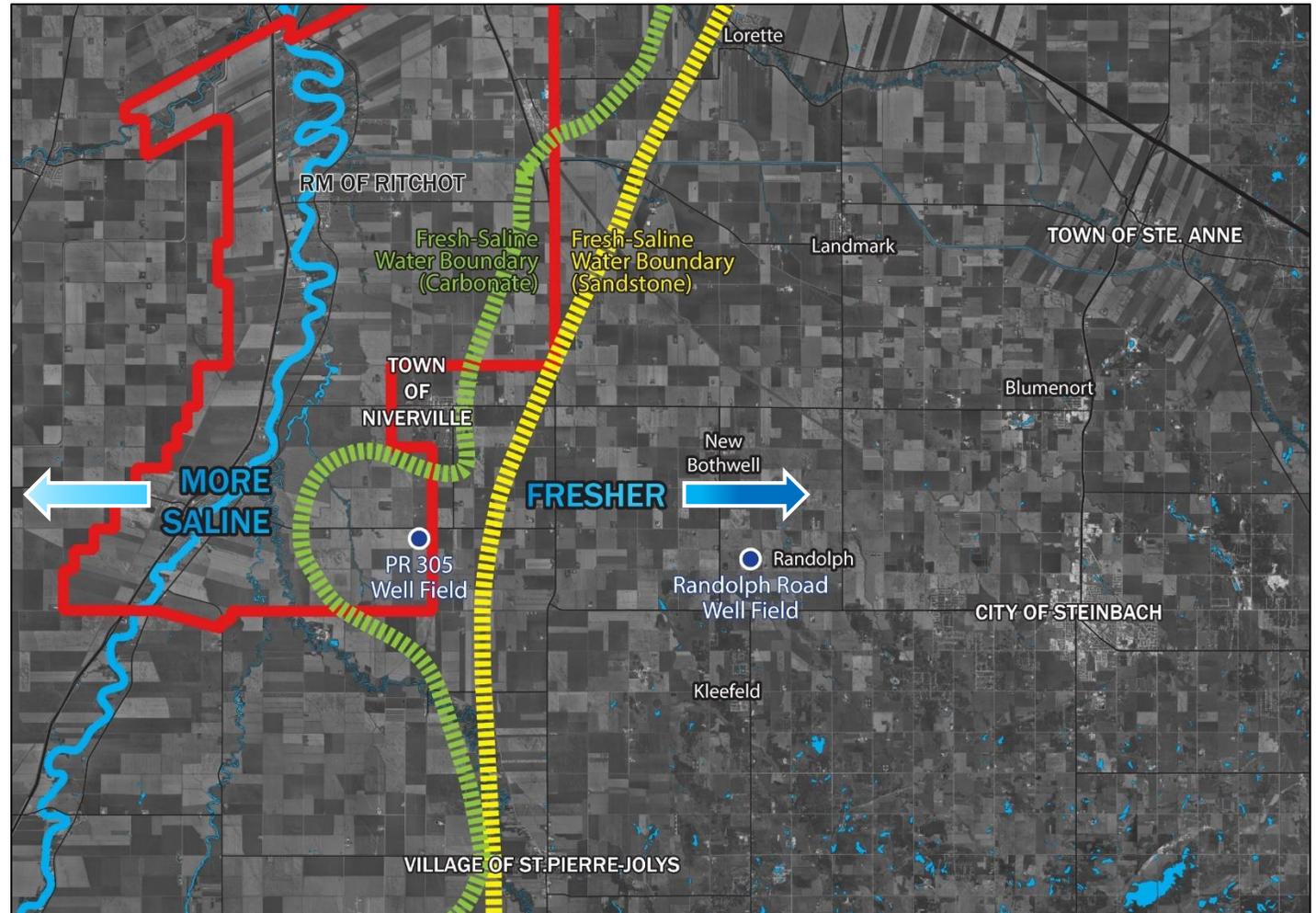
REGIONAL STUDY AREA

- The Randolph Road well field was originally established to relieve groundwater pressure in the area to prevent 'hydraulic rupture' of a major drainage canal passing through the RM of Hanover
- The flowing groundwater was initially allowed to freely flow to the Red River, where it was discharged unused.
- Rather than letting it go to waste, the RM of Ritchot was allowed to collect the water, pump it and use it.
- The PR 305 well field was installed to supplement the decreasing water supplies from the gradual lowering of the local groundwater pressure
- Additional groundwater supplies are still needed to support the growth of the RM of Ritchot in the next 20 years



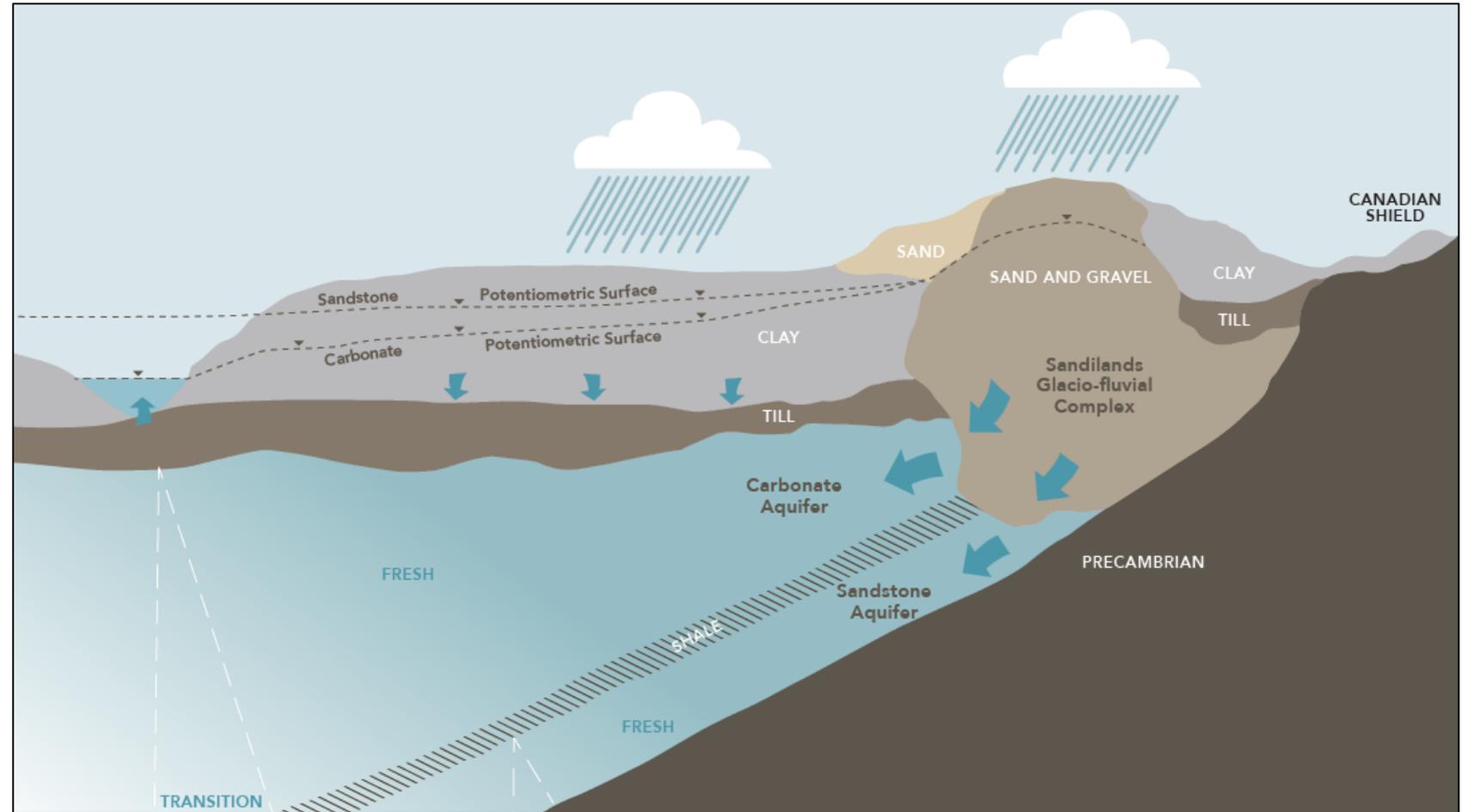
HYDROGEOLOGY

- This slide illustrates the approximate boundaries between fresh water and saline (salt) water in the two aquifer layers below the surface
- Groundwater from formations east of the boundaries are fresh water, while those west of the boundaries are brackish water
- Groundwater in both aquifers within the RM of Ritchot are generally saline, with minor exceptions



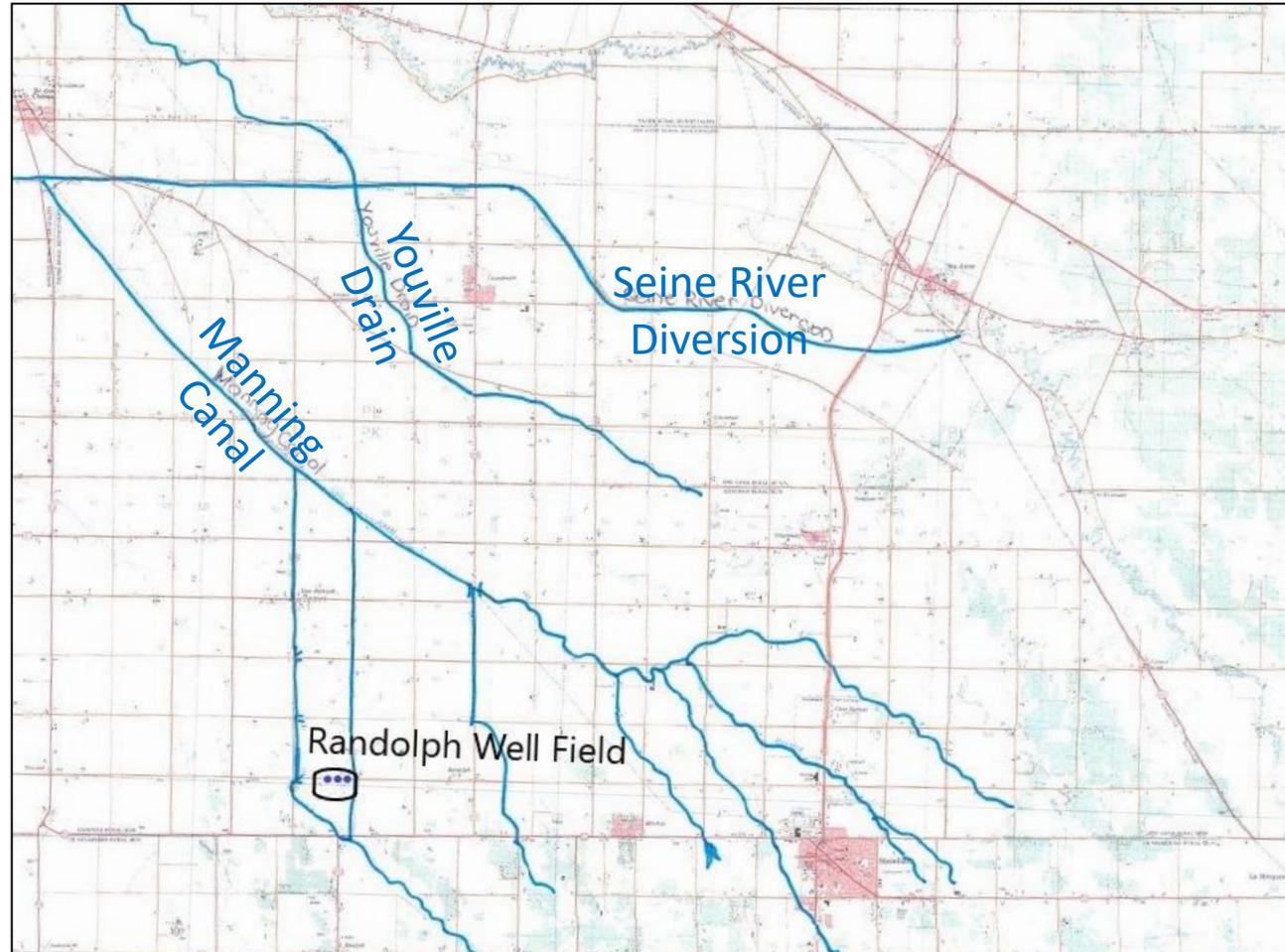
AREA HYDROGEOLOGY

- This slide illustrates how water exists in two major aquifers beneath the region



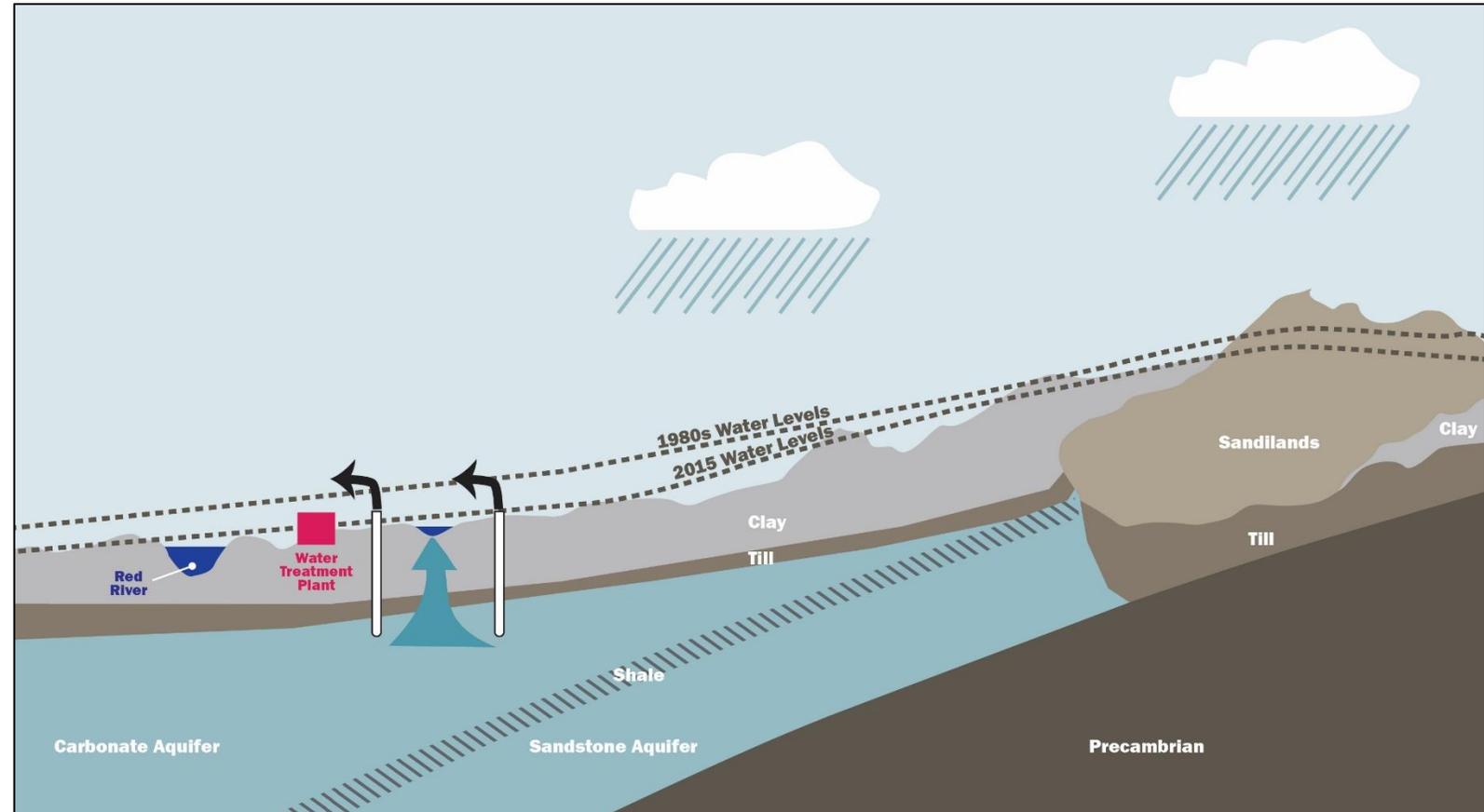
REGIONAL DRAINAGE

- This slide illustrates how local drainage works
- Drains were created in order to improve the land for agricultural purposes and to reduce flooding in certain areas



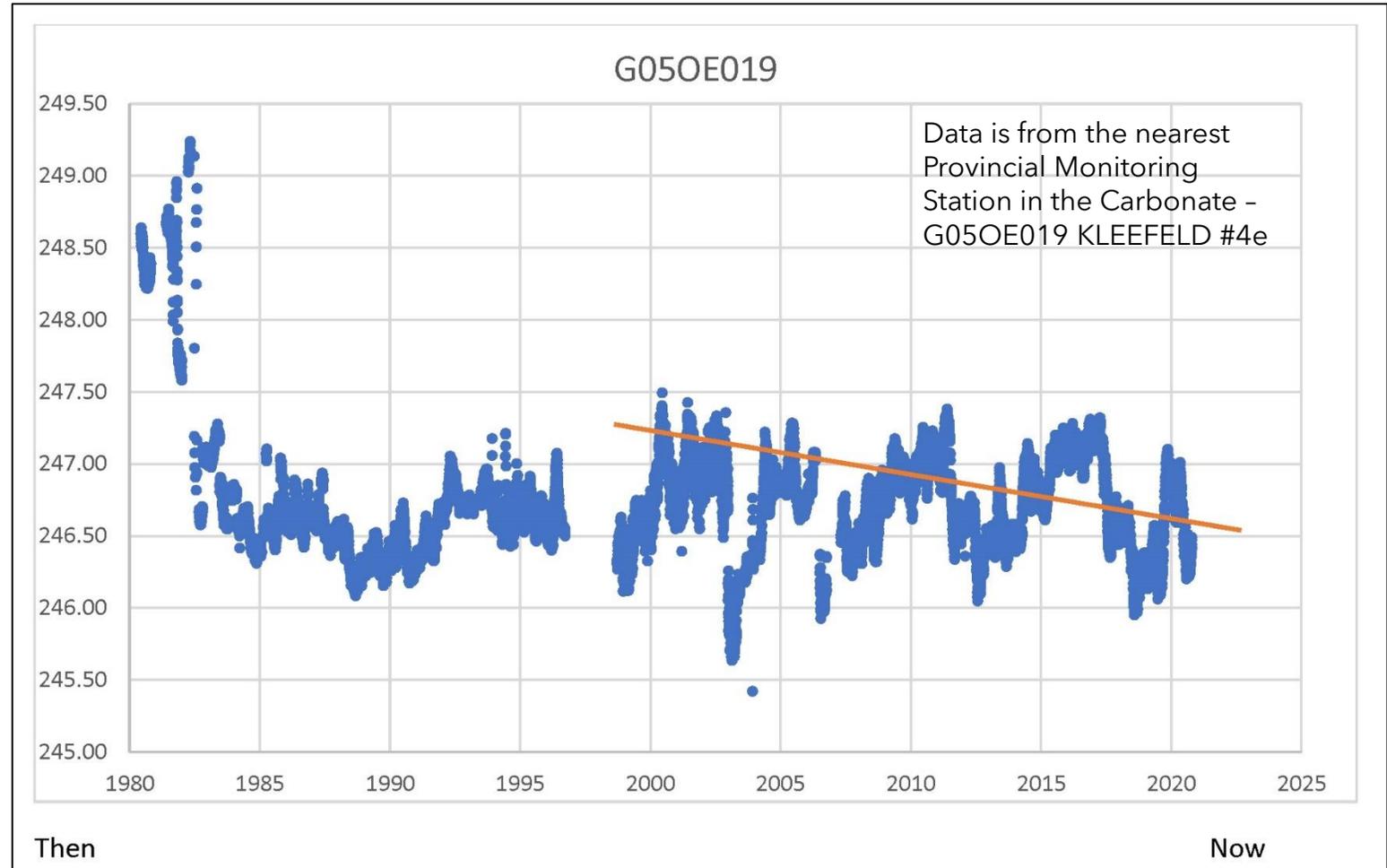
PRESSURE RELIEF WELLS

- This slide illustrates how the relief wells work at the Randolph well site
- Natural water pressure from the carbonate aquifer was causing groundwater to flow into the canal, damaging the canal
- The relief wells allowed the local water pressure to be reduced to protect the canal
- The groundwater pressure has been reduced over time



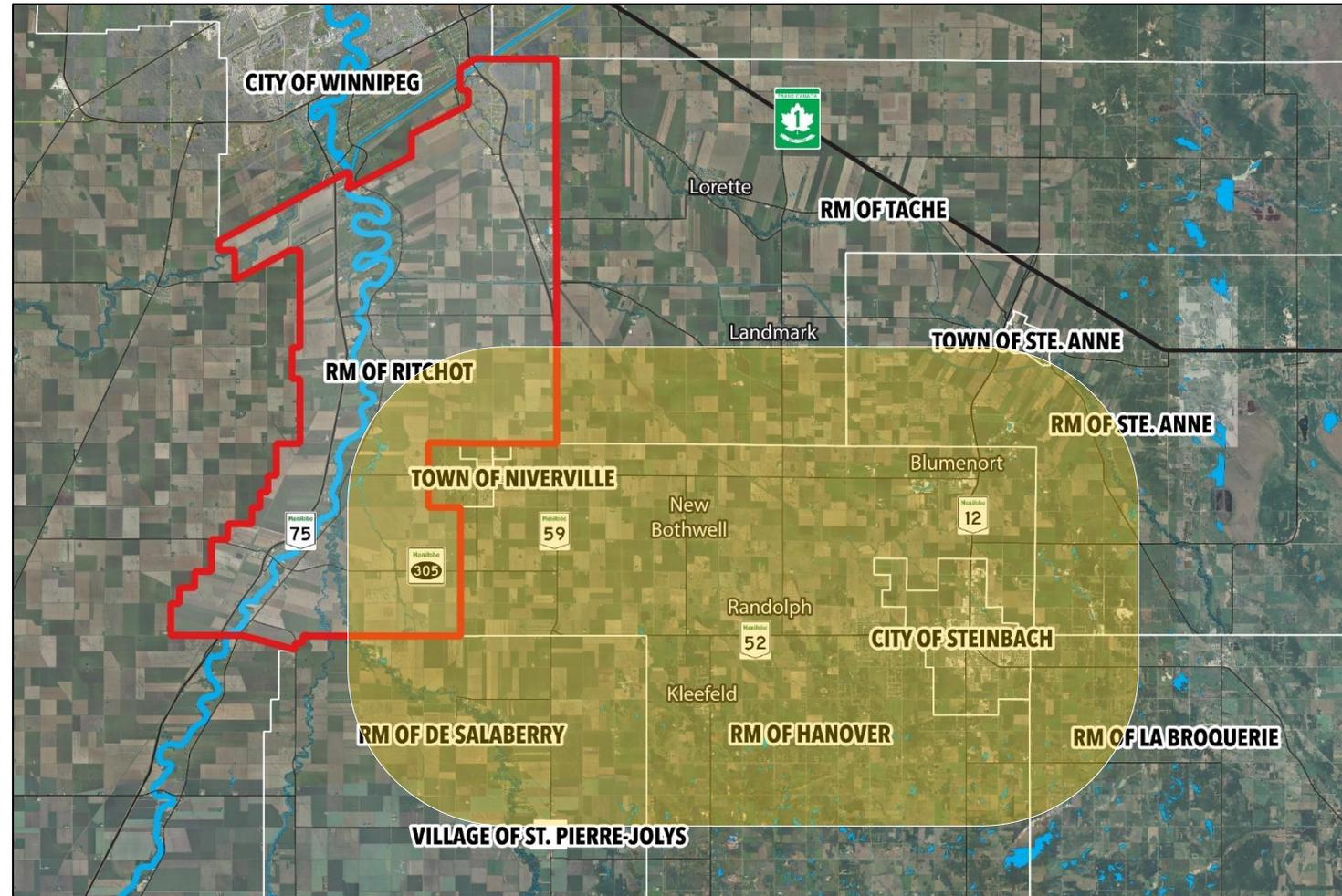
GROUNDWATER LEVELS

- This chart illustrates how water levels have increased or decreased over time near the well fields
- In the past, wells freely flowed, however the flow of water has declined over time, and has been inconsistent



TARGET STUDY AREA

- This slide illustrates the approximate study area the project team would like to study to identify any additional groundwater supply options
- It's important to note that groundwater is a provincial resource
- Many municipalities are serviced by water that originates in areas outside of the RM area



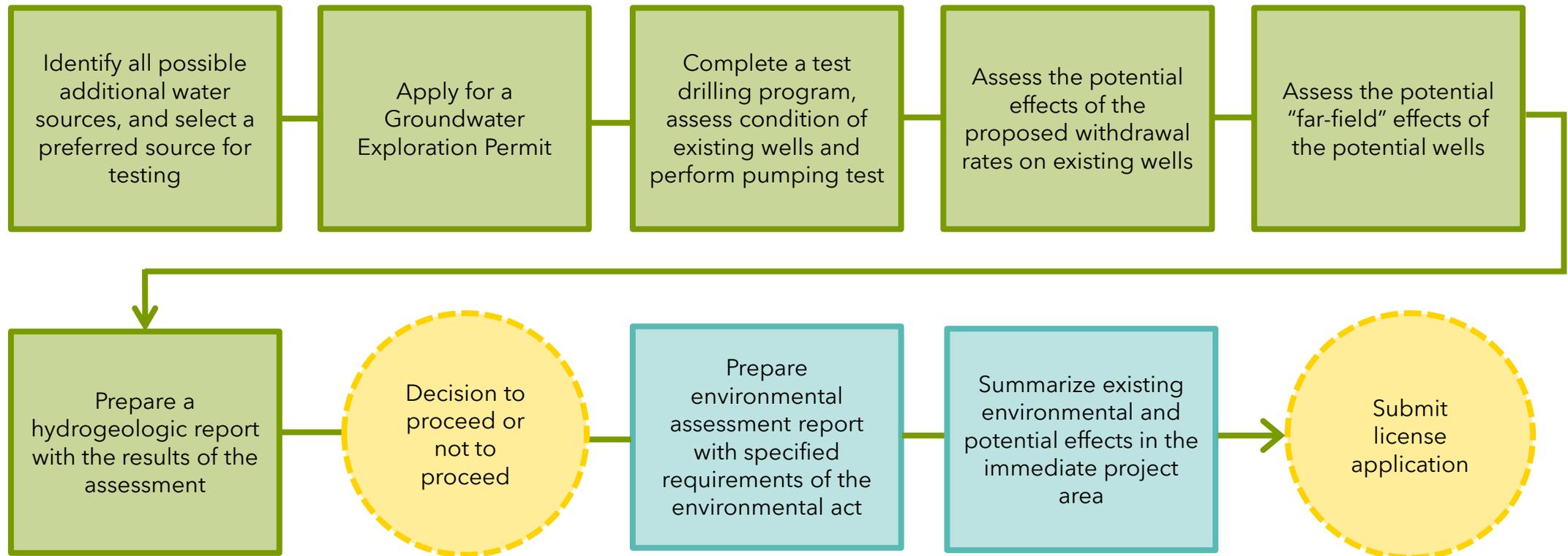
STAKEHOLDERS

A number of stakeholders may be interested or potentially affected by a change to the water supply. The study team will be reaching out to the following groups:

- Council and CAO for the RM of Ritchot, Town of Niverville, RM of Hanover, and any other relevant Local Urban District representatives
- Private landowners or businesses with wells in the target study area
- Local farmers, livestock operations, and farming operations
- Public Works department/representatives of each area
- Local emergency services, e.g. fire departments
- Macdonald-Ritchot Planning District
- Government departments/agencies including Sustainable Development: Water Stewardship Division, Manitoba Municipal Government, and the local Watershed District(s)
- Interest groups and organizations, e.g. Keystone Agricultural Producers
- Local developers
- Others

PROJECT PROCESS

- The following steps outline the components of the water supply investigation.
- Once the technical investigations are complete, a decision would need to be made as to whether to proceed or not.



APPLICABLE MANITOBA ACTS & REGULATIONS

- A water supply system project is regulated by the following Manitoba acts and regulations:
 - The Public Health Act
 - The Drinking Water Safety Act
 - The Water Rights Act
 - The Drinking Water Safety Regulation
 - The Environment Act
 - Licensing Procedures Regulation
 - Classes of Development Regulations
- The licensing approval process will be outlined in more detail in later stages of the project

NEXT STEPS

- Continue meeting with stakeholders to introduce the project process
- Find out about any concerns and try to address them before starting any field testing
- Conduct field testing in order to confirm a target resource
- Prepare a well inventory
- Report back to all stakeholders

CONTACT INFORMATION

Donovan Toews, RPP, MCIP

Landmark Planning & Design

T: 204.453.8008

E: dtoews@landmarkplanning.ca