Environmental Impact Assessment (EIA) for Existing Groundwater Wells at the Agropur Dairy Facility near Sussex, New Brunswick

Retroactive Water Supply Source Assessment (WSSA) for Six Pre-existing Groundwater Wells

April 30, 2019

Prepared for:

Agropur Dairy Cooperative

Prepared by:

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Job Number: 121416145

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1.0 INTRODUCTION

Agropur Dairy Cooperative (Agropur) operates a dairy plant (the Facility) near Sussex, New Brunswick that processes raw milk to produce skim milk, specialty powdered milk, and butter. The Facility has a dairy processing room, administration offices, a milk storage and transfer depot, and a wastewater treatment plant. The Facility was acquired by Agropur through a merger with Dairytown Products Ltd. in June 2014 (Dairytown 2014).

A review of Agropur's regulatory requirements determined that six of the pre-existing groundwater wells that had been in operation and/or modified at the Facility since 2010 or earlier should have undergone an Environmental Impact Assessment (EIA) and water supply source assessment (WSSA) at the time of their installation or modification. This EIA registration document describes the proposed retroactive WSSA for six pre-existing groundwater wells (the Project) at the Facility.

The WSSA Initial Application form is provided in Appendix A. Hydrogeological testing is currently planned to commence in 2019. It is understood that this testing may not be started until after approval of the Initial Application has been received.

1.1 PROPONENT INFORMATION

The proponent for the undertaking is as follows:

Name of Undertaking:	Retroactive EIA / WSSA for Existing Groundwater Wells at the Agropur Dairy Facility near Sussex, New Brunswick
Name of Proponent (Canada):	Agropur Dairy Cooperative
Chief Executive Officer:	Robert Coallier
Mailing Address of Proponent (Canada):	Agropur Dairy Cooperative 4600, Armand Frappier, St. Hubert, Quebec J3Z1G5
Principal Proponent Contact for the Purposes of Environmental Impact Assessment:	Roger D'Amour, ing., M.Sc.A Environmental Director | Operational Excellence Agropur Dairy Cooperative 4600, Armand Frappier, St. Hubert, Quebec J3Z1G5 (514) 236-6404 roger.d'amour@agropur.com Website: http://www.dairytown.com

1.2 PURPOSE/RATIONALE/NEED FOR THE UNDERTAKING

The purpose of the pre-existing groundwater wells at the Facility is to obtain water for use in its dairy processing operations. The EIA Registration is being undertaken to re-affirm that the Facility's current water use is sustainable and to adhere to Agropur's commitment to regulatory compliance.

1.3 REGULATORY FRAMEWORK

An overview of the major regulatory processes that are applicable to the Project based on correspondence with the New Brunswick Department of Environment and Local Government (NBDELG), including federal and provincial environmental assessment requirements and the roles of regulatory authorities, is provided below.

1.3.1 Provincial

1.3.1.1 Environmental Impact Assessment Regulation

The New Brunswick *Environmental Impact Assessment Regulation 87-83* under the *Clean Environment Act* (EIA Regulation) governs the environmental impact assessment (EIA) process in New Brunswick. The EIA Regulation requires that all "undertakings" listed in Schedule "A" of the Regulation require registration with NBDELG.

As the Project involves groundwater wells with the capacity to pump water at rates in excess of 7.64 imperial gallons per minute (igpm) or 50 cubic metres per day (m^3/d), it is considered an undertaking under the EIA Regulation, as per (s) of Schedule "A", as follows:

> *"(s) all waterworks with a capacity greater than fifty cubic metres of water daily."*

In addition to the standard EIA guidelines, this EIA registration document will also follow the requirements described in the NBDELG document titled "Additional Information Requirements for Waterworks and Water Supply Projects" (NBDELG 2004). Following registration, NBDELG will form a Technical Review Committee (TRC) to undertake a determination review of the submitted EIA registration.

As required by the EIA Regulation, a WSSA will be prepared in accordance with the WSSA guidelines (NBDELG 2017). Stantec has completed a WSSA Initial Application accompanying this EIA Registration (Appendix A) for submission to NBDELG.

1.3.1.2 Water Quality Regulation

The New Brunswick *Water Quality Regulation – Clean Environment Act*, administered by NBDELG, requires a permit to be issued for the construction, modification, or operation of any source, wastewater works, or waterworks.

1.3.1.3 Water Well Regulation

The New Brunswick *Water Well Regulation – Clean Water Act*, administered by NBDELG, outlines the requirements for water wells such as well locations, construction and casing specifications, as well as permits required for well drillers.

1.3.2 Federal

The Project is not a designated Project under the *Regulations Designating Physical Activities* under the *Canadian Environmental Assessment Act, 2012 (CEAA, 2012)*, nor was it built on federally regulated land, therefore it is not expected that components of the Project will require an environmental assessment under *CEAA, 2012.*

There are no other federal regulations that are applicable to this Project.

1.4 PROPERTY OWNERSHIP

The Project is located on land privately owned by Agropur.

1.5 PROJECT-RELATED DOCUMENTS

This EIA registration includes the Facility's existing Approval to Operate (I-9183), issued under the *Water Quality Regulation – Clean Environment Act*, as Appendix B of this document. Other than this EIA registration document and the appended information, there are no additional relevant Project-related documents that are publicly accessible.

1.6 ORGANIZATION OF THIS DOCUMENT

This document is organized into nine chapters, as follows.

- Chapter 1 provides introductory information regarding the Project, including information on the proponent, the purpose of the Project, and the regulatory framework that is anticipated to apply to the Project.
- Chapter 2 provides a description of the Project, including information on: Project location; description of existing wells; Project activities; the workforce and Project schedule; and descriptions of emissions and waste, and accidents, malfunctions and unplanned events.
- Chapter 3 provides an overview of the environmental setting of the Project.
- Chapter 4 provides a description of the methods used to assess potential interactions between valued components (VCs) and the Project.
- Chapter 5 provides a description of the potential interactions between the Projects and VCs, including a description of the existing conditions, potential Project-environment interactions, and mitigation.
- Chapter 6 describes the First Nations and public involvement activities conducted and planned for the Project.
- Chapter 7 includes closing remarks and a statement of limitations about this registration document.
- Chapter 8 lists the references cited herein.

Appendices follow with supporting information.

2.0 PROJECT DESCRIPTION

This chapter describes the Project and includes information on the Project location, description of the existing wells, and specific Project components and infrastructure. Project workforce and schedule, descriptions of emissions and wastes, and accidents, malfunctions and unplanned events are also described.

2.1 ENVIRONMENTAL PLANNING AND MANAGEMENT

Agropur is a responsible and established proponent with more than 80 years of experience in the establishment, operation, and maintenance of dairy production facilities in Canada. As a dairy cooperative, Agropur ultimately answers to its community stakeholders many of whom live, work, and play near Agropur facilities. In order to meet the demands of its stakeholders for corporate social responsibility, Agropur maintains a dedicated environmental management team that is responsible for, amongst other things, implementing its smart water management initiatives such as:

- Measuring and monitoring annual water consumption
- Lowering water consumption
- Reducing the organic loading of its wastewater
- Finding solutions to reduce the discharge of wastewater to watercourses

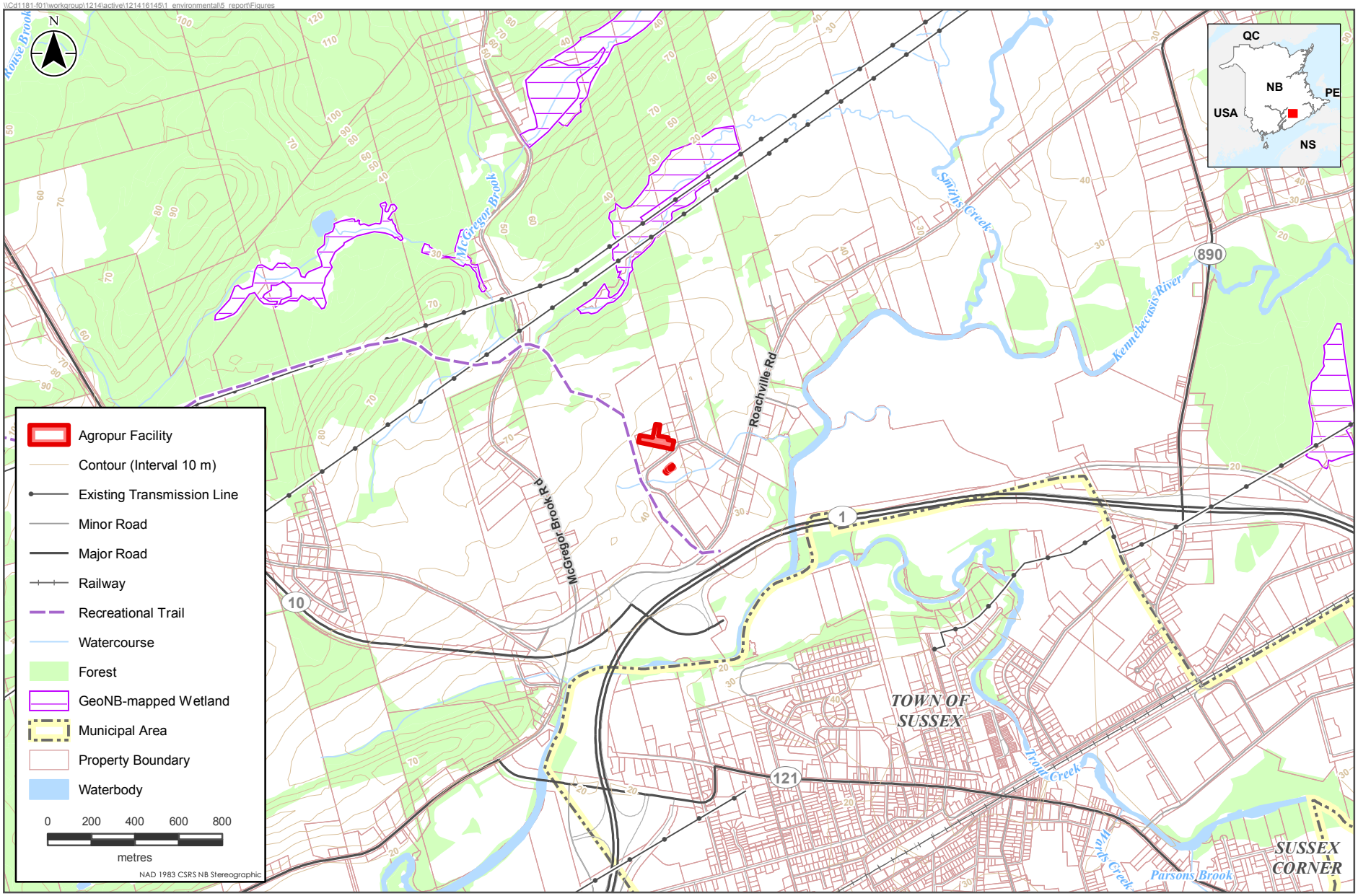
2.2 PROJECT LOCATION

The Facility is located in southern New Brunswick, in Kings County, approximately 700 m north of the Town of Sussex. (Figure 2.1). The Facility is located on several properties owned by Agropur, identified by Parcel Identifier (PID) Numbers 30210660, 00083550, 00102582, 30211759, 30239420, 00108787, 00108761, 30144364, 30144372, 00106831, 00108779, 00106856, 00106849, 00106823, and 00120196.

2.3 DESCRIPTION OF EXISTING WELLS AND PROJECT ACTIVITIES

The Facility includes seven active wells (Figure 2.2), as well as an inactive well, and two decommissioned pumping wells. The pumping wells provide water for use in the Facility's dairy processing operations. Current use from the wellfield is approximately 5 million litres per month (i.e., about 170 cubic metres per day (m^3/d). A summary of the existing active wells is presented in Table 2.1.

Project activities included in this assessment include the use of these wells during normal Facility operation. No construction activities are proposed as part of this Project.



Source Data: Base data provided by Service New Brunswick.

Project Location

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Figure 2.1

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR EXISTING GROUNDWATER WELLS AT THE AGROPUR DAIRY FACILITY NEAR SUSSEX, NEW BRUNSWICK

Project Description
April 30, 2019

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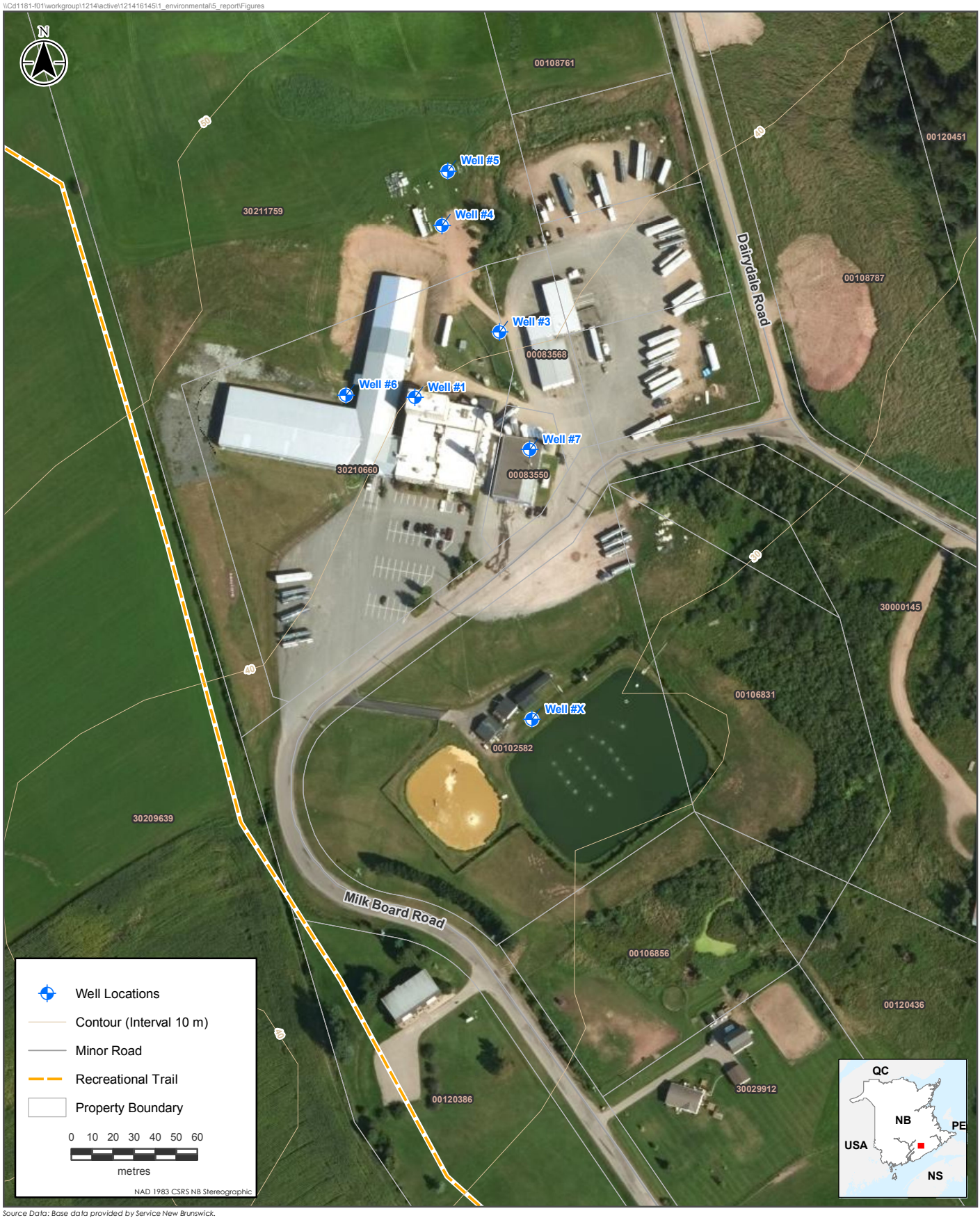

Source Data: Base data provided by Service New Brunswick.

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Location of Existing Groundwater Wells
at the Agropur Dairy Facility

Figure 2.2

Table 2.1 Groundwater Wells In Use at the Agropur Dairy Facility near Sussex, NB

Well ID	Drilling History[1] (yyyy-mm-dd)	NBDELG Well ID	Casing Depth (Diameter)	Total Well Depth	Reporting Safe Yield (igpm)
1	Drilled: 1984-04-21	0043878	54 ft (8" diam)	100 ft	30
	Deepened: (n/a)		(6" diam)	220 ft	100
3	Drilled: 2006-08	35334	85 ft (8" diam)	182 ft	100
4	Drilled: 1989-04-10	n/a	25 ft (6" diam)	130 ft	15
	Deepened: 2007-07		106 ft (8" diam)	206 ft	150
5 (Inactive)	Drilled: 1997-08-14	9718	19.5 ft (6" diam) with 79 ft of 4" diam liner	130 ft	30
	Deepened: 2010-08-30	0043877	80 ft (6" diam)	200 ft	100
6	Drilled: 1997-08-13	9717	62 ft (8" diam)	104 ft	32
7	Drilled: 1980	n/a	(6" diam)	200 ft	100
X	Drilled: 1989-10-15	n/a	34 ft (6" diam)	90 ft	15

Notes:
[1] Well # 1 and Well #s 3 to 7 have not had low recharge rates during the historical operation of the facility and are not considered to be near the end of their service life
n/a = Not Available

2.4 PROJECT SCHEDULE AND WORKFORCE

As required by the EIA Regulation, Stantec has completed a WSSA Initial Application accompanying this EIA Registration (Appendix A) for submission to NBDELG. Hydrogeological testing as part of the WSSA is proposed to commence in early 2020. It is understood that the hydrogeological testing may not be started until after approval of this Initial Application has been received by the Proponent. Further details on the pump testing are provided in Appendix A.

No changes in the Facility workforce are anticipated as part of continued operation of the Facility.

2.5 EMISSIONS AND WASTE

The wells subjected to the retroactive EIA and WSSA have been in use since at least 1984 (Table 2.1) and have not experienced recharge issues. These existing wells are considered adequate for supplying the water needed for operations no new wells are proposed for this Project. As such there are no construction activities associated with this Project.

Operation of the Project is not anticipated to result in substantial emissions of air contaminants, greenhouse gases (GHG), or sound into the environment. Operation of the Project is also not anticipated to result in substantive releases of hazardous materials or solid waste, or surface runoff into the

environment. Water that is pumped from the wells for testing purposes will be sent to the existing wastewater treatment plant.

There are no plans for decommissioning of the existing wells. In the event that a well is no longer required, Agropur will provide the necessary information to the appropriate regulatory agencies at that time so that the regulatory requirements are met prior to commencement of decommissioning activities.

2.6 ACCIDENTS, MALFUNCTIONS, AND UNPLANNED EVENTS

Accidents, malfunctions and unplanned events are events that are not part of any planned Project activity or normal operation of the Project, but have a possibility of occurring and have the potential to result in adverse environmental effects. Even with planning and the application of mitigation, accidents, malfunctions and unplanned events can occur, however, many of these are preventable and can be addressed or prevented with good planning and design, communication, equipment maintenance, training of personnel, and emergency response planning.

The potential accidents, malfunctions and unplanned events that could affect this Project include the release of hazardous materials. This can occur from the operation of vehicles and equipment used in the testing or maintenance of the wells, with the most likely source being a release from a rupture of a hydraulic line, or the loss of fuel. The mitigation and management for hazardous materials will include the following mitigation measures:

- Clearly marking and protecting the well heads and pumping equipment and infrastructure
- Training of personnel in spill response and prevention, and Workplace Hazardous Materials Information System.
- Routine cleaning, preventative maintenance, and visual inspections of vehicles and equipment.
- On-site spill response equipment.
- Reporting spills to the appropriate Agropur personnel. During normal business hours (i.e., Monday to Friday 8:00 am to 4:30 pm), the appropriate authorities will be notified (i.e., NBDELG). Outside of normal business hours, on weekends and holidays, the Spills Action Centre (1-800-565-1633) will be notified.

3.0 ENVIRONMENTAL SETTING

This section provides general background information on the physical setting for the Project.

3.1 PHYSICAL SETTING

3.1.1 Geography, Surficial Geology, Topography, and Drainage

The Project is located within the Kingston Ecodistrict of the Valley Lowlands Ecoregion. The topography in the Sussex area features rolling hills, as opposed to the more rugged terrain seen in much of the Kingston Ecodistrict (NBDNR 2007).

The dominant lithology near the Project site includes Early Carboniferous sedimentary rocks. Bedrock in this area is comprised mostly of red to grey Mississippian sedimentary rocks, which includes sandstone, conglomerate, siltstone and mudstone with some limestone, halite (salt) and potash. The soils in the Sussex area are well drained to moderately drained and are therefore ideal for farming (NBDNR 2007). The Project is located outside of the flood risk areas (SNB 2019) as shown on Figure 3.1.

3.2 BIOPHYSICAL SETTING

The Project is located approximately 600 m north of Route 1 Highway in a rural, mostly agricultural area with some residential dwellings to the south and east of the Facility (Figure 3.2). There are currently no industrial facilities within 1 km of the Project. Therefore, the existing air quality, GHG emissions, and sound pressure levels in the surrounding area are expected to predominantly be influenced by vehicle traffic, cattle, and various sources of contaminants and noise levels within the area such as machinery and/or equipment located on neighboring properties.

The topography of the area, coupled with the history of development of the land for agricultural and transportation purposes, has likely contributed to the lack of biophysical attributes near the Project. Specifically, within 500 m of the Project, there are none of the following:

- Provincially Significant Wetlands, Environmentally Significant Areas, Protected Natural Areas (PNAs), Proposed PNAs, Conservation Areas, or GeoNB mapped wetlands
- Endangered species, important migratory bird nesting sites, important bird migration routes, or important water bird breeding colonies
- Watershed Protected Areas or Wellfield Protected Areas
- Provincial parks, national parks, registered historic places, or national historic sites
- Crown land

The closest regulated wetland is located approximately 600 m northwest the facility. A search of the Atlantic Canada Conservation Data Center database identified two species of conservation concern, limestone meadow sedge (*Carex granularis*), and Canada honewort (*Cryptotaenia canadensis*) approximately 750 m and 1200 m southeast of the PDA respectively.

Field surveys conducted in 2017 indicate that a mapped first order unnamed watercourse runs adjacent to the facility and begins as a drainage ditch originating on the east side of the Dairydale Road. The watercourse drains into the Kennebecasis River, but upstream fish passage is blocked by a hanging culvert beneath the Roachville Road, approximately 180 m downstream from the start of the drainage ditch. As such, this unnamed watercourse is not considered fish habitat between the Dairydale and Roachville Roads.

3.3 SOCIOECONOMIC SETTING

Sussex is the primary dairy production and processing region in New Brunswick, with an abundance of farms located near the town. With a population of 4,282, Sussex serves as the primary economic, government, and retail services centre for the surrounding rural areas (Statistics Canada 2016). Sussex is located between three major NB cities (Saint John, Moncton, and Fredericton), and its immediate proximity to the four-lane Highway 1 provides a transportation route for goods to and from regional and export markets.

In 2016, Sussex experienced a decline in economic activity related to the cessation of operations and associated loss of 430 employees at the PotashCorp Picadilly mine, and from a provincial moratorium on shale gas exploration. In response to these events, Sussex revised its regional economic development strategy; “Food Production and Processing” was included in the top three priorities for the town’s economic development (NuFocus 2017).

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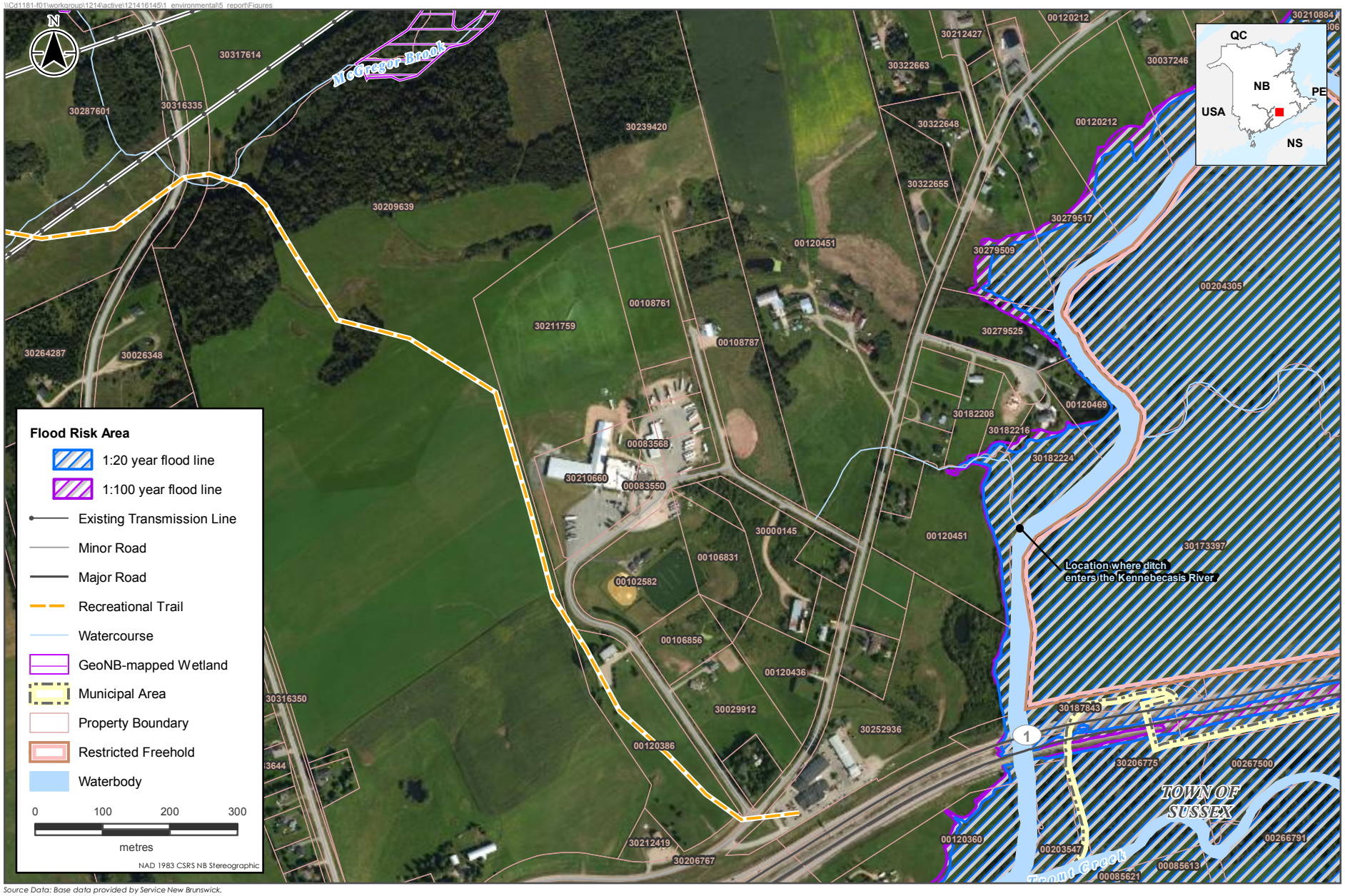

Source Data: Base data provided by Service New Brunswick.

Flood Risk Area in the Vicinity of the Agropur Dairy Facility

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Figure 3.2

Source Data: Base data provided by Service New Brunswick.

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Environmental and Socioeconomic Features in the Vicinity of the Agropur Dairy Facility and Local Assessment Area

Figure 3.1

4.0 VALUED COMPONENTS

The environmental attributes with which the Project could interact were identified from publicly available desktop resources, as the Project occurs on developed and previously disturbed lands owned by Agropur. A site visit was conducted on December 1, 2017, to provide ground-truthing of selected environmental features that could not be obtained from desktop information.

4.1 VALUED COMPONENTS

Based on its professional experience and work with similar projects, and the environment setting within which the Project will be situated (Section 3.0), the Stantec team selected the following valued components (VCs) as those that should be considered as part of this EIA Registration:

- Atmospheric environment
- Water resources (surface water and groundwater)
- Freshwater fish and fish habitat
- Terrestrial environment
- Socioeconomic environment
- Heritage resources
- Current use of land and resources for traditional purposes by Indigenous persons
- Effects of the environment on the project

Chapter 5.0 provides a description of each of these VCs, their existing (baseline) conditions, potential interactions with the Project, and planned mitigation to reduce Project-environment interactions.

4.2 VC RATING

A binary qualitative rating system was used to evaluate the potential for interactions between the Project and the environment. One of the following two ratings was prescribed for each individual VC:

- An interaction between the Project and the environment could occur
- No interaction occurs between the Project and the environment

Project-VC interactions are discussed in greater detail in Chapter 5.0.

4.3 VC ASSESSMENT BOUNDARIES

4.3.1 Spatial Boundaries

The assessment of potential environmental interactions with the VCs encompasses two spatial boundaries: Project Development Area (PDA) and Local Assessment Area (LAA).

Project Development Area

The PDA is the immediate area encompassing the Project footprint, and is limited to the anticipated area of physical disturbance associated with the operation and maintenance of the Project. The PDA includes the footprint of the Agropur Facility as depicted in Figure 2.1.

Local Assessment Area

The LAA is defined as the maximum area where Project-specific environmental interactions can be predicted and measured with a reasonable degree of accuracy and confidence (i.e., the zone of influence of the Project for each VC). Beyond the LAA, the environmental effects of the Project on the respective VCs are expected to be minimal. The LAA can vary amongst the VCs and is summarized for each VC in Table 4.1.

Table 4.1 Local Assessment Area for Valued Components

Valued Component	Local Assessment Area
Atmospheric environment (air, noise, GHG)	PDA plus 1 km for air and noise. None for GHG[2]
Water resources (surface water and groundwater)	PDA plus 500 m
Freshwater fish and fish habitat	PDA, plus a 30 m buffer on either side of watercourses identified in the PDA (if applicable)
Terrestrial environment	PDA plus 500 m
Socioeconomic environment	PDA plus 500 m
Heritage resources	PDA
Current use of land and resources for traditional purposes by Aboriginal persons	PDA
Effects of the environment on the project[1]	PDA

Notes:

[1] Effects of the environment on the project is not a VC; however, it is included here for continuity in the assessment of potential interactions between the Project and the environment.

[2] No LAA is applicable to GHGs and climate change as these environmental interactions occur on a global scale.

4.3.2 Temporal Boundaries

Temporal boundaries identify when a potential environmental interaction is assessed in relation to specific Project phases and activities. The temporal boundaries for the assessment of the potential environmental interactions with the Project include the following periods:

- Operation and Maintenance – approximately 50 years or the end of service life

There is potential for the Project to interact with the VCs, and for the environment to interact with the Project, during operation of the Project. These will be discussed in detail in Chapter 5.0.

5.0 ASSESSMENT OF POTENTIAL INTERACTIONS BETWEEN THE PROJECT AND THE ENVIRONMENT

Based on the Project Description (Chapter 2.0), the Environmental Setting (Chapter 3.0), and the VC methodology described briefly above (Chapter 4.0), the potential interactions between the Project and the environment are summarized in Table 5.1. Valued Components for which the Project will not have interactions are described in Sections 5.1 through 5.6.

Table 5.1 Potential Interactions of the Project with the Environment

Activities/Physical Works Associated with the Project	Atmospheric Environment	Water Resources	Freshwater Fish and Fish Habitat	Terrestrial Environment	Socioeconomic Environment	Heritage Resources	Current Use of Land and Resources for Traditional Purposes by Aboriginal Persons	Effects of the Environment on the Project
Operation and Maintenance of Wells	-	✓	-	-	-	-	-	-
✓ indicates an interaction - indicates no interaction								

In the table above, the interaction with a particular VC is identified when the interaction first occurs.

5.1 ATMOSPHERIC ENVIRONMENT

The atmospheric environment includes conditions that reflect the quality of the atmosphere such as light, sound and vibration, particulate matter, odour, and greenhouse gasses (GHG). The *Air Quality Regulation 97-133* under the *New Brunswick Clean Air Act* defines air quality objectives for the province. Sound is defined as a contaminant in the *New Brunswick Clean Air Act*.

As the Project only relates to the operation of the existing groundwater wells, and these wells do not emit dust, light, odour, or vibration, there are no potential environmental interactions between the Project and the atmospheric environment.

5.2 FISH AND FISH HABITAT

Fish and fish habitat includes Commercial, Recreational, and Aboriginal fisheries as defined under the *Fisheries Act*, and the habitat that supports these fish populations, including water quality. Fish are defined under the *Fisheries Act* as “any parts of fish…the eggs, sperm, spawn, larvae, spat and juvenile stages of fish” and for the purposes of this assessment include any fish species or life stage of fish within

the LAA as described in Section 4.3.1. Fish habitat is defined under the *Fisheries Act* as "spawning grounds and any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly to carry out their life processes". Fish also include those listed under Schedule 1 of the *Species at Risk Act* (*SARA*) and the New Brunswick *Species at Risk Act* (NB *SARA*) that are afforded additional regulatory protection.

The nearest watercourse is an unnamed first order stream located downgradient approximately 160 m east of the PDA (Figure 3.2). The unnamed watercourse begins as a ditch on the side of the Dairydale Road opposite the Project. A field survey of the unnamed watercourse determined upstream fish passage was blocked by a hanging culvert approximately 180 m from the Dairydale Road, and no fish were observed in the channel upstream of the barrier. As such, there are no watercourses crossed by the PDA, nor is the PDA situated within the 30 m buffer of any watercourse.

As there are no watercourses or buffers within the PDA, and no reasonable pathway for the Project to affect the nearest watercourse located 160 m away, there are no potential environmental interactions between the Project and freshwater fish and fish habitat.

5.3 TERRESTRIAL ENVIRONMENT

The terrestrial environment includes plant and wildlife species at risk (SAR), species of conservation concern (SOCC), and wildlife habitats including wetlands and ecological communities of management concern (ECMC). As the Project is limited to the operation of existing wells within the PDA, and there are no SAR, SOCC, ECMC, or wetlands shown on the GeoNB map layer (SNB 2019) within the PDA or within 500 m of the PDA ,there are no potential environmental interactions between the Project and the terrestrial environment.

5.4 SOCIOECONOMIC ENVIRONMENT

The socioeconomic environment includes land and resource use, transportation, infrastructure, and services, and employment and the economy. The Project relates only to the operation of existing wells within the PDA, and therefore has no interaction with land use, transportation, infrastructure, and services, or employment and the economy. Furthermore, as the only resource use is groundwater (addressed in Section 5.8) there are no potential environmental interactions between the Project and the socioeconomic environment.

5.5 HERITAGE RESOURCES

Heritage resources are those resources, both human-made and naturally occurring, related to human activities from the past that remain to inform present and future societies of that past. Heritage resources are relatively permanent, although highly tenuous, features of the environment. If heritage resources are present, their integrity is highly susceptible to construction and ground-disturbing activities. For this VC, Heritage Resources includes consideration of historical, archaeological, built heritage, and palaeontological resources. It is further understood that any resources that would be understood to be "historical" are captured under one of these three heritage resource types.

Project activities that involve surface or sub-surface ground disturbance have the potential for interaction with heritage resources where they are present. As the PDA is situated in a previously disturbed area (e.g., construction of the Agropur facility and the pre-existing wells), there are no built heritage sites in the PDA, and there are no decommissioning activities associated with this Project, no ground disturbances are anticipated. As such, there are no potential environmental interactions between the Project and heritage resources.

5.6 CURRENT USE OF LAND AND RESOURCES FOR TRADITIONAL PURPOSES BY ABORIGINAL PERSONS

The assessment of potential environmental interactions in this section refers to traditional activities such as hunting, fishing and gathering conducted by Aboriginal persons for traditional purposes, and considers subsistence, social and ceremonial uses, and for which the right to engage in those activities is afforded constitutional protection. The assessment is limited to Crown lands crossed by the PDA.

As there are no Crown-owned properties associated with the PDA that provide for subsistence, social, or ceremonial uses by Aboriginal persons, there are no potential environmental interactions between the Project and current use of land and resources for traditional purposes by Aboriginal persons.

5.7 EFFECTS OF THE ENVIRONMENT ON THE PROJECT

The effects of the environment include potential natural hazards or environmental conditions that can interact with the Project, such as climate (including weather), climate change, flooding, forest fires, and seismic activity. The potential effects of the environment are addressed through Project design (including site selection and materials selection), such as built-in redundant capacity amongst the existing wells. In the event a well is damaged, such as in the unlikely case of seismic activity, the remaining wells will continue to provide water for the facility.

The Project relates to the operation of existing wells in the PDA and the PDA is not at risk of forest fires or flooding. Future climate projections do not indicate a reduction in precipitation, which could affect groundwater recharge and reduce the availability of groundwater in existing wells. As such, there are no potential interactions between the environment and the Project.

5.8 WATER RESOURCES

This section includes a discussion of potential environmental interactions between the Project and Water Resources.

5.8.1 Scope of Assessment

Groundwater resources has been selected as a VC due to its importance as a potable water resource. More than 75% of the population of New Brunswick relies on groundwater as a source of drinking water (Statistics Canada 2010). Groundwater from drilled or screened wells is used for domestic, agricultural, municipal, commercial, institutional, and industrial purposes.

In this assessment, the potential changes to groundwater resources as a result of the Project are considered. The scope of the assessment is based on applicable regulations and policies, professional judgement of the study team, and knowledge of potential interactions.

5.8.1.1 Existing Conditions for Water Resources

Groundwater typically occurs in soil deposits (referred to as overburden) or in cracks or crevices in the underlying rock (i.e., fractured bedrock). As groundwater moves through soil and rock, minerals in the soil and rock can be dissolved into the groundwater, resulting in a change in the water quality. As a result, the quantity and quality of groundwater that can be extracted using water wells depends on the geology of an area. Overburden and fractured bedrock formations that can produce useable amounts of groundwater are called aquifers.

The Village of Sussex has a municipal water supply, with a designated protected well field located 2.5 km from the facility, and a provisional protected well field located approximately 2 km from the facility. These protected well fields are separated from the Facility by the Kennebecasis River.

In addition to the wells at the Facility, a query of the New Brunswick Online Well Log System (NB OWLS) water well database identified three domestic drinking water wells within the LAA, two located on PID 00120436, and one on PID 30182208 (Figure 3.1). As the NB OWLS only contains water well records for wells drilled since 1994, there is also the potential for other water wells to exist within the LAA.

In order to obtain a large enough dataset of potential wells in the area to characterize the water quality in the LAA, groundwater samples reported by the NB OWLS for water well records located within 5 km of the PDA were obtained. This included sample results from 91 groundwater wells, and were compared to the Guidelines for Canadian Drinking Water Quality (GCDWQ; Health Canada 2017). Summary statistics for the analyzed water quality parameters were prepared and are presented on Figure 5.1. Overall, the water quality in the area is fair. There were exceedances of the GCDWQ maximum acceptable concentrations for several parameters, including arsenic (20 samples), fluoride (15 samples), and boron (4 samples). Total coliform was also detected in 25 of the samples, and 4 samples indicated the presence of *E. coli.* There were also exceedances of the GDCWQ aesthetic objectives for total dissolved solids (66 samples), sulphate (55 samples), zinc (46 samples), sodium (45 samples), copper (26 samples), and chloride (15 samples).

5.8.1.2 Potential Environmental Interactions with Water Resources

During operation, groundwater extraction from the existing pumping wells has the potential to draw down the water table in the vicinity of the Facility. This draw down may alter the ability of nearby existing users to withdraw water from their wells.

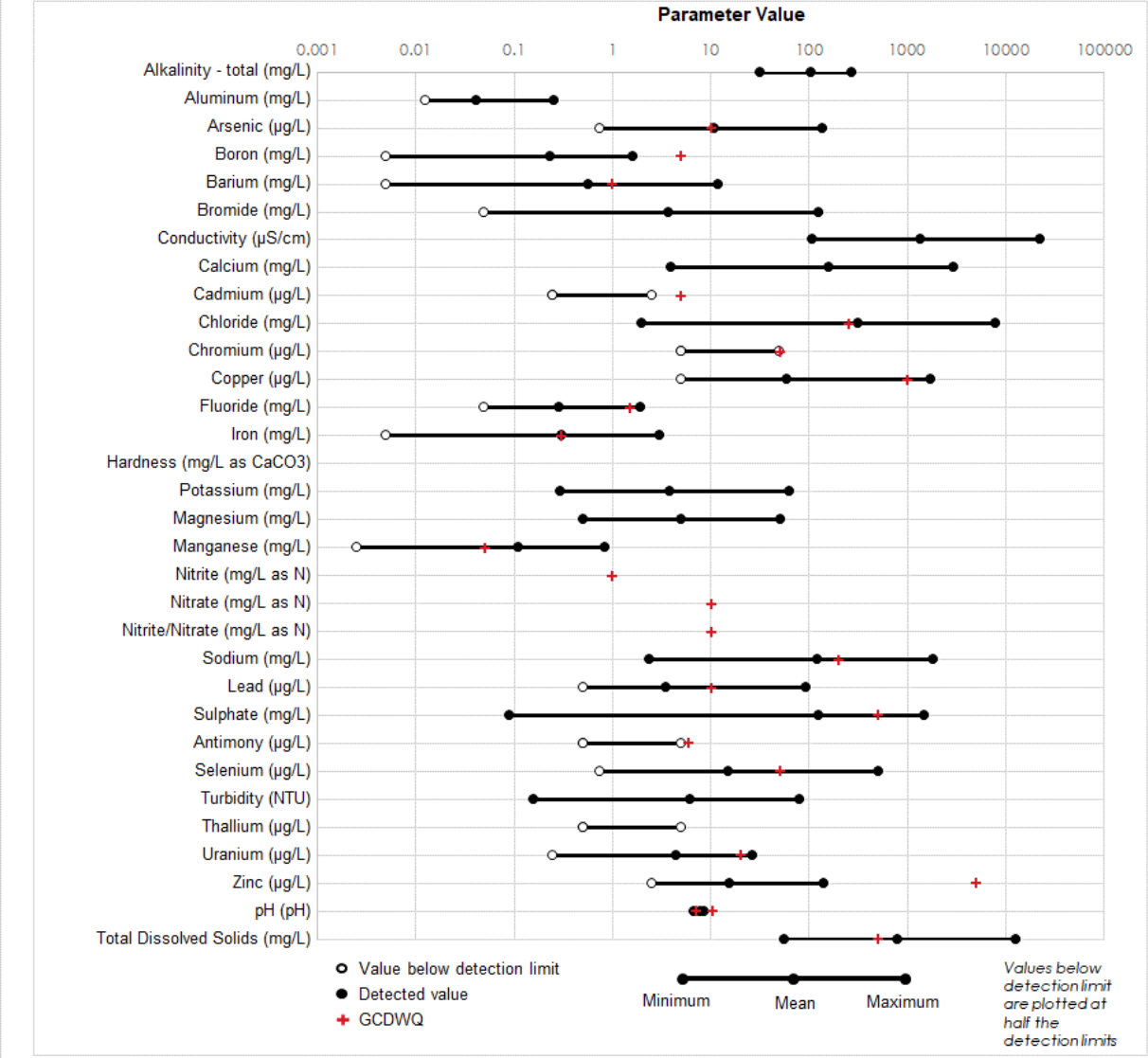

Figure 5.1 Summary of Groundwater Quality Data within 5 km of the PDA (GNB 2019)

The potential for the interactions of pumping to result in decreased well yields at nearby wells depends on several factors including the hydraulic characteristics of the aquifer materials, the duration of pumping, and the location and well construction details for existing water well users. To assess this potential interaction, a Hydrogeological Investigation will be conducted under the Provincial WSSA process (NBDELG 2014). An Initial Application to conduct this work is included in Appendix A. The nature of the potential interactions of the Project with existing groundwater users during Operation will be assessed as part of a pending WSSA Hydrogeological Investigation.

5.8.1.3 Summary of Proposed Mitigation

Mitigation measures, if applicable, will be identified following the results of the WSSA.

5.8.1.4 Summary for Water Resources

It is assumed that the Project will not adversely affect Water Resources in a substantive way. This assumption will be confirmed with the testing conducted for the WSSA. The results of the WSSA will be provided to NBDELG as an addendum to the EIA Registration document.

6.0 PROPOSED FIRST NATIONS AND PUBLIC ENGAGEMENT

As a dairy cooperative, Agropur ultimately answers to its community stakeholders many of whom live, work, and play near Agropur facilities. Upon submission of the EIA Registration Agropur will initiate a First Nations and public involvement program to inform First Nations, elected officials, landowners, stakeholders, and the general public about the Project.

The objectives of the First Nations and public involvement program are as follows:

- Provide information directly to stakeholders, the general public, community groups, and other interested parties on the proposed Project
- Provide information directly to elected officials and local service districts
- Address issues and concerns raised during this process
- Identify measures that will mitigate or resolve any public issues or concerns
- Identify proposed future consultation initiatives

6.1.1 First Nations Engagement

Although the Project lies within the traditional territory of the Wolastoqey First Nation, the PDA is completely located on private land and has been for some time now. The closest First Nations communities to the PDA are the Fort Folly First Nation and the Oromocto First Nation, which are approximately 80 km northeast and 75 km northwest of the PDA, respectively. During the EIA review, the Proponent will inform these First Nations communities of the location, details and schedule of the Project via a letter to determine if these communities have any questions or concerns about the Project.

6.1.2 Communication Methods

The scope of public involvement required will be determined in consultation with NBDELG and will follow guidance from the document entitled “A Guide to Environmental Impact Assessment in New Brunswick” (NBDELG 2018). Given the limited nature of the Project, the Proponent proposes a modest public involvement program including letters to local elected officials, distribution of letters to property owners within 500 m of the wells, and the provision of a public display copy of the EIA registration document to the Sussex regional office of NBDELG.

6.1.3 Issues Tracking and Reporting

A thirty day public comment period will be initiated upon registration. Comments or questions from the public on the EIA registration will be documented and responded to (where appropriate).

A brief summary report, identifying the opportunities afforded to the public in the public notification process as well as any comments received, will be submitted to the NBDELG within 60 days of registration, as required by the EIA Regulation guidance

7.0 CLOSURE

This document titled Environmental Impact Assessment (EIA) for Existing Groundwater Wells at the Agropur Dairy Facility near Sussex, New Brunswick was prepared by Stantec Consulting Ltd. (“Stantec”) for the account of Agropur Dairy Cooperative (the “Client”). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec’s professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

8.0 REFERENCES

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Appendix A WATER SUPPLY SOURCE ASSESSMENT INITIAL APPLICATION FORM

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR EXISTING GROUNDWATER WELLS AT THE AGROPUR DAIRY FACILITY NEAR SUSSEX, NEW BRUNSWICK

4/30/2019 12:00:00 AM

Water Supply Source Assessment Initial Application Form

1. Name of proponent

Agropur Dairy Cooperative

2. Location of drill targets (including property PID) and purpose of the proposed water supply

The location of the six existing wells to be tested are shown on Figure 3.1 (PIDs No.30210660, 30211759, 00083550, 00102582). As the groundwater wells in this assessment already exist, no new drill targets are proposed. No additional monitoring wells are proposed to satisfy the water requirements for the facility, as wells in proximity to the individual wells can be used as monitoring wells for the purposes of the testing.

3. Required water quantity (in m^3/d) and/or required pumping rate.

Current use from the wellfield is approximately 170 m^3/d (approximately 5 million litres per month).

4. List alternate water supply sources in area (including municipal systems).

Alternate water supplies are limited to surface water extraction from the Kennebecasis River, located approximately 650 m south of the Project area. Although a municipal water supply source is available in the Village of Sussex, the Facility is located outside of the municipal boundary of the Village.

5. Discuss area hydrogeology as it relates to the project requirements.

As discussed in the EIA Registration document, the dominant lithology near the Project site includes Early Carboniferous sedimentary rocks. Bedrock in this area is comprised mostly of red to grey Mississippian sedimentary rocks, which includes sandstone, conglomerate, siltstone and mudstone with some limestone, halite (salt) and potash. The soils in the Sussex area are well drained to moderately drained (NBDNR 2007).

Water well records obtained from the NB OWLS indicate that the well yields in the area are variable, with average well yields for wells within 500 m of the Project of 53 m^3/d (ranging from 25 to 95 m^3/d). The existing pumping wells have been sufficient to supply the required facility demand of 170 m^3/d.

6. Outline the proposed hydrogeological testing and work schedule.

It is understood that the hydrogeological testing may not be started until after approval of this Initial Application has been received by the Proponent. It is the intent of the Proponent to commence this work in early 2020.

No additional monitoring wells are proposed as wells in proximity to the individual wells can be used as monitoring wells for the purposes of the testing.

Pumping tests will be conducted to evaluate the hydrogeologic conditions at the site. It is understood that the sustainable pumping rates from the existing wells are known. Therefore, the stepped-rate pumping test that would normally be conducted is not proposed for these wells. A 72-hour pumping test will be conducted at the six existing wells installed at the property. The water level responses in the pumped wells and observation wells will be used to assess the capabilities of the local aquifer to sustainably provide water to the wells. Should the testing described above conclude that the tested wells would not supply sufficient water for the Facility, additional testing would be required for each well that may be connected to the system.

In addition to the information collected from drilled water wells, water level data from existing nearby water wells may be collected, if applicable. This data would be used to assess potential interactions with existing users. The collection of this data will require landowner approval to monitor the water level during the pumping tests.

A water quality sample will be collected from the pumped wells prior to the termination of pumping of each pumping test.

Upon completion of the hydraulic testing, a report will be prepared outlining the methods used, field data, and relevant information used to provide the conclusions and recommendations. This report will also include a discussion of long-term sustainable yields of the well and effects on existing water supplies, if any.

7. Identify any existing pollution or contamination hazards within a minimum radius of 500 m from the proposed drill targets. Historical land use that might pose a contamination hazard (*i.e.* tannery, industrial, waste disposal, etc.) should also be discussed.

A search of the SNB database for properties within 500 m of the limits of the Project revealed the presence of 4 properties with a Petroleum Storage Site report and/or a Remediation Sites Management Program report, as shown on Figure 3.1. This includes storage for fuel used at the Agropur Dairy Cooperative Facility (PIDs No.00083550 and 00083568), and Remediation Sites Management Program Reports for a property owned by Agropur (PID No. 00106831), and Sussex Hydraulic Services Ltd (PID No. 00120436). An aerated wastewater treatment lagoon is located at the facility. Well #X is located immediately adjacent to the lined lagoon shown on Figure 2.2.

8. Identify any groundwater use problems (quantity or quality) that have occurred in the area.

No groundwater use problems were identified in the area as part of this study.

9. Identify any watercourse(s) (stream, brook, river, wetland, etc.) within 60 m of the proposed drill targets.

No watercourses, water bodies or wetlands have been identified within 60 m of the existing groundwater wells.

Appendix B APPROVAL TO OPERATE (I-9183)

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR EXISTING GROUNDWATER WELLS AT THE AGROPUR DAIRY FACILITY NEAR SUSSEX, NEW BRUNSWICK

Appendix B Approval to Operate (I-9183)
April 30, 2019

APPROVAL TO OPERATE

I-9183

Pursuant to paragraph 8(1) of the *Water Quality Regulation - Clean Environment Act,* this Approval to Operate is hereby issued to:

AGROPUR COOPÉRATIVE LAITIÈRE

for the operation of the

Sussex Dairy Processing Plant

Description of Source:	**Butter and Powder Milk Plant with an aerated-facultative lagoon and clarifier.**
Source Classification:	**Fees for Industrial Approvals Regulation - Clean Water Act** **Class 2**
Parcel Identifier:	**00108787, 30210660, 30144364, 30144372, 00108779, 00106831, 00083550, 00102582, 30211759, 00108761, 30239420, 00106856, 00106849, 00106823, 00120196**
Mailing Address:	**P.O. Box 5124** **Sussex , NB E4E 5L2**
Conditions of Approval:	**See attached Schedule (s)"A" and "B" of this Approval**
Supersedes Approval:	**I-8770**
Valid From:	**September 09, 2015**
Valid To:	**September 08, 2020**

Recommended by: _____
Environment Division

Issued by: _____ September 9, 2015
for the Minister of Environment and Local Government Date

SCHEDULE "A"

A. DESCRIPTION AND LOCATION OF SOURCE

AGROPUR COOPERATIVE LAITIERE operates a dairy plant that processes up to 120 million litres (31.7 million U.S. Gallons) of raw milk annually in its production of skim (and specialty powdered) milk and butter. The facility also consists of a milk storage and transfer depot that is located adjacent to the dairy plant, a wash bay, a Wastewater Treatment System and a spray irrigation system. Treated effluents are discharged to the Kennebecasis River during the winter months and spray irrigated on farmed fields during the summer months.

There exist *potential* environmental impacts to the soil, surface water and groundwater from: 1) the accidental upset, leakage, and /or improper storage, handling and treatment of the wastewater being produced from the Facility, 2) the surface runoff of treated effluent from ineffective irrigation; and 3) increased odorous emissions.

The operation of the dairy plant and wastewater treatment system, located in the Local Service District of Roachville, County of Kings, Province of New Brunswick and identified by Parcel Identifier (PID) Numbers **30210660**, **00083550**, **00102582**, **30211759, 30239420, 00108787, 00108761, 30144364, 30144372, 00106831, 00108779, 00106856, 00106849, 00106823, and 00120196** is hereby approved under the *Water Quality Regulation - Clean Environment Act* **subject to the following:**

B. DEFINITIONS

1. **"Approval Holder"** means AGROPUR COOPERATIVE LAITIERE.

2. "**Department**" means the New Brunswick Department of Environment and Local Government.

3. **"Minister"** means the Minister of Environment and Local Government and includes any person designated to act on the Minister's behalf.

4. **"Director"** means the Director of the Impact Management Branch of the Department of Environment and Local Government and includes any person designated to act on the Director's behalf.

5. **"Inspector"** means an Inspector designated under the *Clean Air Act*, the *Clean Environment Act*, or the *Clean Water Act*.

6. **"wastewater"** means any process, wash or storm waters that have been in contact with any portion of the Receiving Area, Production Area or any equipment used in the production of butter and milk powders at the Facility.

7. **"cow water"** means the condensed water produced from the skim milk dryers.

8. **"effluent"** means all wastewater, other than cow water, that is discharged from the Facility.

9. **"watercourse"** means the full width and length, including the beds, banks, sides and shoreline, or any part of a river, creek, stream, spring, brook, lake, pond, reservoir, canal, ditch or other natural or artificial channel open to the atmosphere, the primary function of which is the conveyance or containment of water whether the flow be continuous or not.

10. **"alteration"** when it refers to a watercourse, means a temporary or permanent change made at, near, or to a watercourse, or to water flow in a watercourse, and includes:
    i) any deposit or removal of sand, gravel, rock, aggregate, topsoil, bark, woodwaste or other material into or from a watercourse or within thirty metres of a bank of a watercourse;
    ii) the operation of machinery on the bed of a watercourse other than at a recognized fording place;
    iii) any disturbance of the ground within thirty metres of the bank of a watercourse;
    iv) any removal of vegetation from the bed or bank of a watercourse;
    v) any changes made to existing structures in the watercourse including repairs, modifications or removal, whether the water flow in the watercourse is altered or not, and;
    vi) any removal of trees or brush within thirty metres of the bank of a watercourse.

11. **"after hours"** means statutory holidays, weekends, and the hours before 8:15 a.m. and after 4:30 p.m. from Monday to Friday.

12. **"environmental emergency"** means a situation where there has been or will be a release, discharge, or deposit of a contaminant or contaminants to the atmosphere, soil, surface water, and/or groundwater environments of such a magnitude or duration that it could cause significant harm to the environment or put the health of the public at risk.

13. **"normal business hours"** means the hours when the Department's offices are open. These include the period between 8:15 a.m. and 4:30 p.m. from Monday to Friday excluding statutory holidays.

14. **"Facility"** means the property, buildings, and equipment as identified in the Description of Source above, and all contiguous property in the title of the Approval Holder at that location, including but not limited to:

    1. Receiving Area - Raw milk that is delivered to the Facility is stored in six milk silos - three with capacities of 100,000 litres (26,417 US. Gallons), and the others with capacities of 37,800 litres (10,000 U.S. Gallons), 190,000 litres (50,000 U.S. Gallons) and 150,000 litres (33,000 U.S. Gallons). This area is routinely cleaned with water, with all flows directed to the Wastewater Treatment System.

2. Production Area - Powdered skim milk and butter is produced and packaged for shipment. Raw milk is pumped into a separator where the cream is taken off and stored for use in producing butter. During the production of skim milk powder the separated milk is boiled in an evaporator and sprayed as a mist into a propane-fired dryer. As the heat drives off the mist, milk solids are left behind as a powder. Cow water passes through a conductivity meter that directs the flow to a boiler feed water storage tank with any overflow sent directly to the Kennebecasis River, or to the Wastewater Treatment System, depending on the conductivity reading. All other wastewaters generated from the production of butter, milk powder and any product experiments (such as yoghurt) are directed to the Wastewater Treatment System.

3. Wash Bay Area - Two wash bays are located on the North-East end of the Facility. One bay washes out Dairytown milk transport vehicles while the other washes out food-grade quality transport vehicles. The transport vehicles transport products including, but not limited to, canola oil, soya oil, liquid sugar, ethanol, corn oil, coconut oil, palm oil, molasses, and sunflower oil. Wash water is collected and treated at the wastewater treatment system.

4. Wastewater Treatment System - An aerated-facultative lagoon consisting of two detention cells and a polishing clarifier. The first cell has an approximate volume of 2,730 m^3 (3,570 yd^3) and a detention time of 8 - 12 days. The second cell is larger, having an approximate volume of 13,780 m^3 (18,023 yd^3) and has a detention time between 50-60 days. The clarifier is designed to operate at 378 litres per minute (100 USGPM) and further removes phosphorus and suspended solids. Sludge is pumped out periodically and stored in holding tanks and is disposed of at an approved composting facility.

C. EMERGENCY REPORTING

15. Initial Notification

Immediately following the discovery of an environmental emergency, a designate representing the Approval Holder shall notify the Department in the following manner:

During normal business hours, telephone the Department's Saint John Regional Office **until personal contact is made** (i.e. no voice mail messages will be accepted) and provide as much information that is known about the environmental emergency. The telephone number for the Saint John Regional Office is provided below:

Saint John Regional Office (506) 658-2558

After hours, telephone the Canadian Coast Guard **until personal contact is made** and provide as much information that is known about the environmental emergency. The telephone number for the **Canadian Coast Guard** is **1-800-565-1633.**

16. Follow-Up

Within 24-hours of the time of initial notification, a faxed copy of a **Preliminary Emergency Report** shall be filed by a designate representing the Approval Holder to the Department's Saint John Regional Office *as well as* to the Department's Central Office using the fax numbers provided below. The Preliminary Emergency Report shall clearly communicate all information available at the time about the environmental emergency.

Within five (5) days of the time of initial notification, a faxed copy of a **Detailed Emergency Report** shall be filed by a designate representing the Approval Holder to the Department's Saint John Regional Office *as well as* to the Department's Central Office using the fax numbers provided below:

Saint John Regional Office (fax): (506) 658-3046
Central Office (fax): (506) 457-7805

The **Detailed Emergency Report** shall include, as a minimum, the following:
i) a description of the problem that occurred;
ii) a description of the impact that occurred;
iii) a description of what was done to minimize the impact; and
iv) a description of what was done to prevent recurrence of the problem.

D. GENERAL INFORMATION

17. The Approval Holder is permitted to discharge cow water and treated wastewater to the Kennebecasis River provided that the terms and conditions of this Approval to Operate are complied with.

18. The issuance of this Approval does not relieve the Approval Holder from complying with any other applicable Federal or Provincial acts and regulations or local by-laws.

19. The Approval Holder shall operate the Facility so as to minimize the quantity of any contaminant discharged to the environment.

20. The terms and conditions of this Approval are severable. If any term or condition of this Approval is held invalid, is revoked or is modified, the remainder of the Approval shall not be affected.

21. An Inspector, at any reasonable time, has the authority to inspect the Facility and carry out such duties as defined in the *Clean Air Act*, the *Clean Environment Act* or the *Clean Water Act*.

E. TERMS AND CONDITIONS

GENERAL CONDITIONS

22. This Facility has been classified as a **Class 2** Facility, pursuant to the *Fees for Industrial Approvals Regulation 93-201* under the *Clean Water Act.* The Approval Holder shall pay the appropriate annual fee **on or before April 1 of each year.**

23. The Approval Holder shall notify the Department in writing at least **90 days prior to any** modification of the Facility which may result in a change to the characteristics, composition or rate of discharge of any contaminant to the environment. Upon receipt of the notification, a determination will be undertaken and a new approval issued if the determination warrants.

24. The Approval Holder shall immediately notify the Department in writing of any change in the legal name or address of the Facility.

25. In the event of Facility closure, the Approval Holder shall notify the Department **at least six (6) months** prior to this closure and shall, at that time, prepare and submit to the Department for review an updated site plan and an engineering proposal for the site rehabilitation and closure.

DISCHARGE LIMITS

26. The Approval Holder shall ensure that all effluent discharged from the Facility, including cow water, to the Kennebecasis River does not exceed 1000 cubic metres (220,000 U.S. Gallons) per day.

27. The Approval Holder shall ensure that BOD_5 **and/or** Total Suspended Solids discharged from the Facility to the Kennebecasis River do not exceed 40 Tonnes per year.

28. The Approval Holder shall ensure that any discharge of cow water to the Kennebecasis River meets the following limits:

Concentration limits for:

Dairytown Products Ltd.- Cow water

Parameter & Unit	Minimum	Maximum
Biochemical Oxygen Demand / mg/L		20
Suspended Solids, Total / mg/L		25
Total Phosphorus / mg/L		1.0
pH	6.0	9.0

29. The Approval Holder shall ensure that all wastewater, other than cow water, is treated by the Wastewater Treatment System and the effluent discharged to the Kennebecasis River meets the following limits:

Concentration limits for:
Dairytown Products Ltd - Effluent

Parameter & Unit	Minimum	Maximum
Biochemical Oxygen Demand / mg/L		20
Suspended Solids, Total / mg/L		25
Total Phosphorus / mg/L		1.0
pH	6.0	9.0
Iron / mg/L		10

30. The Approval Holder shall operate the wastewater treatment plant and irrigation system so that wastewater being discharged to the irrigation system are targetted for the following limits:

Concentration limits for:
Dairytown Products Ltd - Effluent

Parameter & Unit	Maximum	Minimum
Biochemical Oxygen Demand / mg/L	40	
Suspended Solids, Total / mg/L	50	
pH / pH	9.0	6.0

31. The Approval Holder shall ensure that all effluent discharged from the Facility to the Kennebecasis River is non-acutely lethal to rainbow trout.

32. The Approval Holder shall ensure that the total combined annual discharge of phosphorus to the Kennebecasis River from cow water and treated wastewater and measured as elemental phosphorus shall be less than or equal to 545 kg per calendar year.

33. The Approval Holder shall ensure that no effluent is discharged from the Wastewater Treatment System to the Kennebecasis River between June 15th and October 15th of each year.

34. The Approval Holder shall ensure that the discharge of effluent from the clarifier does not exceed the design rate of 378 litres (100 US. Gallons) per minute.

35. The Approval Holder shall not make or carry out any watercourse alteration or cause any watercourse alteration to be commenced, made or carried out, other than the currently approved Wastewater Treatment System and cow water discharges.

WASTEWATER MANAGEMENT

36. The Approval Holder shall ensure that the volumes of water irrigated to the fields do not exceed the limits for each field set out in the most recent approved Nutrient Management Plan.

37. The Approval Holder shall have the Nutrient Management Plan updated by a qualified agronomist or approved equivalent at least every two years.

38. The Approval Holder shall undertake a regular inspection program to check for leaks and maintain irrigation pipelines.

MATERIALS MANAGEMENT

39. The Approval Holder may return the flocculation/clarification system sludge to cell #2 of the Wastewater Treatment System for temporary storage.

SOLID WASTE MANAGEMENT

40. The Approval Holder shall ensure that paper, cardboard and any other solid waste is recycled whenever possible or disposed of in a manner and at a location acceptable to the Director.

41. The Approval Holder shall ensure that all sludge from the wastewater treatment system is disposed of in an approved manner.

TESTING AND MONITORING

42. The Approval Holder shall sample the effluent discharged from the Wastewater Treatment Plant and the cow water for the parameters identified in Schedule "B".

43. The Approval Holder shall perform surface water quality testing four times a year during irrigation periods on the runoff ditch below the irrigation fields. Testing shall be conducted for Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), Total Phosphorous(TP), and pH.

44. The Approval Holder shall ensure that all testing for compliance with the limits stated in this Approval shall be in accordance with the methods in the most recent version of *Standard Methods For the Examination of Water and Wastewater* or as otherwise approved in writing by the Director.

REPORTING

45. **By the end of the following month**, the Approval Holder shall submit a Monthly Water Quality Report for the previous month, signed by the person responsible for the environmental performance of the Facility, to the Department. As a minimum, the report shall contain:

a) the month being reported;

b) the date of sampling;

c) a summary of any wastewater treatment system operating and equipment problems, including leaks in the irrigation system pipelines;

d) the concentration of each parameter from the Monitoring Schedule in Schedule "B" for each time that samples were taken;

e) the total monthly deposit of the parameters during into the Kennebecasis River from the Monitoring Schedule in Schedule "B" deposited by the Facility, expressed in kg;

f) the running total deposit for the year of the parameters into the Kennebecasis River from the Monitoring Schedule in Schedule "B" deposited by the Facility, expressed in kg;

g) the daily volumetric flow rate, in litres, of treated effluent discharged into the Kennebecasis River;

h) the daily volumetric flow rate, in litres, of effluent discharged to the irrigation system;

k) the daily hours of irrigation with the corresponding plot number;

l) the total monthly volumetric flow rate, in m3, of cow water discharged to the Kennebecasis River, and

m) the daily height of the water in the second lagoon cell.

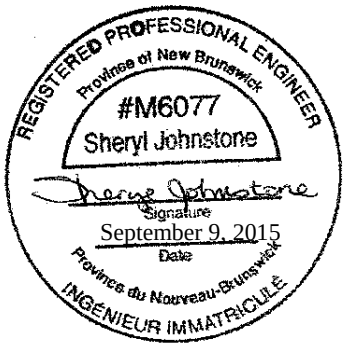
46. In the event the Approval Holder violates any Term and Condition of this Approval or the *Water Quality Regulation*, the Approval Holder is to immediately report this violation by facsimile to the Department's applicable Regional Office and the Central Office in Fredericton at **(506) 457-7805.** In the event the violation may cause the health or safety of the general public to be at risk and/or significant harm to the environment could or has resulted, the Approval Holder shall follow the Emergency Reporting procedures contained in this Approval.

47. In the event of a small spill or leak of liquid materials, the Approval Holder shall act first to contain, and then to clean up the spilled or leaked material and mitigate any resulting impacts as soon as the spill or leak is detected. If the spill or leak results in an "environmental emergency" as defined in this Approval, the Approval Holder shall report the event in accordance with the Emergency Reporting section of this Approval. If the spill or leak is not an "environmental emergency", the Approval Holder shall report this event to the Department's applicable Regional Office by fax, within one business day, identifying the material spilled, the approximate amount of liquid spilled, the location of the spill and the method(s) used to clean up the liquid.

48. In the event the Approval Holder receives a complaint from the public regarding unfavourable environmental impacts associated with the Facility, the Approval Holder is to report this complaint by facsimile to the Department's applicable Regional Office within one business day of receiving the complaint.

Prepared by: Sheryl Johnstone

Sheryl Johnstone, P.Eng.
Industrial Approvals Engineer, Industrial Processes



SCHEDULE "B"

MONITORING AND SAMPLING PLAN

1. MONITORING AND SAMPLING PLAN

Cow Water Discharge

Parameter	Frequency	Collection Method
Biochemical Oxygen Demand (mg/L)	Once per week	Hand grab
Total Suspended Solids (mg/L)	Once per week	Hand grab
Total Phosphorous (mg/L)	Once per week	Hand grab
pH	Once per week	Hand grab

Treated Wastewater Discharge to the Kennebecasis River

Parameter	Frequency	Collection Method
Biochemical Oxygen Demand (mg/L)	Once per week	Hand grab
Total Suspended Solids (mg/L)	Once per week	Hand grab
Total Phosphorous (mg/L)	Once per week	Hand grab
pH	Once per week	Hand grab
Total Iron (mg/L)	Once per month	Hand grab
Fish Toxicity	Once per year	EPS 1/RM/13

Treated Wastewater Discharge to the Irrigation System

Parameter	Frequency	Collection Method
Biochemical Oxygen Demand (mg/L)	Once per week	Hand grab
Total Suspended Solids (mg/L)	Once per week	Hand grab
pH	Once per week	Hand grab

Appendix C ADDITIONAL INFORMATION (REQUIREMENTS OF NEW BRUNSWICK EIA GUIDE)

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR EXISTING GROUNDWATER WELLS AT THE AGROPUR DAIRY FACILITY NEAR SUSSEX, NEW BRUNSWICK

Appendix C Additional Information (Requirements of New Brunswick EIA Guide)
April 30, 2019

THE PROPONENT

Name of Undertaking	Retroactive EIA / WSSA for Existing Groundwater Wells at the Agropur Dairy Facility near Sussex, New Brunswick
Project Overview	Please refer to Section 1.0 of the EIA Registration Document
Purpose / Rationale / Need for Undertaking	Please refer to Section 1.2 of the EIA Registration Document
Project Location	The proposed Project is located in on privately-owned property near Sussex, New Brunswick at: 45^0 44' 17.57" N 65^0 31' 49.73" W Parcel Identifiers (PIDs) of the Project are described in Section 2.2 and summarized below in Table C.1. Please refer to Figure 2.1 of the EIA Registration Document for a site location map showing the location of the Project.
Physical Components and Dimensions of the Project	A description of the existing wells and Project activities is provided in Section 2.3 of the EIA Registration Document.
Project-Related Documents	The Water Source Supply Assessment (WSSA) Initial Application is appended as Appendix A.

Description of the Existing Environment

The description of relevant features that are found within the Project location and surrounding areas that could potentially be affected by the Project are provided in Section 3.0, and within the descriptions of the specific VCs, found in Section 5.0 of the EIA Registration Document.

Summary of Environmental Impacts

Potential environmental interactions, or "impacts," of the various Project phases are provided in Section 5.0 of the EIA Registration Document.

Public Involvement

A brief summary of the public engagement activities and First Nations consultation for the Project is provided in Section 7.0 of the EIA Registration Document.

Approval of the Undertaking

Permits, licenses, approvals, and other regulatory requirements and authorizations that may be required for the Project are discussed in Section 1.3 of the EIA Registration Document. A federal environmental assessment under the *Canadian Environmental Assessment Act 2012* is not required, as it is not a designated project.

Funding

Funding for the Project is being provided entirely by Agropur.

Signature

Signature

April 30th, 2019
Date

Table C.1 Parcel Identifiers (PID) of Project Properties

30210660	30144364	00106856
00083550	30144372	00106849
00102582	00106831	00106823
00108761	00108779	00120196
00108787	30239420	30211759