HyLife Foods LP Processing Facility Notice of Alteration

FINAL REPORT

Prepared for:
HyLife Foods Ltd.

Prepared by:
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111440368

May 18, 2016

Sign-off Sheet

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May 17, 2016

Attention: Ms. Tracey Braun, Director, Environmental Approvals Branch

Manitoba Sustainable Development
Suite 160, 123 Main Street
Winnipeg, Manitoba
R3C 1A5

Dear Ms. Braun,

Reference: NOA Request - Licence 1102R Hylife Foods, Neepawa, Manitoba

In accordance with Section 14(1) of *The Environment Act,* Hylife Foods LP, by way of this letter and supporting information, provides notice to the director of a proposed alteration to the Hylife Foods Pork Processing Plant in Neepawa, Manitoba.

Hylife Foods is proposing to modernize and upgrade their Neepawa plant processes to increase efficiency and realize the current licensed processing capacity of 7,500 hogs per day (37,500 hogs per week annually). Primarily the proposed alterations include a larger cut floor, additional on-site freezer capacity, improvements in the hog receiving area and improvements for handling on-site trailer parking. All works proposed are located on the existing Hylife Foods property. There is no change proposed to the licensed processing capacity and wastewater generated by the development will remain within the licensed capacity of the related R3 Innovations wastewater treatment facility.

As indicated in the attached report, the proposed alterations at the plant, essentially involving changes to the configuration of the existing plant on-site and its associated operational and potential environmental effects, would be considered as a minor alteration to the licensed development. Accordingly, a $500 application fee accompanies four hard copies and one electronic copy of the submission in accordance with the guidance in the Information Bulletin – Alterations to Developments with Environment Act Licences (http://www.gov.mb.ca/conservation/eal/publs/alteration.guidelines.pdf). Hylife Foods understands that the application will be posted to the public registry to provide the public with the opportunity to comment on the proposed alterations.

Should you require any additional information or clarifications please do not hesitate to contact Mr. Sheldon Stott, P.Ag., Director Environmental Affairs, Hylife Ltd., or Mr. Stephen Biswanger, P.Eng., Stantec Consulting Ltd.

Regards,

Denis Vielfaure, COO
HyLife Ltd.

Attachment: HyLife Foods LP Processing Facility Notice of Alteration

c. Stephen Biswanger, P.Eng., Stantec Consulting Ltd.

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Executive Summary

HyLife Foods LP (HyLife Foods) operates a pork processing plant in the Town of Neepawa, Manitoba. Hylife Foods plans to improve and expand the size of the plant and, as such, the existing pork processing facility requires the submission of a Notice of Alteration (NOA) to Licence No. 1102R under *The Environment Act*.

The HyLife Foods pork processing facility is located in the southern part of SW35-14-15W (Project Development Site) in the Town of Neepawa on property that is currently owned by HyLife Foods. The processing facility has been in operation at this location since 1986, previously operating as Springhill Farms. Licence No. 1102R is the current *Environment Act* Licence, dated December 18, 2014. The plant is located on a site zoned "MH – Manufacturing Heavy" under the Town of Neepawa Zoning By-law No. 2650.

HyLife Foods is seeking to modernize and upgrade their plant to process hogs more efficiently with improvements in the cut floor, packaging, shipping, cold storage, and in the re-organization of the yard area. The modernization will also improve ergonomics for workers by increasing the operating space in an expanded cut floor and adding automation in equipment used for processing. There are no changes proposed to the licensed production capacity of the plant or wastewater emissions from the separately licensed Industrial Wastewater Treatment Facility (IWWTF).

This NOA has been prepared by Stantec Consulting Ltd. (Stantec) on behalf of HyLife Foods in general accordance with MCWS's Information Bulletin, "*Environment Act Proposal Report Guidelines*" and "*Alterations to Development with Environment Act Licences*". This report documents the existing facility operations, the proposed plant expansion, and the potential environmental effects and proposed mitigation measures associated with the expansion.

From an operational perspective, the proposed alterations at the plant will result in no substantive changes to environmental effects. The proposed changes involve relocation of processes and adding new space to accommodate increased cut floor, packaging, shipping, cold storage, and in the re-organization of the yard area. Potential environmental effects of the Project are limited in the construction phase and are considered fairly routine activities (i.e., related to traffic, construction noise, some greenhouse gas emissions, etc.). There is very little potential for new or different or lasting environmental effects that have not been previously addressed in the original licensing process and/or subsequent NOA requests at the plant.

The potential for adverse effects of the proposed alterations, including incremental changes to currently licensed operations, are primarily related to the following:

- Air quality related to fugitive dust generated during the construction and operation phase; the proposed alterations are expected to have negligible to low effects on air quality during plant operations.

- Greenhouse gas (GHG) emissions as a result of plant operations relate to diesel fuel consumption and natural gas combustion for plant process and building heat; the increase in emissions due to the proposed alterations are expected to have a negligible contribution to overall plant GHG emissions and is well below the reporting threshold of 50 kilotonnes (kt).

- Traffic effects, from an increase in vehicle traffic along PTH 16 over existing levels during the construction phase, are anticipated to be negligible for the proposed alterations; incremental operational truck traffic effects as a result of the alterations are anticipated to be low and limited at the Project site.

On the basis of the desktop studies undertaken, site observations and information available to date as presented in this report, the identified effects of the proposed alterations will be the same or similar to those previously assessed, mitigated and approved under current and previous licences. The alterations are not expected to result in significant adverse environmental effects. Accordingly, it is anticipated that the proposed alterations at the plant, essentially involving changes to the configuration of the existing plant on-site, and its associated operational and potential environmental effects, would be considered as a minor alteration to the licensed development.

1.0 INTRODUCTION AND BACKGROUND

1.1 PROJECT OVERVIEW

HyLife Foods LP (HyLife Foods) operates a pork processing plant along PTH 16 in the Town of Neepawa in southwestern Manitoba (Figure 1-1 – Appendix A). HyLife Foods proposes to modernize and upgrade their plant processes in Neepawa to increase efficiency and realize the current licensed processing plant capacity of 7,500 hogs per day (37,500 hogs per week – annual average). The existing pork processing facility currently holds an *Environment Act* Licence (Licence No. 1102R).

The alteration at the HyLife Foods pork processing plant is proposed to achieve several objectives, including:

- improved flexibility to adapt to shifting markets through specific equipment procurement, increase in working space, and to address growing consumer demand to facilitate expansion into new and emerging markets
- reduce market risk and improve market access by implementing improved controls across the supply chain by increasing onsite freezer capacity
- reduce cost and improve sustainability through the introduction of automation to manual processes through improvements in the cut floor, packaging, shipping and cold storage areas
- improving workforce welfare and safety through improved ergonomics by increasing the space on the cut floor

This Notice of Alteration (NOA) has been prepared by Stantec Consulting Ltd. (Stantec) on behalf of HyLife Foods in accordance with MCWS's Information Bulletin, "*Environment Act Proposal Report Guidelines*" and "*Alterations to Developments with Environment Act Licences*". This report documents the currently licensed facility operations, proposed alterations, potential environmental effects and planned mitigation measures associated with the plant operations. The existing facility is considered a Class 2 Development under the Classes of Development Regulation (MR 164/88). This NOA report is submitted in support of a request for Notice of Alteration to MCWS for consideration of proposed modifications to the existing facility licence (Appendix B). No changes are proposed to the separate existing R3 Innovations Inc. Industrial Wastewater Treatment Facility (IWWTF) licence.

1.2 THE PROPONENT

For the purposes of development licensing, the proponent is HyLife Foods LP (hereafter "HyLife Foods").

For further information regarding HyLife Foods, please contact the following:

Mr. Sheldon Stott, P.Ag.
Director of Environmental Affairs
HyLife Foods Ltd.
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This Notice of Alteration was prepared by Stantec Consulting Ltd. The local contact is:

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1.3 LAND OWNERSHIP AND PROPERTY RIGHTS

The existing pork processing plant is located in SW35-14-15WPM in the Town of Neepawa on property owned by HyLife Foods (Neepawa Land Titles Office 2016). The legal description for the subject property is described as SW35-14-15WPM and Lot 5, Plan 7402 NLTO) encompassing approximately 49.11 hectares (see Figure 1-2). In addition to HyLife Foods, R3 Innovations Inc. and the Town of Neepawa own and occupy 2.28 ha and 13.37 ha of land respectively in the quarter-section for the existing dedicated Industrial Wastewater Treatment Facility (IWWTF) and a former Wastewater Treatment Plant (WWTP). Copies of the current Certificates of Title (CT# 2522733/5, 2522732/5, 2421294/5) for the subject property are included in Appendix C. The Project site includes the pork processing plant and general office, receiving area, storage and trailer areas, employee parking area, and access roads (see Figure 1-2). The pork processing plant (and general office) currently occupies 16,099 m^2 on the site. Alterations to the existing plant approved under previous NOAs prepared for HyLife but not yet constructed on-site totals approximately 2,159 m^2. According to the Mineral Resources Branch (2016), there are no mineral dispositions for the subject property. Ownership of the mineral rights beneath the land is expected to rest with the Crown (Province of Manitoba).

1.4 PREVIOUS ALTERATIONS/STUDIES

Since 2007, after acquiring the former Springhill Farms processing plant, HyLife Foods has progressively made modifications to the pork processing facility. The alterations that have occurred at the processing plant between 2007 and 2014 are summarized below.

The first NOA in 2007 involved equipment modernization and plant modifications in the cutting and packaging operations and allowed for additional processing to occur at the plant. MCWS considered these proposed changes to be a minor alteration and provided approval in December 2007. Alterations completed under the 2007 NOA included dehairer equipment replacement, new carcass sprayers and an increase in processing capacity to 18,250 hogs/ week (HyLife Foods 2016). A proposed lard processing operation, approved by MCWS as part of the 2007 NOA has yet to be implemented at the plant site.

A second NOA in 2008 involved a building expansion to accommodate an addition to the shipping/staging area. This NOA was approved by MCWS as a minor alteration in July 2008. Alterations completed under the 2008 NOA included a shipping/receiving building, dirty kill expansion, mezzanine addition and office/welfare areas additions (HyLife Foods 2016).

A third NOA request was submitted in 2009 for the modernization of the CO_2 stunning system used at the processing plant. The new CO_2 stunning system was accommodated within a previously approved building expansion on-site. MCWS approved this NOA as minor alteration in August 2009.

HyLife Foods submitted a fourth NOA in 2010 to allow for the increase in processing capacity from 18,250 hogs/week to 27,550 hogs/week. This alteration proposed an increase in the on-site live hog storage and kill line speed, the addition of a second cut shift, the addition of a snap chill freezer, and an increase in the carcass cooler size. MCWS approved this request as a minor alteration in September 2010. Alterations completed under the 2010 NOA included expansion of the receiving facility and a partial expansion of carcass cooler facilities (i.e., 1,393 m^2 has been completed out of an approved 2,508 m^2) (HyLife Foods 2016). To date, the approved new snap chill and the remaining approved carcass cooler expansion have yet to be implemented at the plant.

In 2013, HyLife Foods submitted a fifth NOA request to MCWS proposing an increase in their plant pork processing capacity from 27,550 hogs/week to 37,500 hogs/week. Part of the expansion included the addition of processes and building expansions to provide for casings and heparin production to replace the existing ground intestine (hash gut) production. This alteration also involved additional wastewater treatment requirements at the existing R3 Innovations Inc. Industrial Wastewater Treatment Facility (IWWTF) which operates under its own licence, and additional treatment infrastructure to accommodate changes in wastewater flow and loading as a result (AECOM 2013). MCWS approved the pork processing NOA request in December 2014 (Licence No. 1102R). Alterations completed under the 2013 NOA included a new mechanical

room (HyLife Foods 2016). To date, the addition of the heparin/casings building has not been implemented.

In 2015, HyLife Foods submitted an NOA request to MCWS for the addition of a biosecurity trailer bake bay to air dry washed and disinfected livestock trailers (HyLife Foods 2015). This alteration involves the development of a 139 m^2 (approx.) building located on the furthermost northeast portion of SW35-14-15W in the Town of Neepawa. The proposed facility is currently under construction north of the existing plant. MCWS approved the alteration request in May 2015 (Appendix B).

Overall, approved projects remaining to be implemented include the heparin/casings building (approved in 2013), a snap chill building (approved in 2010) and leaf lard processing (approved in 2007). These are all being retained as potential future projects by HyLife Foods at the plant site. Previously approved alterations that are planned to be implemented as part of the presently proposed expansion include a 1,115 m^2 cooler expansion (out of an approved 2,508 m^2 allocated for cooling purposes) and space for future robotic equipment in the new palletizing building.

1.5 FUNDING

HyLife Foods will provide funding for all undertakings related to the Project.

2.0 REGULATORY AND POLICY SETTING

The following is an overview of the regulatory and policy setting relative to the operation of the HyLife Foods pork processing plant and the statutes and regulations considered in this assessment.

2.1 FEDERAL APPROVALS

The existing pork processing plant and proposed alterations at the facility are not considered projects pursuant to the *Regulations Designating Physical Activities SOR/2012-147* under the *Canadian Environmental Assessment Act*, 2012, and as such, no federal environmental assessment is required.

2.2 PROVINCIAL APPROVALS

The Environment Act, C.C.S.M. c. E125 requires a proponent to notify the Director of the Environmental Approvals Branch (for Class 1 and 2 developments) if the proponent intends to alter a licensed development so that it no longer conforms to licence conditions or is likely to result in a change in environmental effects. The existing pork processing plant is defined under the *Classes of Development Regulation (MR 164/88)* and a recent subsequent amendment (*MR 39/2016)* as a "Class 2 Development" and as described in Section 10 of *The Environment Act* (Manitoba), and has a valid and subsisting licence under *The Environment Act*. The proposed expansion at the HyLife Foods processing facility involves alterations that change the configuration, operation and potentially the environmental effects of the licensed development. Therefore, the submission of an NOA outlining the proposed alterations to the licensed development for review by MCWS is required for continued operation.

2.3 MUNICIPAL APPROVALS AND PERMITS

2.3.1 Town of Neepawa

Municipal jurisdictions including the Town of Neepawa must adopt development plans and zoning bylaws to guide land use planning decisions within their respective boundaries under *The Planning Act*. A development plan is a bylaw that outlines the long-term vision and goals of a community to guide development within the planning area of a municipality or planning district. A zoning bylaw is a tool used by the planning authority to implement development plan policies and typically represents what use is on the ground. Zoning bylaws are guided by and conform to the development plans. Zoning regulates the use of land and location of buildings and structures (Manitoba Municipal Government 2016). The Town of Neepawa has a variety of development controls in place. Land use development controls based on applicable development plans and zoning bylaws are described further in Section 5.2.1.

2.4 PUBLIC ENGAGEMENT

The existing facility is located on one privately-owned parcel of land within an area that is appropriately zoned for heavy industrial land use. The plant has been operated by HyLife Foods since 2007 and will continue to be operated at this location. There have been no known nuisance complaints registered with HyLife about the plant operations at Neepawa.

The Proponent recognizes and understands that this NOA will be posted on the MCWS public registry for government and public review and comment as part of the licensing review process. No additional formal public engagement has been undertaken for the proposed alteration at this time. Public engagement will be fulfilled through the placement of the NOA on the Public Registry for public review and comment.

3.0 PROJECT DESCRIPTION

3.1 OVERVIEW

HyLife Foods has been in operation at the Neepawa location since 2007 and is located on a site zoned "MH – Industrial Heavy" under the Town of Neepawa Zoning By-law No. 2650. The plant and general office occupies approximately 16,099 m^2 on the site, excluding yet to be implemented alterations already approved under previous NOAs. The plant facility is licensed to process 37,500 hogs/week (annual average) and proposed upgrades will modernize the plant to process hogs more efficiently. The current plant production is approximately 32,500 hogs/week. The product line includes: primary cuts (i.e., hams, bellies, loins, picnics, butts and spare ribs) and secondary cuts (i.e., tails, hind feet, trimmings, belly skin, back fat, jowels, riblets, hocks, front feet and neck bones). A complete list of products produced by HyLife Foods is available on the company website at: http://www.HyLifefoods.com/products/.

The following section provides a detailed description of the existing licensed operation and the proposed changes at the Neepawa HyLife Foods facility.

3.2 EXISTING PROCESSING FACILITY DESCRIPTION

3.2.1 Existing Licensed Development

The existing licensed development includes the existing pork processing facility, consisting of current operations and approved, but yet to be implemented, alterations.

HyLife Foods' existing development consists of several main areas as summarized below. A site plan of the facility is provided as Figures 3-1a and 3-1b (Drawing C0111) illustrating the building layouts on the project site. Plant description information provided in this NOA is based on supporting information from previous HyLife NOAs for the facility as well as a site visit conducted in 2016 and updated information from HyLife Foods. A summary of the processes at the plant is provided below. More detailed information on the existing processes at the plant can be found in previous NOA submissions (AECOM 2O13, HyLife 2015).

Hog Receiving Facility

- Consists of unloading docks and receiving pens with a total licensed storage capacity of up to 4,000 hogs; current capacity is 3,000 hogs on-site.

CO_2 Stunning Area

- Groups of hogs are directed to the CO_2 asphyxiation system using push wagons to an electric powered gondola which then lowers the hogs into a CO_2 supply pit; the asphyxiated hogs are lifted out of the pit and then moved onto a shackling table.

- CO_2 is supplied by a 50-tonne aboveground steel tank located on the north side of the plant; under full production, two trucks per month will transport CO_2 to the plant.

Dirty Kill Area

- Shackled carcasses are placed on a vertical conveyance system to be bled and then scalded; carcasses are then dehaired and the toenails are removed; two trucks per day will transport hair and toenails to a licensed landfill under full production.
- Carcasses are then singed and polished before going to the clean kill area.

Dressing Floor (Clean Kill Area)

- Carcass bellies are opened and organs and edible offal removed; inedible organs and bones are sent for processing to a third-party renderer; hog intestines are separated and ground for hash guts.
- Carcasses are then split, undergo a final inspection by a veterinarian, and receive a final rinse before being sent to a cooler for storage prior to cutting.

Hog Cooler Area

- Once carcasses are split they are sent to the cooler area where they remain for 16 hours prior to transfer to the cutting floor area.
- Currently, 2,508 m^2 has been approved for cooling purposes for the plant site, but only 1,393 m^2 has been implemented to date.

Cutting Floor Area

- Carcasses are received from the cooler area and are separated into primary and secondary cuts; all like cuts are then conveyed to the packaging area.
- Any remaining bones, lard and cut fat are sent for third party rendering subject to market demands.

Office/Welfare Area

- General office space for management staff and employee cafeteria, lunch room, locker and washroom areas.

Truck Wash

- Approximately 9 to 11 livestock trailers are washed and disinfected in the on-site truck wash facility per day. There are also 7 to 11 reefer trailers that are washed on-site daily (involving minimal water use). Wastewater from the truck wash is sent to the off-site IWWTF for treatment.

Trailer Bedding Material Pads

- Bedding material (and manure) scraped out of empty transport livestock trucks is stored on one of two concrete manure pads outside on the north side of the facility; this stored material is applied to third party land on an annual basis in accordance with the province's *Livestock Manure and Mortalities Management Regulation*.

Packaging Area

- Several products are processed, packaged according to client specifications and shipped off-site for either further processing or distribution and retail sale.
- The final products include: primary cuts (i.e., hams, bellies, loins, picnics, butts and spareribs) and secondary cuts (i.e., tails, hind feet, trimmings, belly skin, back fat, jowels, riblets, hocks, front feet and neck bones).

Shipping Area

- Packaged products are staged on shipping pallets and made for loading on transport trucks for shipping and distribution.

Bake Bay

- HyLife Foods is in the process of adding a trailer bake bay on the property, to the north of the processing plant. The structure will be a 139 m^2 stand-alone building connected by a new access road to the main plant yard area. The trailer bake bay will be used for drying livestock trailers after they go through the truck wash and are disinfected. Approximately 9 to 11 trailers per day will go to the bake bay after disinfection or 45 to 55 trailers per week. Wastewater generated from the operation of the bake bay will be stored in a holding tank and hauled to the IWWTF for treatment.

Barn #3 (Former Springhill Farms Barn)

- HyLife Foods will discontinue use of the Barn #3 (i.e., former Springhill Farms Barn) as a portion of the receiving facility. This area (approximately 390 m^2), presently accommodates 650 hogs. A proposed addition to another area of the receiving facility will provide the licensed holding capacity is described in Section 3.2.2.1.

On-Site Storage

- Hylife Foods has a number of on-yard storage trailers for storage of materials and processed goods; other storage areas include an equipment storage area and a pallet shed.

Off-Site Facilities

- HyLife Foods also utilizes an off-site storage warehouse that is leased in the Town of Neepawa (operated as Freezerco Ltd.).

Previously-approved alterations yet to be implemented at the HyLife Foods processing plant include the following elements:

- Casings-Heparin – addition of 353 m^2 building for casings and heparin production; first proposed in 2013, it will be retained as a planned future project.
- Snap Chill – addition of 1,806 m^2 building for where carcasses are snap chilled before being moved to the carcass cooler for storage prior to cutting; proposed in 2010, it will be retained as a planned future project.
- Leaf Lard Processing – taking remaining lard and cut fat for processing; proposed in 2007, it will be retained as a planned future project.

3.2.1.1 Water Use and Wastewater Production

Wastewater generated from the processing operation passes through a screen and Dissolved Air Flotation (DAF) unit in the plant prior to transfer to a dedicated IWWTF via a pump station. The R3 Innovations Inc. IWWTF is jointly owned by HyLife Foods LP and the Town of Neepawa and operates under a separate *Environment Act* Licence (No. 2870R) dated December 18, 2014.

A summary of the current water use and wastewater production at the plant is provided in Table 3-1. The current licensed hydraulic capacity at the R3 IWWTF is 1,520 m^3/day; the average volume of effluent discharged to the IWWTF was recorded at 1,192 m^3/day for the first three months of 2016. The R3 Innovations IWWTF has maintained compliance with its licence terms and conditions since inception.

Table 3-1 Water Use and Wastewater Summary

Component	37,500 hogs/week	
	Water Use m^3/week	Wastewater m^3/week
Receiving Facility	38	34
Truck Wash	577.5*	519.75
General Processing	8,050	7,245
Employees	790	715
Lard Processing (future project)	19.5	80.0
Casings/Heparin (future project)	137	77

Table 3-1 Water Use and Wastewater Summary

Component	37,500 hogs/week	
	Water Use m^3/week	Wastewater m^3/week
Total	**9,612**	**8,671**

Note: *includes freshwater and internal recycle.

Source: after AECOM 2013

3.2.1.2 Workforce

The number of workers at the processing plant and the administration office currently totals approximately 1,143 staff, consisting of 121 management/supervisors, and 1,022 plant, packaging, and maintenance workers. Under the 2013 NOA, the alteration to increase production capacity from 27,550 hogs/week to 37,500 hogs/week projected the total number of employees to increase to approximately 1,250 at the pork processing facility.

Currently, processing staff at the plant work two shifts five days a week: from 8:30 a.m. to 5:00 p.m. and 5:00 p.m. to 1:30 a.m. on the kill line; and from 6:00 a.m. to 2:30 p.m. and 3:00 p.m. to 11:30 p.m. on the cut line. Sanitation staff at the plant work one eight hour shift each day for plant sanitation. The office hours for office staff are 8 a.m. to 5 p.m., five days a week (40 hours per week).

3.2.1.3 Traffic Summary

Hylife Foods estimates that between 630 vehicles per/day (staff and operations) travel to the plant site (540 of which are personal staff vehicles). Traffic is estimated to remain near these levels under the currently licensed full production of 37,500 hogs/ week. Traffic travelling to and from the Project site, related to hogs, packaging, chemical use, final product, and waste transfer for the licensed condition of 37,500 hogs/week was summarized in the 2013 NOA. An additional truck will be utilized to move materials between the processing plant and the warehouse in Neepawa as well as two shunt trucks to move semi-trailers around on-site.

Fresh or frozen products are shipped in bulk to clients in Canada, the US and Japan. All truck movements and shipments of product off-site are by contracted trucks hired for this purpose. Table 3-2 summarizes the outbound products and materials from the processing plant on a weekly basis as well as the number of trucks involved under fully licensed production.

Table 3-2 Goods/Materials Shipped and Truck Usage for Full Plant Production

Process Stage	Goods/Materials	Trucks (Average Weekly)
Receiving	Hogs	190
Packaging	Cardboard boxes, wrapping	19
Chemical Use	Citrate, cleaning products	2
Shipping	Final products	163
Waste Disposal	Domestic waste	2.5 to 5 (estimated)
Waste Disposal	Bedding material	4-7 (summer); 13-21 (winter)
Waste Disposal	Hair and toenails	10
Waste Disposal	Renderable material, blood	19 (15 renderable and 4 blood)
Average Total		422 (min.); 436 (max.)

Notes: Assumes five day operation.
Source: adapted from AECOM 2013

3.2.1.4 Health and Safety

HyLife Foods is committed to the ongoing health and safety of its employees through its efforts in identifying potential hazards in the work place and working to reduce or eliminate risks to employees. Workplace Health and Safety Committees play an important role in addressing health and safety concerns. The Committees regularly meet to review related issues and discuss ways to improve safety standards at the plant and are supported by HyLife Foods Health and Safety department (HyLife Foods 2016). HyLife Foods' health and safety plans can be provided for review upon request.

3.2.1.4.1 Food Safety and Inspection Policies

The Canadian Food Inspection Agency (CFIA) regulates the HyLife Foods' facility at Neepawa. The plant is inspected by CFIA on a regular basis and is compliant with the internationally recognized food safety program Hazard Analysis Critical Count Point (HACCP). Products and packaging are regularly inspected and monitored, testing for microbial activity and shelf life (http://www.HyLifefoods.com/products/).

Farms that deliver hogs to Neepawa's pork processing facility are fully compliant with all levels of the Canadian Pork Council's Canadian Quality Assurance (CQA) program. Drivers delivering hogs to the processing plant are required to be Trucker Quality Certified (TQA). The TQA certification ensures that swine transporters, producers and handlers understand how to move/handle and transport hogs (http://www.HyLifefoods.com/products/).

3.2.2 Proposed Alterations

The proposed alterations will enable HyLife Foods to achieve the currently licensed processing capacity of 37,500 hogs/week (7,500 hogs per day x five days a week) while improving efficiency and worker ergonomic conditions. No increase in the licensed processing capacity is proposed. HyLife Foods is undertaking further modernization and modifications by increasing plant facilities on-site in important areas. HyLife Foods' proposed Project alterations are illustrated in Figure 3-1b.

3.2.2.1 New Building Additions

The proposed Project will increase the current processing plant building footprint by approximately 10,387 m^2. The Project will consist of the following eight elements:

- Hog Receiving Facility – 996 m^2 building addition to add space for 1,000 hogs on the north side of the existing barn footprint to make up for space lost with the discontinued receiving-use of Barn #3 (the former Springfield Farms Barn) and bring the total hog storage capacity to the licensed capacity of 4,000 hogs; the new receiving facility will utilize existing infrastructure at the plant.

- Cut floor expansion – 2,821 m^2 building addition, including refrigeration; new equipment consisting of a main break and new lines for loin, belly, ham, shoulder, sirloin, tenderloin, back rib and jowel; automated belly jet cutter; dual loin puller; and drop ceiling for effective foreign material control.

- Packaging – 1,433 m^2 building addition, including refrigeration and box making mezzanine above the packaging floor (consisting of approximately 1,455 m^2 with no footprint addition); dedicated frozen box stations, automated bagging equipment, and centralized delivery of boxes, increased dry storage.

- Palletizing – 536 m^2 building addition, including refrigeration; carousel delivery system (area sized for future robotic equipment).

- Staging and Shipping Doors – 713 m^2 staging room addition to prepare palletized packaged products for loading onto transport trucks for shipping and distribution.

- Chilling – 515 m^2 storage room addition for fresh storage and chilled storage and 321 m^2 chiller for fresh chilled exports.

- Shipping – 97 m^2 shipping area addition with four semi-trailer bays.

- Engine Room – additional housing for required infrastructure supported needs (i.e., motors, electrical equipment for refrigeration system).

- Box freezer – 2,955 m^2 future building addition for additional cold storage of palletized boxed product prior to staging for shipping and distribution.

3.2.2.2 Alterations to Existing Cut Floor and Packaging Area

The existing cut floor and packaging area within the processing plant will be repurposed for alternative needs as part of the Project. These internal changes will involve the alteration of the existing cut floor and packaging area for offices, storage space area and other uses. In addition, a welfare area for new equipment to improve sanitation of equipment (i.e., cutting knives, aprons) through the use of automatic washers and new storage for personal protective equipment (PPE) will be incorporated in the existing cut floor area (approx. 364 m^2). The existing cut floor will remain in operation until the switch over is made to the new expanded cut floor. There will be no change to the process, products produced, or waste generation volume and timing compared to licensed operations.

3.2.2.3 Alterations to Existing Yard Access and Parking

The existing yard will be reorganized to support gated security to the site. The alterations on-site will include relocating the bedding material pads, and bins for DOAs. An existing pallet shack will be relocated to another location on the plant site or alternate site for repurposing. Incoming livestock trucks will continue to enter the site using the existing entrance off the north-south municipal road allowance on the east side of the plant. A new east-west access road will be constructed north of the existing plant, off the existing municipal road allowance to the east and north of the existing livestock trailer entrance. The new access road will have a gated security entrance/guard shack to manage the truck traffic entering the site. The road will also afford access to the bake bay facility located further to the north. Once the trucks are dried in the bake bay, they will exit via the newly constructed one-way truck trailer exit to the west of the plant accessing the existing north-south municipal road allowance on the west side of the property (see Figure 3-1a). In addition to the yard access changes, the alterations on-site will also include reorganizing the employee parking lot and the establishment of two gravel surfaced trailer parking areas, one located to the north of the existing plant (i.e., 3,341 m^2) and the other to the west of the plant expansion (i.e., 21,213 m^2) to accommodate 94 trailers.

3.2.3 Construction Inputs and Outputs

During the construction phase of the proposed alterations, materials required may include concrete, steel, rebar, survey tape, paint spray cans, drywall, flooring, gravel, fill, fuel and other materials. Raw materials such as gravel, fill and asphalt will be required for site works. Most of these materials will be brought to the site from other areas. There may be temporary storage of construction materials in lay-down areas on the site.

Outputs during construction can include surface runoff and fugitive dust and vehicle emissions from construction equipment. Other outputs generated from construction work related to

packaging materials, solvents, used oils, surplus building materials, etc. will be regularly transported off the site and disposed of or recycled according to applicable regulations.

3.2.4 Operation Inputs and Outputs

3.2.4.1 Chemical Usage

Typical operational chemical inputs for the processing plant operation (excluding fuel) include citrate, CO_2 (stunning), CO_2 (dry ice), chlorinated detergent, foaming acid cleaner, and caustic powder cleaner. The amount of citrate and CO_2 (stunning and dry ice) used in the processing facility will not change from that described in the 2013 NOA as a result of the proposed alterations.

The increase in the required cooling capacity and sanitation chemical usage is expected to be proportional to the expansion of the plant with a new larger cut floor area (2,821 m^2 compared to the existing approx. 929 m^2 area) and a 836 m^2 increase in cooling space (with provision ultimately for another 2,955 m^2 of box freezer space).

The cooling capacity at the processing plant will be increased from the current 1,500 horsepower (hp) to 3,000 hp and cleaning chemical usage (i.e., chlorinated detergent, foaming acid and caustic powder cleaners) is expected to increase from approximately 1,425 L/week to 1,863 L/week. All chemicals used will continue to be stored in the chemical storage room where there remains sufficient room for storage.

3.2.4.2 Water Use and Wastewater Production

A summary of the forecasted water use and wastewater production under full production capacity (37,500 hogs/week) is provided in Table 3-3.

Table 3-3 Forecasted Water Use and Wastewater Summary

Component	37,500 hogs/week	
	Water Use m^3/week	**Wastewater m^3/week**
Receiving Facility	38	34
Truck Wash	577.5*	519.75
General Processing	8,650	7,845
Employees	790	715
Lard Processing (future project)	19.5	80.0
Casings/Heparin (future project)	137	77
Total	**10,212**	**9,271**

Note: *includes freshwater and internal recycle.
Source: after AECOM 2013; Stott 2016

While the larger cut floor will increase the area to be washed, efficiencies achieved with better access for cleaning and increased boiler efficiencies are expected to mitigate the resulting increase in the volume of water used and wastewater generated. The 2013 NOA estimated the daily water requirement at 1,293 m^3/day. The proposed alterations will result in a slight increase of 66 m^3/day to 1,359 m^3/day, which is well within the plant's licensed capacity (Stott 2016).

The character of generated wastewater is not expected to change substantially. As no new processing is involved with the plant alterations, changes in effluent loadings to the R3 IWWTF are not anticipated. As noted in Section 3.2.1.1 the current licensed hydraulic capacity at the R3 IWWTF is 1,520 m^3/day. The volume of effluent discharged to the IWWTF was recorded at 1,192 m^3/day for the first three months of 2016 by way of comparison. The projected effluent volume for proposed plant operations remains at 1,520 m^3/day.

3.2.4.3 Fuel, Electricity and Gas Utilities

Diesel fuel usage at the plant is expected to remain as noted in the 2013 NOA. Fuel usage is related to increased production capacity from the skid steer used to move dead hogs to the dead hog storage bin and from shunting semi-trailers around on the site.

A recent upgrade added new water heaters to an existing large boiler in the boiler room. With improved efficiencies experienced with the newly developed boiler room, no substantial change to natural gas consumption for process water heating is anticipated despite the increase in the size of the plant. More cooling will be required due to plant expansion with an increase of 1,500 hp in cooling capacity from the existing 1,500 hp capacity. Additional space heating for the new plant additions will be required in a couple of areas, but the natural gas load increases for building heat are expected to be minimal, estimated to increase slightly at a rate of about two percent (Stott 2016). Some of the space heating will be provided by electric heat.

Electricity is provided to the plant site is via a single transformer substation located west of the Project site. The plant's single transformer will be sufficient to accommodate anticipated increases to electrical consumption and no increase is required for the proposed alterations.

3.2.4.4 Waste Management

Typical construction waste will be generated from the building additions and will require proper handling and disposal at licensed landfills. All operational outputs, including renderable materials and collected blood by-product, will remain as documented in the 2013 NOA based on moving to a production capacity of 37,500 hogs/week.

The existing R3 IWWTF will continue to meet wastewater treatment requirements for effluent discharge to the Whitemud River as stipulated in the IWWTF *Environment Act* Licence (Licence No. 2870). The wastewater treatment process will not change with the proposed alterations.

3.2.4.5 Final Products

The volume of final pork product produced at the existing processing plant as noted in the 2013 NOA is not expected to change as a result of the Project. There will be no change in the types of products processed.

3.2.4.6 Workforce

The proposed modernization may affect specific line workforce numbers to some degree, however there is not anticipated to be a net change in the overall forecasted employee requirements compared to those described in the 2013 NOA. The 2013 NOA indicated that 1,250 staff members would be required to support the fully licensed production capacity. Currently, HyLife Foods has 1,143 staff members.

3.2.4.7 Traffic Volumes

The number of trucks involved in shipping raw materials in and final product out will remain the same with the proposed alterations. No changes are expected to operational traffic volumes from the plant as documented in the 2013 NOA.

Similarly, no increase in traffic throughput is anticipated from the operation of the approved bake bay facility. However, approximately 9-11 trucks per day will now exit the plant site via the proposed site access road to exit to municipal road 85 5W (west of the plant) en route to their final destination (HyLife 2015).

There will be a minor and temporary short-term increase in traffic related to the construction phase for the proposed alterations.

3.2.4.8 Health and Safety

Processing plant modernization in the form of the expanded cut floor and process automation for specific steps in the plant process will result in the improvement of working conditions, and improved ergonomics while also improving efficiency of the plant operations. The addition of automated equipment will result in an update to the Health and Safety program to accommodate new process equipment. In addition, the enforcement of safety policies at the processing plant will be conducted in full compliance with federal and provincial Health and Safety legislation (HyLife Foods 2016).

3.3 PROJECT SCHEDULE

The start of the construction phase is expected to be August/September 2016 and is dependent upon approval of the NOA from MCWS. Construction of the different elements will be phased over 18 months and are anticipated to be complete by January 2018.

4.0 SCOPE OF THE ASSESSMENT

4.1 SPATIAL AND TEMPORAL BOUNDARIES

The existing facility (the Project) is located along PTH 16 in the Town of Neepawa in southwestern Manitoba. For the purposes of this environmental assessment, the Project site, Local Assessment Area and Regional Assessment Area are defined as:

- Project site – the physical footprint of the existing facility comprises the processing plant and general office, receiving area, storage and trailer area, truck wash, bake bay, employee parking area, and access roads (approx. 49 ha) within the subject property, defined as being within part of SW35-14-15W (see Figures 3-1a and 3-1b).

- Local Assessment Area (LAA) – area up to a three km radius from the Project site within the subject property in part SW35-14-15W (see Figure 4-1). For the purposes of the assessment, the LAA is the area over which direct effects of the Project are expected to occur.

- Regional Assessment Area (RAA) – area up to a ten km radius from the Project site (see Figure 4-2). For the purposes of the assessment, the RAA represents the area over which direct effects that act on the PS are compared to determine residual effects.

For the purposes of this assessment, the following temporal boundaries are defined:

- Construction phase – a period of 18 months from August/September 2016 to January 2018 over which construction will occur.

- Operation phase – the period over which the facility will be in operation at least 50 years.

- Decommissioning phase – there are currently no plans for the facility to be decommissioned. Should decommissioning occur at some point in the future, it would be anticipated to consist of the removal of all HyLife Foods equipment from the site. Decommissioning would be conducted according to Licence conditions and regulatory requirements at the time.

5.0 EXISTING ENVIRONMENT

The existing environment for the Project Site has been described in previous HyLife NOA submissions, most recently the 2013 NOA. General information is provided in this section with specific updates as warranted in this section. Readers are referred to the 2013 NOA (AECOM 2013) for more detail if required.

5.1 BIOPHYSICAL SETTING

5.1.1 Physiography

The RAA is located in south western Manitoba within the Hamiota, Shilo and Carberry Ecodistricts of the Aspen Parkland Ecoregion, in Manitoba's Prairie Ecozone (Smith *et al.* 1998).

The local relief in the Neepawa area varies from fairly level to gently rolling, with the landscape described as being a level to hummocky part of the Assiniboine Delta, with a mean elevation of about 366 metres above sea level (masl) (Smith *et al.* 1998).

The surficial geology within the RAA, including the Neepawa area, consists largely of fine to coarse sand deposited by glacial meltwaters and some till, clay and silt with minor fine grained sand (Matile and Keller, 2004; Rutulis 1979). The underlying bedrock consists of Upper Cretaceous soft, clayey shale of the Riding Mountain, Vermillion, Favel and Ashville formations (Rutulis 1979; Smith *et al.* 1998). Bedrock surface elevation in the Neepawa area is approximately 330 masl (Province of Manitoba 1988).

5.1.2 Climate and Air Quality

The climate of the Shilo Ecodistrict, including the Town of Neepawa, is characterized by short, warm summers and long, cold winters. The mean annual temperature is about 2.4°C. The mean annual precipitation is approximately 480 mm, but varies greatly from year to year and is highest in late spring and summer. Snow accounts for about one quarter of the precipitation.

The nearest meteorological station to the Project is located at Neepawa Water, in the Town of Neepawa, Manitoba approximately 3.1 km southwest of the Project site (Environment Canada 2015a). Monthly climate normals are provided below in Table 5-1.

Table 5-1 Climate Normals for Neepawa Water, Manitoba (1981-2010)

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yr
Temperature (°C)													
Daily Avg.	-15.6	-12.8	-5.8	3.8	11.0	16.5	19.1	18.2	12.3	4.9	-5.0	-13.0	2.8
Daily Max.	-10.4	-7.4	-0.6	9.8	17.4	22.3	25.1	24.6	18.3	10.1	-0.7	-8.2	8.4

Table 5-1 Climate Normals for Neepawa Water, Manitoba (1981-2010)

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yr
Daily Min.	-20.7	-18.2	-10.9	-2.3	4.6	10.6	13.2	11.7	6.2	-0.4	-9.2	-17.8	-2.8
Precipitation													
Rainfall (mm)	0.2	0.5	7.9	20.7	63.1	82.4	76.6	63.9	49.2	28.7	3.5	0.8	397.4
Snowfall (cm)	20.9	13.6	19.6	11.4	3.5	0.0	0.0	0.0	0.0	5.3	17.6	23.9	115.8
Total (mm)	20.6	14.0	27.1	32.1	67.3	82.4	76.6	63.9	49.2	34.1	21.1	24.5	512.8
Source: http://www.weatheroffice.ec.gc.ca													

5.1.2.1 Greenhouse Gas Emissions

According to Canada's National Inventory Report 1990-2013, Manitoba emitted a total of 21,400,000 tonnes of carbon dioxide equivalent (CO_2e) in 2013, up 3.4% from 20,700,000 tonnes in 2012 (Environment Canada 2015c). Manitoba's 2013 GHG emissions were composed of the following sources: fossil fuel burning (60%) – involving the transportation of goods and people, stationary combustion (e.g., commercial heating) and fugitive sources (e.g., flaring); agriculture (31%); waste disposal (5%); and industrial processes (3%). Manitoba's fossil fuel burning category was much lower proportionally than that of Canada as a whole, largely due to Manitoba's use of hydro power to produce electricity. The overall trend in Manitoba's GHG emissions was higher in 2013, 14.4% above the 1990 level (Manitoba Eco-Network 2015).

5.1.3 Hydrogeology and Groundwater

The hydrogeology and groundwater in the RAA has been previously described as part of the 2013 NOA prepared for HyLife Foods. Types of aquifers in the Neepawa area (i.e., extensive sand, lenses of sand gravel, and within till), their typical yields, groundwater quality, location of groundwater pollution hazard areas and sensitivity, as well regional groundwater flow direction in the Neepawa area are as previously described (AECOM 2013; MCWS 2010; Phimster 1978; Province of Manitoba 1988; Rutulis 1979).

There are numerous registered groundwater wells within a 3 km radius of the Project site (approximately 81 wells). A total of eight observation wells are registered in SW35-14-15W located at the Project site for HyLife Foods' pork processing plant. Groundwater was encountered at depths ranging from 0.9 to 4.3 metres below the ground surface in the observation wells (Groundwater Information Network 2014).

5.1.4 Surface Water

The RAA is part of the Lake Manitoba Southwest drainage division of the Dauphin River watershed, which is part of the Nelson River system draining into Hudson Bay (Smith *et al.* 1998). The principal sources of water are the major rivers and streams/creeks that occur within the

area. The nearest surface water body to the Project is the Whitemud River which is approximately 1,000 metres to the northwest of the site. The 2013 NOA reported typical (median) monthly flows in the Whitemud River in the Town of Neepawa (downstream of Stoney Creek) from April to June as being 5.9 m^3/s, 1.4 m^3/s, and 0.5 m^3/s respectively (AECOM 2013).

5.1.5 Vegetation and Wildlife

The natural vegetation in the Project area varies. Most loamy areas have characteristic vegetation associated with the aspen parkland region. Trembling aspen groves occur in more moist areas and various grassland types are found on the drier landscapes. Alluvial materials along waterways support maple and ash species (Smith *et al.* 1998).

A previous terrestrial survey conducted at the site as part of a 2008 assessment in the Project area revealed a vegetation component consisting of hay meadow (primarily alfalfa) and species of blue grass, a shrub line consisting of two dominant willow species – beaked willow and pussy willow and species of bur oak, balsam poplar, Manitoba maple, white birch and some aspen poplar and pine trees along the Whitemud River in the vicinity of the IWWTF outfall (AECOM 2013).

A site visit as part of the 2016 NOA was completed on February 10, 2016. At the time, the Project site was snow covered which limited the extent of vegetation observations. The proposed expansion area has already been disturbed and is either covered with gravel or grassed. A planted windrow located to the west of the existing site may be disturbed by the proposed building additions to the processing plant.

Previous terrestrial assessments conducted in the Project area as part of earlier NOAs revealed the presence of some 31 different bird species, and common mammal species including evidence of northern pocket gophers, thirteen-lined ground squirrels, and American badger (the latter listed as a species of special concern by COSEWIC) and white-tailed deer (AECOM 2013). The proposed alterations are not expected to affect uncommon wildlife habitat and protected wildlife species are not expected to be affected by the Project.

5.1.6 Aquatic Environment

As indicated in Section 5.1.4, the nearest water body to the Project site is the Whitemud River, located approximately 1 km to the northwest. According to previous fish surveys in the Whitemud River near the Town of Neepawa, fish species known to occur in the river include: northern pike, white suckers, fathead minnow, and emerald shiners among other species (AECOM 2013). Angling on the river is primarily for recreational sport fish purposes (Tourism Westman 2012).

The Whitemud River is classified as a Type 'A' Habitat (Milani 2003). This classification indicates that flows are intermittent or perennial with indicator fish species present. A Type 'A' habitat is

classified as having complex habitat. The Whitemud River discharges into Lake Manitoba, approximately 190 km downstream of the Project site.

5.1.7 Protected Species

The Manitoba Conservation Data Centre, Occurrence of Species by Ecoregion (Aspen Parkland) was examined along with the 2013 NOA to determine the potential for species at risk in the RAA (MCDC 2013; AECOM 2013). The species listed on the MCDC were cross-referenced with the *Manitoba Endangered Species Act* (MESA) to determine provincially listed rare or sensitive species and with Schedule 1 of the Federal *Species at Risk Act* (SARA). Species distribution maps were also consulted where possible to determine listed species that may occur in the RAA. The search results found that there is potential for 12 listed species of concern to occur in the Aspen Parkland Ecoregion, including: American badger, sprague's pipit, short-eared owl, chimney swift, common nighthawk, red-headed woodpecker, golden-winged warbler; and northern leopard frog (MCDC Ecoregions Database 2013; MCWS Species at Risk 2015a; Species at Risk Registry (Schedule 1) 2016). According to a previous aquatic assessment conducted for the 2008 NOA the chesnut lamprey is known or suspected to occur in the Whitemud River (AECOM 2013). The complete species listing is found in Appendix D. As indicated in Section 5.1.5, no native vegetation or protected wildlife was observed during the site visit on the subject property. None of the protected species are expected to be directly affected by the Project.

5.2 SOCIO-ECONOMIC SETTING

5.2.1 Land Use and Property Ownership

The parcel of land for the Project, part of SW35-14-15W is privately owned and has been occupied by HyLife Foods for industrial food processing production since 2008. The subject property also includes a parcel of land owned by the Town of Neepawa for the former WWTP. One property in the southwest corner is privately owned and occupied as a residence. A former municipal landfill is located approximately 480 metres to the west of the Project site.

The land adjacent to HyLife Foods' plant site includes a mix of commercial and industrial land use, rural residential, and open space/recreational uses, including:

- Rocky Mountain Equipment, an implement dealer located within the new Neepawa Industrial Park (to the west)
- Manitoba Hydro Neepawa substation and new regional customer service centre (to the southwest south of PTH 16)
- Neepawa Golf and Country Club and Lions Riverbend Park (to the northwest and west respectively)

There are 11 Crown-owned and Crown-leased lands, or parts thereof, within the RAA, including the Lake Irwin Reservoir, a wildlife management area (Whitemud River), and a community

pasture (Langford). The closest residential development in the LAA in the Town of Neepawa is a residence located approximately 276 m to the west of the Project site.

5.2.1.1 Land Development Controls

Municipal jurisdictions may adopt development plans and zoning by-laws to guide land use decisions within their respective boundaries (Manitoba Municipal Government 2015). The following municipal development controls are applicable in the RAA:

- Town of Neepawa Zoning By-law No. 2650; RM of North Cypress-Langford Zoning By-laws[1], RM of Glenella-Lansdowne Zoning By-laws[2], and RM of Rosedale Zoning By-law No. 5-88
- Neepawa & Area Planning District Development Plan By-law No. 78 (preparation of a new development plan is currently underway) and Cypress Planning District Development Plan[1]

Land use in the Town of Neepawa is subject to the Town of Neepawa Zoning By-Law No. 2650. The Project site within the LAA is zoned "MH – Industrial Heavy" (Town of Neepawa 1987). The existing development and activities are compatible with all permitted land use and zoning restrictions for the property. Development designations and zoning of lands adjacent to and surrounding the Project site are summarized in Table 5-2.

5.2.2 Population and Economy

The population within the Project RAA is principally represented by the Town of Neepawa and portions of three rural municipalities. The town had an estimated population of 3,629 in 2011 (Table 5-3), a 5.2% increase from the 2006 population of 3,298, and a population density of 206.5 persons per km^2 (Statistics Canada 2012a). According to the Manitoba Health Population Report (June, 2014), the Town of Neepawa had a population of 5,120 (Manitoba Health, Healthy Living & Seniors 2014). The RMs of Langford, Lansdowne and Rosedale all experienced population declines between 2006 and 2011.

[1] The RMs of North Cypress and Langford amalgamated on January 1, 2015 to form one municipality. The new municipality became a member of the Cypress Planning District effective the same date. The RM of Langford was previously a member of the Neepawa & Area Planning District. Current zoning by-law provisions apply.
[2] The RMs of Glenella and Lansdowne amalgamated on January 1, 2015 to form one municipality. The new municipality belongs to the Neepawa & Area Planning District. Current zoning by-law provisions apply.

Table 5-2 Population and Occupied Private Dwellings in the Project RAA, 2011

	Town of Neepawa	RM of Langford*	RM of Lansdowne*	RM of Rosedale
Population 2011	3,629	767	723	1,627
Population 2006	3,298	787	750	1,658
% change in population between 2006 and 2011	5.2	-2.6	-3.6	-1.9
Private occupied dwellings	1,465	280	265	508
Land area (km^2)	17.57	561.95	766.29	865.58
Population Density per km^2	206.5	1.4	0.9	1.9

Note: * prior to municipal amalgamation in 2015
Source: Statistics Canada 2012a, b, c, d, e, f

According to the 2011 census, there were a total of 1,465 occupied private dwellings in the Town of Neepawa (Statistics Canada 2012b). Occupied private dwellings in the RMs of Langford, Lansdowne and Rosedale were 280, 265 and 508 respectively (Statistics Canada 2012d, e, f). Outside the built-up area in the Town of Neepawa, there are approximately 78 dwellings/farmsteads within a 3-km radius of the Project site. The closest dwelling to the Project site is approximately 276 m to the west.

Economic activity within the Neepawa area is principally related to primary and secondary industry sectors. In addition to manufacturing, active sectors in the Town of Neepawa are agriculture, food processing, health services and forestry products (Town of Neepawa 2014). The Town of Neepawa serves as a major agriculture service centre for many producers and supports many types of crops and livestock operations (Town of Neepawa 2016a). Neepawa's businesses serve as a shopping and retail centre for many residents in the Neepawa area (Town of Neepawa 2016a). The Town of Neepawa also has a newly developed Industrial Park, located on land west of the Project site along Neepawa Road (old dump road), which is currently includes an agriculture implement dealer (Neepawa Banner 2013; Town of Neepawa 2016b).

5.2.3 Infrastructure and Services

The Project site is accessible from an all paved-surface Provincial Trunk Highway (PTH 16), the Yellowhead Route. PTH 16, a two-lane highway in the Town of Neepawa and RM of Langford is classified as an Expressway (2 lane) under the Provincial Road Functional Classification System (MB Highways and Transportation 1997) and RTAC[3] route. Major roads surrounding the Project site include PTH 5 to the west (to the north and south) and Provincial Road (PR) 352 to the east.

[3] RTAC – Road Transportation Association of Canada

One rail line is located in proximity to the Project site. The Canadian Pacific Railway (CPR) Minnedosa Subdivision Line is located to the northwest, approximately 2.5 km from the site. There is no direct rail service at the Project site.

Services provided in the Town of Neepawa include a volunteer fire department and a Royal Canadian Mounted Police (RCMP) detachment, within the Spruce Plains RCMP boundaries. The town has 911 emergency services and is served by full-time ambulance staff provided by the Prairie Mountain Health Regional Health Authority (RHA). Healthcare facilities include: the Neepawa Memorial Hospital, two medical clinics, and one personal care home (Town of Neepawa 2016c).

The Neepawa area is served by Evergreen Environmental Technologies, which is the regional landfill located between the towns of Neepawa and Minnedosa, approximately 4 km south of PTH 16 on PR 466 (Town of Neepawa 2016d; Evergreen Environmental Technologies Ltd. 2016). Recycling pick-up services are offered for some recyclables (i.e., paper, plastics, aluminum/tin, glass) in the Town of Neepawa, with a recycling drop-off depot located at the Evergeen Environmental Technologies waste facility. In addition to the recyclables collection area, there is a pesticide collection depot, an area for tires, wood, scrap metals, household hazardous waste and a soil farm at the regional waste facility (Evergreen Environmental Technologies Ltd. 2016). Used oil, oil filters, oil containers, hydraulic fluid, transmission fluid, antifreeze and antifreeze containers can be disposed of at the Neepawa Eco-Center, located at Provost Signs on Airport Road west of the town. Compostable materials can be taken and composted at the town compost site located north of the cemetery on Hurrell Road (Town of Neepawa 2016d).

The Neepawa Airport and associated airport lands are located approximately 3.1 km to the west of the Town of Neepawa (Canada Flight Supplement 2014). The airport is operated by the Town of Neepawa and is used by light and ultralight aircraft for recreational/pleasure flying and crop dusting and is able to serve air ambulance and small jets (Town of Neepawa 2016e).

The Town of Neepawa is served by a water treatment system, the source of which is aquifer water from two groundwater wells at Hummerston and Oberon, located approximately 19 km south of Neepawa. The raw water is fed by a single underground pipeline and is treated with a two-stage membrane system. A water tower and an underground holding tank have a combined storage capacity of over 3.5 million litres (Town of Neepawa 2016e). The new water treatment plant also serves the RM of Langford (Water Canada 2013). A 3-cell lagoon located north of the community golf course in Neepawa is used for the town's sewage treatment (Town of Neepawa 2016f).

Manitoba Hydro's Neepawa Substation is located approximately 1.2 km southwest of the Project site, south along PTH 16. One electric transformer provides power to the processing plant via overhead utility lines located adjacent to the west and south boundaries of the Project site. Other utilities, including gas, wastewater sewer to the IWWTF and water, are also present at the Project site.

Traffic volumes for the main regional highways surrounding the Project site in the RAA were obtained from MIT. In 2012, the Average Annual Daily Traffic (AADT) on PTH 16, was 3,260 vehicles 5.1 km east of the junction with PTH 5, and 3,190 vehicles 2.5 km west of the junction with PTH 5. North of the intersection with PTH 16, the AADT on PTH 5 in 2012 was 1,160 vehicles. The AADT on PTH 5, 1.1 km south of PTH 16, was 1,180 vehicles in 2012 (Manitoba Infrastructure and Transportation and University of Manitoba 2015). Approximately 630 vehicles access the site daily, with personal staff traffic accounting for about 540 vehicles per day (including carpooling and drop-off). There are sufficient parking spaces to accommodate all personal vehicle traffic flows. Approximately 87 trucks per day on average are involved in shipping raw materials into and product/waste materials out of the processing plant.

5.2.4 Protected Areas, Parks and Recreation

There are no designated provincial parks or protected areas located within the LAA. The Whitemud Watershed Wildlife Management Area (WMA) is located within the RAA for the Project, located approximately 5 km to the southeast of the Project site (MCWS 2015b; Mussio Ventures Ltd. 2015).

There are numerous recreational attractions in the RAA, including within the area surrounding the Town of Neepawa and in the RM of Langford. Recreational activities within a three km radius of the processing plant includes: Neepawa Golf & Country Club, located along the escarpment of the Whitemud River approximately 1.0 km to the northwest of the Project site in the Town of Neepawa; the Lion's Riverbend Campground, located along PTH 16 just east of Neepawa approximately 2.1 km west of the Project site; and Lake Irwin Dam, consisting of cottage lots, picnic, and camping areas, located approximately 2.5 km southwest of the Project site (Mussio Ventures Ltd. 2015; Tourism Westman 2012; Town of Neepawa 2016g).

5.2.5 Aesthetics and Noise

The principal viewshed for the RAA is rural farm and parkland in nature, which is commensurate with the existing uses of the landscape. Existing ambient noise levels are expected to be typical of a rural agricultural area. Ambient noise levels may be intermittently high, particularly near industrial and commercial operations and main arterial traffic routes. Existing sources of noise in the Project RAA are primarily man-made noise such as road traffic, rail movements, related large truck and vehicle movements, and heavy and light manufacturing facilities. The maximum desirable sound level for industrial areas in the province is 70 dBA (daytime and nighttime) according to the Province of Manitoba Guidelines for Sound Pollution. Noise sources from processing plant operation are not likely to exceed the maximum desirable sound level for industrial areas at the property site boundary. Noise sources external to the processing plant are principally hog delivery and truck traffic on-site. These noises are regular in nature but are less than the traffic on the adjacent highway.

5.2.6 Heritage Resources

A previous heritage resources assessment was conducted in 2008 on the Project site for records of any known or designated heritage sites within the RAA (AECOM 2013). The potential to impact heritage resources was determined to be low for this site and the Historic Resources Branch (HRB) expressed no concerns with the Project. Proposed alterations as part of the 2013 NOA occurred within an already disturbed site. The current proposed expansion will similarly be located within this previously disturbed area. Given that the previous assessment by the HRB indicated low potential to affect heritage resources, the likelihood of the Project encountering unknown heritage resources at the site is low.

The closest cemetery to the Project site is Riverside Cemetery in the Town of Neepawa, located approximately 2.4 km northwest of the site (Manitoba Historical Society 2015a). There are no Centennial Farms in the RAA (Manitoba Historical Society 2015b).

6.0 ASSESSMENT APPROACH

This assessment was completed to meet the requirements of a Notice of Alteration (NOA), and includes assessing project-specific environmental effects.

For the purposes of this assessment, the term *environment* refers broadly to biophysical and socio-economic elements of the environmental setting.

The assessment focuses on valued components (VCs), which are environmental components of particular value or interest to regulators and other parties and are identified based on the biophysical and socio-economic elements.

Project-related effects on these VCs are assessed sequentially in the assessment. Residual effects are characterized using specific, predetermined criteria (e.g., direction, magnitude, geographical extent, duration, frequency).

6.1 SELECTION OF PROJECT INTERACTIONS AND VALUED COMPONENTS

Biophysical and socio-economic VCs that could be affected through interactions of the environment with the Project are identified to scope the assessment. The VCs that were selected:

- represent a broad biophysical or socio-economic component that might be affected by the Project; or
- are a part of the heritage of Aboriginal peoples[4] or a part of their current use of lands for traditional purposes; or
- are of scientific, historical or archaeological importance.

To focus the assessment on matters of greatest importance, potential interactions of the Project with the surrounding biophysical and socio-economic environment were identified using a variety of sources, including:

- applicable provincial regulatory requirements
- existing information regarding biophysical and socio-economic components found in the project area (e.g., vegetation, existing land uses, etc.) and results of desktop studies
- professional judgment of the assessment practitioners, based on experience with similar projects elsewhere and other projects and activities in the project area

[4] As defined by the *Constitution Act 1982*

The rationale for selecting each VC is explained and potential interactions between the Project and VCs are identified in Table 6-1.

Table 6-1 Designation of Valued Components

Valued Component	Potential Project Interaction	Rationale for Exclusion or Inclusion and Project Potential Effect
Air quality	√	**Construction and operation activities contribute to airshed loading from on-site equipment and truck usage**
Greenhouse gas emissions	√	**Construction and operation activities contribute to GHG from on-site equipment and truck usage and combustion sourced building and process heating**
Soils/terrain	x	Expansion of the building footprint on the site will result in limited disturbance of soils that have been previously disturbed during past developments and agricultural usage on the property.
Surface water/ groundwater	x	The proposed addition will be located on the existing developed property. Stormwater will continue to be managed by surface ditching. The potential to affect surface water quality of the Whitemud River (1 km away) is considered very low and mitigable with implementation of industry-accepted practices such as silt fences and erosion control measures to manage surface drainage flow. Sanitary wastewater and process wastewater loadings will continue to be directed to the IWWTF for treatment in accordance with licence conditions.
Vegetation	x	No native vegetation is present on-site; there is a planted shelterbelt and a minor portion of a small grove of trees to the west that would be affected by the parking area of project.
Wildlife and wildlife habitat	x	No substantive wildlife or wildlife habitat present on-site; there is a planted shelterbelt and small grove of trees to the west but there will be no change to natural habitat
Property and land use	x	Site activities occur within existing industrial area in an area that has supported the current land use for many years. The project site is zoned for the existing/proposed land use
Infrastructure and services	√	**The proposed alteration will generate construction traffic and better manage operational traffic flow on the property. Increase in the size of the plant may increase the use of power and change water and sewage usage at the site.**
Employment and economy	√	**Benefits related to employment, tax generation from construction and continued operation; expansion and modernization is expected to have no net change in overall employee requirements at the plant for the existing licensed capacity.**
Heritage resources	x	Site is located within an existing industrial area that is already disturbed; previous studies have indicated no heritage concerns.

Table 6-1 Designation of Valued Components

Valued Component	Potential Project Interaction	Rationale for Exclusion or Inclusion and Project Potential Effect
Aesthetics and Noise	x	Site is located within an existing industrial area with the proposed alterations consistent with current building types and there will be no substantial change to area aesthetics. Noise generation will continue to be typical of historic use in the area and no noise complaints have been received by HyLife in several years of operation including during previous construction and plant expansions.
Health and Safety	x	Contractors engaged in the construction phase of the proposed Project will be subject to site specific health and safety plans and worker protection standards and procedures under the provincial *Workplace Safety and Health Act*. Existing health and safety programs will continue to be maintained and updated to accommodate the updated operational activities at the Project site. Improved ergonomic working conditions will result from plant modernization. Project effects from plant expansion on worker health and safety are anticipated to be positive but negligible.

Once interactions that are likely to have effects are identified and the valued components determined, an analytical framework is used to evaluate and characterize the potential project effects according to a set of standardized criteria to facilitate quantitative (where possible) and qualitative assessment of residual environmental effects (see Section 6.2).

6.2 RESIDUAL EFFECTS DESCRIPTION CRITERIA

Terms used to characterize the residual environmental effects are summarized in Table 6-2.

Table 6-2 Characterization of Residual Environmental Effects

Characterization	Description	Quantitative Measure or Definition of Qualitative Categories
Direction	The long-term trend of the residual effect	**Positive**— an improvement in the valued component compared with existing conditions and trends **Adverse**— a decline in the valued component compared with existing conditions and trends **Neutral**— no change in the valued component from existing conditions and trends

Characterization	Description	Quantitative Measure or Definition of Qualitative Categories
Magnitude	The amount of change in the VC relative to existing conditions	**Negligible**—no measurable change **Low**— a change that falls within the level of natural variability **Moderate**— a measurable change which is unlikely to affect the valued component **High**— a measurable change which is likely to affect the valued component
Geographic Extent	The geographic area in which an environmental effect occurs	**PS**—residual effects are restricted to the Project site **LAA**—residual effects extend into the LAA (up to a 3 km radius of project site) **RAA**—residual effects extend to other adjacent areas to the property up to a 10 km radius
Frequency	Identifies when the residual effect occurs and how often during the Project or in a specific phase	**Single event**— residual effect occurs once throughout the life of the Project **Multiple irregular event**— residual effect occurs sporadically and intermittently (no set schedule) throughout **Multiple regular event**— residual effect occurs repeatedly and regularly throughout **Continuous**—residual effect occurs continuously throughout the life of the Project
Duration	The period of time required until the VC returns to its existing condition, or the effect can no longer be measured or otherwise perceived	**Short-term**— residual effect restricted to the duration of construction (assumed to be two years) **Medium-term**— residual effect extends to two to ten years **Long-term**— residual effect extends for longer than ten years
Reversibility	Pertains to whether the VC can return to its existing condition after the project activity ceases	**Reversible**—the effect is likely to be reversed after activity completion and decommissioning **Irreversible**—the effect is unlikely to be reversed even after decommissioning
Ecological and Socio-economic Context	Existing condition and trends in the area where environmental effects occur	**Undisturbed**—area is relatively undisturbed or not adversely affected by human activity **Disturbed**—area has been substantially previously disturbed by human development or human development is still present

7.0 ENVIRONMENTAL EFFECTS AND MITIGATION

This section outlines the assessment of environmental effects for those components identified in Table 6-1 as having potential project interactions. Components included in this assessment are:

- Air quality
- Greenhouse gas emissions
- Infrastructure and services
- Employment and economy

7.1 ASSESSMENT OF ENVIRONMENTAL EFFECTS

7.1.1 Air Quality

Potential air quality effects related to the proposed plant expansion and modifications are related to emissions from plant heating and construction equipment, fugitive dust generation due to construction equipment movement and other vehicular traffic on the site, and odours from activities and materials used during construction.

During the construction phase, changes to air quality can occur due to vehicle and construction equipment exhaust, as well as the generation of dust from on-site traffic. Odours typical of some construction processes and materials may also be generated during the construction phase of the project, including those associated with asphalt roofing, adhesives, painting, etc.

Construction equipment will be maintained in good working order so as to minimize emissions. In comparison to the existing truck traffic on the site as well as traffic on Highway 16 immediately adjacent to the site, the change in local air quality due to these emissions are expected to result in an adverse effect on air quality but be of low magnitude on the project site and are considered negligible in the LAA. The effect will be short term (limited to the construction phase) and reversible upon completion of the construction phase of the project.

Odours typical of some construction processes and materials may also be generated during the construction phase of the project. The activities generating these odours are expected to be short term, occurring multiple times irregularly over the construction phase. The prevailing wind direction for Neepawa (based on the Brandon, Manitoba meteorological station) is principally from the west, followed by the northeast for two months in spring (Environment Canada 2015b). Although the closest residence to the site is located approximately 260 metres west of the project site, the lands surrounding the site are largely agricultural or industrial in nature and are sparsely populated. The prevailing wind direction, combined with the short term of odour-generating activities and a lack of dense residential development mitigates the effect of odour generation at the site on air quality in the LAA. To date there have been no odour complaints

reported to Hyllife Foods from processing plant operation or the construction work that has been undertaken in the last several years. The adverse effects of odour on air quality for receptors in the area are expected to be negligible to low in the LAA.

Similar to odours, fugitive dust emissions from construction equipment movements may result in irritation to nearby residents. However, the potential for project-related air quality effects from dust emissions is expected to be negligible given the separation of the site from residents, prevailing wind directions, and a lack of dense residential development in proximity. As a continued mitigation measure, if required, additional dust suppression activities, such as limiting traffic speeds in specific areas of the site or applying dust palliatives to select areas, may be considered if deemed necessary at the Project site.

During the operation of the proposed plant expansion, changes in air quality will be negligible compared to presently licensed conditions. The rates of natural gas consumption for process water heating is expected to remain in line with the forecasts provided for currently licensed conditions with a minimal increase of about two percent for building heating. There are also no new odour sources proposed as a result of the expansion. Operational fugitive dust emissions will be reduced or remain near the current negligible levels as there will be additional cooling capacity on the site that will reduce the dependence on the use of temporary reefer trailers. As a continued mitigation measure, if required, additional dust suppression activities, such as limiting traffic speeds in specific areas of the site or applying dust palliatives to select areas, may be considered if deemed necessary at the Project site.

Summary

With the implementation of mitigation measures a described above, the potential effects on air quality from construction and operation are expected to be negligible to low, primarily limited to the Project site or immediately surrounding LAA, short-term in duration, multiple irregular in frequency, and reversible upon Project decommissioning.

7.1.2 Greenhouse Gas Emissions

Greenhouse gas emissions are currently generated at the pork processing facility and will continue to be generated as part of the proposed project. Based on HyLife's current information, the natural gas consumption at the plant for process water heating as well as the fuel consumption for shunt trucks and forklifts, etc. will remain in line with the values estimated for the 2013 NOA submission. However, natural gas consumption for building heating is anticipated to increase slightly, by approximately two percent with the plant alterations. The GHG emissions at the HyLife Foods facility for the currently licensed capacity were estimated as 9,266 tonnes (9.26 kilotonnes) per year carbon dioxide equivalent (CO_2 e) in the 2013 NOA using the 1990-2009 Canada National Inventory Report information. Using the more recent 1990-2013 National Inventory Report, the revised GHG emission estimate for the licensed operation of the HyLife Foods facility as shown in Table E-1 (Appendix E) is estimated to be approximately 8,731 tonnes (8.73 kilotonnes) per year CO_2 e. Environment Canada's mandatory reporting threshold for

greenhouse gas emissions on an annual basis is 50,000 tonnes (or 50 kt) of CO_2 e. The current facility generates about 17 % of the reporting threshold. As such, the plant and its expansion are not considered a major contributor of greenhouse gas emissions.

The greenhouse gas emissions reported in 2013 by the Province of Manitoba in Canada's National Inventory Report 1990-2013 totaled 21,400,000 tonnes of CO_2 e (Environment Canada 2015b). HyLife Foods' facility greenhouse gas emissions remain negligible in comparison to total provincial greenhouse gas emissions.

Summary

The proposed alterations at HyLife's facility are expected to have a negligible contribution to operational GHG emissions in the RAA. However, emissions are long-term in duration, continuous, and irreversible upon Project decommissioning.

7.1.3 Infrastructure and Services

During the construction phase, there will be an increase in the number of vehicles travelling to and from the Project site with construction equipment and associated materials. Vehicular access to the construction area will be limited to existing access points only. Appropriate construction signage and flagpersons to minimize potential conflicts with local traffic from turning vehicles will be implemented as necessary. The potential effects of the increase in vehicle traffic along PTH 16 over existing levels, ranging from 3,190 veh/day to a maximum of 3,260 veh/day AADT (MIT and University of Manitoba 2015), are anticipated to be negligible, irregular, and short-term in duration.

PTH 16 and the municipal road allowance to the east of the processing plant will continue to be the main routes used by employees and for trucks and livestock trailers. Trucks and truck trailers will continue to enter and exit the plant site via the east municipal road allowance, while employees enter and exit the plant site using an access/approach off of PTH 16. There will be a slight adjustment to the existing traffic pattern at the processing plant associated with livestock trailers. Once a livestock trailer is finished delivering hogs from a particular farm site, it will be cleaned in the wash bay and sanitized in the bake bay. Afterward, the truck/trailer will exit the plant site using a new access road connected to the existing north-south municipal road on the west side of the plant to access PTH 16.

The Average Annual Daily Traffic (AADT) on PTH 16 east and west of the Project site ranges from 3,190 to 3,260 veh/day (MIT and University of Manitoba 2015). The estimated traffic at the plant site at licensed capacity is estimated to include approximately 630 vehicles (540 of which are personal staff vehicles) and truck-trailers per day (HyLife Foods 2016). The north-south municipal road west of the project site is used to provide access to/from the R3 Innovations IWWTF site and traffic associated with the agriculture implement dealer in the adjacent Neepawa Industrial Park (Stott 2016 pers. comm.).

The number of truck trailers per week that will exit the site to the west is estimated to be 45 to 55 trailers/week (9 to 11 trailers/ day), or approximately 13 % of the total operational truck traffic of 436 trucks/truck trailers (maximum) arriving and departing at the plant on a weekly basis. Adverse traffic effects are expected to be limited to short-term delays (less than 5 minutes typically) in access to PTH 16 in the form of normal traffic congestion, typical of highway access from municipal roads. The effect is expected to be negligible in magnitude, limited to the LAA (immediately surrounding the project site), regular, continuous, and reversible.

While cooling horsepower at the plant site will increase from 1500 to 3000 with the proposed alteration, the existing electrical service is considered sufficient to supply the additional power demands of the proposed project. As stated previously, changes in power and water consumption are estimated by HyLife to be negligible and consistent with the demands estimated for the licensed capacity of the facility. Similarly, as there is no proposed increase in capacity of the facility, the number of staff, or a change in the products produced. Garbage disposal and recycling remains consistent with the existing licensed capacity of the plant.

Summary

The potential adverse residual effects on infrastructure and services related to traffic are expected to be negligible, limited to the LAA, short-term in duration, continuous in frequency, and reversible upon Project decommissioning.

7.1.4 Employment and Economy

The period of construction activity is expected to extend over about 18 months, ending in January 2018. Construction-related jobs will be short-term in nature. The construction workforce is estimated to be approximately 25 workers per day, with a peak of up to 75 workers (Stott 2016). The effect of this employment will be positive but negligible relative to the RAA. There is potential for the purchase/contract of local goods and services related to the Project consistent with project size and scale.

The continued operation of the expanded plant will support the present positive effects related to employment of the workforce at the plant and its ongoing contribution to the local and regional economy (i.e., through the purchase of goods and services and tax generation). The proposed modernization is not anticipated to result in a net change in overall employee requirements beyond those described in the 2013 NOA. The 2013 NOA indicated that 1,250 staff members were required and no net change is anticipated. Currently, HyLife Foods has 1,143 staff members. No additional mitigation is proposed.

Summary

The potential residual effect on employment and economy is anticipated to be positive in direction, low in magnitude, extending to the RAA, short to long-term in duration, continuous and reversible.

7.1.5 Summary of Mitigation Measures

Proposed mitigation measures incorporated as part of this NOA includes those standard practices and procedures identified under the 2013 NOA (AECOM 2013) as well as other general mitigation measures that are typically applied in the course of project construction and operation. Mitigation measures to be employed to prevent or mitigate adverse effects identified in the sections above include the following:

- Dust generation from exposed or disturbed areas will be kept to a minimum; additional dust suppression will be undertaken at the construction site as required (i.e., spraying material stockpiles and work areas with water or other non-toxic measures).
- Excavated topsoil will be stockpiled separately on the plant site for future use in leveling activities and vegetating disturbed areas.
- Material stockpiles will be placed in areas identified and approved by HyLife Foods; stockpile heights will be limited.
- Disturbed areas will be kept to a minimum and site restoration will occur as soon as practically possible where necessary.
- Construction activities will be limited during heavy precipitation/runoff events.
- Construction traffic and equipment movements will be limited to designated access routes within the Project site.
- Contractor will be responsible for repair and site restoration activity as a result of construction damage (i.e., rutting, compaction of soils).
- Silt fences and other erosion protection measures will be installed as necessary during construction for stormwater to prevent erosion and sediments from being transported off-site past site boundary ditching to surface water.
- Surface water drainage patterns will be maintained on-site.
- Exhaust emissions from construction and plant operation will be minimized through the proper maintenance of vehicles and equipment.
- Vehicle idling will be kept to a minimum.
- HyLife Foods will continue to engage with adjacent landowners to monitor the extent, if any, experienced effects related to plant operation (i.e., noise, odour) as appropriate according to existing licence provisions; HyLife Foods will address any nuisance concerns as they arise on an individual basis.

- Mixed recyclables (i.e., glass, paper), and metal scrap will be recycled and properly disposed of by third-party service providers.
- Gather and properly dispose of construction waste at a regional licensed landfill; encourage recycling of construction waste to the extent possible.
- Limit construction activity to normal daylight working hours only in accordance with local municipal by-law provisions.
- Limit construction access to existing access points only; appropriate construction signage and flagpersons will be utilized for the construction site as required.
- Solid waste generated on-site will be stored in secure bins and removed on a regular basis to a licensed landfill.
- Adhere to proper procedures for storage and handling of hazardous materials (i.e., fuels, chemicals) in designated areas.
- Maintain an emergency response spill kit and implement emergency response measures for spill clean-up and remediation.
- The Project site will be regularly inspected for loose debris and waste to maintain a clean site.
- Vehicle and truck traffic will be limited to existing traffic routes and access points only.
- Contractors engaged in construction activities at the Project site will adhere to federal and provincial Health and Safety legislation.
- Contractors will adhere to Project-specific safety plan developed as appropriate.
- Project site employees will be kept aware of safety requirements and on-site construction works to ensure worker safety.
- Workers will be provided with appropriate personal protective equipment (PPE); hearing protection will be provided to employees/workers as required.

7.2 SUMMARY OF RESIDUAL EFFECTS CHARACTERIZATION

A summary of residual environmental effects characterization is found in Table 7-1. Residual effects related to air quality, greenhouse gas emissions, and infrastructure and services are characterized. Positive and neutral effects are not addressed, only adverse effects are characterized.

Table 7-1 Summary of Residual Environmental Effects

Project Effects	Residual Environmental Effects Characterization						
	Direction	Magnitude	Geographical Extent	Duration	Frequency	Reversibility	Ecological and Socio-economic Context
Air Quality							
Fugitive dust generation and vehicle emissions	A	N	PS	S-L	MR	R	D
Greenhouse Gas Emissions							
Facility and site operation vehicle emissions	A	N	RAA	L	C	IR	D
Infrastructure and Services							
Traffic pattern/Level volume	A	N	LAA	S	C	R	D

See Table 6-2 for detailed definitions

KEY

Direction

P Positive
A Adverse
N Neutral

Magnitude

N Negligible
L Low
M Moderate
H High

Geographical Extent

PS Project Site
LAA Local Assessment Area
RAA Regional Assessment Area

Duration

S Short-term
M Medium-term
L Long-term

Frequency

S Single event
MI Multiple irregular event
MR Multiple regular event
C Continuous

Reversibility

R Reversible
IR Irreversible

Ecological/Socio-Economic Context:

U Undisturbed
D Disturbed

N/A Not applicable

7.3 ACCIDENTS AND MALFUNCTIONS

The effects of accidents and malfunctions for the Project are primarily related to the potential for mechanical equipment failure, fuel or other chemical spills, and transportation accidents. The following sections are based on information identified under the 2013 NOA (AECOM 2013) outlining the potential effects from accidents and malfunctions and the measures proposed to prevent accidents and malfunctions.

7.3.1 Fire/Explosion

During construction and operation, there exists potential for fires at the Project site involving mechanical equipment and fuels. Effects related to fires include: harm to on-site personnel, damage to equipment, and the potential release of contaminants and hazardous materials.

Reasonable precautions and mitigative action will continue to be taken to prevent fire hazards at the Project site.

7.3.2 Spills

During construction and operation, there is potential for environmental effects due to fuel and chemical spills and/or leaks from equipment. Accidents could result in the release of hazardous materials and/or equipment fluids or fuels from equipment or vehicles or from improper storage and handling procedures. As a result of spills, effects on air quality, soil degradation and human health and safety are possible.

Potential effects resulting from spills occurring during the construction phase is anticipated to be irregular and short-term in duration. A spill, if it were to occur, would predominantly be contained within the Project site; the magnitude of a spill effect could range from negligible to moderate and would depend on the size of the spill.

During the operations phase, the regular inspection and maintenance of vehicles and plant processing equipment would serve to reduce the risk of spills occurring at the site.

Adherence to standard environmental protection practices will minimize the risks associated with accidental spills and adverse effects. Provincial regulations related to chemical storage, spill containment, and requirements respecting the storage, handling and transport of dangerous goods and hazardous wastes will also be adhered to.

7.3.3 Transportation Accidents

Transportation accidents can result in the release of vehicle fluids to the environment (i.e., diesel, gasoline, oils, etc.) and the materials the vehicles were transporting. Effects related to such releases can include air and soil quality effects with potential for subsequent effects on the environment and human health.

During the construction phase, there will be an increase in the number of vehicles travelling to and from the Project site with construction equipment and associated materials. The potential for an increase in vehicle traffic along PTH 16 over existing levels that could lead to transportation accidents is anticipated to be negligible.

Operational traffic at the processing plant site (i.e., deliveries and shipping) operates at slow speeds to minimize the potential for on-site transportation accidents. HyLife Foods utilizes qualified transportation companies to transport materials and final products to and from the site to further minimize the potential for transportation risks.

7.3.4 Prevention Measures

Measures to prevent adverse effects associated with fire/explosion, spills and transportation accidents are as follows:

- Flammable waste and materials will be removed on a regular basis and disposed of at an appropriate licensed disposal facility.
- Appropriate fire extinguishers are available on-site during operations and are maintained to manufacturer's standards.
- Potentially hazardous materials and chemicals are stored and handled at dedicated areas and labelled in accordance with applicable regulatory requirements.
- Hazardous materials are transported in accordance with the *Dangerous Goods Handling and Transportation Act* and used according to product-use instructions.
- Refueling of vehicles and equipment will adhere to proper procedures and will use designated refueling areas or will be refueled off-site.
- Emergency spill kits will be maintained on-site and staff will be trained to properly deploy spill kit materials and clean-up spills.
- Vehicles and equipment will be maintained to minimize leaks. Regular inspections of hydraulic and fuel systems on equipment and machinery will be undertaken on a routine basis. Leaks detected will be repaired immediately by trained personnel.
- Above-ground storage tanks will be regularly inspected and maintained to prevent leaks and failures.
- Existing traffic control measures (i.e., speed limits, signage) will be adhered to.
- HyLife Foods maintains a Safety and Health Program which includes policies related to emergency preparedness, workplace hazardous materials information system (WHMIS) and spill response procedures.

8.0 CONCLUSION

Stantec has prepared this environmental assessment report on behalf of HyLife Foods LP, in support of the NOA application for the proposed plant expansion. Potential interactions of the proposed project and the environment were evaluated with likely interactions examined to assess residual effects. Those interactions deemed to potentially generate adverse effects were described and evaluated with the assumption of typical mitigation measures representative of best practices and previous construction methods employed at the site.

On the basis of the desktop studies undertaken, site observations and information available to date as presented in this report, the identified effects of the proposed alterations will be the same or similar to those previously assessed, mitigated and approved under current and previous licences. The alterations are not expected to result in significant adverse environmental effects. Accordingly, it is anticipated that the proposed alterations at the plant, essentially involving changes to the configuration of the existing plant on-site, and its associated operational and potential environmental effects, would be considered as a minor alteration to the licensed development.

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9.2 PERSONAL COMMUNICATIONS

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May 18, 2016

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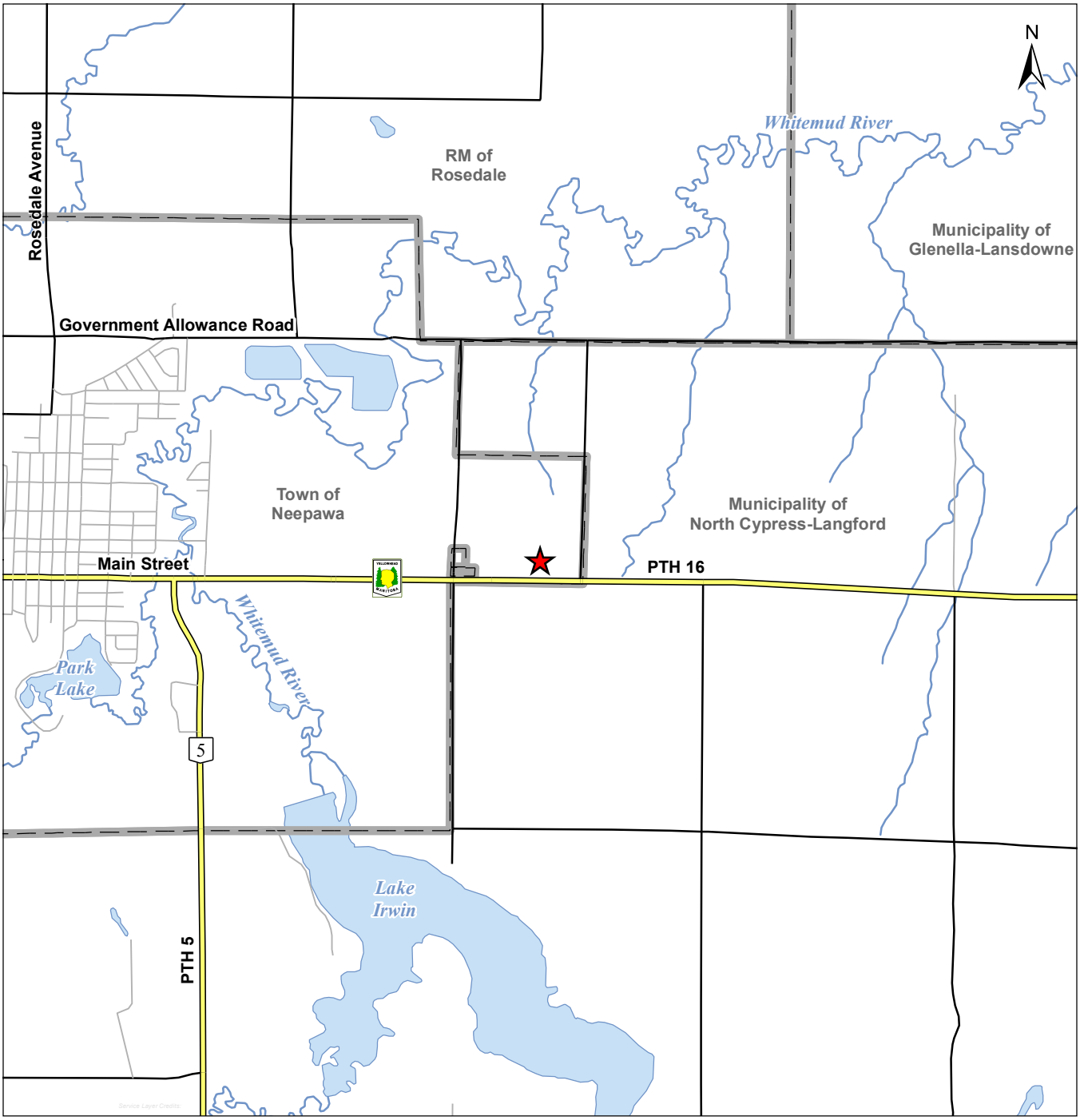
Appendix A Figures

G:_GIS_Project_Folder\111440368_HyLifeFoods\ArcMaps\Site_Location_Plan_20160425.mxd Revised: 2016-05-16 By: acampigotto



Legend

- Site Location
- Major Road
- Minor Road
- Local Road
- Watercourse
- Waterbody
- Rural Municipality

0 0.5 1 Kilometres

1:40,000 (at original document size of 8.5x11)

Stantec

Project Location
Town of Neepawa, Manitoba

111440368

Prepared by AC on 2016-05-11
Technical Review by BK on 2016-05-11

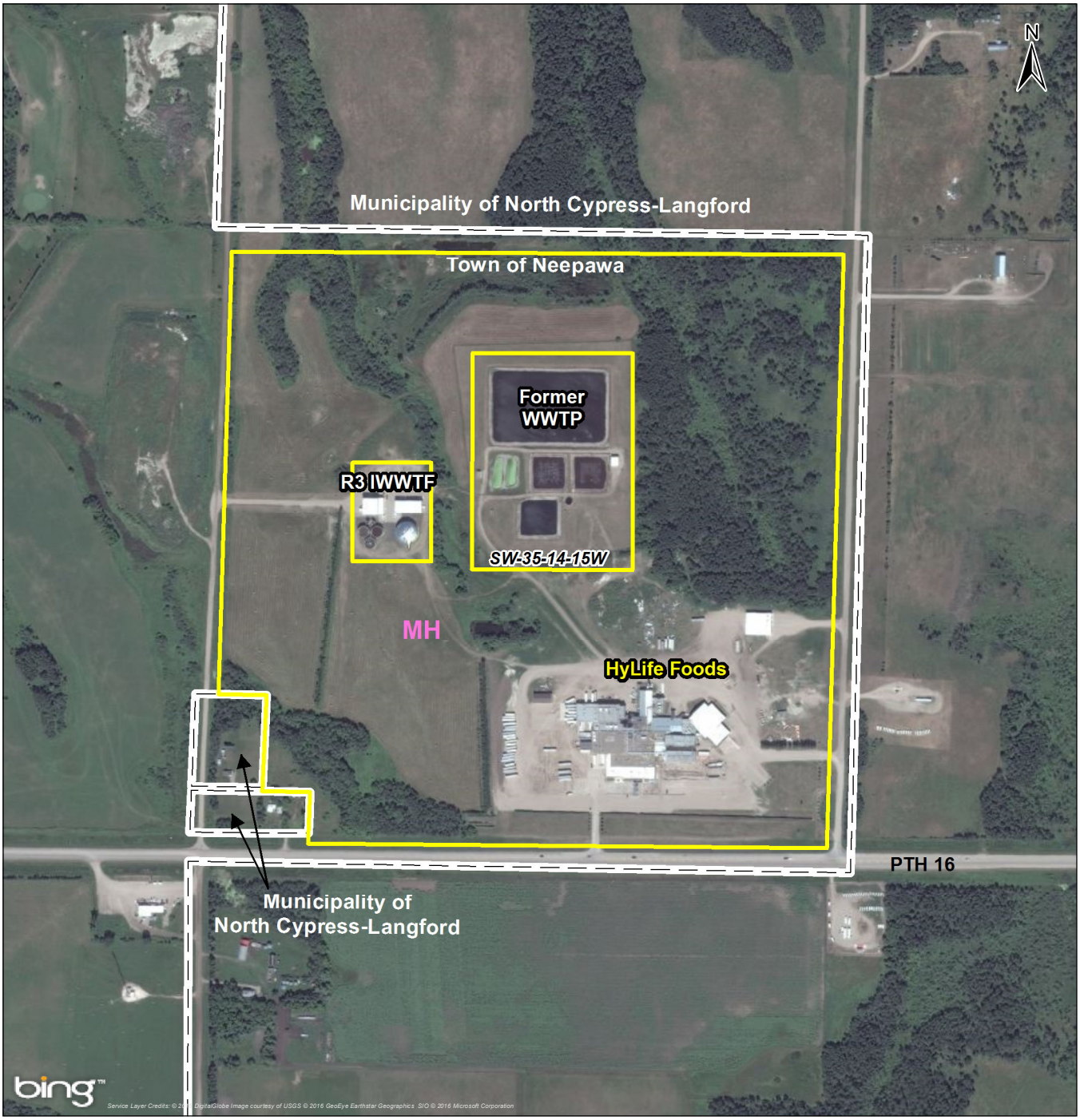
Client/Project
HYLIFE FOODS LTD.
HyLife Foods LP Processing Facility
Notice of Alteration

Figure No.
1-1

Title
Site Location Plan

Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base features provided by the Government of Manitoba and the Government of Canada

G:_GIS_Project_Folder\111440368_HyLifeFoods\ArcMaps\Site_Plan_20160425.mxd Revised: 2016-05-16 By: acampigotto



Legend

- Rural Municipality
- MH — Industrial Heavy Zone
- HyLife Foods (Approximate)

0 100 200 Metres

1:8,000 (at original document size of 8.5x11)

Stantec

Project Location
Town of Neepawa, Manitoba

111440368

Prepared by AC on 2016-05-11
Technical Review by BK on 2016-05-11

Client/Project
HYLIFE FOODS LTD.
HyLife Foods LP Processing Facility
Notice of Alteration

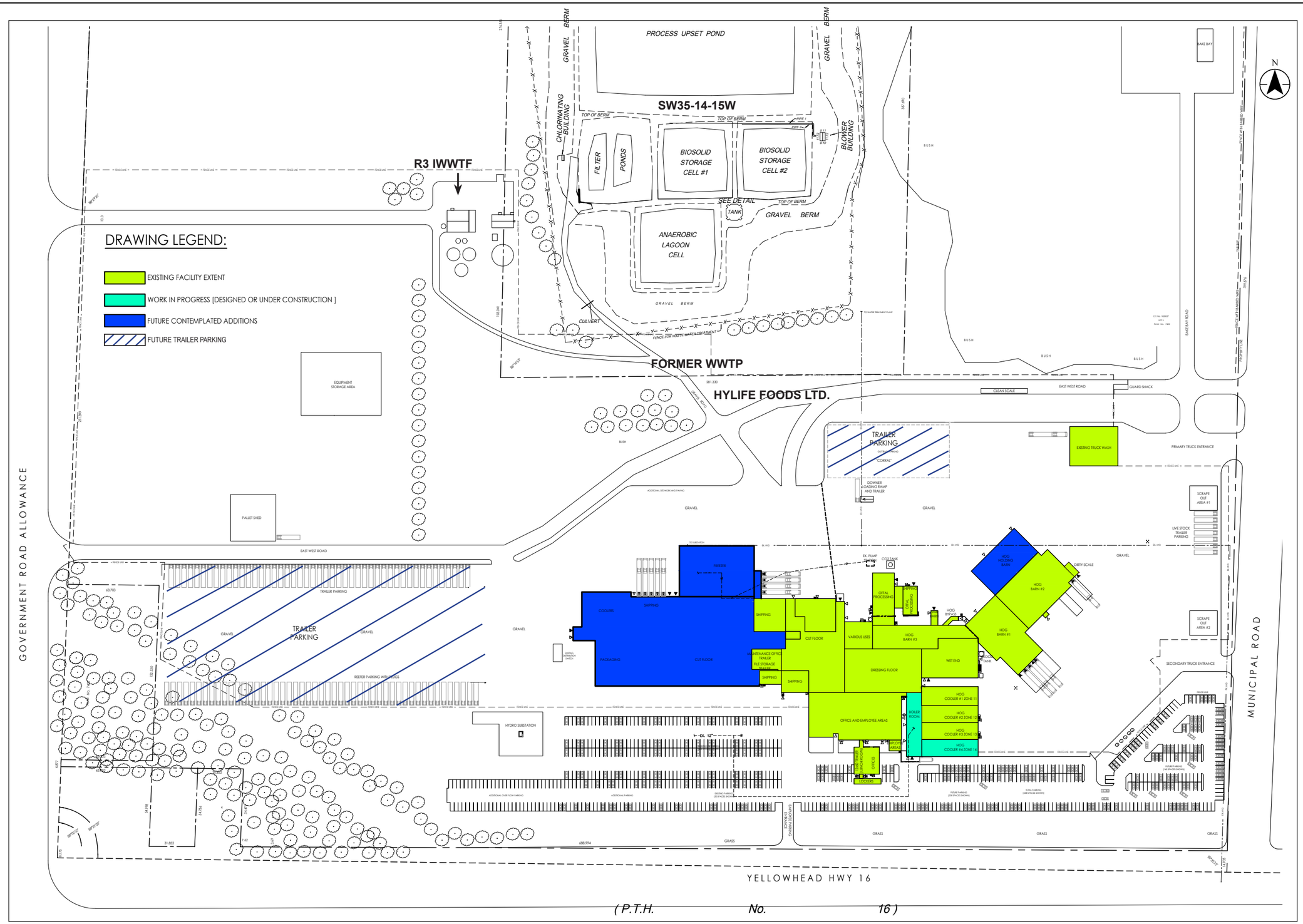
Figure No.
1-2

Title
Site Plan

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base features provided by the Government of Manitoba and the Government of Canada
3. Imagery courtesy of Microsoft (Bing).

G:_GIS_Project_Folder\111440368_HylifeFoods\InDesign\Figure3-1_Site_Layout_20160516.indd



Source: HYLIFE; AFTER IFAB ENGINEERING PARTNERS LP DRAWING C0111. NOT FOR CONSTRUCTION

Not to Scale

Project Location
Town of Neepawa, Manitoba

111440368

Prepared by AC on 2016-05-16

Technical Review by BK on 2016-05-16

Client/Project
HYLIFE FOODS LTD.
HyLife Foods LP
Processing Facility
Notice of Alteration

Figure No.
3-1a

Title
Site Layout

G:_GIS_Project_Folder\111440368_HylifeFoods\InDesign\Template for_Figure 3-1_from_CADD_20160516.mxd Revised:2016-05-16 By: acampigotto

DRAWING LEGEND:

- EXISTING FACILITY EXTENT
- WORK IN PROGRESS [DESIGNED OR UNDER CONSTRUCTION]
- FUTURE CONTEMPLATED ADDITIONS
- FUTURE TRAILER PARKING

AVE. ROAD

ADDITIONAL SITE WORK AND PAVING

TRAILER PARKING

CUT TRUCK PARKING

"CORRAL"

EX. HYD

DOWNER LOADING RAMP AND TRAILER

GRAVEL

EXISTING TRUCK WASH

PRIMARY TRUCK ENTRANCE

FENCE LINE

SCRAPE OUT AREA #1

LIVE STOCK TRAILER PARKING

TO SUBSTATION

FREEZER

COOLERS

SHIPPING

PACKAGING

CUT FLOOR

EXISTING DISTRIBUTION SWITCH

MAINTENANCE OFFICE TRAILER

FILE STORAGE TRAILER

EX. PUMP STATION

CO2 TANK

OFFAL PROCESSING

HOG HOLDING BARN

HOG BARN #2

DIRTY SCALE

HOG BYPASS

HOG BARN #1

HOG BARN #3

VARIOUS USES

CUT FLOOR

DRESSING FLOOR

WET END

BLOOD TANK

OFFICE AND EMPLOYEE AREAS

BOILER ROOM

HOG COOLER #1 ZONE 11

HOG COOLER #2 ZONE 12

HOG COOLER #3 ZONE 13

HOG COOLER #4 ZONE 14

EMPLOYEE AREAS

12x60 TRAILER (LUNCH ROOM)

OFFICES

LOCKERS

SCRAPE OUT AREA #2

SECONDARY TRUCK ENTRANCE

FUTURE PARKING (160 SPACES SHOWN)

ADDITIONAL PARKING

EXISTING PARKING (50 SPACES SHOWN)

FUTURE PARKING (238 SPACES SHOWN)

TOTAL PARKING (448 SPACES SHOWN)

EMPLOYEE PARKING ENTRANCE

688.994

GRASS

90°35'35"

147.935

MUNICIPAL ROAD

YELLOWHEAD HWY 16

(P.T.H. No. 16)

N

Stantec

Source: HYLIFE; AFTER IFAB ENGINEERING PARTNERS LP DRAWING C0111. NOT FOR CONSTRUCTION

Not to Scale

Project Location
Town of Neepawa, Manitoba

111440368

Prepared by AC on 2016-05-16

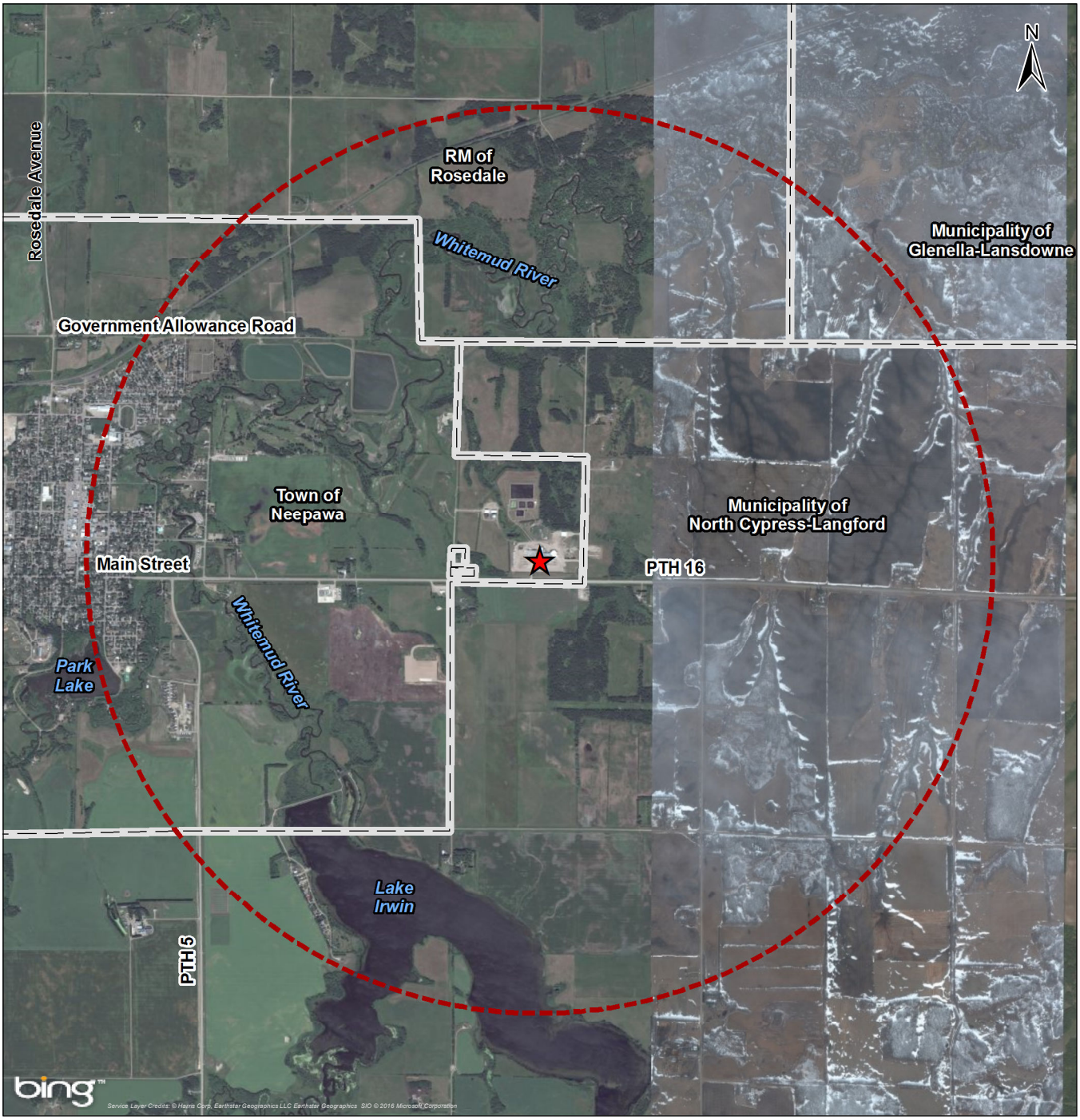
Technical Review by BK on 2016-05-16

Client/Project
HYLIFE FOODS LTD.
HyLife Foods LP
Processing Facility
Notice of Alteration

Figure No.
3-1b

Title
Plant Layout

G:_GIS_Project_Folder\111440368_HyLifeFoods\ArcMaps\Local_Assessment_Area_20160425.mxd Revised: 2016-05-16 By: acampigotto



Legend

- Site Location
- Rural Municipality
- Local Assessment Area (3 km Radius)

0 0.5 1 Kilometres

1:40,000 (at original document size of 8.5x11)

Stantec

Project Location
Town of Neepawa, Manitoba

111440368

Prepared by AC on 2016-05-11
Technical Review by BK on 2016-05-11

Client/Project
HYLIFE FOODS LTD.
HyLife Foods LP Processing Facility
Notice of Alteration

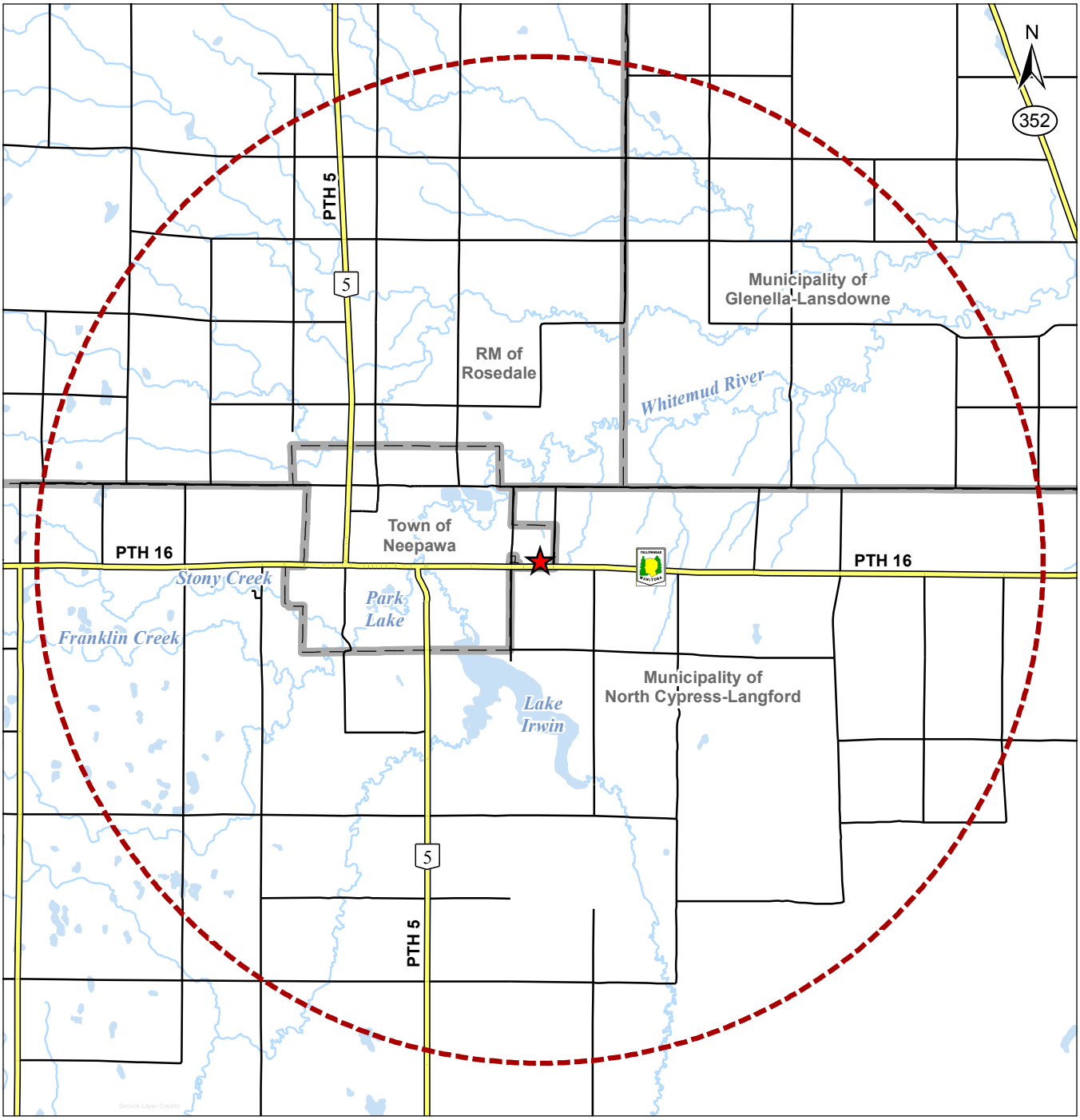
Figure No.
4-1

Title
Local Assessment Area (3 km Radius)

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base features provided by the Government of Manitoba and the Government of Canada
3. Imagery courtesy of Microsoft (Bing).

G:_GIS_Project_Folder\111440368_HyLifeFoods\ArcMaps\Regional_Assessment_Area_20160425.mxd Revised: 2016-05-16 By: acampigotto



Legend

- Site Location
- Major Road
- Minor Road
- Watercourse
- Waterbody
- Rural Municipality
- Regional Assessment Area (10 km Radius)

0 2 4 Kilometres

1:120,000 (at original document size of 8.5x11)

Stantec

Project Location
Town of Neepawa, Manitoba

111440368

Prepared by AC on 2016-05-11
Technical Review by BK on 2016-05-11

Client/Project
HYLIFE FOODS LTD.
HyLife Foods LP Processing Facility
Notice of Alteration

Figure No.
4-2

Title
Regional Assesment Area (10 km Radius)

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base features provided by the Government of Manitoba and the Government of Canada

Appendix B Recent Licence Correspondence

MANITOBA
ENVIRONMENTAL
REGISTRY

#2754.10

Manitoba

Conservation and Water Stewardship

Environmental Stewardship Division
Environmental Approvals Branch
123 Main Street, Suite 160, Winnipeg, Manitoba R3C 1A5
T 204 945-8321 F 204 945-5229
www.gov.mb.ca/conservation/eal

File: 2754.10

May 25, 2015

Mr. Sheldon Stott, P. Ag.
HyLife Foods LP
P.O. Box 10000
623 Main Street
Neepawa, MB R0J 1H0

Dear Mr. Stott:

Re: HyLife Foods LP – Environment Act Licence 1120R – Notice of Alteration

Receipt of your May 19, 2015 letter and May 22, 2015 email is acknowledged as a notice of alteration in accordance with section 14 of *The Environment Act*.

The requested change to the Development as Licensed is to construct a Biosecurity Trailer Bake Bay located on land owned by HyLife Foods in the northeast portion of SW 35-14-15 WPM in the town of Neepawa. The purpose of the bake bay is to provide additional disinfection of livestock trailers to ensure protection of the livestock at the destination facility and to improve overall biosecurity.

Specifically, the bake bay will house one trailer at a time and temperatures within the building will be raised to 160 degrees Fahrenheit for a minimum ten minute period to achieve disinfection. Any wastewater resulting from the operation of the bake bay will be stored in a septic tank and hauled to R3 Innovations Inc. for treatment.

The potential environmental effect of the requested change to the Development as Licensed is insignificant and considered to be a minor alteration in accordance with section 14(2) of *The Environment Act*. The request to construct a Biosecurity Trailer Bake Bay as described in the May 19, 2015 letter and May 22, 2015 email is hereby approved.

If you have any questions, please contact Jennifer Winsor, P.Eng. at 204-945-7012.

Yours sincerely,

Tracey Braun

Tracey Braun, M.Sc.
Director

c. Don Labossiere, Director – Environmental Compliance and Enforcement Branch, Manitoba Conservation and Water Stewardship
Tim Prawdzik, Provincial Manager - Environmental Compliance and Enforcement Branch, Manitoba Conservation and Water Stewardship
Public Registries

HyLIFE FOODS

Box 10000, 623 Main Street, Neepawa, Manitoba, Canada R0J 1H0
p: 1.204.476.3393 f: 1.204.476.3791 www.hylifefoods.com

May 19, 2015

Tracey Braun
Director, Environmental Assessment and Licensing
Manitoba Conservation
160 - 123 Main Street
Winnipeg MB R3C 1A5
Canada

Dear Ms. Braun:

RE: Notice of Request for Alteration – Environment Act License 1120R HyLife Foods LP

This Notice of Request for Alteration is submitted to Manitoba Conservation on behalf of the licensees for Environment act License 1120R. This request for a minor alteration is for the development of a Biosecurity Trailer Bake Bay to be located on the furthermost Northeast portion of SW-35-14-15 WPM in the town of Neepawa. The aforementioned parcel is owned and on the same property as the HyLife Foods pork processing plant.

1. Purpose

The HyLife Foods Bake Bay is an added biosecurity measure that is utilized for the drying of washed and disinfected trailers for approximately 1 hour achieving temperatures of 160 degrees Fahrenheit for a period of 10 minutes. Utilization of this process provides additional assurance that pathogenic organisms and viruses in particular Porcine Epidemic Diarrhea virus (PEDv) will be eliminated from the livestock transport trailers.

2. Background

Currently, HyLife Foods washes and disinfects livestock trailers that are delivering hogs to the processing facility on a daily basis. These trailers, pending their next destination, require further disinfection through baking to ensure the protection of the livestock at the destination facility and the overall biosecurity of the provincial swine herd. With the introduction of new diseases and viruses such as PEDv, this has become an essential mechanism in protecting the overall health of the Manitoba pork industry.

3. General Project Description

HyLife Foods is proposing to develop a single Bake Bay to house 1 trailer at a time. The approximate footprint of the building will be 75feet by 20 feet wide with a single overhead door at one end. The building will be situated perpendicular to the municipal road 85 5 W.

Approximately 6 trailers per day that are currently being washed and disinfected at HyLife Foods will be directed, post disinfection to the bake bay. Trailers will back into the bake bay facility where the building will be sealed and temperatures within the building will increase to achieve 160 degrees Fahrenheit for a minimum 10 minute period. It is anticipated that this will take approximately 1 hour to achieve this.

The heating unit will be a 1.3 million BTU natural gas fired make up air unit. An additional natural gas line will be required to supply the bake bay requirements.

4. Environmental Effects

Traffic – no increase in traffic throughput is anticipated for the operation of this facility. Trucks and trailers will be re-routed along municipal road 85 5 W prior to dispatching to their final destination.

Air Emissions – air emissions will be negligible from the bake bay process itself as trailers are clean upon entering the facility and are merely dried within the process. Some additional GHG's will be produced through the burning of natural gas for the make-up air units and is estimated at 0.508 tonnes CO_2e per year. Though there is a slight increase from the existing 9,266 tonnes CO_2e/year to 9,266.5 tonnes CO_2e/year, this is still well below the minimum for mandatory GHG reporting guidelines for Canada which is 50 kilotonnes of CO_2e per year.

Wastewater – the bake bay facility will not generate any significant amount of wastewater. Any residual water that may drip off of the trailers will be collected in a septic tank and disposed of as required in the municipal lagoon. The bake bay will be cleaned daily by broom and washed with water only as required, with the wash water being collected in the septic tank and disposed in the municipal lagoon as well. No chemicals are to be utilized for the cleaning process. It is anticipated that the septic tank will require emptying on a monthly basis or less, generating approximately 1000 litres of water per month. No washroom facilities will be included on site.

5. Site Plan and As Constructed Drawings

A site plan and as constructed drawings detailing the specific size and location of the bake bay facility will be provided upon project completion, with substantial completion anticipated for September 18th, 2015 that coincides with our funding requirements through Manitoba Agriculture, Food and Rural Development.

HyLife Foods

Box 10000, 623 Main Street, Neepawa, Manitoba, Canada R0J 1H0
p: 1.204.476.3393 f: 1.204.476.3791 www.hylifefoods.com

6. Summary

The effects of the proposed Bake Bay are anticipated to be negligible in magnitude and as such don't require further mitigation at this time. As supported by the information provided herein, HyLife Foods believes the residual environmental effects of the proposed Bake Bay are consistent with the classification of the request for alteration as minor.

Thank you in advance for your consideration or this request and we await your response. Any further questions or concerns, please feel free to contact the undersigned at (204) 424-2313.

Sincerely,

Sheldon Stott
Director of Environmental Affairs
HyLife Ltd.

Manitoba

Conservation and Water Stewardship

Environmental Stewardship Division
Environmental Approvals Branch
123 Main Street, Suite 160, Winnipeg, Manitoba R3C 1A5
T 204 945-8321 F 204 945-5229
www.gov.mb.ca/conservation/eal

CLIENT FILE NO.: 2754.10

December 18, 2014

Denis Vielfaure
HyLife Foods LP
P.O. Box 100
La Broquerie MB R0A 0W0

Dear Mr. Vielfaure:

Enclosed is **revised Environment Act Licence No. 1102 R** dated December 18, 2014 issued to **HyLife Foods LP** for the operation and expansion of the Development being a hog processing plant located in SW 35-14-15WPM in the Town of Neepawa with all wastewater being discharged to the R3 Innovations Inc. & Town of Neepawa industrial wastewater treatment facility (IWWTF) for treatment and in accordance with the Proposal filed under *The Environment Act* on June 12, 2013 and additional information provided on November 25, 2013.

In addition to the enclosed Licence requirements, please be informed that all other applicable federal, provincial and municipal regulations and by-laws must be complied with. A Notice of Alteration must be filed with the Director for approval prior to any alteration to the Development as licensed.

For further information on the administration and application of the Licence, please feel free to contact Peter Crocker, Environment Officer at 204-726-6565.

Pursuant to Section 27 of *The Environment Act*, this licensing decision may be appealed by any person who is affected by the issuance of this Licence to the Minister of Conservation and Water Stewardship within 30 days of the date of the Licence.

Yours truly,

"original signed by"
Tracey Braun, M.Sc.
Director
Environment Act

c: Don Labossiere, Director; Environmental Compliance and Enforcement
Tim Prawdzik, Provincial Manager, Environmental Compliance and Enforcement
Public Registries

NOTE: **Confirmation of Receipt of this Licence No. 1102 R *(by the Licencee only)* is required by the Director of Environmental Approvals. Please acknowledge receipt by signing in the space provided below and faxing a copy (letter only) to the Department by January 8, 2015.**

On behalf of HyLife Foods LP **Date**

****A COPY OF THE LICENCE MUST BE KEPT ON SITE AT THE DEVELOPMENT AT ALL TIMES****

THE ENVIRONMENT ACT
LOI SUR L'ENVIRONNEMENT

LICENCE

Manitoba

Licence No. / Licence n° 1102 R

Issue Date / Date de délivrance December 18, 2014

In accordance with *The Environment Act* (C.C.S.M. c. E125) /
Conformément à *la Loi sur l'environnement* (C.P.L.M. c. E125)

Pursuant to Section 11(1) / Conformément au Paragraphe 11(1)

THIS LICENCE IS ISSUED TO: / CETTE LICENCE EST DONNÉE À:

HYLIFE FOODS LP;
"the Licencee"

for the operation and expansion of the Development being a hog processing plant located in SW 35-14-15WPM in the Town of Neepawa with all wastewater being discharged to the R3 Innovations Inc. & Town of Neepawa industrial wastewater treatment facility (IWWTF) for treatment and in accordance with the Proposal filed under *The Environment Act* on June 12, 2013 and additional information provided on November 25, 2013 and subject to the following specifications, limits, terms and conditions:

DEFINITIONS

In this Licence,

"accredited laboratory" means an analytical facility accredited by the Standard Council of Canada (SCC), or accredited by another accrediting agency recognized by Manitoba Conservation and Water Stewardship to be equivalent to the SCC, or be able to demonstrate, upon request, that it has the quality assurance/quality control (QA/QC) procedures in place equivalent to accreditation based on the international standard ISO/IEC 17025, or otherwise approved by the Director;

"affected area" means a geographical area, excluding the property of the Development;

"approved" means approved by the Director or assigned Environment Officer in writing;

"ASTM" means the American Society for Testing and Materials;

"day" or "daily" means any 24-hour period;

"Director" means an employee so designated pursuant to *The Environment Act*;

"dissolved air floatation (DAF) system" means an aeration component in an industrial wastewater pre-treatment system;

"effluent" means wastewater flowing or pumped out of the hog processing plant;

"Environment Officer" means an employee so designated pursuant to *The Environment Act;*

"Environmental Management System (EMS)" means the part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy;

"hog processing" means the slaughtering, bleeding, scalding, de-hairing, pasteurization, splitting, eviscerating, cutting or packaging of hogs, the processing or rendering of edible materials, or any combination of these activities;

"hog processing plant" means the main hog processing plant structure;

"Industrial Services Agreement" means a signed and legally binding agreement, arrived at between R3 Innovations Inc. and the Town of Neepawa and the Licencee which outlines clear limits respecting the maximum daily and maximum weekly flow rates, as well as maximum daily and maximum weekly loading limits on such physical, chemical and biological parameters as may be requested of the Licencee by R3 Innovations Inc. and the Town of Neepawa;

"industrial wastewater" means wastewater derived from an industry which manufactures, handles or processes a product and does not include wastewater from commercial and residential buildings;

"IWWTF" means the Industrial Wastewater Treatment Facility owned by the Town of Neepawa and R3 Innovations Inc. and operating under Environment Act Licence No. 2870 R;

"mg/L" means milligrams per litre;

"MSDS" means material safety data sheets;

"noise nuisance" means an unwanted sound, in an affected area, which is annoying, troublesome, or disagreeable to a person:

a) residing in an affected area;
b) working in an affected area; or
c) present at a location in an affected area which is normally open to members of the public;

if the unwanted sound

d) is the subject of at least 5 written complaints, received by the Director in a form satisfactory to the Director and within a 90-day period, from 5

different persons falling within clauses (a), (b) or (c), who do not live in the same household; or

e) is the subject of at least one written complaint, received by the Director in a form satisfactory to the Director, from a person falling within clauses (a), (b) or (c) and the Director is of the opinion that if the unwanted sound had occurred in a more densely populated area there would have been at least 5 written complaints received within a 90-day period, from 5 different persons who do not live in the same household;

"odour nuisance" means a continuous or repeated odour, smell or aroma, in an affected area, which is offensive, obnoxious, troublesome, annoying, unpleasant or disagreeable to a person:

a) residing in an affected area;
b) working in an affected area; or
c) present at a location in an affected area which is normally open to members of the public;

if the odour, smell or aroma

d) is the subject of at least 5 written complaints, received by the Director in a form satisfactory to the Director and within a 90-day period, from 5 different persons falling within clauses (a), (b) or (c), who do not live in the same household; or
e) is the subject of at least one written complaint, received by the Director in a form satisfactory to the Director, from a person falling within clauses (a), (b) or (c) and the Director is of the opinion that if the odour, smell or aroma had occurred in a more densely populated area there would have been at least 5 written complaints received within a 90-day period, from 5 different persons who do not live in the same household;

"process wastewater" means a liquid stream, containing or comprised of process water or any chemicals used by the Development, which is designated for release into the environment;

"pollutant" means a pollutant as defined in *The Environment Act*;

"record drawings" means engineering drawings complete with all dimensions which indicate all features of the Development as it has actually been built;

"sewage" means household and commercial wastewater that contains human waste;

"Standard Methods for the Examination of Water and Wastewater" means the most recent edition of Standard Methods for the Examination of Water and Wastewater published jointly by the American Public Health Association, the American Waterworks Association and the Water Environment Federation;

"wastewater" means the spent or used water of a community or industry which contains dissolved and suspended matter;

"wastewater collection system" means the sewer and pumping system used for the collection and conveyance of domestic, commercial, industrial and process wastewater; and

"WHMIS" means Workplace Hazardous Materials Information System.

GENERAL TERMS AND CONDITIONS

This Section of the Licence contains requirements intended to provide guidance to the Licencee in implementing practices to ensure that the environment is maintained in such a manner as to sustain a high quality of life, including social and economic development, recreation and leisure for present and future Manitobans.

Future Sampling

1. In addition to any of the limits, terms and conditions specified in this Licence, the Licencee shall, upon the request of the Director:
   a) sample, monitor, analyze and/or investigate specific areas of concern regarding any segment, component or aspect of pollutant storage, containment, treatment, handling, disposal or emission systems, for such pollutants or ambient quality, aquatic toxicity, leachate characteristics and discharge or emission rates, for such duration and at such frequencies as may be specified;
   b) determine the environmental impact associated with the release of any pollutant(s) from the Development; or
   c) conduct specific investigations in response to the data gathered during environmental monitoring programs.

Reporting Format

2. The Licencee shall submit all information required to be provided to the Director or Environment Officer under this Licence, in writing, in such form (including number of copies) and of such content as may be required by the Director or Environment Officer, and each submission shall be clearly labelled with the Licence Number and Client File Number associated with this Licence.

Equipment Breakdown

3. The Licencee shall, in the case of physical or mechanical equipment breakdown or process upset where such breakdown or process upset results or may result in the release of a pollutant in an amount or concentration, or at a level or rate of release, that causes or may cause a significant adverse effect, immediately report the event by calling 204-944-4888 (toll-free 1-855-944-4888). The report shall indicate the nature of the event, the time and estimated duration of the event and the reason for the event.

4. The Licencee shall, following the reporting of an event pursuant to Clause 3,

a) identify the repairs required to the mechanical equipment;
b) undertake all repairs to minimize unauthorized discharges of a pollutant;
c) complete the repairs in accordance with any written instructions of the Director; and
d) submit a report to the Director about the causes of breakdown and measures taken, within one week of the repairs being done.

Safety and Security

5. The Licencee shall continually maintain an up-to-date inventory of any process and cleaning chemicals used and/or stored on-site that would be captured by any applicable federal/provincial WHMIS regulations and protocols, and make this information and applicable MSDS sheets available to an Environment Officer upon request.

6. The Licencee shall prepare, within 90 days of the date of issuance of this Licence, and maintain an emergency response contingency plan in accordance with the Canadian Centre for Occupational Health and Safety "Emergency Response Planning Guide" or other emergency planning guidelines acceptable to the Director.

7. The Licencee shall, at all times during the operation of the Development, implement a high standard of equipment maintenance and operational practices.

8. The Licencee shall implement and continually maintain in current status, an Environmental Management System (EMS) for the Development which is acceptable to the Director.

Environmental Coordinator

9. The Licencee shall designate an employee, within 60 days of the date of issuance of this Licence, as the Licencee's Environmental Coordinator, whose job description will include assisting the Licencee in complying with the limits, terms and conditions in this Licence and assisting Senior Management of the Licencee to manage environmental issues at the Development. The name of the Environmental Coordinator shall be submitted in writing to the Director within 14 days of appointment and any subsequent appointment.

Industrial Services Agreement

10. The Licencee shall:
    a) prepare and execute a current comprehensive and enforceable Industrial Services Agreement to be legally entered into with R3 Innovations Inc. and the Town of Neepawa, which is acceptable to the Director, for the purposes of defining maximum daily and maximum weekly influent limits respecting volume and pollutant loading rates which would protect the operational integrity of the IWWTF in terms of the design capability and/or in consideration of the actual

performance of the IWWTF relative to the effluent quality limits as specified in Environment Act Licence No. 2870 R, or any revision thereof;

b) provide the Director with a copy of the Industrial Services Agreement upon being signed by all parties; and

c) provide the Director with a copy of any future revised Industrial Services Agreement.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

Respecting Construction

11. The Licencee shall notify the designated Environment Officer not less than two weeks prior to beginning construction of the Development. The notification shall include the intended starting date of construction and the name of the contractor responsible for the construction.

12. The Licencee shall obtain all necessary federal, provincial and/or municipal licences, authorizations, permits and/or approvals for construction of relevant components of the Development prior to commencement of construction.

13. The Licencee shall locate fuel storage and equipment servicing areas established for the construction and operation of the Development a minimum distance of 100 metres from any waterbody, and shall comply with the requirements of *Manitoba Regulation 188/2001* respecting *Storage and Handling of Petroleum Products and Allied Products* or any future amendment thereof.

14. The Licencee shall, during construction of the Development, operate, maintain and store all materials and equipment in a manner that prevents any deleterious substances (fuel, oil, grease, hydraulic fluids, coolant, paint, uncured concrete and concrete wash water, etc.) from entering watercourses, and have an emergency spill kit for in-water use available on site during construction.

Respecting the Operation of the Development

15. The Licencee shall limit the rate of hog processing at the Development to no more than 37,500 hogs per week averaged over any 12 month period.

16. The Licencee shall direct all delivered, live and unloaded hogs as soon as possible into the hog receiving facility and not exceed the storage of 4,000 hogs at any time.

17. The Licencee shall remove all offal, bones, dead-on-arrival animals and solids regularly from the Development to a third party rendering facility, approved by the Director, which is licensed under *The Environment Act*.

18. The Licencee shall not direct pollutants into any surface drainage route leading off the property of the Development or into the local groundwater.

19. The Licencee shall actively participate in any future watershed based management study, plan or nutrient reduction program, approved by the Director.

Respecting Air Emissions

20. The Licencee shall not cause or permit an odour nuisance to be created as a result of the construction, operation or alteration of the Development, and shall take such steps as the Director may require to eliminate or mitigate an odour nuisance.

21. The Licencee shall not cause or permit a noise nuisance to be created as a result of the construction, operation or alteration of the Development, and shall take such steps as the Director may specify to eliminate or mitigate a noise nuisance.

Respecting Blood Collection

22. The Licencee shall minimize the loss of blood to the process wastewater sewers by maximizing the efficiency of the blood collection to the satisfaction of the Director.

23. The Licencee shall dispose of the blood collected at the Development by having the blood hauled to a facility specializing in blood collection as approved by the Director, using vehicles utilizing containment provisions satisfactory to the Director.

Respecting Solid Wastes

24. The Licencee shall not undertake any on-site burning of solid waste.

25. The Licencee shall minimize the generation of domestic solid waste and maximize, wherever possible, the collection and recycling of recyclable wastes generated through the operation of the Development.

26. The Licencee shall:
    a) collect, store and land apply all dry hog manure and bedding from the unloading docks, truck trailers and holding pens in accordance with *the Livestock Manure and Mortalities Management Regulation MR 42/98* or any future amendment thereof; and
    b) direct all of the hog manure collected inside the hog processing plant, or washed off the floor of the hog holding pens, or washed out of the transporting truck trailers, to the process wastewater sewers, unless otherwise approved by the Director.

27. The Licencee shall not deposit domestic solid waste into the environment except into a waste disposal ground operating under the authority of:
    a) a permit issued pursuant to the *Waste Disposal Grounds Regulation 150/91*, or any future amendment thereof; or
    b) a Licence issued pursuant to *The Environment Act*.

Respecting Dangerous Goods or Hazardous Waste

28. The Licencee shall not release dangerous goods or hazardous wastes into the wastewater collection system.

29. The Licencee shall comply with all the applicable requirements of:
    a) *The Manitoba Dangerous Goods Handling and Transportation Act,* and regulations issued thereunder, respecting the handling, transport, storage and disposal of any dangerous goods brought onto or generated at the Development; and
    b) *Manitoba Storage and Handling of Petroleum Products and Allied Products Regulation 188/2001*, or any future amendments thereto.

30. The Licencee shall collect, transport and store used oil or hydraulic fluids removed from on-site machinery in secure, properly labeled, non-leaking containers and shall regularly send them to a recycling or disposal facility approved to accept hazardous wastes.

31. The Licencee shall install and maintain spill recovery equipment at the Development at all times.

Respecting Process Wastewater

32. The Licencee shall operate and maintain the screening and DAF unit to pre-treat all process wastewater prior to discharging to the IWWTF.

33. The Licencee shall direct all solids from the DAF unit to an off-site rendering facility that is licensed under *The Environment Act* or under the appropriate legislation of another corresponding jurisdiction.

34. The Licencee shall not release any process wastewater or sanitary wastewater from the Development except through the wastewater collection system to the industrial wastewater treatment facility (IWWTF).

MONITORING AND REPORTING

Respecting Monitoring

35. The Licencee shall:
    a) monitor, determine and record the number of hogs processed by the end of each week;
    b) monitor, determine and record the total weekly quantity (cubic meters) of raw water used by the Development; and
    c) maintain the recorded information in a monthly report and make the report available to the Environment Officer upon request.

Record Drawings

36. The Licencee shall:
    a) prepare "record drawings" for the Development and shall label the drawings "Record Drawings"; and
    b) provide to the Director, within six months from the date of this Environment Act Licence, two electronic copies of the "record drawings".

REVIEW AND REVOCATION

A. This Licence replaces Environment Act Licence No. 1102 which is hereby rescinded.

B. If, in the opinion of the Director, the Licencee has exceeded or is exceeding or has or is failing to meet the specifications, limits, terms, or conditions set out in this Licence, the Director may, temporarily or permanently, revoke this Licence.

C. If, in the opinion of the Director, new evidence warrants a change in the specifications, limits, terms or conditions of this Licence, the Director may require the filing of a new proposal pursuant to Section 11 of *The Environment Act*.

"original signed by"

Tracey Braun, M.Sc.
Director
Environment Act

Client File No.: 2754.10

Appendix C Certificates of Title

MANITOBA

STATUS OF TITLE

STATUS OF TITLE.....	**ACCEPTED**	**PRODUCED FOR..**	THOMPSON DORFMAN SWEATMAN
ORIGINATING OFFICE...	NEEPAWA	**ADDRESS.....**	TD CENTRE
REGISTERING OFFICE...	NEEPAWA		2200-201 PORTAGE AVENUE
REGISTRATION DATE....	2011/04/21		WINNIPEG MB R3B 3L3
COMPLETION DATE.....	2011/04/27	**LTO BOX NO....**	166
		CLIENT FILE...	NA
		PRODUCED BY...	A. MOODIE

LEGAL DESCRIPTION:

HYLIFE FOODS INC.

IS REGISTERED OWNER SUBJECT TO SUCH ENTRIES RECORDED HEREON IN THE FOLLOWING DESCRIBED LAND:

SP LOT 5 PLAN 7402 NLTO
IN SW 1/4 35-14-15 WPM

ACTIVE TITLE CHARGE(S):

83-4840/5 ACCEPTED CAVEAT **REG'D:** 1983/06/29
FROM/BY: MANITOBA TELEPHONE SYSTEM
TO:
CONSIDERATION: **NOTES:** AFF: ELY 40' PERP

85-3176/5 ACCEPTED CAVEAT **REG'D:** 1985/05/27
FROM/BY: MANITOBA TELEPHONE SYSTEM
TO:
CONSIDERATION: **NOTES:** AFF: PART

86-1191/5 ACCEPTED CAVEAT **REG'D:** 1986/03/21
FROM/BY: THE TOWN OF NEEPAWA
TO:
CONSIDERATION: **NOTES:**

86-2833/5 ACCEPTED CAVEAT **REG'D:** 1986/06/24
FROM/BY: THE RM OF LANGFORD
TO:
CONSIDERATION: **NOTES:**

86-5122/5 ACCEPTED CAVEAT **REG'D:** 1986/11/14
FROM/BY: MANITOBA HYDRO-ELECTRIC BOARD
TO:
CONSIDERATION: **NOTES:**

CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA STORAGE SYSTEM ON 2013/08/08 OF TITLE NUMBER 2522732/5

********** STATUS OF TITLE 2522732/5 CONTINUED ON NEXT PAGE **********

STATUS OF TITLE.....	**ACCEPTED**	**PRODUCED FOR..**	THOMPSON DORFMAN SWEATMAN
ORIGINATING OFFICE...	NEEPAWA	**ADDRESS.....**	TD CENTRE
REGISTERING OFFICE...	NEEPAWA		2200-201 PORTAGE AVENUE
REGISTRATION DATE....	2011/04/21		WINNIPEG MB R3B 3L3
COMPLETION DATE.....	2011/04/27	**LTO BOX NO....**	166
		CLIENT FILE...	NA
		PRODUCED BY...	A. MOODIE

ACTIVE TITLE CHARGE(S):

1017447/5 ACCEPTED — CAVEAT — **REG'D:** 2001/08/23
DESCRIPTION: EASEMENT AGREEMENT
FROM/BY: MTS COMMUNICATIONS INC.
TO:
CONSIDERATION: **NOTES:** AFF: SLY 20M PERP

1063384/5 ACCEPTED — MORTGAGE — **REG'D:** 2008/02/15
DESCRIPTION: $200,000,000.00 DEBENTURE
FROM/BY: SPRINGHILL FARMS INC.
TO: ROYAL BANK OF CANADA
CONSIDERATION: **NOTES:**

1063444/5 ACCEPTED — CAVEAT — **REG'D:** 2008/02/21
DESCRIPTION: AGREEMENT FOR SHACKLE SPACE BY AGENT DAVID B. KOVNATS
FROM/BY: 5559406 MANITOBA INC.
TO:
CONSIDERATION: **NOTES:**

1087544/5 ACCEPTED — MORTGAGE — **REG'D:** 2011/07/12
FROM/BY: HYLIFE FOODS INC.
TO: FARM CREDIT CANADA
CONSIDERATION: $10,000,000.00 **NOTES:**

1087804/5 ACCEPTED — PERSONAL PROPERTY SECURITY NOTICE — **REG'D:** 2011/07/25
DESCRIPTION: FIXTURES, EXP 2016/09/15 BY AGT JOHN T. MCGOEY
FROM/BY: FARM CREDIT CANADA
TO: HYLIFE FOODS INC.
CONSIDERATION: **NOTES:**

ADDRESS(ES) FOR SERVICE:

EFFECT	NAME AND ADDRESS	POSTAL CODE
ACTIVE	HYLIFE FOODS INC. C/O PITBLADO LLP 2500 - 360 MAIN STREET WINNIPEG MB	R3C 4H6

CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA
STORAGE SYSTEM ON 2013/08/08 OF TITLE NUMBER 2522732/5

********** STATUS OF TITLE 2522732/5 CONTINUED ON NEXT PAGE **********

MANITOBA

STATUS OF TITLE

STATUS OF TITLE.....	**ACCEPTED**	**PRODUCED FOR..**	THOMPSON DORFMAN SWEATMAN
ORIGINATING OFFICE...	NEEPAWA	**ADDRESS.....**	TD CENTRE
REGISTERING OFFICE...	NEEPAWA		2200-201 PORTAGE AVENUE
REGISTRATION DATE....	2011/04/21		WINNIPEG MB R3B 3L3
COMPLETION DATE.....	2011/04/27	**LTO BOX NO....**	166
		CLIENT FILE...	NA
		PRODUCED BY...	A. MOODIE

ORIGINATING INSTRUMENT(S):

REGISTRATION NUMBER	TYPE	REG. DATE	CONSIDERATION	SWORN VALUE
1085831/5	TREQ	2011/04/21	$0.00	$0.00

PRESENTED BY: PITBLADO
FROM: HYLIFE FOODS INC.
TO:

FROM TITLE NUMBER(S):

2279928/5 ALL

LAND INDEX:

LOT	BLOCK	SURVEY PLAN
5		7402

NOTE: IN SW 35-14-15W

ACCEPTED THIS 21ST DAY OF APRIL, 2011
BY E.SIMS FOR THE DISTRICT REGISTRAR OF
THE LAND TITLES DISTRICT OF NEEPAWA.

CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA STORAGE SYSTEM ON 2013/08/08 OF TITLE NUMBER 2522732/5.

********** END OF STATUS OF TITLE 2522732/5 **********

DATE: 2013/08/08
TIME: 08:58

MANITOBA

STATUS OF TITLE

TITLE NO: 2522733/5

STATUS OF TITLE.....	**ACCEPTED**	**PRODUCED FOR..**	THOMPSON DORFMAN SWEATMAN
ORIGINATING OFFICE...	NEEPAWA	**ADDRESS.....**	TD CENTRE
REGISTERING OFFICE...	NEEPAWA		2200-201 PORTAGE AVENUE
REGISTRATION DATE....	2011/04/21		WINNIPEG MB R3B 3L3
COMPLETION DATE.....	2011/04/27	**LTO BOX NO....**	166
		CLIENT FILE...	NA
		PRODUCED BY...	A. MOODIE

LEGAL DESCRIPTION:

HYLIFE FOODS INC.

IS REGISTERED OWNER SUBJECT TO SUCH ENTRIES RECORDED HEREON IN THE FOLLOWING DESCRIBED LAND:

THE SW 1/4 OF SECTION 35-14-15 WPM
EXC FIRSTLY: SP PLAN 7402 NLTO
SECONDLY: PLANS 23208 AND 48468 NLTO
AND THIRDLY: ROAD PLAN 4611 NLTO

ACTIVE TITLE CHARGE(S):

30550/5 ACCEPTED CAVEAT **REG'D:** 1952/08/01
FROM/BY: CROWN TRUST COMPANY
TO:
CONSIDERATION: **NOTES:**

83-4838/5 ACCEPTED CAVEAT **REG'D:** 1983/06/29
FROM/BY: MANITOBA TELEPHONE SYSTEM
TO:
CONSIDERATION: **NOTES:** AFF: PART

85-3172/5 ACCEPTED CAVEAT **REG'D:** 1985/05/27
FROM/BY: MANITOBA TELEPHONE SYSTEM
TO:
CONSIDERATION: **NOTES:** AFF: PART

86-1191/5 ACCEPTED CAVEAT **REG'D:** 1986/03/21
FROM/BY: THE TOWN OF NEEPAWA
TO:
CONSIDERATION: **NOTES:**

86-2833/5 ACCEPTED CAVEAT **REG'D:** 1986/06/24
FROM/BY: THE RM OF LANGFORD
TO:
CONSIDERATION: **NOTES:**

CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA STORAGE SYSTEM ON 2013/08/08 OF TITLE NUMBER 2522733/5

********** STATUS OF TITLE 2522733/5 CONTINUED ON NEXT PAGE **********

MANITOBA

STATUS OF TITLE

STATUS OF TITLE.....	**ACCEPTED**	**PRODUCED FOR..**	THOMPSON DORFMAN SWEATMAN
ORIGINATING OFFICE...	NEEPAWA	**ADDRESS.....**	TD CENTRE
REGISTERING OFFICE...	NEEPAWA		2200-201 PORTAGE AVENUE
REGISTRATION DATE....	2011/04/21		WINNIPEG MB R3B 3L3
COMPLETION DATE.....	2011/04/27	**LTO BOX NO....**	166
		CLIENT FILE...	NA
		PRODUCED BY...	A. MOODIE

ACTIVE TITLE CHARGE(S):

86-5122/5 ACCEPTED CAVEAT **REG'D:** 1986/11/14
FROM/BY: MANITOBA HYDRO-ELECTRIC BOARD
TO:
CONSIDERATION: **NOTES:**

1017447/5 ACCEPTED CAVEAT **REG'D:** 2001/08/23
DESCRIPTION: EASEMENT AGREEMENT
FROM/BY: MTS COMMUNICATIONS INC.
TO:
CONSIDERATION: **NOTES:** AFF: PART

1063384/5 ACCEPTED MORTGAGE **REG'D:** 2008/02/15
DESCRIPTION: $200,000,000.00 DEBENTURE
FROM/BY: SPRINGHILL FARMS INC.
TO: ROYAL BANK OF CANADA
CONSIDERATION: **NOTES:**

1063444/5 ACCEPTED CAVEAT **REG'D:** 2008/02/21
DESCRIPTION: AGREEMENT FOR SHACKLE SPACE BY AGENT DAVID B. KOVNATS
FROM/BY: 5559406 MANITOBA INC.
TO:
CONSIDERATION: **NOTES:**

1087544/5 ACCEPTED MORTGAGE **REG'D:** 2011/07/12
FROM/BY: HYLIFE FOODS INC.
TO: FARM CREDIT CANADA
CONSIDERATION: $10,000,000.00 **NOTES:**

1087804/5 ACCEPTED PERSONAL PROPERTY SECURITY NOTICE **REG'D:** 2011/07/25
DESCRIPTION: FIXTURES, EXP 2016/09/15 BY AGT JOHN T. MCGOEY
FROM/BY: FARM CREDIT CANADA
TO: HYLIFE FOODS INC.
CONSIDERATION: **NOTES:**

CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA
STORAGE SYSTEM ON 2013/08/08 OF TITLE NUMBER 2522733/5

********** STATUS OF TITLE 2522733/5 CONTINUED ON NEXT PAGE **********

MANITOBA

STATUS OF TITLE

STATUS OF TITLE.....	**ACCEPTED**	**PRODUCED FOR..**	THOMPSON DORFMAN SWEATMAN
ORIGINATING OFFICE...	NEEPAWA	**ADDRESS.....**	TD CENTRE
REGISTERING OFFICE...	NEEPAWA		2200-201 PORTAGE AVENUE
REGISTRATION DATE....	2011/04/21		WINNIPEG MB R3B 3L3
COMPLETION DATE.....	2011/04/27	**LTO BOX NO....**	166
		CLIENT FILE...	NA
		PRODUCED BY...	A. MOODIE

ADDRESS(ES) FOR SERVICE:

EFFECT	NAME AND ADDRESS	POSTAL CODE
ACTIVE	HYLIFE FOODS INC. C/O PITBLADO LLP 2500 - 360 MAIN STREET WINNIPEG MB	R3C 4H6

ORIGINATING INSTRUMENT(S):

REGISTRATION NUMBER	TYPE	REG. DATE	CONSIDERATION	SWORN VALUE
1085831/5	TREQ	2011/04/21	$0.00	$0.00

PRESENTED BY: PITBLADO
FROM: HYLIFE FOODS INC.
TO:

FROM TITLE NUMBER(S):

2357478/5 ALL

LAND INDEX:

LOT	QUARTER SECTION	SECTION	TOWNSHIP	RANGE
	SW	35	14	15W

NOTE: EX SP 7402 EX PL'S 23208 & 48468 EX RD PL 4611

**ACCEPTED THIS 21ST DAY OF APRIL, 2011
BY E.SIMS FOR THE DISTRICT REGISTRAR OF
THE LAND TITLES DISTRICT OF NEEPAWA.**

CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA
STORAGE SYSTEM ON 2013/08/08 OF TITLE NUMBER 2522733/5.

********** END OF STATUS OF TITLE 2522733/5 **********

DATE: 2013/08/08
TIME: 08:57

MANITOBA

STATUS OF TITLE

TITLE NO: 2421294/5

STATUS OF TITLE.....	**ACCEPTED**	**PRODUCED FOR..**	THOMPSON DORFMAN SWEATMAN
ORIGINATING OFFICE...	NEEPAWA	**ADDRESS.....**	TD CENTRE
REGISTERING OFFICE...	NEEPAWA		2200-201 PORTAGE AVENUE
REGISTRATION DATE....	2009/12/17		WINNIPEG MB R3B 3L3
COMPLETION DATE.....	2009/12/18	**LTO BOX NO....**	166
		CLIENT FILE...	NA
		PRODUCED BY...	A. MOODIE

LEGAL DESCRIPTION:

R3 INNOVATIONS INC.

IS REGISTERED OWNER SUBJECT TO SUCH ENTRIES RECORDED HEREON IN THE FOLLOWING DESCRIBED LAND:

PARCEL "B" PLAN 48468 NLTO
IN SW 1/4 35-14-15 WPM

ACTIVE TITLE CHARGE(S):

30550/5 ACCEPTED CAVEAT **REG'D:** 1952/08/01
FROM/BY: CROWN TRUST COMPANY
TO:
CONSIDERATION: **NOTES:**

86-1191/5 ACCEPTED CAVEAT **REG'D:** 1986/03/21
FROM/BY: THE TOWN OF NEEPAWA
TO:
CONSIDERATION: **NOTES:**

86-2833/5 ACCEPTED CAVEAT **REG'D:** 1986/06/24
FROM/BY: THE RM OF LANGFORD
TO:
CONSIDERATION: **NOTES:**

86-5122/5 ACCEPTED CAVEAT **REG'D:** 1986/11/14
FROM/BY: MANITOBA HYDRO-ELECTRIC BOARD
TO:
CONSIDERATION: **NOTES:**

ADDRESS(ES) FOR SERVICE:

EFFECT	NAME AND ADDRESS	POSTAL CODE
ACTIVE	R3 INNOVATIONS INC. BOX 100000, 623 MAIN ST. EAST NEEPAWA MB	ROJ 1HO

CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA STORAGE SYSTEM ON 2013/08/08 OF TITLE NUMBER 2421294/5

********** STATUS OF TITLE 2421294/5 CONTINUED ON NEXT PAGE **********

MANITOBA

STATUS OF TITLE

STATUS OF TITLE.....	**ACCEPTED**	**PRODUCED FOR..**	THOMPSON DORFMAN SWEATMAN
ORIGINATING OFFICE...	NEEPAWA	**ADDRESS.....**	TD CENTRE
REGISTERING OFFICE...	NEEPAWA		2200-201 PORTAGE AVENUE
REGISTRATION DATE....	2009/12/17		WINNIPEG MB R3B 3L3
COMPLETION DATE.....	2009/12/18	**LTO BOX NO....**	166
		CLIENT FILE...	NA
		PRODUCED BY...	A. MOODIE

ORIGINATING INSTRUMENT(S):

REGISTRATION NUMBER	TYPE	REG. DATE	CONSIDERATION	SWORN VALUE
1076409/5	T	2009/12/17	$1.00	$2,310.00

PRESENTED BY: THOMPSON DORFMAN SWEATMAN
FROM: SPRINGHILL FARMS INC.
TO: R3 INNOVATIONS INC.

FROM TITLE NUMBER(S):

2357477/5 ALL

LAND INDEX:

LOT	BLOCK	SURVEY PLAN
B		48468

NOTE: IN SW 35-14-15W

**ACCEPTED THIS 17TH DAY OF DECEMBER, 2009
BY E.SIMS FOR THE DISTRICT REGISTRAR OF
THE LAND TITLES DISTRICT OF NEEPAWA.**

CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA STORAGE SYSTEM ON 2013/08/08 OF TITLE NUMBER 2421294/5.

********** END OF STATUS OF TITLE 2421294/5 **********

Appendix D Species of Concern

Table D-1 Federal and Provincial Listed Species in the Project Region

Species	Federal SARA/COSEWIC Species Status	MCWS Species at Risk Status	MBCDC Conservation Status Ranks
Vascular Plant			
Hackberry (*Celtis occidentialis*)	n/a	Threatened	S1
Vertebrate Animal			
American badger (*Taxidea taxus*)	Species of Special Concern	n/a	n/a
Sprague's Pipit (*Anthus spragueii*)	Threatened	Threatened	S2B
Short-eared Owl (*Asio flammeus*)	Species of Special Concern	Threatened	S2S3B
Chimney Swift (*Chaetura pelagica*)	Threatened	Threatened	S2B
Common Nighthawk (*Chordelles minor*)	Threatened	Threatened	S3B
Olive-sided Flycatcher (*Contopus cooperi*)	Threatened	Threatened	S3S4B
Red-headed Woodpecker (*Melanerpes erythrocephalus*)	Threatened	Threatened	S2B
Golden-winged Warbler (*Vermivora chrysoptera*)	Threatened	Threatened	S3B
Common Snapping Turtle (*Chelydra serpentine serpentina*)	Species of Special Concern	n/a	S3
Northern Leopard Frog (*Lithobates pipiens*)	Species of Special Concern	n/a	S4
Chestnut Lampfrey (*Ichthyomyzon castaneus*)	Species of Special Concern	n/a	S3S4

Source: MCWS 2013; MCWS 2015a; SARA Schedule 1, 2016

Notes: MBCDC conservation status ranks as follows:

S1 – very rare throughout its range or in the province (5 or fewer occurrences)

S2, S2B – rare throughout its range or in the province (6 to 20 occurrences, breeding status

S3, S3B – uncommon throughout its range or in the province (21 to 100 occurrences), breeding status

S4, S4B – widespread, abundant or apparently secure (>100 occurrences), breeding status

n/a – not listed

Appendix E Greenhouse Gas Emissions

E.1 FACILITY LEVEL GREENHOUSE GAS EMISSIONS

To determine the potential change in greenhouse gas emissions related to the proposed Project, a facility level estimate of direct greenhouse gas emissions was completed for the existing HyLife Foods facility and the proposed alterations at the site. Estimates were derived from HyLife Foods data provided in previous estimates for industrial processes and fuel consumption for on-site vehicle usage and natural gas usage for existing commercial process heat and proposed building heat (AECOM 2013; Stott 2016). Direct greenhouse gas emission sources are based on the following source categories:

- Enteric fermentation of live hogs at the facility and CO_2 used in stunning and dry ice production (Industrial Process)
- Combustion of diesel fuel used on-site in the yard trucks and diesel shunts generates carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), nitrogen oxides (NO_X), and carbon monoxide (CO) – all greenhouse gases (Mobile Combustion)
- Natural gas combusted for building and process heat on-site (Stationary Fuel Combustion)

The most recent Environment Canada National Inventory Report 1990-2013 was utilized, which included the application of updated IPCC emission factors (Table E-1). Even though the HyLife Foods plant utilizes refrigerant and cooling units, emissions of hydrofluorocarbons (HFCs) from refrigeration and air conditioning are not considered part of an industrial process. As such, these emissions are not included in an inventory and reported (Environment Canada 2014).

E.2 CHANGE IN GREENHOUSE GAS EMISSIONS

The processes at the pork processing plant that generate greenhouse gases (i.e., enteric fermentation, CO_2, diesel fuel) are expected to remain the same as per the existing and proposed conditions at the HyLife Foods facility estimated in the 2013 NOA (AECOM 2013). GHG emissions generated as a result are summarized in Table E-1. The use of natural gas to heat the buildings and process heat on-site produces CO_2, CH_4, N_2O, NO_X, CO emissions, volatile organic compounds (VOCs), trace sulphur dioxide (SO_2) and particulate matter (PM). Natural gas usage at the plant was estimated to be 4,500,000 m^3 per year over a 12 month period in the 2013 NOA (AECOM 2013). It is estimated that the proposed alterations at the plant will result in an increase in natural gas usage to 4,590,000 m^3 (approximately 2%) over a 12 month period (Stott 2016). GHG emissions associated with the plant's use of marketable natural gas in Manitoba is presented in Table E-1 (Environment Canada 2014). Natural gas consumption with the proposed alterations are expected to change compared to the existing condition, but only slightly.

Table E-1 Greenhouse Gas Emissions Summary

HyLife Foods Plant Proposed Conditions					
GHG Source	**Consumption[1]**	**Emission Factors**	**Units**	**Emissions**	**Reference**
GHG Emissions = Fuel Consumption x Emission Factor					
Industrial Process - Live hog population - CO_2 use (stunning and dry ice)	 4,000 hogs (max.) 946,800 kg	kg/head/year CH_4 – 1.5	 kg/year kg/year	 CH_4 – 6,000 CO_2 – 946,800	
Mobile Combustion (On-site Transportation) - Heavy duty diesel truck	9,100* L/year	g/L fuel CO_2 – 2,690 CH_4 – 0.14 N_2O – 0.082	g/year	CO_2 – 24,479,000 CH_4 – 1,274 N_2O – 746.2	Environment Canada NRI Report 1990-2013 Table A6-11 Emission Factors for Energy Mobile Combustion Sources, Heavy Duty Diesel Truck, Moderate Control emission factor
Stationary Fuel Combustion - Natural gas	4,590,000 m^3/year	g/m^3 CO_2 – 1,886 CH_4 – 0.037 N_2O – 0.033	g/year	CO_2 – 8,656,740,000 CH_4 – 166,500 N_2O – 148,500	Environment Canada NRI Report 1990-2013 Table A6-1 CO_2 Emission Factors for Natural Gas, Manitoba Marketable emission factor Environment Canada NRI Report 1990-2013 Table A6-2 CH_4 and N_2O Emission Factors for Natural Gas, Industrial emission factor
Total Usage	946,800 kg 9,100 L/year 4,590,000 m^3/year	**Total Emissions**	g/year	CO_2 – 8,682,165,800 CH_4 – 173,774 N_2O – 149,246.2	HyLife Foods Ltd. 2016; Stott 2016; Natural Resources Canada 2011
GHG Emissions		Total CO_2 Total CH_4 Total N_2O	kg/day	CO_2 – 23,786.75 CH_4 – 0.48 N_2O – 0.41	IPCC 2006
Global Warming Potentials[2]		GWP	100-year	CO_2 – 1 CH_4 – 25 N_2O – 298	IPCC values (updated 2012)
Total CO_2 Equivalent		Total CO_2 e	kg/day tonnes/year kt/year	CO_2 e 23,920.93 CO_2 e 8,731.14 CO_2 e 8.73	IPCC 2006

Source: Environment Canada 2014; IPCC Fourth Assessment Report 2012; IPCC Guidelines for National Greenhouse Gas Inventories 2006; Stott 2016
Notes: [1] Usage numbers provided by HyLife Foods Ltd.; [2] the 100-year GWP for methane (CH_4) is 25 – an emission of 100 kilotonnes (kt) of methane is equivalent to 2,500 kt CO_2 equivalent (25 x 100 kt)