

May 9, 2016

DELIVERED

Director
Environmental Approvals Branch
Manitoba Conservation and Water Stewardship
Suite 160, 123 Main Street
Winnipeg, Manitoba R3C 1A5

Dear Sir/Madam:

**Re: Application for Hazardous Waste Receiver Licence
Prairieview Terminals Ltd.
6 Sabrina Way, Rural Municipality of Headingley, Manitoba**

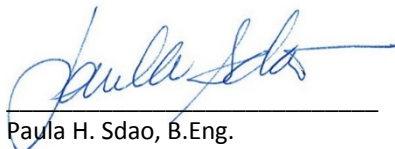
True Grit Consulting Limited (TGCL), on behalf of the Proponent, Prairieview Terminals Ltd., submits this application for a licence to operate a hazardous waste receiver site at 6 Sabrina Way in the Rural Municipality of Headingley, Manitoba. Enclosed, please find the following in support of the application:

- Dangerous Goods Handling and Transportation Act Application Form;
- Development Environmental Assessment Report; and
- Cheque for \$250 made payable to the Minister of Finance to cover the application fee.

If you have any questions or require more information, please contact the undersigned.

Sincerely,

TRUE GRIT CONSULTING LTD.



Paula H. Sdao, B.Eng.
Principal/Manager
psdao@tgcl.ca

PS:jh

Enclosures: Dangerous Goods Handling and Transportation Act Application Form
Development Environmental Assessment Report
Application Fee

Copy: Prairieview Terminals Ltd.

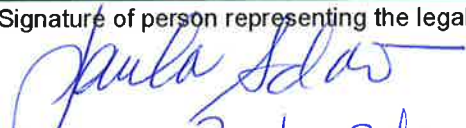


Dangerous Goods Handling and Transportation Act Application Form



Dangerous Goods Handling and Transportation Act Application Form



Name of facility: Headingley	
Legal name of the applicant of the facility: Prairieview Terminals Ltd.	
Location (street address, city, town, municipality, legal description): 6 Sabrina Way, Rural Municipality of Headingley, Manitoba Lot 16. Plan 44745 WLTO in OTM Lots 83 and 84	
Name of proponent contact person for purposes of the environmental assessment: Casey Ladouceur / Paula Sdao	
Phone: 807-626-5640 Fax: 807-623-5690	Mailing address: 1263 Innovation Drive Thunder Bay, Ontario P7B0A2
Email address: cladouceur@tgcl.ca / psdao@tgcl.ca	
Webpage address: www.tgcl.ca	
Date: 9 May 2016	Signature of person representing the legal applicant  Printed name: Paula Sdao

A complete Dangerous Goods Handling and Transportation Act application consists of the following components:

- **Cover letter**
- **Dangerous Goods Handling and Transportation Act Application Form**
- **Reports/plans supporting the application***
- **Application fee** (Cheque, payable to Minister of Finance, for the appropriate fee)

Per Dangerous Goods Handling and Transportation Fees Regulation (Manitoba Regulation 164/2001):	
Hazardous Waste Storage, Handling and/or Treatment	\$250

Submit the complete application to:

Director
Environmental Approvals Branch
Manitoba Conservation and Water Stewardship
Suite 160, 123 Main Street
Winnipeg, Manitoba R3C 1A5

For more information:

Phone: (204) 945-8321
Fax: (204) 945-5229

<http://www.gov.mb.ca/conservation/eal>

*The required information, as well as the quantity and types of copies required, are as described in Information Bulletin - Environment Act Proposal Report Guidelines. The applicant should also take facility impacts on environmental and human health into consideration.

Development Environmental Assessment Report

**Prairieview Terminals Ltd.
Bulk Storage Facility and Recycling Depot
Development Environmental Assessment Report
6 Sabrina Way, Municipality of Headingley, Manitoba**



Prepared by:
True Grit Consulting Ltd.
1263 Innovation Drive
Thunder Bay, ON P7B 0A2
T: 807.626.5640
F: 807.623.5690
Project Number: 16-744-01E
Contact: Jennifer Main, P.Eng.

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May 9, 2016

Executive Summary

True Grit Consulting Ltd. (TGCL) was retained by Prairieview Terminals Ltd. (PVT) to prepare a Development Environmental Assessment (EA) report for a proposed bulk waste storage and recycling facility, to be located at 6 Sabrina Way in the Rural Municipality (RM) of Headingley, Manitoba (Figure 1). The purpose of this EA report is to provide the Manitoba Conservation and Water Stewardship (MCWS) with the necessary information to support a Dangerous Goods Handling and Transportation (DGHT) Act application in support of the proposed development.

Project Description and Existing Land Use

The site is currently undeveloped, vacant land. An existing driveway on the west side of the property provides access to the site from Hall Road. An additional driveway will be constructed near the northeast corner of the property to provide secondary access via Sabrina Way.

The subject property is zoned Industrial General (IG). Surrounding properties are zoned Industrial General (IG) to the north, east and south; and Rural (R) to the west. The nearest residential property is a farmhouse, located approximately 1.4 km north of the proposed development (Figure 1).

The subject property will be equipped to handle the transfer, processing and short-term storage of bulk liquid and solid wastes. The waste transfer site (WTS) will be designed to accept hazardous materials, including, but not limited to waste oils, glycol, used oil filters, oily water and sludge. The facility will consist of a combination office/shop complex, cold drum storage building, sludge processing facility, weigh scale and tank farm. The majority of the facility is scheduled for construction in July 2016 with the exception of the office/shop complex, which will be constructed in 2017. A temporary office trailer will provide office space until the permanent office/shop complex is constructed. Activities conducted in the office/shop complex include used oil filter storage, used oil filter crushing, oily water processing and waste processing.

A slab-on-grade office/shop complex will be constructed near the northwest corner of the property. Used oil filter storage (in 205 L drums), oil filter crushing and oily water processing will be conducted in separate areas within the shop. Each functional area will be surrounded by a 0.15 m high concrete containment curb with concrete ramps providing access into each functional space. The oily water process will consist of 2 x 28,000 L raw wastewater tanks for phase separation to remove oil and sludge, one granular activated carbon (GAC) treatment filter, one 1,000 L recovered oil product tank and 1 x 29,484 L polished wastewater tank. The drum storage area will be used for bulking, sampling and thawing of drums and totes based on seasonal temperatures.

A sludge containment facility will be located near the southeast corner of the property. The sludge facility will consist of two sealed, metal mixing bins within an engineered containment system for phase-separation of sludge received from third-party generators such as car washes and automotive repair garages. Sludge waste streams will be transferred by vacuum trucks into the mixing bins. Following phase-separation of solids from liquids, sampling and analysis of the liquid phase will take place to appropriately characterize the liquid. The separated liquid will then either be transported off-site for disposal as either hazardous or non-hazardous liquid waste (as appropriate), or transferred to the oily water processing system in the shop building for treatment. A toxicity characteristic leaching procedure (TCLP) test will be completed on the remaining solids phase (sludge) to appropriately characterize the sludge as either hazardous or non-hazardous for disposal purposes. Following waste characterization, inert solids (e.g. sawdust, sand, silt, etc.) will be added to the sludge and a slump test will be completed to ensure the waste can be considered solid. Waste solid material will be transported off-site to a licensed waste disposal facility for ultimate disposal.

A tank farm with a capacity of 2.16 million litres (18 tanks x 120,000 L) will be centrally located on the site within an engineered clay or lined berm. The tanks will be used for bulking and/or blending of liquid fuels including, but not limited to, fuels, used oils, solvents, chemicals, new oils and glycol. The tank farm secondary containment will be designed to meet applicable Canadian Council of Ministers of the Environment (CCME) criteria for above-ground storage tank containment.

A slab-on-grade cold drum storage building will be located on the north/west side of the site and will be constructed to house up to 500 x 205 L drums of liquid waste. The building will not be heated but will be supplied with electricity.

Potential Effects and Mitigation

The subject property is located in a primarily emerging industrial area and the property has already been cleared and used for storage of fill. As a result, no adverse effects to flora or fauna are anticipated as a result of this development.

There are no waterbodies, municipal, provincial or federal parks, First Nation lands, schools or heritage sites located on or adjacent to the site. The nearest residential area is located approximately 1.4 km north of the project site.

Air emissions will be generated from the proposed facility and may include vehicle emissions from diesel trucks transporting waste to and from the site, comfort heating equipment and passive ventilation from the tanks in the tank farm. The quantity of contaminants released to the atmosphere from the proposed development is considered minor. Mitigation measures that will be employed to reduce the potential effects on the atmospheric environment include ensuring transport vehicles are maintained and in proper working condition and minimizing or eliminating vehicle idling. Air emissions generated from comfort heating equipment will be negligible. Passive air emissions from tank venting are also considered minor and the nature of such emissions will depend on temperature and the volatility of the tank contents.

The impact on the climate or greenhouse gas emissions from this proposed development are considered negligible based on the size and scale of the operation as well the limited sources of combustion emissions from the site (vehicle exhaust and comfort heating equipment).

Noise generated from the operation of the facility will be limited to noise from diesel trucks transporting waste to and from the site as well as heavy equipment engaged in the operation of the sludge containment facility and/or movement of pallets or drums on site. Given that neighbouring properties are developed as industrial properties and that the nearest residential property is located approximately 1.4 km north of the proposed development, the potential for noise to adversely affect neighbouring properties is considered minor.

There is a potential for spills to occur as a result of the storage, handling, processing and transfer of hazardous materials on site. The design and operation of the facility will minimize the potential for spills and/or provide containment in the unlikely event that a spill occurs. Examples of mitigation measures that will be incorporated into the facility design and operations plan include, but are not limited to, ensuring proper maintenance of equipment, providing proper storage of hazardous materials, segregating incompatible wastes, adhering to all emergency, and fire safety plans, ensuring appropriate staff training, ensuring trained staff supervise all loading and unloading operations, and maintaining secondary containment systems in areas where product is transferred, loaded or off-loaded.

Follow-up/Monitoring

Site facilities (sludge containment system, tank farm, cold drum storage building and oil/water processing area) will be inspected once per day and the results of the inspection documented as part of the daily log. The completed inspection forms will be retained on site for a minimum of five (5) years and shall be made available upon request.

Site facilities and equipment will be maintained in good working order. Deficiencies identified through completion of the daily inspection will be repaired and/or addressed forthwith.

All waste that is to be processed in the sludge bin or the oil/water separated shall be logged into the waste tracking system on the product manifest sheets. PVT will maintain a database of all manifest data using a Waste Inventory Tracking Sheet to track the waste entering and leaving the site as well as waste being processed on site. The Waste Inventory Tracking Sheet will be used to keep track of all waste types being processed on site at any point in time.

Prior to off-site disposal, volumes of solid waste (i.e. sludge) will be recorded by dipping the sludge bins. Dump truck tickets in conjunction with PVT's records will be used to monitor the quantity of solid waste leaving the site. All processed waste leaving the site will be tracked with a unique Waybill Number in order to accurately document the fate of all wastes entering and leaving the site.

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Appendix A: Land Title Record

Appendix B: Conditional Land Use

Appendix C: Equipment Specifications

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1.0 Introduction & Background

True Grit Consulting Ltd. (TGCL) was retained by Prairieview Terminals Ltd. (PVT) to prepare a Development Environmental Assessment (EA) Report for the property located at 6 Sabrina Way in the Rural Municipality (RM) of Headingley, Manitoba (Figure 1). The purpose of this EA Report is to provide the Manitoba Conservation and Water Stewardship (MCWS) with the necessary information to support a Dangerous Goods Handling and Transportation (DGHT) Act application in support of the proposed development of a bulk liquid waste storage and recycling facility.

1.1 Background Information

The location of the proposed bulk liquid waste storage and recycling facility is 6 Sabrina Way in the RM of Headingley, Manitoba. The proposed facility will be operated by PVT.

PVT is proposing to develop the site for short-term storage, processing and transfer of bulk liquid wastes (i.e. used oil, car wash grit, etc.). The site will be secured with a barbed wire fence and locking gate, and a 24-hour surveillance system. The facility will be designed to accommodate the following:

- an office/shop complex, which will include an office area, wastewater processing area, drum storage/processing area and a used oil filter crusher;
- a cold storage area for flammable drum storage;
- weigh scale;
- a sludge containment facility; and
- a tank farm with up to eighteen (18) API 650 120,000 L aboveground storage tanks (ASTs) for bulk liquid storage placed inside an engineered and lined containment berm.

PVT may allow for occasional drop-off of applicable wastes by the public at designated times. The subject property will be used for short-term storage, recycling operations and waste transfer operations. No waste will be discharged or disposed on site.

1.2 Previous Studies

TGCL is aware of the following previous studies completed for the subject property or nearby properties:

- *Geotechnical Investigation, Proposed Bulk Liquid Waste Storage and Recycling Facility, 6 Sabrina Way, Rural Municipality of Headingley, Manitoba*, prepared by True Grit Consulting Limited, Reference No. 16-744-01E, dated April 15, 2016.
- *Hall Road/Wilkes Avenue Subdivision Design Brief*, prepared by KGS Group, File No. 05-1249-01, dated May 2005.

In addition, a topographical survey of the property was also completed by TGCL in 2016 in conjunction with the above-noted geotechnical investigation.

1.3 Previous Authorizations

A Conditional Use Order No. CU 2-16 was obtained from the Rural Municipality of Headingley on February 9, 2016.

2.0 Description of Proposed Development

2.1 Legal Land Description

The current owner of the subject property is Prairieview Terminals Ltd.

The legal description of the subject property is Lot 16, Plan 44745 WLTO in OTM Lots 83 and 84 Parish of St. Charles and Government Road Allowance. A copy of the land title record is provided in Appendix A.

2.2 Existing Land Use and Zoning

The property is zoned Industrial General (IG) zone (Figure 2), under the Rural Municipality of Headingley Conditional Use Order (Appendix B). The Conditional Use permits the construction and operation of a Bulk Storage Facility and Recycling Depot. The proposed use is consistent with the industrial nature of the area.

2.3 Adjacent Land Use and Zoning

The site is currently undeveloped, vacant land. Adjacent properties are zoned Industrial General (IG) to the north, east and south; and Rural (R) to the west, as summarized below:

- North Sabrina Way and industrial/commercial property beyond (South End Concrete)
- East Vacant and undeveloped properties and the City of Winnipeg's West End Water Pollution Control Centre beyond
- South Vacant and undeveloped properties
- West Hall Road and rural/agricultural properties beyond

The nearest residential property is a farmhouse, located approximately 1.4 km north of the proposed development (Figure 1).

2.4 Project Description

The project consists of the development of a hazardous waste and recycling facility equipped to handle the short-term storage, processing and transfer of bulk liquid hazardous wastes. The waste transfer site (WTS) will be designed to accept hazardous materials including, but not limited to, waste oils, glycol, used oil filters, oily water and sludge.

The project will proceed in two phases, as follows:

- | | |
|----------------|--|
| Phase 1 | <ul style="list-style-type: none">- Placement of Temporary Mobile Office Trailer- Construction of Cold Drum Storage Building- Construction of Tank Farm- Construction of Weigh Scale- Construction of Sludge Processing Facility |
| Phase 2 | <ul style="list-style-type: none">- Construction of Permanent Office/Shop Complex- Removal of Temporary Mobile Office Trailer |

The facility will receive hazardous waste for bulking, storage, processing and transfer off-site for sale or disposal. The following sections describe each activity. PVT intends to commence construction of Phase 1 by July 1, 2016. Phase 2 is planned to commence in July 2017. A conceptual site layout showing the two phases of construction is shown as Figure 3.

2.4.1 Office/Shop Complex

In Phase 1 of construction, a temporary mobile office trailer will be situated on site. No shop will be present on site in Phase 1.

In Phase 2 of construction, the temporary mobile office trailer will be removed from site and a permanent 10,000 ft² office/shop complex will be constructed. The office/shop complex will consist of the following components:

- Office area.
- Shop, including drum storage area, oil filter crusher and oily water processing area (two 28,000 L polyethylene raw wastewater tanks for oil/water phase separation, granular activated carbon (GAC) polishing system, recovered product (oil) tank, and one polished 29,000 L polyethylene wastewater tank).

Details on the activities proposed to be conducted in the shop area are provided in the following sections.

2.4.1.1 Drum Storage Area

The drum storage area inside the office/shop complex will be used for the transient storage of up to 100 x 205 L drums of oil filters awaiting processing, as well as bulking, sampling and processing of drums and totes.

2.4.1.2 Oil Filter Crusher

A filter crushing area will be located inside the new office/shop complex to be constructed in Phase 2. The filter crusher will be an engineered unit designed to crush used oil filters and recover used motor oil. The unit will be self-contained in that secondary containment will be built into the unit. A sample specification sheet for a typical filter crushing unit that could be utilized in this area is provided in Appendix C.

2.4.1.3 Oily Water Processing

The oily water processing area will be located inside the office/shop complex, to be constructed in Phase 2. The purpose of the oily water processing system will be to remove liquid oil from effluent decanted from the sludge containment facility and polish the effluent prior to waste characterization and off-site disposal.

The oily water processing area will conceptually consist of two 28,000 L polyethylene storage tanks to store decanted effluent from the sludge containment facility. Effluent from one of the two tanks will flow into a pre-engineered wastewater treatment system with a treatment tank capacity of approximately 400 gallons. Oil skimmed from the surface of the system will be transferred to a recovered oil product tank. Effluent from the separator will flow through a GAC filter vessel to further polish the effluent and remove remaining organic contaminants. Treated wastewater will be transferred into a 29,484 L polyethylene storage tank for characterization (sampling and analytical testing) prior to transportation off-site for disposal at a licensed waste disposal facility. Specification sheets for sample equipment forming part of the oily water processing system are provided in Appendix C.

Treated wastewater will be transferred off-site for disposal at an approved waste processing site or to the City of Winnipeg Water Pollution Control Plant (WPCP) under a discharge agreement with the City of Winnipeg. Effluent transported for disposal to the City of Winnipeg WPCP would be required to meet the chemical and physical criteria in accordance with the City of Winnipeg's standards. A process flow diagram for the oily water processing system is provided as Figure 4.

2.4.2 Tank Farm

Liquid hazardous wastes, such as waste oil, glycol, oily water, solvents, waste light fuels (i.e. gas, diesel), chemicals, new oils, flammables and other hazardous liquid wastes will be received at the facility. Liquid wastes in the tank farm will not be treated, processed or discharged on site. All liquid waste received on site for bulking will be transferred into tanks located in the tank farm for eventual characterization and recycling or disposal at a licensed waste disposal facility.

The tank farm will consist of up to 18 x 120,000 L vertical storage tanks with a total combined waste storage capacity of 2,160,000 L. The tank farm will be designed to conform to Canadian Council of Ministers of the Environment (CCME) *Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products* standards.

A conceptual layout of the tank farm is shown on Figure 3. The tank farm would be situated within an engineered containment berm, constructed of either low permeability clay and/or an engineered liner.

Actual liquid waste storage requirements may change based on seasonal demands among industrial/commercial waste generators serviced by PVT.

2.4.2.1 Truck Off-Loading

Two truck containment pads will be located along either side of the tank farm and will be large enough to contain any spills associated with loading or off-loading activities. The containment pads will be constructed so that they will be situated beneath the pump on the trucks.

All PVT liquid waste collection vehicles (tank trucks) will be equipped with drive-line actuated mechanical gear pumps with pressure relief systems. All hoses will be specified to meet or exceed petroleum handling requirements. All truck gear transfer pumps will be set to disengage from pumping at a pre-set operating pressure as a safety factor to prevent the possibility of rupturing a transfer hose. All pumps will be capable of being shut down from the cab of the vehicle or by controls mounted outside the vehicle in plain view of the connections and valves.

2.4.2.2 Containment

The containment system for the tank farm will consist of an engineered dyke and liner system. The tank farm containment system will be sized to contain at least 25% of the total storage tank capacity (25% of 2,160,000 L = 540,000 L).

2.4.2.3 Overflow Protection & High-Level Alarms

All tanks will be equipped with gauge boards to monitor tank volumes. Gauge boards will be checked as part of the daily inspection process and record keeping.

2.4.3 Sludge Containment Facility

The design concept consists of two key components: two sealed, steel mixing bins (i.e. shale bins) and a containment system for the bin and trucks. The process will be operated as a batch system.

2.4.3.1 Steel Mixing Bins

Sludge will be collected by vacuum trucks, primarily from car washes and automotive garage floor drain systems, and transported to the PVT sludge containment facilities. Two steel mixing bins are proposed to contain the sludge waste streams transported to the WTS. The bins would be constructed of 5 mm thick plate steel complete with 200 x 200 mm square steel structural support beams. The bin dimensions would likely be between 20 and 45 m³ in size, determined at the time of detailed design of the facility. The joints would be sealed by continuous welds and there would be no valves, manways or doors on the structure.

Trucks will back up to one of two sludge mixing bins on top of an off-load pad and dump the sludge material into one of the bins. The sludge would be allowed to phase-separate into a liquid and solid component. The liquid would be sampled and characterized, as appropriate, and either bulked and shipped off site for disposal or removed by vacuum truck and transferred to the oily water processing system in the office/shop complex. Liquid effluent would be sampled and analyzed for appropriate contaminants depending on the source of the waste, such as benzene, toluene, ethylbenzene and xylenes (BTEX), petroleum hydrocarbon fractions F1 to F4, volatile organic compounds (VOC), metals, polycyclic aromatic hydrocarbons (PAH), pH and polychlorinated biphenyls (PCB) to adequately characterize the effluent.

The settled solids would be sampled and characterized, as appropriate, prior to mixing with an inert absorbent material (e.g. sawdust or clean sand/silt/fill) and shipped off site for disposal as either non-hazardous or hazardous waste. Waste characterization would include sampling and analysis for BTEX and PHCs, at a minimum. Other analysis could also be performed, depending on the source of the sludge material being processed. In addition, a toxicity characteristic leaching procedure (TCLP) test would also be performed to determine if the waste is considered hazardous for disposal purposes. A slump test would be completed following addition of inert absorbent material to ensure that the waste material can be considered solid waste.

For sludge wastes received from repeat customers whose waste has been previously tested and found to be consistent in appearance and chemical content, a visual confirmation of the source of waste material may be deemed sufficient and reliance on previous analytical results may be made prior to acceptance of the waste.

Following completion of processing in each bin, the bin will be emptied between uses to ensure mixing of incompatible wastes does not occur.

2.4.3.2 Containment System

The containment system would consist of either an engineered liner and dyke system or an engineered clay liner system to contain the mixing bin(s) in conjunction with a lined truck off-loading and material removal pad. The liner system would be continuous and would encompass the entire waste transfer and mixing areas (off-load pad, waste mixing area, and material removal/cleanout area). The truck off-load pad and material removal area would be sloped at a minimum of 1.5% towards the containment dyke to facilitate positive drainage of any spills or drips into the main containment dyke area.

The engineered liner option would consist of a 60 mil reinforced geomembrane polyvinylchloride (PVC) liner that is petroleum hydrocarbon and solvent resistant. The liner would be protected by layers of non-woven geotextile cloth and bedding sand. The bin would sit on a 150 mm thick layer of pea gravel which would serve to protect the base of the containment system and facilitate drainage and/or cleanup in the event of a spill (i.e. stone could be washed and liquid phase hydrocarbons could be floated above the stone for recovery). The engineered clay liner option would consist of using the *in situ* clay, previously tested to be suitable as an impermeable liner.

The containment system would be designed to contain at least 110% of the design volume of the steel mixing bin(s) and one fully-loaded vacuum truck. The vertical height of the mixing bin would be designed to be lower than the height of the containment dyke to ensure spill trajectory containment.

The design concept consists of two key components: two sealed, steel mixing bins and an engineered containment system for the bin and trucks. The following sections document the general arrangement and details for the key components as shown on Figure 3.

2.5 Fuel Blending

PVT requires the capacity to blend non-chlorinated organic liquids (e.g. gasoline, diesel, etc.) into used oil to produce a blended fuel suitable for combustion. The flash point of the blended fuel will be greater than 38°C.

Used non-chlorinated organic liquids and used oil will be accepted at the facility from licensed carriers and used liquids will be placed in designated tanks in the tank farm.

Used non-chlorinated organic liquids and used oil will be blended at ratios of oil to light fuels of 70/30, 80/20 or 90/10, depending on customer specifications. Blended fuel will be sold as a commodity to facilities that can burn the blended fuel, such as asphalt plants or cement kilns.

Each batch of blended fuel would be sampled prior to shipment to ensure compliance with applicable provincial (BC, AB or MB) alternative fuel specifications.

2.6 Cold Drum Storage Building

A slab-on-grade cold drum storage building will be constructed on the north side of the property. It will be used to store drums containing flammable substances. The building will be unheated but will be serviced with electricity (i.e. light).

The building will be divided into three drum storage bays to maintain separation between different classes of waste. Each bay will be surrounded by a 0.15 m high concrete containment curb with concrete access ramps into each functional space.

The total storage capacity of the cold drum storage building will be 500 x 205 L drums (102,500 L) and will include storage for the following waste classes:

Table 1 Summary of Cold Drum Storage Building Contents Prairieview Terminals Ltd.		
Bay No.	Waste Name (TDG Class and UN number included where applicable)	Gross Fluid Containment (L)
1	Batteries (Class 8, UN2794) Corrosive Waste (Class 8, UN2932, UN1760) Compressed Gases (Class 2) Lab Packs Leachable Toxic Waste Oxidizing Substances	22,500
2	Antifreeze Oil Filters Flammable Liquids (Class 3, UN1993, UN1202)	60,000
3	Solvents (Class 3) Petroleum Products (Class 3, UN1268, UN1202) Paint (Class 3, UN1263) Flammable Solids (Class 4.1, UN1325) Flammable Liquids (Class 3) Compressed Gases (Class 2) Environmentally Hazardous Waste (Class 9, UN3077) Contaminated Soil Photo Imaging Waste Waste Containing polycyclic aromatic hydrocarbons (PAHs)	20,000
Totals		102,500

Wastes will be segregated as shown in Table 1 above, to ensure that incompatible wastes will be appropriately separated. Drainage channels will be installed in the concrete slab to ensure minor leaks or spills will be directed away from the drums to minimize corrosion or the potential for waste mixing in the event of a spill or leak.

2.7 Surge Capacity

On occasion, a catastrophic event (e.g. rail derailment, environmental remediation project, environmental spill) may result in a large volume of recyclable waste materials requiring storage, blending and/or processing within a very limited period of time. Waste recyclable materials received from a licensed generator from such an incident will be accepted at the facility and placed in a temporary staging area in order to facilitate processing of the materials. Waste recyclable materials will be stored on site in their original containers for no more than 30 days prior to processing, bulking, or blending.

In the event that an incident requiring surge capacity occurs, PVT will establish a secure area within the secure property limits to temporarily store the materials until they can be incorporated into the site processing. This surge capacity will provide PVT the ability to respond to such an incident in a timely fashion.

2.8 Waste Disposal

If the solid residual waste is non-hazardous, it will be sent for disposal to an approved facility to accept solid, non-hazardous industrial/commercial wastes. If the waste fails the applicable Leachate Quality criteria it will be sent for disposal to an approved hazardous waste treatment facility.

The liquid effluent would be disposed of at an approved waste processing site or at the City of Winnipeg Water Pollution Control Plant (WPCP) under a discharge agreement with the City of Winnipeg. Any effluent released to the City of Winnipeg WPCP would be required to meet appropriate chemical and physical analytical criteria established by the City.

2.9 Storm Water Management

The exterior containment systems will be designed to eliminate the potential for collection and discharge of storm water. Because the sludge containment system will be designed with an engineered tarp system to eliminate the potential for rain water to come into contact with sludge, storm water will not be generated from the sludge containment facility.

Storm water that accumulates within the tank farm containment system will be monitored during routine inspection of the facility. Where accumulated storm water is identified, samples will be collected and submitted to a CALA-accredited laboratory for chemical characterization of appropriate parameters, likely BTEX, PHCs, metals, VOCs and PAHs. If concentrations of these parameters in the wastewater are below applicable background criteria, direct discharge of the wastewater to municipal sewer will be carried out. If concentrations of these parameters in the wastewater exceed applicable criteria, wastewater will either be transferred to the oily water processing facility for treatment prior to disposal or will be transported to a licensed waste disposal facility for ultimate disposal.

The ground surrounding the containment system will be slightly elevated to divert surface water around and away from the site. Because the site will be manned 24 hours per day, seven days per week, the potential for an overflow of the containment system is unlikely. Sampled, characterized and processed accordingly. Clean collected and disposed off-site.

Non-contact storm water run-off from the property will be directed to a municipal drainage system.

2.10 Site Security

The site will be fully fenced with chain link fencing topped with barbed wire and gated with a lockable gate to prevent unauthorized access. On-site security will be provided 24-hours per day, 7 days per week either via on-site presence of staff or through video surveillance. Local management will be on call 24 hours per day in the event of an incident. Contact phone numbers will be posted on the fencing in the event of an emergency.

2.11 Funding

The proponent (PVT) is paying all costs associated with the development. No third-party funding has been obtained.

2.12 Approvals, Licencing and Permits

Based on TGCL's current understanding of the proposed development, the following approvals, licences and/or permits will be required from Manitoba Conservation:

- Dangerous Goods Handling and Transportation Act Licence;
- Permit to Construct Petroleum Storage Facility;
- Generator Registration and Carrier; and
- Hazardous Waste Generator.

2.13 Public Advertisement

If directed by Manitoba Conservation, PVT will prepare and publish a notice describing the development of the proposed hazardous waste transfer facility and publish it in the Winnipeg Free Press.

3.0 Description of Existing Conditions

3.1 Biophysical Environment

3.1.1 Ecological Land Classification

The site identified for the proposed hazardous waste storage and transfer facility is located in the Prairies Ecozone, Lake Manitoba Plains Ecoregion and the Winnipeg Ecodistrict. The Winnipeg Ecodistrict (849) occupies most of the southeast portion of the Lake Manitoba Plains Ecoregion (Smith, R.E., H. Veldhuis, G.F. Mills, R.G. Eilers, W.R. Fraser, and G.W. Lelyk, 1998).

3.1.2 Climate and Meteorological Conditions

Canadian Climate Normal data spanning the years 1981 to 2010 was obtained from Environment Canada's web-based archives for the Winnipeg Richardson International Airport Climate Station (5023222). The data consisted of 30-year averages for temperature, precipitation, snowfall, and wind speed and direction. Station climate normal data is summarized in the table below:

Table 2 Climate Normals – Winnipeg Richardson International Airport 1981 to 2010												
Description	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Daily Average Temp (C)	-16.4	-13.2	-5.8	4.4	11.6	17	19.7	18.8	12.7	5	-4.9	-13.2
Daily Min Temp (C)	-11.3	-8.1	-0.8	10.9	18.6	23.2	25.9	25.4	19	10.5	-0.5	-8.5
Daily Max. Temp (C)	-21.4	-18.3	-10.7	-2	4.5	10.7	13.5	12.1	6.4	-0.5	-9.2	-17.8
Precipitation (mm)	19.9	13.8	24.5	30	56.7	90	79.5	77	45.8	37.5	25	21.5
Rainfall (mm)	0.2	2.7	9.7	19.2	54.1	90	79.5	77	45.5	32.7	6.9	1.5
Snowfall (mm)	23.7	12.5	16.5	10.6	2.6	0	0	0	0.3	4.8	19.9	23
Wind Speed (km/h)	17.4	16.9	18	18.5	18.4	16.3	14.6	15.4	16.9	18	17.9	17.4
Prevailing Winds	S	S	S	S	S	S	S	S	S	S	S	S

3.1.3 Topography

The subject property is generally flat and partially vegetated with little to no variation across the site.

A topographical survey of the subject property was completed by TGCL in March 2016. The elevation of the site is approximately 238 metres above sea level (masl).

3.1.4 Geology and Groundwater

Based on Surficial Geology Compilation Map Series SG-MB, *Surficial Geology of Manitoba* (Scale 1:1000,000), surficial geology in the area consists of offshore glaciolacustrine sediments of clay, silt and minor sand with low local relief.

A geotechnical investigation of the subject property was performed by TGCL in March 2016. The investigation consisted of the advancement of six boreholes (BHs) to depths of up to 8.2 metres below ground surface (mbgs) across the site. Soils generally consisted of soft to very stiff brown to grey clay underlain by silt with gravel till. Groundwater was not encountered in any of the BHs.

3.1.5 Hydrology and Hydrogeology

Storm water drainage on the subject property is controlled by site topography. Ditching was observed along the north and west sides of the subject property, adjacent to Sabrina Way and Hall Road.

The nearest surface water body is the Assiniboine River, located approximately 3.3 km north of the subject site. Surface water likely flows north towards the Assiniboine River.

3.1.6 Vegetation

During the March 14, 2016 field work, the ground surface was observed to be covered predominantly with low-lying vegetation and prairie grasses. Vegetation in the area surrounding the site was generally similar in nature.

The Manitoba Conservation Data Centre (MBCDC) maintains a list of plant species of conservation concern in the province. MBCDC has a list of flora of conservation concern in the Lake Manitoba Plains Ecoregion and the Winnipeg Ecodistrict. The Winnipeg Ecodistrict (849) occupies most of the southeast portion of the Lake Manitoba Plains Ecoregion (Smith et. al., 1998) which encompasses the subject property. Species listed by the Endangered Species Act of Manitoba (MBESA), Species at Risk Act (SARA) and the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) are included in Appendix D.

The potential for species of concern to be present on the subject property is low due to the absence of trees and other vegetation on site and on the built-up industrial nature of the property and surrounding area.

3.1.7 Wildlife

Mammals and birds that may be observed within industrial areas of Manitoba include rodents and common bird species such as crows, robins and Canada Geese. There is the potential for amphibians and reptiles to be present in low lying areas adjacent to the site.

The MBCDC maintains a list of wildlife and invertebrate species of conservation concern in the province. Appendix D lists species of conservation concern in the Lake Manitoba Plain Ecoregion which encompasses the subject property. Species listed by MBESA, SARA and COSEWIC are included in Appendix D.

Because the subject property is located in an existing, developed industrial area, the potential to encounter wildlife, terrestrial invertebrates, amphibians and reptile species of concern in the project area is considered low. The proposed development will not impact adjacent land or low-lying areas and, therefore, the potential for negative effects on invertebrates, amphibians and reptiles is considered minor.

There are no wildlife management areas or ecologically significant areas within two kilometres of the proposed site.

3.1.8 Aquatic Species and Habitat

There are no surface water bodies located on the subject property. The nearest surface water body is the Assiniboine River, located approximately 3.3 km north of the subject site. Because all contact storm water will be managed on site and spill mitigation measures will be incorporated into the site design, the potential for off-site impacts is considered minor. The proposed development is not anticipated to have the potential to adversely impact the Assiniboine River due to the significant distance between the river and the project site.

3.2 Socioeconomic Environment

Information	Description
Protected Areas	No Provincial or National Parks are located near the subject property.
Heritage Resources	Canada's Historic Places website was accessed for information on designated protected areas or historic sites. The nearest heritage place is located approximately 6.8 km northeast of the subject property. No archaeological or historic sites are understood to be located on or near the subject property.
Indigenous Communities	The closest Indigenous Community to the Project site is located approximately 70 km northwest.
Schools	There are no schools located within 1 km of the proposed site.
Residential	The closest residence is a farmhouse, located approximately 1.4 km north of the site.
Existing Public Safety Concerns	None identified.
Human Health Risks	The area is occupied by industrial properties, surrounded by agricultural land. No human health risks were identified.

4.0 Potential Environmental Effects & Mitigation Measures

4.1 Air Emissions

Air emissions that may result from the operation of the proposed hazardous waste handling and transfer facility consist of vehicle exhaust emissions, building comfort heating equipment and venting from the sludge mixing bins and tank farm.

Vehicle exhaust emissions will be generated by diesel trucks hauling hazardous waste to the site as well as diesel trucks hauling waste from the site to a final disposal location. The estimated number of trucks accessing or leaving the site on a daily basis will vary. Vehicle exhaust emissions will generally consist of emissions of nitrogen oxides (NO_x), carbon monoxide (CO) and hydrocarbons. Because vehicle emissions will be intermittent, transient and brief in duration (vehicles will not idle in the yard), the impact on air quality in the area is not expected to be adversely affected.

Air emissions from the sludge mixing bins will be minimal, since the material will not be volatile in nature and will primarily consist of minor amounts of oil mixed with water and sediment.

Air emissions from the tank farm will consist of passive releases of volatile compounds (i.e. BTEX, VOCs) from the tanks based on pressure and temperature variations. Since the tanks will be operated at atmospheric pressure and because there will be no actively ventilated emissions (i.e. use of fans) from the tanks, the quantity of compounds released to the environment will be minor in nature.

Mitigation of airborne releases to the environment will include the following measures:

- Ensuring vehicles used to transport waste materials into and out of the site are in proper working condition.
- Minimizing idling of vehicles.
- Controlling vehicle speeds on site and/or adding amendments to gravel surfaces to minimize dust generation.

4.2 Climate

The operation of the proposed hazardous waste handling and transport facility will have minimal effects on the climate or greenhouse gas emissions. Air emissions (exhaust) produced from the trucks will be minor compared to the volume of traffic on nearby major arterial roads and highways. Similarly, airborne emissions from comfort heating equipment will be negligible compared to other combustion sources present in the vicinity of the site.

4.3 Noise Emissions

There is the potential for additional noise to be generated from the increase in truck traffic and use of heavy equipment on site for loading and moving waste materials. Given that the proposed site is located in a predominantly rural industrial area of the RM of Headingley, the impact of increased noise emissions on neighbouring industrial facilities will be minor.

The nearest noise-sensitive receptor is a residential property, located approximately 1.4 km north of the subject site. Given the minor nature of the noise sources (vehicle traffic) and the distance between the subject site and the residential property, the potential noise impact on the residential property is considered negligible.

4.4 Hazardous and Non-Hazardous Waste

Hazardous materials that will be stored, processed or handled on site include, but are not limited to, oily water, light fuels, glycol, used oil filters, used oil, blended oil, batteries, and solvents.

There is a potential for spills to occur as a result of the storage and transfer of hazardous materials on site. The following mitigation measure will be followed to minimize potential effects from spills or leaks from any hazardous or non-hazardous wastes generated, stored or transferred from the site:

- Daily inspections will be completed of the facility and its infrastructure. Deficiencies will be promptly identified and rectified.
- Equipment and infrastructure will be maintained and kept in good working order.
- Spill kits will be available on site and commercially-available absorbents will be used to clean up any minor spills that may occur.
- Secondary containment will be provided around the tank farm, sludge containment facility, oily water processing area and cold drum storage building.
- Gauge boards will be used on bulk storage tanks to minimize the potential for overfilling.
- ASTs will be provided with corrosion protection.
- On-site personnel will be trained in safety and emergency procedures and protocols.
- All hazardous and non-hazardous waste transfer operations will be supervised by appropriately trained personnel.
- All applicable regulations and conditions of the DGHT Licence will be adhered to for the collection, storage and transportation of hazardous wastes.

Non-hazardous material that may be generated on site includes domestic garbage and recyclable material. Non-hazardous wastes, including domestic garbage and recyclables, will be separated and disposed of in commercial dumpsters and picked-up by a licensed commercial hauler.

4.5 Storm Water Monitoring & Disposal

Storm water accumulations above the clear gravel base of the lined containment system in the tank farm and the sludge containment facility will be dewatered using the collection sump using on-site vacuum trucks. Collected storm water will be sampled and analyzed to characterize the wastes and then either processed through an on-site engineered wastewater treatment system, discharged to municipal sewer, or transported off-site for disposal, as appropriate. Effluent from the oil/water processing system will be characterized prior to disposal at an approved disposal facility.

4.6 Decommissioning Procedures

The main functional areas or features associated with decommissioning of the site include the tank farm and associated infrastructure. The main work tasks associated with the decommissioning of the site are as follows:

- liquid and solid waste removal;
- storage vessel decontamination;
- effluent disposal;
- tank removal;
- demolition;
- Phase 2 Environmental Site Assessment (P2ESA);
- site remediation; and
- site regrading and landscaping.

The following sections provide details on the proposed decommissioning plans for the site.

4.6.1 Liquid and Solid Waste Removal

This task assumes that in a worst-case scenario, the entire waste storage capacity of the site would be left full of typical waste materials handled by PVT. All liquid wastes would be pumped for disposal by an approved carrier for recycling and/or disposal at an approved site. Solid wastes would be removed from the site by an approved carrier and transported to a licensed disposal facility.

4.6.2 Storage Vessel Decontamination

Decontamination of the storage tanks would be completed by a qualified contractor using high-pressure steam cleaning systems.

4.6.3 Effluent Disposal

Effluent generated from the decontamination procedures discussed in Section 4.6.2 would be recovered using vacuum trucks for off-site disposal at an approved site.

4.6.4 Tank Removal

All tanks will be fixed, steel aboveground storage tanks located inside an engineered containment system (either clay-lined or engineered liner). The tanks would be removed and transported off site for either re-use or recycling.

4.6.5 Demolition

Demolition would consist of removal of the office/shop complex building, cold drum storage building, concrete containment pads, weigh scale and sludge processing facility. Prior to facility demolition, equipment located inside the buildings or facilities would be removed for sale, salvage or recycling.

All buildings would be demolished and the resulting waste sorted and either landfilled or recycled, as possible.

4.6.6 Phase 2 Environmental Site Assessment (P2ESA)

Following completion of waste and structure removal, a P2ESA would be completed on the property to assess impacts to soil and groundwater on site. The program would consist of the advancement of boreholes using an environmental drilling rig, with samples collected at regular intervals for further assessment and laboratory testing. If feasible, boreholes would be advanced into the water table and groundwater monitoring wells would be installed to facilitate the collection of groundwater samples for physical assessment and laboratory testing. At this site, shallow soils are cohesive, consisting of plastic clay, and groundwater was not encountered within 6 m of ground surface. Depending on the depth to groundwater, the installation of groundwater monitoring wells may not be required if there is no evidence to suggest that contamination may have migrated through the soils into the groundwater table.

4.6.7 Site Remediation

If contamination is encountered that exceeds applicable Manitoba Environment criteria, soil and/or groundwater remediation may be necessary to remove the impacts and restore the natural environment. Assessment of the need for, and extent, of remediation would depend on the results of the P2ESA.

Soil found to be impacted above applicable criteria would require remediation via *in situ* or *ex situ* methods.

4.6.8 Final Landscaping

Upon the completion of site remediation work, the site would be backfilled with clean, imported granular material (e.g. pit run, Granular B materials) and graded to match the surrounding topography and promote drainage. Graded areas would be topped with a black, organic topsoil and grass seed to minimize the potential for impacts due to erosion and sedimentation in runoff.

4.7 Socio-Economic Effects

Socio-economic effects that are anticipated as a result of the project include increased traffic and economic benefits.

4.7.1 Increased Traffic

Increased traffic may result from the addition of transport trucks used for the delivery and removal of hazardous waste. The number and size of additional vehicles/trucks will adhere to the restrictions of the access roads to the site.

4.7.2 Economic Benefits

The proposed development will generate employment for individuals within the RM of Headingley and/or nearby municipalities. Development and operation of the site will also generate tax revenue to the municipality.

4.8 Health and Safety

There is a potential that workers on site will be exposed to hazardous chemicals if leaks or spills occur, or during the normal course of handling hazardous materials. In order to minimize this potential, the following measures will be taken:

- Workers will be trained in the safe handling of hazardous wastes stored and processed on site.
- Workers will be trained in the use and types of Personal Protective Equipment (PPE).
- Workers will be trained in the emergency and routine safety procedures for the facility.

PVT will publish and maintain a Health and Safety plan for the facility and employees will be trained in safety procedures and measures.

4.9 Residual Effects

There are no anticipated residual effects as a result of the proposed hazardous waste facility.

5.0 Monitoring & Reporting

5.1 Waste Inspection & Record Keeping

The sludge containment system, tank farm, cold drum storage building and oily water processing areas will be inspected daily in accordance with Part 6 of the CCME *Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products*. Deficiencies will be promptly identified and rectified. The completed inspection forms will be retained on site for a minimum of five (5) years and will be made available upon request by an environmental officer.

All waste that will be processed in the mixing bin or through the oily water process will be logged into the waste tracking system on the product manifest sheets. Copies of manifests and bills of lading will be maintained on site. PVT will maintain a database of all manifest data using a Waste Inventory Tracking Sheet to track the waste entering the site, waste leaving the site, and waste processed on site. An example of a typical Waste Inventory Tracking Sheet is presented below.

Typical Waste Inventory Tracking Sheet								
Date	Manifest No.	Waste Classification	Description	Solid (S) Liquid (L)	Volume (L) Weight (kg)	Tank/Bin No. or Bay	Total Tank/Bin Volume (L) or Weight (kg)	Outgoing Waste Waybill No.

Prior to final disposal, sludge waste volumes will be recorded by dipping the sludge bins. Dump truck tickets in conjunction with PVT's records will be used to monitor solid waste leaving the site. All processed waste leaving the site will be tracked with a unique Waybill Number in order to accurately document the fate of all wastes entering and leaving the site.

Wastes received for bulking, storage and/or blending will also be tracked on similar inventory tracking sheets from the time the wastes arrive on site through to the time they leave.

5.2 Spill or Leakages

In the event of a spill or leakage of petroleum product or allied petroleum product, PVT will follow requirements specified in applicable Manitoba Regulations as well as applicable CCME guidance manuals. In general, PVT will:

- immediately notify an environmental officer;
- immediately remove all petroleum products or allied petroleum products from the storage tank system and close off the part of the storage tank system that is leaking; and
- follow any additional instructions of an environmental officer or director.

6.0 Closure

The information and data contained in this report, including without limitation, the results of any sampling and analyses conducted by TGCL pursuant to its Agreement with the client, have been developed or obtained through the exercise of TGCL's professional judgment and are set forth to the best of TGCL's knowledge, information and belief. Although every effort has been made to confirm that this information is factual, complete and accurate, TGCL makes no guarantees or warranties whatsoever, whether expressed or implied, with respect to such information or data.

The information and data presented in this report are based on the purpose and scope of the project and form the basis for any conclusions and recommendations presented herein. Any conclusions and recommendations presented herein do not preclude the existence of environmental concerns other than those that may have been identified.

Work performed by TGCL personnel employed sound environmental assessment principles. TGCL cannot guarantee the accuracy and reliability of information provided by others or third parties. Therefore, TGCL does not claim responsibility for undisclosed environmental concerns or conditions that may result in costs for environmental clean-up and/or remediation. This report is intended for information purposes only.

Respectfully submitted by:

TRUE GRIT CONSULTING LTD.



Casey Ladouceur, B.Eng.
Air/Noise Specialist
cladouceur@tgcl.ca



Jennifer Main, P.Eng.
Project Engineer
jmain@tgcl.ca

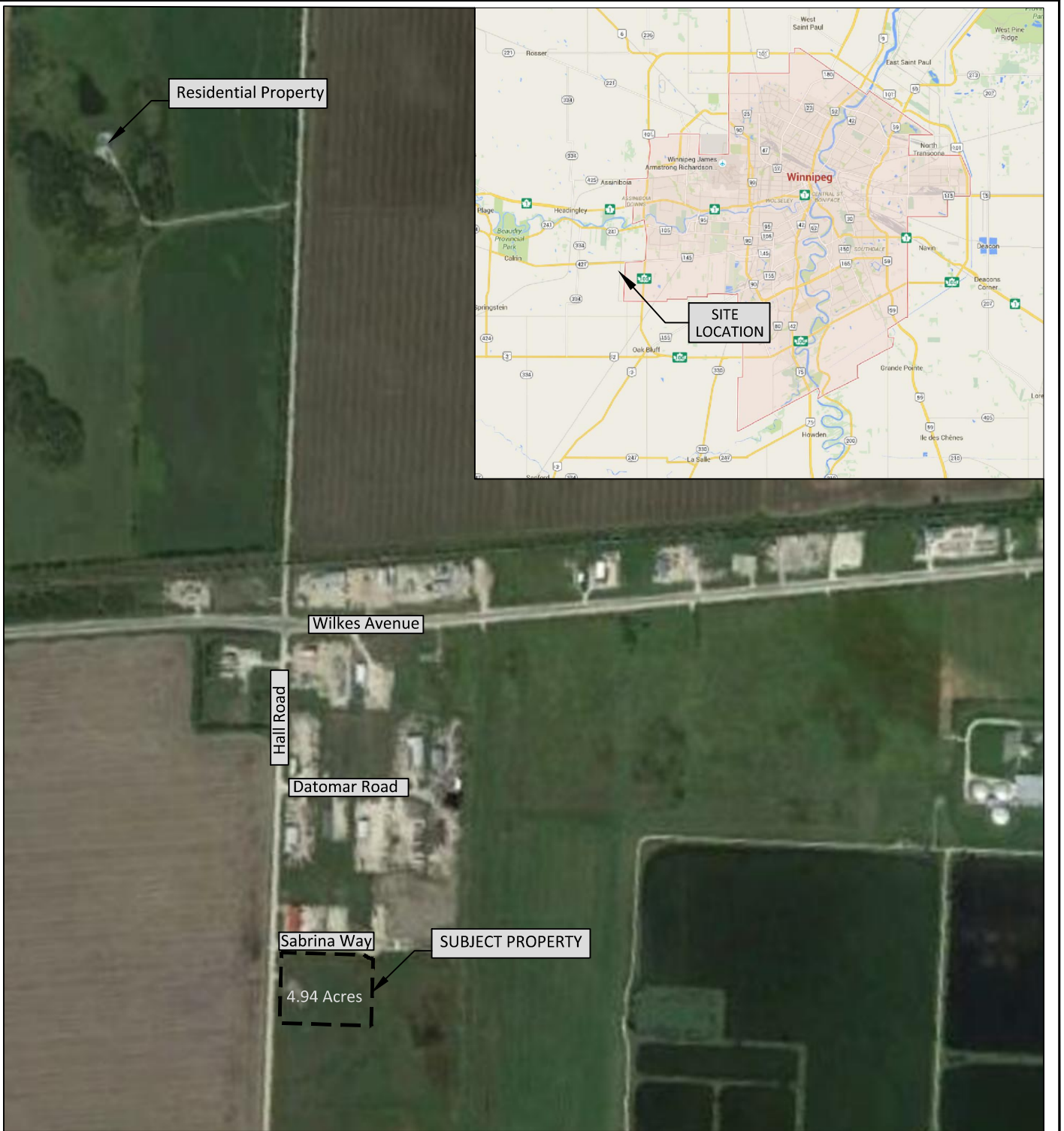
CJL/PS/JLM:jh

7.0 References

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Figures





*Image Referenced from Google Earth (2015) - Imagery Date: 8/24/2015



Scale



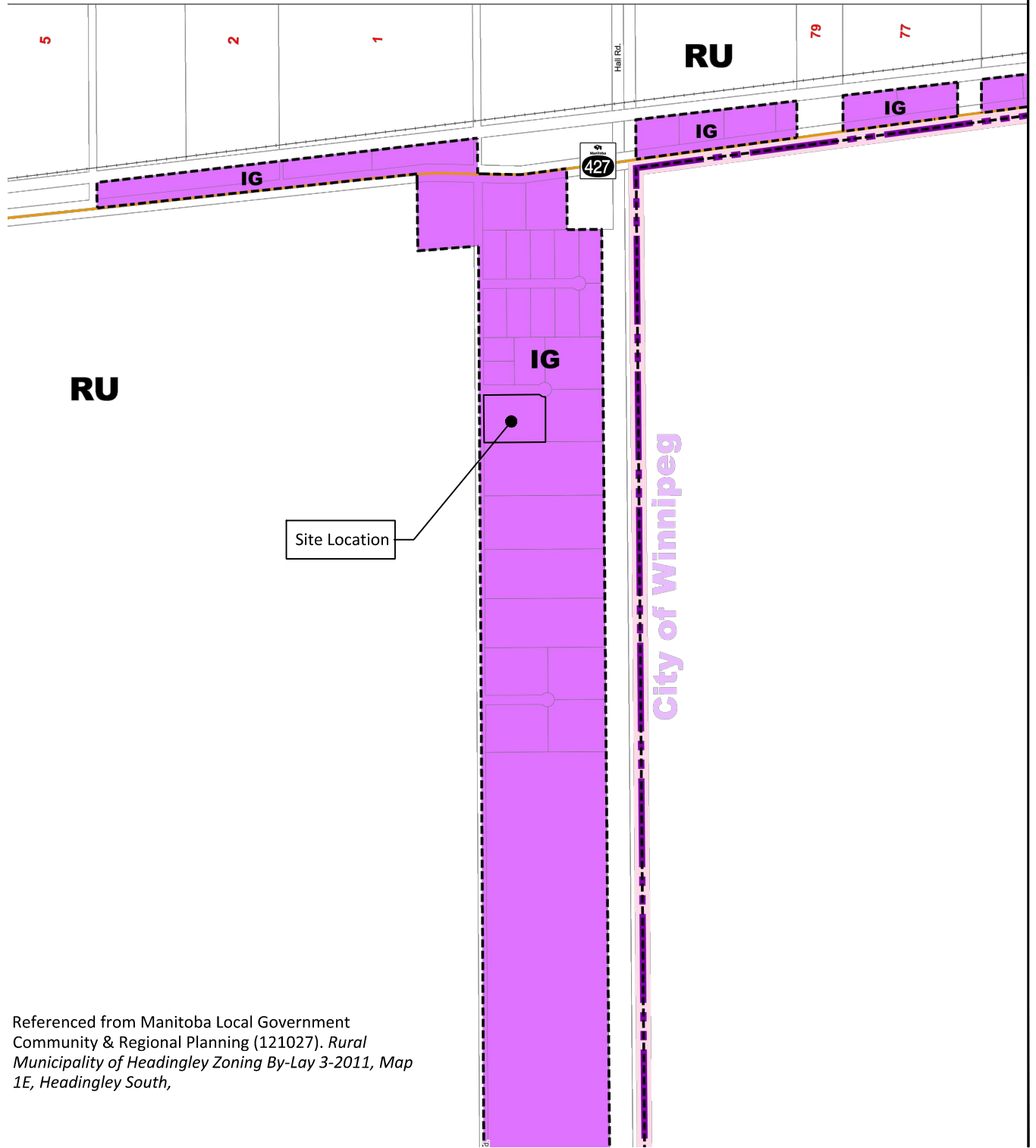
Prairieview Terminals Ltd.
 Development Environmental Assessment Report
 6 Sabrina Way, Headingley, Manitoba



Designed By: CJL
 Approved By: PS
 Date: May 2, 2016

Site Location Plan

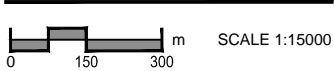
FIGURE 1



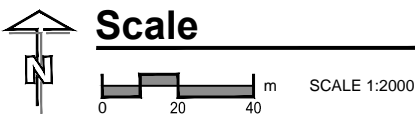
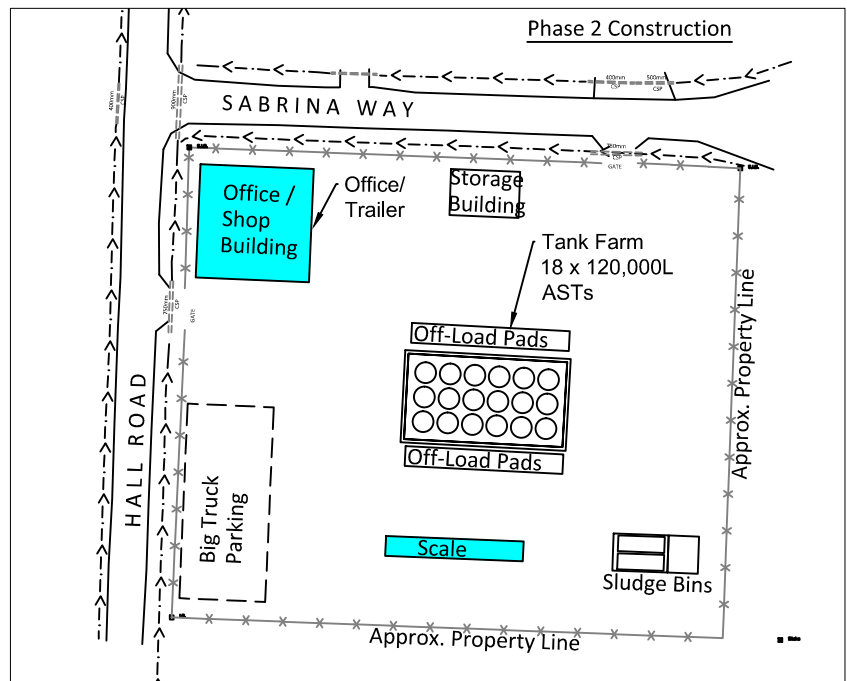
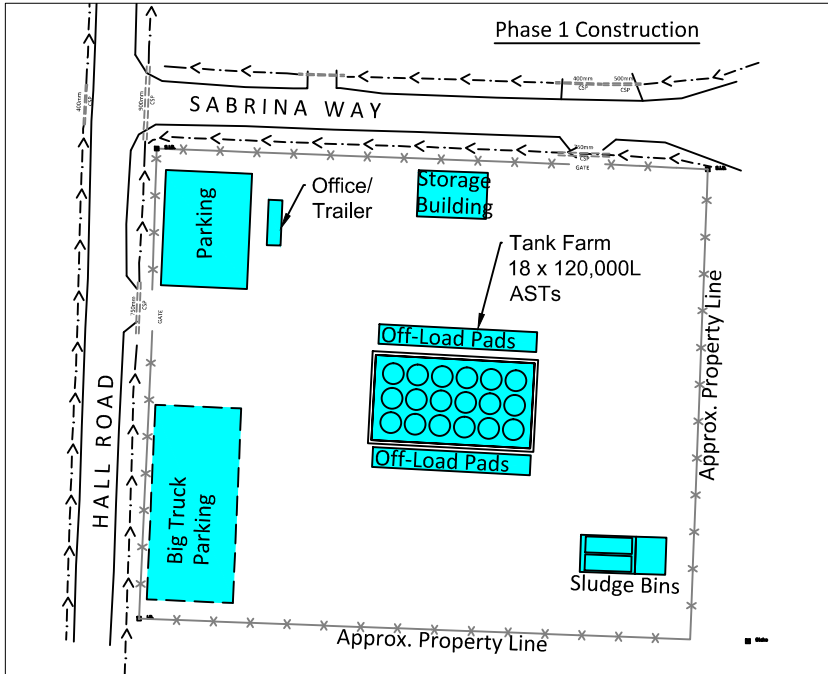
Referenced from Manitoba Local Government
Community & Regional Planning (121027). *Rural
Municipality of Headingley Zoning By-Lay 3-2011, Map
1E, Headingley South,*



Scale



Prairieview Terminals Ltd.
Development Environmental Assessment Report
6 Sabrina Way, Headingley, Manitoba



Prairieview Terminals Ltd.
 Development Environmental Assessment Report
 6 Sabrina Way, Headingley, Manitoba

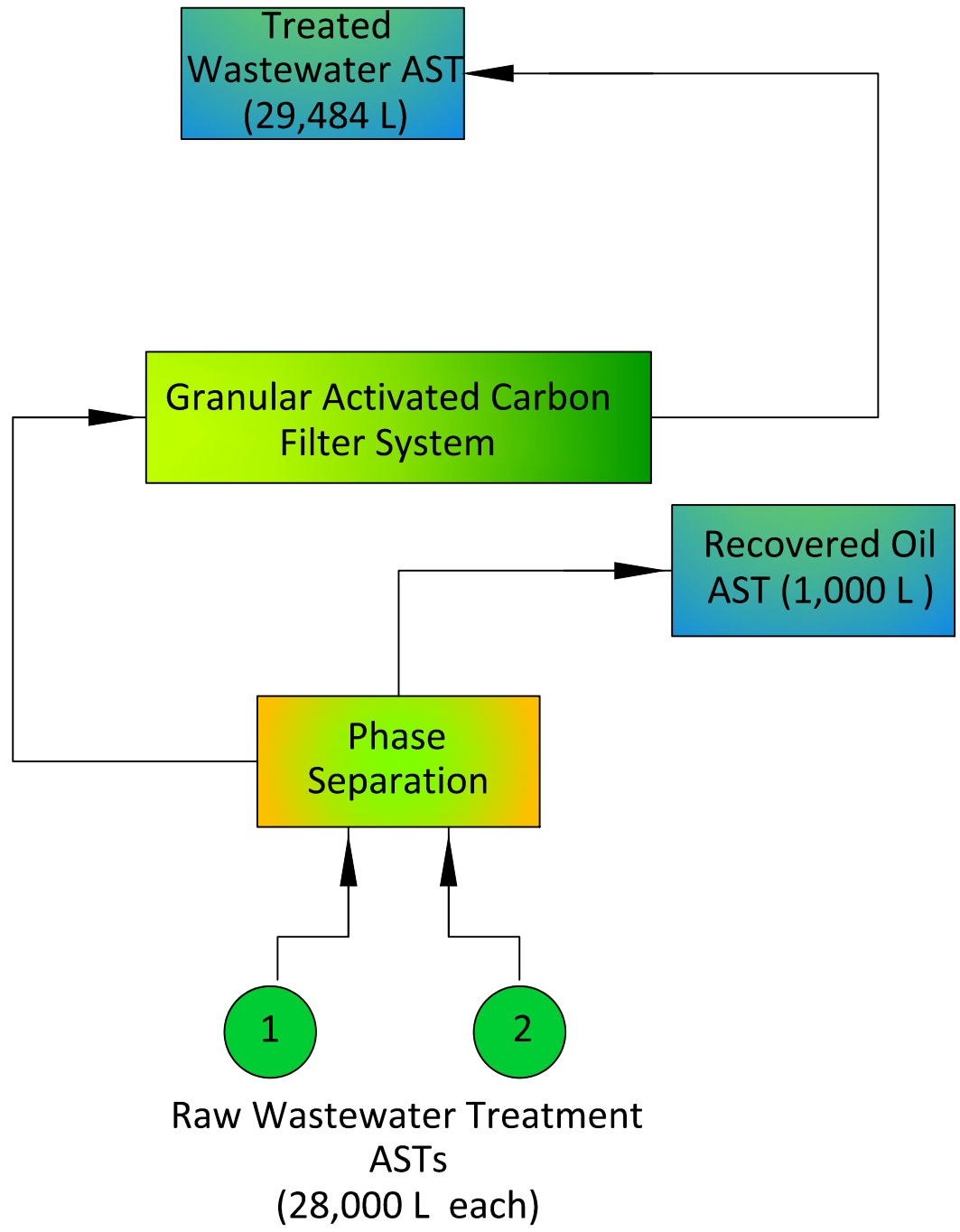


Designed By: CJL
 Approved By: PS
 Date: May 9, 2016

Conceptual Layout

FIGURE 3

Oily Water Processing Flow Diagram



Prairieview Terminals Ltd.
Development Environmental Assessment Report
6 Sabrina Way, Headingley, Manitoba



Designed By: CJL
Approved By: PS
Date: May 2, 2016

Process Flow Diagram

FIGURE 4

Appendix A: Land Title Record



STATUS OF TITLE

Title Number **2833146/1**
Title Status **Accepted**
Client File **125224-0002**

The Property Registry

A Service Provider for the Province of Manitoba



1. REGISTERED OWNERS, TENANCY AND LAND DESCRIPTION

PRAIRIEVIEW TERMINALS LTD.

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

LOT 16 PLAN 44745 WLTO
IN OTM LOTS 83 AND 84 PARISH OF ST CHARLES AND
GOVERNMENT ROAD ALLOWANCE

The land in this title is, unless the contrary is expressly declared, deemed to be subject to the reservations and restrictions set out in section 58 of *The Real Property Act*.

2. ACTIVE INSTRUMENTS

Instrument Type: **Caveat**
Registration Number: **2146541/1**
Instrument Status: **Accepted**

Registration Date: 1997-05-29
From/By: THE RURAL MUNICIPALITY OF HEADINGLEY
To:

Amount:
Notes: No notes
Description: DEVELOPMENT AGREEMENT

Instrument Type: **Caveat**
Registration Number: **3255012/1**
Instrument Status: **Accepted**

Registration Date: 2006-02-17
From/By: RURAL MUNICIPALITY OF HEADINGLEY
To: WILLIAM RONALD MURRAY AS AGENT

Amount:
Notes: No notes
Description: DEVELOPMENT AGREEMENT

Instrument Type: **Caveat**
Registration Number: **3643474/1**
Instrument Status: **Accepted**

Registration Date: 2008-07-15
From/By: MB. HYDRO, MTS ALLSTREAM INC. & SHAW CABLESYSTEMS LTD.
To:

Amount:
Notes: AFF: WTN LTS R/W PL 47615
Description: EASEMENT

Instrument Type: **Caveat**
Registration Number: **3655230/1**
Instrument Status: **Accepted**

Registration Date: 2008-08-08
From/By: CENTRA GAS MANITOBA INC.
To:

Amount:
Notes: ALL WTN LTS ROW PL 47615
Description: GRANT OF RIGHT OF USER - RIGHT OF WAY

3. ADDRESSES FOR SERVICE

PRAIRIEVIEW TERMINALS LTD.
C/O 2200 - ONE LOMBARD PLACE
WINNIPEG MB
R3B 0X7

4. TITLE NOTES

No title notes

5. LAND TITLES DISTRICT

Winnipeg

6. DUPLICATE TITLE INFORMATION

Duplicate not produced

7. FROM TITLE NUMBERS

2174647/1 All

8. REAL PROPERTY APPLICATION / CROWN GRANT NUMBERS

No real property application or grant information

9. ORIGINATING INSTRUMENTS

Instrument Type: **Transmission Of Land**
Registration Number: **4706906/1**

Registration Date: **2016-03-29**
From/By: **PRAIRIEVIEW TERMINALS LTD.**
To:
Amount:

10. LAND INDEX

Lot 16 Plan 44745

**CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA STORAGE
SYSTEM OF TITLE NUMBER 2833146/1**

Appendix B: Conditional Land Use





THE RURAL MUNICIPALITY OF
HEADINGLEY
YOUR COMMUNITY · YOUR FUTURE

Unit 1 - 126 Bridge Road
Headingley, Manitoba R4H 1G9
Phone: 204-837-5766
Fax: 204-831-7207

February 11, 2016

True Grit Consulting Ltd.
1263 Innovation Drive
Thunder Bay, ON
P7B 0A2

Dear Sir:

Re: Conditional Use No. 2-16.

Enclosed is a copy of Conditional Use No. 2-16 which was ACCEPTED by Council at its meeting on February 9, 2016.

Yours truly,

RURAL MUNICIPALITY OF HEADINGLEY



Chris Fulsher
Chief Administrative Officer

/sma-encs

cc 5318191 Manitoba Ltd.

RURAL MUNICIPALITY OF HEADINGLEY

CONDITIONAL USE ORDER

Under the Planning Act

CONDITIONAL USE APPLICATION NO. CU 2-16

WHEREAS, True Grit Consulting Ltd., on behalf of the owner or persons or corporation entitled to be the owner of property legally described as

Lot 16, Plan 44745

and located at 6 Sabrina Way in the Rural Municipality of Headingley applied to the Council of the Rural Municipality of Headingley for approval of a conditional use under the Headingley Zoning By-Law No. 3-2011 and amendments thereto to operate a Bulk Storage Facility and Recycling Depot in an "IG" Industrial General Zone;

AND after careful consideration of the application and any representations made for or against it;

THE COUNCIL OF THE RURAL MUNICIPALITY OF HEADINGLEY in meeting duly assembled this 9th day of February, 2016 APPROVED the said application subject to the following conditions:

1. Full and continued compliance with all provincial regulations and licensing.

Approval shall expire if not acted upon within 12 months of the date of making.

Minute Reference: Resolution 2016 026
February 9, 2016



Chief Administrative Officer

Appendix C: Equipment Specifications



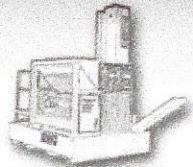
Home

Specs

Accessories

Contact

PLEASE CALL FOR



FACTORY PRICING
(803) 789-3194

ADVANTAGES

No shearing

No jamming

No shear blades to
chip or dull!

US Patent
7,421,946 B1

Small filters & diesel
filters

NS-2020

**Non-shearing
Oil Filter Processor**



Click here
to see the NS2020
in action on



The reciprocating feed on the model NS-2020 delivers a pre-measured volume of filters directly into the press chamber on every cycle. It has no shear blades to chip or dull. [Learn more...](#)

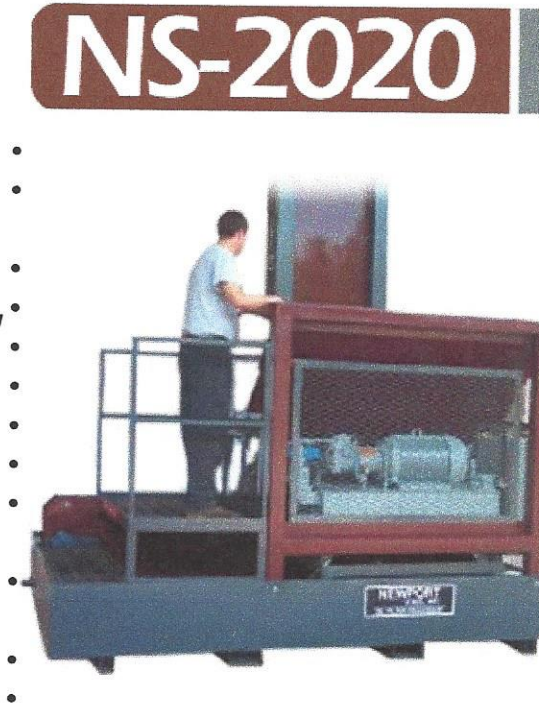
Home

Specs

Accessories

Contact

Although the NS-2020 is specifically warranted for the processing of used oil filters, its non-shearing operation usually eliminates the need for sorting other debris normally found in collection containers.



NS-2020

Specifications

*Automatic operation
Multi-axis, non-sponging compaction
10"-diameter compaction cylinder
Oil capacity : 500 gallons
Feed-hopper capacity : 10 drums
Prod. 7 drums/hr (55gal)
Average brick : 5" x 8" x 8.5"
20HP motor
All internal surfaces lined with wear plates
Dimensions:
120 x 90 x 144 (LxWxH)
Shipping height : 86
Approximate weight : 12,000 lbs.*

Factory Direct from Newport Steel, Inc.

Home

Specs

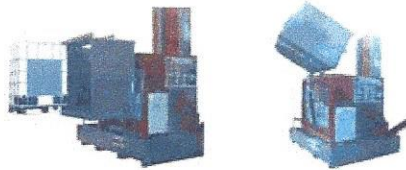
Accessories

Contact

Create a complete hands-off system that is labor saving and profitable with automatic loading, automatic discharge, and automatic scrap dumping.

NS-2020

Accessories



Hydraulic Loader

- 55 Gallon Drums
- 4' Cube Containers
- Push Button Operation



Self Dumping Drain Box


- 4 Hour Press Capacity
- 60 Gallon Sump
- Self-Dumping
- Easy Clean Sump Access
- Press Ejects Bricks Directly Into Box

Newport Steel reserves the right to change specification and pricing without notice. NS-2020 not exactly as illustrated. Delivery charge is not included in purchase price.



CALL US FROM ANYWHERE IN NORTH AMERICA: 1-855-765-9937



 **NORWESCO**
CONE BOTTOM TANKS



Cone Bottom Tanks For Steel Stands

NORWESCO offers a full range of cone bottom tanks designed for a variety of applications. The conical bottoms enable quick and complete drainage. As with all NORWESCO tanks, the cone bottom tanks are molded of rugged, high density polyethylene and are both impact and chemical resistant. Steel stands must be ordered separately.



MORE ◆	PREMIUM WEIGHT (1.5 SG) WHITE ◆	HEAVY WEIGHT (1.9 SG) BLUE ◆	STEEL STAND ITEM NUMBER ◆	IMPERIAL GALLONS ◆	US GALLONS ◆	LITERS ◆
+	40066	40129	60059	2,083	2,500	9,500
+	40170	40172	60059	2,500	3,000	11,350
+	45141	N/A	CBSTD- 3000	2,500	3,000	11,350
+	40549	40316	60358	4,583	5,500	21,000
+	40931	40933	62473	5,000	6,000	22,700
-	40551	40409	61860	6,250	7,500	28,000



Cone Slope (Degrees): 30
 Lid Size (in): 16
 Tank Fitting (in): 3

Maximum Temp: 120
 Premium Weight Drawing: 40551
 Heavy Weight Drawing: 40409

+	44103	44105	61860	8,333	10,000	38,000
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Cone Bottom Tanks in Poly Stands

Made from the same rugged, high density polyethylene as our standard cone bottom tanks, these tanks come mounted in a polyethylene stand. Each stand features full conical support and offers unmatched corrosion resistance. All models of cone bottom tanks in poly stands can also be ordered without the stand.

MORE ◆	PREMIUM WEIGHT (1.5 SG) WHITE ◆	HEAVY WEIGHT (1.9 SG) BLUE ◆	POLY STAND ITEM NUMBER ◆	IMPERIAL GALLONS ◆	US GALLONS ◆	LITERS ◆
+	43161	N/A	Included	104	125	475
+	60113	N/A	Included	145	175	660
+	62343	N/A	Included	250	300	1135

Polywest Ltd. | Norwesco Cone Bottom Tanks

+	62441	N/A	Included	258	310	1170
+	40289	N/A	Included	417	500	1895
+	40809	N/A	Included	625	750	2840
+	40359	N/A	Included	875	1050	3975
+	40813	40815	Included	1333	1600	6050
+	40672	40674	Included	2083	2500	9450
+	40797	40799	Included	2500	3000	11350



CALL US FROM ANYWHERE IN NORTH AMERICA: 1-855-765-9937



NORWESCO
VERTICAL STORAGE TANKS



Vertical storage tanks are most frequently used for bulk storage and mobile

nursing applications. Norwesco vertical tanks feature tie-down slots, built-in graduated gallon indicators, an offset fill opening and a self-vented, slosh-proof lid.

MORE ◆	PREMIUM WEIGHT (1.5 SG) WHITE ◆	HEAVY WEIGHT (1.9 SG) BLUE ◆	SIZE (IMPERIAL GALLONS) ◆	US GALLONS ◆	LITERS ◆	DIAMETER (IN) ◆
+	41867	N/A	21	25	94	18
+	41865	N/A	42	50	189	18
+	45192	N/A	54	65	245	23
+	41863	N/A	63	75	283	23
+	41861	N/A	83	100	378	28
+	40803	N/A	88	105	397	23
+	41859	N/A	125	150	567	30
+	40281	N/A	137	165	623	31
+	41856	N/A	167	200	756	30



Polywest Ltd. | Norwesco Vertical Tanks

-	40663	40665	6,500	7,800	29,484	120
Lid Size (in):		16				
Tank Fitting (in):		3				
Maximum Temp:		120				
Premium Weight Drawing:		<u>40663</u>				
Heavy Weight Drawing:		<u>40665</u>				
Note:		None				
+	43618	43620	7,500	9,000	34,020	141
+	44087	44089	8,333	10,000	37,800	141
+	43128	43130	8,333	10,000	37,800	141
+	44020	N/A	8,333	10,000	37,800	141
+	43919	43921	10,000	12,000	45,360	141
+	43821	43823	12,500	15,000	56,700	165
+	43825	43827	16,666	20,000	75,660	165

3

Ringwood Environmental Wastewater Products

CE-400

Ringwood
Environmental, Inc.

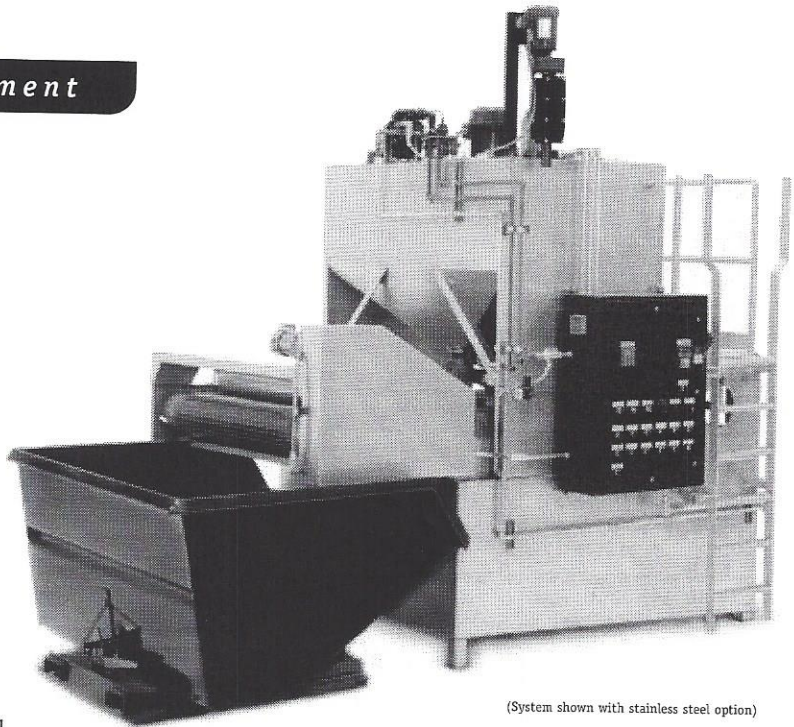
Automatic Wastewater Treatment

Standard Features

- Fully Automatic Operation with Manual Overrides
- Maximum Throughput: 1200 gph
- 400-Gallon Treatment Tank
- Allen Bradley Micrologix PLC Controls
- U.L. Approved Control Panel
- 3 Horsepower Heavy Duty Agitator with Jet Basket
- Treatment Tank Auto Washdown
- Pre-Plumbed for Effluent Pump
- Automatic Chemical Feed System with 300 lb. Hopper, Complete with 2000 lb. Superbag Support Frame
- Double Rollers for Greater Dewatering
- **Equipment Measurements:** Length: 10'4", Width: 7'4", Height: 11'11", Weight: 5,000 lbs.

Optional Features

- 3.0 Cubic Yard Dumpster with False Bottom for Dewatering
- pH Control System for Treatment Tank
- Stainless Steel Construction
- 2" Cast Iron Influent Diaphragm Pump
- 2" Aluminum Effluent Diaphragm Pump
- Auto Washdown for Filtrate Tank
- Equalization and Reuse Tanks



(System shown with stainless steel option)

Ringwood's wastewater treatment units optimize the use of clay based flocculants to clarify industrial wastewaters.

Ringwood Environmental, Inc. Wastewater Products

6715 West 73rd Street • Bedford Park, IL 60638 • 708.458.6000 • FAX 708.458.1051

www.ringwoodenvironmental.com

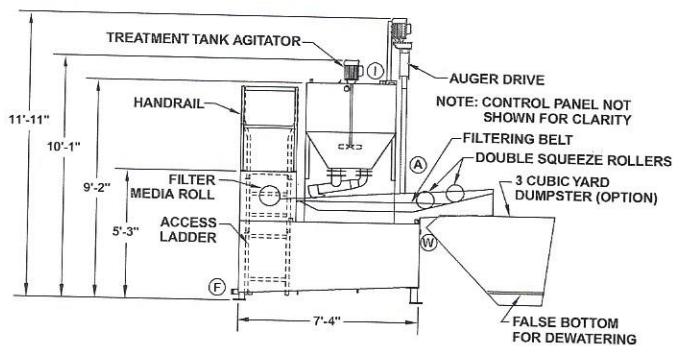
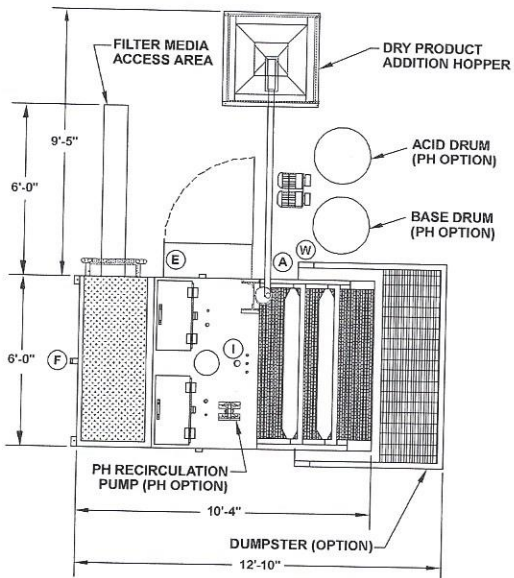
CE-400

CE-400



Automatic Wastewater Treatment

NOTE: Items in RED are standard equipment that can be located on either side of the CE-400. Items in BLUE are optional equipment.



Service Requirements

- E 480 VAC, 30 AMP, Grounded, 3 Phase Power Terminated at the Disconnect in the CE-400 Control Panel.
- A 1" FNPT Air Supply Connection. 80-100 PSI, Clean, Dry, Air Required, With Locking Handle Valve on Service Line.
- W 1" FNPT City Water Supply Connection. 30 PSI Required, With Locking Handle Valve on Service Line.
- I 2" FNPT Influent Water Inlet Connection.
- F 2" MNPT Effluent Water Discharge Connection.

Ringwood Environmental, Inc. Wastewater Products

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www.ringwoodenvironmental.com

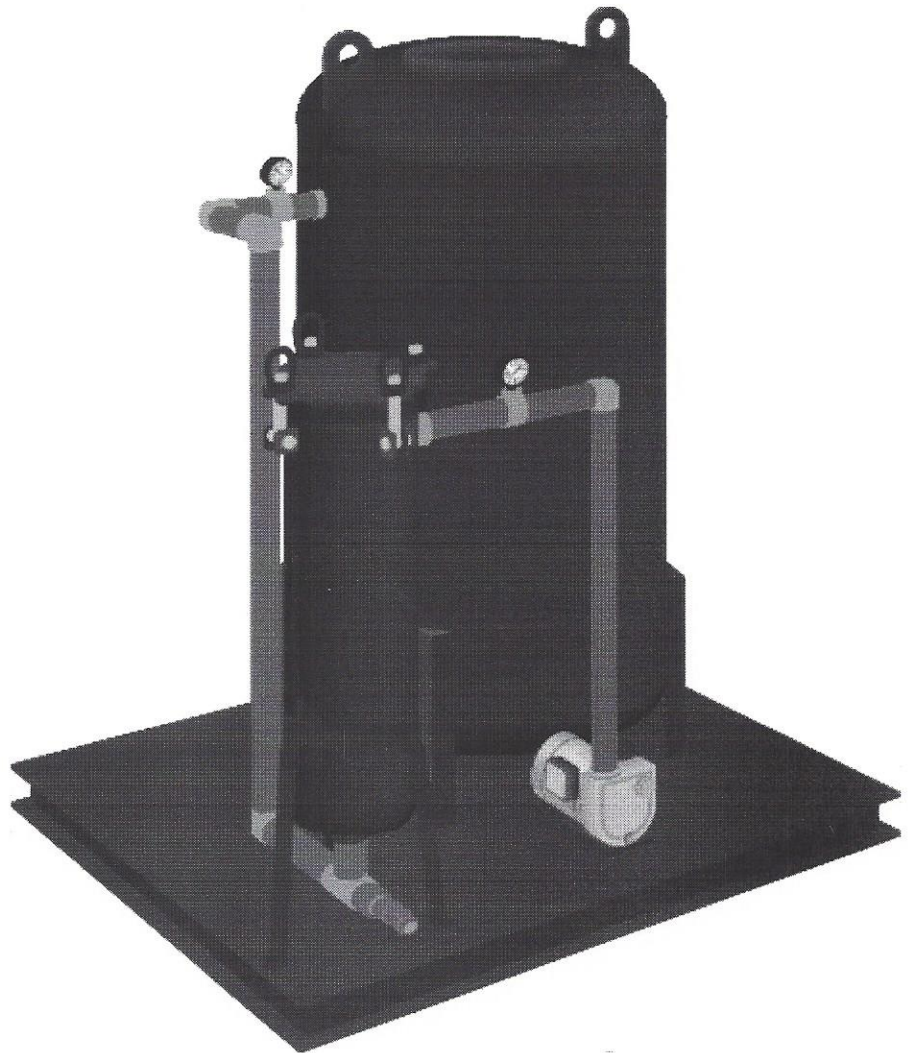


4

Equipment: **Media Filter Vessel**

Media Filter Vessel

Media filtration provides effective treatment of suspended solids, dissolved organic and inorganic matter. WESCOR media filtration equipment is available for Single, Multi-Media or Granular Activated Carbon filtration.

[Show Features](#)

Operation Details

WESCOR multiMedia Filter Vessels and liquid phase carbon absorber units are available in sizes ranging from mild steel with epoxy coatings. Multi vessel systems can be designed to operate in parallel or series with media backwashing available.

WESCOR media filtration equipment is available for Single filtration, Multi-Media or Granular Activated Carbon. Media filtration provides effective treatment of suspended solids, or can be targeted to remove dissolved or organic contaminants with appropriate media selection. The large size and three dimensional nature of a media bed and has a greater holding capacity than many other types of filters.

Water to be treated is pumped through the filtration vessel and evenly distributed across the surface of the media. Water flows downward through the vessel, particulate matter is captured within the media bed. Filtered water exits through a collection pipe located in the bottom of the vessel. Material captured in the media bed accumulates and is then purged from the vessel during the backwashing process which can be configured for manual, or automatic operation.

Sand Filtration

Sand filters are suited for general suspended solids removal of particles 20 microns in size and greater. Sand filters can be used for re-use, pre-filtration to membrane treatment or other processes.

Multimedia

Multi-media filtration equipment is suited for suspended solids and particulate removal. Filtration media is selected based on requirements and is capable of removing particles down to 5 micron in size. Multi-media filtration provides a higher degree of removal than sand filtration. Multimedia provides a progressive degree of filtration as the liquid passes through a bed that is layered with coarser media at the top of the bed and sequentially finer media towards the bottom of the bed.

Granular Activated Carbon

Granular Activated Carbon (GAC) is capable of removing dissolved compounds present in the water which can be removed by multimedia methods. GAC removes contaminants using the principle of absorption to remove dissolved organic compounds.

Organophilic Clay

Organophilic clay media is highly effective for Hydrocarbon removal and is able to remove 50% of its weight in oil. It can be used as a standalone filtration product or in combination with Carbon treatment when targeting multiple contaminants. It is capable of removing 700% more oil and grease than carbon alone. Organo-clay may be applied as post-treatment in various water treatment systems, membranes and evaporators or may be used as pre-treatment to Carbon, ion-exchange, and reverse osmosis.

Typical Applications

Cooling Water

Irrigation Water

Membrane Pre-Treatment

Chlorine Removal

Color & Odor Removal

Process Water

Groundwater Remediation

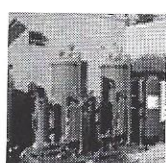
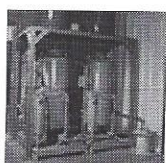
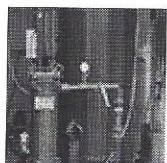
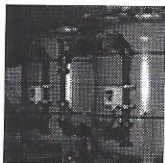
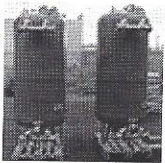
Industrial Effluent

Leachate

Stormwater

Oilfield Produced Water

Photos & Information



EQUIPMENT

Physical / Chemical Treatment

- Continuous Flow Unit (CFT)
- Clarifier
- Batch Treatment Unit (CBT)

Dewatering

- VFOLD Belt Press
- Rotary Drum Thickener (RDT)
- Filter Press

Chemical Mixing Systems

- Chemical Feed Equipment

Solidification

- Solidification Equipment

Filtration

- Gravity Filter Bed
- Media Filter Vessel

CHEMISTRY

- Clay-Based Flocculants
- Polymers
- Coagulants
- Solidification/Stabilization Material

FILTRATION

- Bag Filters
- Roll Media
- Cartridge Filter
- Carbon
- Organophilic Clay

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Appendix D: Species of Conservation Concern and Endangered Species



Occurrence of Species by Ecoregion

Lake Manitoba Plain

		Global	Provincially
Animal Assemblage			
Gull Colony		GNR	SNR
Snake Hibernaculum		GNR	SNR
Tern Colony		GNR	SNR
Invertebrate Animal			
Hesperia dacotae	Dakota Skipper	G2	S2
Ligumia recta	Black Sandshell	G4G5	SNR
Orconectes immunis	Calico Crayfish	G5	SNR
Quadrula quadrula	Mapleleaf Mussel	G5	S2
Strophitus undulatus	Creeper	G5	SNR
Stylurus amnicola		G4	SNR
Vascular Plant			
Agalinis aspera	Rough Purple False-foxglove	G5	S1S2
Agalinis gattingeri	Gattinger's Agalinis	G4	S1
Agalinis tenuifolia	Narrow-leaved Gerardia	G5	S2S3
Agrimonia gryposepala	Common Agrimony	G5	S1S2
Alisma gramineum	Narrow-leaved Water-plantain	G5	S1
Ambrosia acanthicarpa	Sandbur	G5	S1S2
Amorpha fruticosa	False Indigo	G5	S1S2
Antennaria plantaginifolia	Plantain-leaved Everlasting	G5	S1S2
Arisaema triphyllum ssp. triphyllum	Jack-in-the-pulpit	G5T5	S2
Asclepias verticillata	Whorled Milkweed	G5	S3
Astragalus neglectus	Milkvetch	G4	S1
Atriplex argentea	Saltbrush	G5	S2
Blysmopsis rufa	Red Bulrush	G5	S2
Boltonia asteroides var. recognita	White Boltonia	G5T3T5	S2S3
Botrychium pallidum	Pale Moonwort	G3	SH
Bouteloua curtipendula	Side-oats Grama	G5	S2S3
Bromus porteri	Porter's Chess	G5	S3?
Bromus pubescens	Canada Brome Grass	G5	SNA
Calamagrostis montanensis	Plains Reed Grass	G5	S3
Cardamine bulbosa	Spring Cress	G5	SH
Carex albicans var. albicans	Bellow-beaked Sedge	G5T4T5	SNA
Carex bicknellii	Bicknell's Sedge	G5	SH
Carex crawei	Crawe's Sedge	G5	S3S4
Carex cristatella	Crested Sedge	G5	S2
Carex douglasii	Douglas Sedge	G5	S3?
Carex emoryi	Emory's Sedge	G5	S2?
Carex hallii	Hall's Sedge	G4?Q	S3
Carex hystericina	Porcupine Sedge	G5	S3?
Carex livida	Livid Sedge	G5	S3
Carex parryana	Parry's Sedge	G4	S3?
Carex pedunculata	Stalked Sedge	G5	S3?
Carex prairea	Prairie Sedge	G5	S4?

Occurrence of Species by Ecoregion

Lake Manitoba Plain

		Global	Provincially
<i>Carex projecta</i>	Necklace Sedge	G5	S2?
<i>Carex sterilis</i>	Dioecious Sedge	G4	S2
<i>Carex supina</i> var. <i>spaniocarpa</i>	Weak Sedge	G5T3T5	S2?
<i>Carex tetanica</i>	Rigid Sedge	G4G5	S2
<i>Carex tribuloides</i>	Prickly Sedge	G5	SNA
<i>Carex vulpinoidea</i>	Fox Sedge	G5	S3?
<i>Celtis occidentalis</i>	Hackberry	G5	S1
<i>Chamaesyce geyeri</i>	Prostrate Spurge	G5	S1
<i>Circaea lutetiana</i> ssp. <i>canadensis</i>	Large Enchanter's-nightshade	G5T5	S2
<i>Cirsium discolor</i>	Field Thistle	G5	S1
<i>Clematis ligusticifolia</i>	Western Virgin's-bower	G5	S1
<i>Clematis virginiana</i>	Virgin's-bower	G5	S2
<i>Corispermum americanum</i> var. <i>americanum</i>	American Bugseed	G5?T5?	S2S3
<i>Corispermum villosum</i>	Hairy Bugseed	G4?	S1S2
<i>Cornus alternifolia</i>	Alternate-leaved Dogwood	G5	S3
<i>Cryptotaenia canadensis</i>	Honewort	G5	S2
<i>Cuscuta pentagona</i> var. <i>pentagona</i>	Dodder	G5T5	SU
<i>Cyperus erythrorhizos</i>	Red-root Flatsedge	G5	S1
<i>Cyperus houghtonii</i>	Houghton's Umbrella-sedge	G4?	S2
<i>Cyperus schweinitzii</i>	Schweinitz's Flatsedge	G5	S2
<i>Cypripedium candidum</i>	Small White Lady's-slipper	G4	S2
<i>Dalea villosa</i> var. <i>villosa</i>	Silky Prairie-clover	G5T5	S2S3
<i>Desmodium canadense</i>	Beggar's-lice	G5	S2
<i>Dichanthelium linearifolium</i>	White-haired Panic-grass	GNR	S2
<i>Draba reptans</i>	Creeping Whitlow-grass	G5	SU
<i>Elatine americana</i>	mud-purslane	G4	S1
<i>Elodea nuttallii</i>	Waterweed	G5	S1
<i>Elymus diversiglumis</i>	Various-glumed Wild Rye	G3G4Q	S2?
<i>Elymus hystrix</i>	Bottle-brush Grass	G5	S2
<i>Eragrostis hypnoides</i>	Creeping Teal Love Grass	G5	S4
<i>Festuca hallii</i>	Plains Rough Fescue	G4	S3
<i>Festuca subverticillata</i>	Nodding Fescue	G5	S1
<i>Fraxinus nigra</i>	Black Ash	G5	S3
<i>Galium aparine</i>	Cleavers	G5	SU
<i>Gentiana puberulenta</i>	Downy Gentian	G4G5	S2
<i>Helianthus nuttallii</i> ssp. <i>rydbergii</i>	Tuberous-rooted Sunflower	G5T5	S2
<i>Helianthus pauciflorus</i> ssp. <i>pauciflorus</i>	Stiff Sunflower	G5T5?	SU
<i>Heteranthera dubia</i>	Water Star-grass	G5	S2
<i>Hudsonia tomentosa</i>	False Heather	G5	S3
<i>Hypoxis hirsuta</i>	Yellow Stargrass	G5	S4
<i>Krigia biflora</i>	Cynthia	G5	S2
<i>Lactuca floridana</i>	Woodland Lettuce	G5	SH
<i>Lechea intermedia</i>	Pinweed	G5	S1

Occurrence of Species by Ecoregion

Lake Manitoba Plain

		Global	Provincially
<i>Leersia oryzoides</i>	Rice Cutgrass	G5	S3?
<i>Leucophysalis grandiflora</i>	Large White-flowered Ground-cherry	G4?	S3
<i>Linum sulcatum</i>	Grooved Yellow Flax	G5	S3
<i>Lotus unifoliolatus</i>	prarie trefoil	G5	S2S3
<i>Lysimachia quadriflora</i>	Whorled Loosestrife	G5?	S2
<i>Menispermum canadense</i>	Moonseed	G5	S3
<i>Muhlenbergia andina</i>	Foxtail Muhly	G4	S1
<i>Musineon divaricatum</i>	Leafy Musineon	G5	S2
<i>Nassella viridula</i>	Green Needle Grass	G5	S3
<i>Oenothera perennis</i>	Sundrops	G5	S1S2
<i>Orobanche ludoviciana</i>	Louisiana Broom-rape	G5	S2
<i>Orobanche uniflora</i>	One-flowered Broom-rape	G5	SU
<i>Osmorhiza claytonii</i>	Woolly or Hairy Sweet Cicely	G5	S2
<i>Osmorhiza depauperata</i>	Blunt-fruited Sweet Cicely	G5	S2
<i>Ostrya virginiana</i>	Hop-hornbeam	G5	S2
<i>Parietaria pensylvanica</i>	American Pellitory	G5	S4
<i>Pellaea glabella</i> ssp. <i>occidentalis</i>	Cliff-brake	G5T4	S2
<i>Penthorum sedoides</i>	Ditch-stonecrop	G5	S1S2
<i>Phryma leptostachya</i>	Lopseed	G5	S3
<i>Platanthera orbiculata</i>	Round-leaved Bog Orchid	G5	S3
<i>Polygala verticillata</i>	Whorled Milkwort	G5	S2
<i>Polygala verticillata</i> var. <i>isocycla</i>	Whorled Milkwort	G5T5	S2
<i>Potamogeton illinoensis</i>	Illinois Pondweed	G5	S2
<i>Ranunculus cymbalaria</i> var. <i>saximontanus</i>	Seaside Crowfoot	G5T5	S1S2
<i>Sanguinaria canadensis</i>	Blood-root	G5	S2
<i>Shinnersoseris rostrata</i>	Annual Skeletonweed	G5?	S1S2
<i>Sisyrinchium campestre</i>	White-eyed Grass	G5	SU
<i>Solidago riddellii</i>	Riddell's Goldenrod	G5	S2
<i>Sporobolus compositus</i>	tall dropseed	G5	S1
<i>Sporobolus neglectus</i>	Annual Dropseed	G5	S3?
<i>Symphotrichum sericeum</i>	Western Silvery Aster	G5	S2S3
<i>Townsendia exscapa</i>	Silky Townsend-daisy	G5	S2
<i>Verbena bracteata</i>	Bracted Vervain	G5	S3
<i>Vernonia fasciculata</i> ssp. <i>corymbosa</i>	Western Ironweed	G5T3T5	S1
<i>Veronicastrum virginicum</i>	Culver's-root	G4	S1
<i>Viola conspersa</i>	Dog Violet	G5	S3?
Vertebrate Animal			
<i>Accipiter cooperii</i>	Cooper's Hawk	G5	S4S5B
<i>Aechmophorus occidentalis</i>	Western Grebe	G5	S4B
<i>Ammodramus bairdii</i>	Baird's Sparrow	G4	S1B
<i>Ammodramus savannarum</i>	Grasshopper Sparrow	G5	S2B
<i>Anthus spragueii</i>	Sprague's Pipit	G4	S2B
<i>Ardea herodias</i>	Great Blue Heron	G5	S4S5B

Occurrence of Species by Ecoregion

Lake Manitoba Plain

		Global	Provincially
<i>Asio flammeus</i>	Short-eared Owl	G5	S2S3B
<i>Athene cucularia</i>	Burrowing Owl	G4	S1B
<i>Calcarius ornatus</i>	Chestnut-collared Longspur	G5	S1S2B
<i>Caprimulgus vociferus</i>	Whip-poor-will	G5	S3B
<i>Cardinalis cardinalis</i>	Northern Cardinal	G5	S1B
<i>Chaetura pelagica</i>	Chimney Swift	G5	S2B
<i>Charadrius melodus</i>	Piping Plover	G3	S1B
<i>Chelydra serpentina serpentina</i>	Common Snapping Turtle	G5T5	S3
<i>Chordeiles minor</i>	Common Nighthawk	G5	S3B
<i>Coturnicops noveboracensis</i>	Yellow Rail	G4	S3S4B
<i>Dolichonyx oryzivorus</i>	Bobolink	G5	S4B
<i>Eumeces septentrionalis</i>	Northern Prairie Skink	G5	S1
<i>Falco peregrinus anatum</i>	Peregrine Falcon	G4T4	S1B
<i>Geomys bursarius</i>	Plains Pocket Gopher	G5	S3
<i>Hirundo rustica</i>	Barn Swallow	G5	S4B
<i>Ichthyomyzon castaneus</i>	Chestnut Lamprey	G4	S3S4
<i>Ixobrychus exilis</i>	Least Bittern	G5	S2S3B
<i>Lanius ludovicianus excubitorides</i>	Loggerhead Shrike	G4T4	S2B
<i>Lanius ludovicianus migrans</i>	Loggerhead Shrike	G4T3Q	S1B
<i>Lithobates pipiens</i>	Northern Leopard Frog	G5	S4
<i>Macrhybopsis storeriana</i>	Silver Chub	G5	S3
<i>Margariscus margarita</i>	Pearl Dace	G5	S5
<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	G5	S2B
<i>Numenius borealis</i>	Eskimo Curlew	GH	SNA
<i>Nycticorax nycticorax</i>	Black-crowned Night-heron	G5	S3S4B
<i>Pelecanus erythrorhynchos</i>	American White Pelican	G4	S3S4B
<i>Phalacrocorax auritus</i>	Double-crested Cormorant	G5	S5B
<i>Podiceps auritus</i>	Horned Grebe	G5	S3B
<i>Podiceps nigricollis</i>	Eared Grebe	G5	S4S5B
<i>Spea bombifrons</i>	Plains Spadefoot Toad	G5	S2S3
<i>Sterna caspia</i>	Caspian Tern	G5	S3S4B
<i>Sterna forsteri</i>	Forster's Tern	G5	S4B
<i>Strix varia</i>	Barred Owl	G5	S4B
<i>Thamnophis sirtalis parietalis</i>	Red-sided Garter Snake	G5T5	S4
<i>Vermivora chrysoptera</i>	Golden-winged Warbler	G4	S3B

<http://www.gov.mb.ca/conservation/cdc/ecoreg/lakembplain.html>

MBCDC Species of Conservation Concern

The term "species of conservation concern" includes species that are rare, disjunct, or at risk throughout their range or in Manitoba and in need of further research. The term also encompasses species that are listed under the Manitoba Endangered Species Act (MBESA), or that have a special designation by the Committee On the Status of Endangered Wildlife In Canada (COSEWIC).

Conservation Data Centre Ranks (Global and Provincial)

Species are evaluated and ranked by the Conservation Data Centre on the basis of their range-wide (global - G) status, and their province-wide (subnational - S) status according to a standardized procedure used by all Conservation Data Centres and Natural Heritage Programs. These ranks are used to determine protection and data collection priorities, and are revised as new information becomes available.

For each level of distribution—global and provincial—species are assigned a numeric rank ranging from 1 (very rare) to 5 (demonstrably secure). This reflects the species' relative endangerment and is based primarily on the number of occurrences of that species globally or within the province. However, other information, such as date of collection, degree of habitat threat, geographic distribution patterns and population size and trends, is considered when assigning a rank. The number of occurrences listed below are suggestions, not absolute

For example, the Green Frog (*Rana clamitans*) is ranked G5, S2. That is, globally the species is abundant and secure, while in Manitoba it is rare and may be vulnerable to extirpation.

Rank	Definition
1	Very rare throughout its range or in the province (5 or fewer occurrences, or very few remaining individuals). May be especially vulnerable to extirpation.
2	Rare throughout its range or in the province (6 to 20 occurrences). May be vulnerable to extirpation.
3	Uncommon throughout its range or in the province (21 to 100 occurrences).
4	Widespread, abundant, and apparently secure throughout its range or in the province, with many occurrences, but the element is of long-term concern (> 100 occurrences).
5	Demonstrably widespread, abundant, and secure throughout its range or in the province, and essentially impossible to eradicate under present conditions.
U	Possibly in peril, but status uncertain; more information needed.
H	Historically known; may be rediscovered.
X	Believed to be extinct; historical records only, continue search.
SNR	A species not ranked. A rank has not yet assigned or the species has not been evaluated.
SNA	A conservation status rank is not applicable to the element.

Other Heritage Codes

Code	Definition
G#G#	Numeric range rank: A range between two of the numeric ranks. Denotes range of uncertainty about the exact rarity of the species.
S#S#	

Subrank

Code	Definition
T	Rank for subspecific taxon (subspecies, variety, or population); appended to the global rank for the full species, e.g. G4T3.

Qualifiers

Code	Definition
B	Breeding status of a migratory species. Example: S1B,SZN - breeding occurrences for the species are ranked S1 (critically imperilled) in the province, nonbreeding occurrences are not ranked in the province.
N	Non-breeding status of a migratory species. Example: S1B,SZN - breeding occurrences for the species are ranked S1 (critically imperilled) in the province, nonbreeding occurrences are not ranked in the province.
Q	Taxonomic questions or problems involved, more information needed; appended to the global rank.
T	Rank for subspecific taxon (subspecies, variety, or population); appended to the global rank for the full species.
#	A modifier to SX or SH; the species has been reintroduced but the population is not yet established.
?	Inexact or uncertain; for numeric ranks, denotes inexactness.

<http://www.gov.mb.ca/conservation/cdc/consranks.html?print&print&print>

Species At Risk

Species Listed Under *The Endangered Species and Ecosystems Act*

Animals	Plants
Endangered:	
Baird's Sparrow (<i>Ammodramus bairdii</i>)	Gastony's Cliffbrake (<i>Pellaea gastonyi</i>)
Burrowing Owl (<i>Athene cunicularia</i>)	Gattinger's Agalinis (<i>Agalinis gattingeri</i>)
Chestnut-collared Longspur (<i>Calcarius ornatus</i>)	Great Plains Ladies'-Tresses (<i>Spiranthes magnicamporum</i>)
Dusky Dune Moth (<i>Copablepharon longipenne</i>)	Rough Agalinis (<i>Agalinis aspera</i>)
Eskimo Curlew (<i>Numenius borealis</i>)	Smooth Goosefoot (<i>Chenopodium subglabrum</i>)
Ferruginous Hawk (<i>Buteo regalis</i>)	Small White Lady's-slipper (<i>Cypripedium candidum</i>)
Gold-edged Gem (<i>Schinia avemensis</i>)	Western Ironweed (<i>Vernonia fasciculata</i>)
Ivory Gull (<i>Pagophila eburnea</i>)	Western Prairie Fringed-orchid (<i>Platanthera praeclara</i>)
Least Bittern (<i>Ixobrychus exilis</i>)	
Little Brown Bat (<i>Myotis lucifugus</i>)	
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	
Mapleleaf Mussel (<i>Quadrula quadrula</i>)	
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	
Pale Yellow Dune Moth (<i>Copablepharon grandis</i>)	
Peregrine Falcon (<i>Falco peregrinus</i>)	
Piping Plover (<i>Charadrius melodus</i>)	
Poweshiek Skipperling (<i>Oarisma poweshiek</i>)	
Prairie Skink (<i>Eumeces septentrionalis</i>)	

Species At Risk

Species Listed Under *The Endangered Species and Ecosystems Act*

Animals	Plants
Red Knot rufa subspecies (<i>Calidris canutus rufa</i>)	
Ross's Gull (<i>Rhodostethia rosea</i>)	
Trumpeter Swan (<i>Cygnus buccinator</i>)	
Whooping Crane (<i>Grus americana</i>)	
Uncas Skipper (<i>Hesperia uncas</i>)	
Verna's Flower Moth (<i>Schinia verna</i>)	
White Flower Moth (<i>Schinia bimatrix</i>)	
Threatened:	
Boreal Woodland Caribou (<i>Rangifer tarandus caribou</i>)	Buffalograss (<i>Buchloë dactyloides</i>)
Chimney Swift (<i>Chaetura pelagic</i>)	Culver's-root (<i>Veronicastrum virginicum</i>)
Canada Warbler (<i>Cardellina canadensis</i>)	Hackberry (<i>Celtis occidentalis</i>)
Common Nighthawk (<i>Chordeiles minor</i>)	Hairy Prairie-Clover (<i>Dalea villosa</i>)
Dakota Skipper (<i>Hesperia dacotae</i>)	Riddell's Goldenrod (<i>Solidago riddellii</i>)
Golden-winged Warble (<i>Vermivora chrysoptera</i>)	Western Silvery Aster (<i>Symphotrichum sericeum</i>)
Great Plains Toad (<i>Bufo cognatus</i>)	Western Spiderwort (<i>Tradescantia occidentalis</i>)
Mule Deer (<i>Odocoileus hemionus</i>)	
Olive-sided Flycatcher (<i>Contopus cooperi</i>)	
Ottoo Skipper (<i>Hesperia ottoe</i>)	
Polar Bear (<i>Ursus maritimus</i>)	

Species At Risk

Species Listed Under *The Endangered Species and Ecosystems Act*

Animals	Plants
Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>)	
Sprague's Pipit (<i>Anthus spragueii</i>)	
Short-eared Owl (<i>Asio flammeus</i>)	
Whip-poor-will (<i>Caprimulgus vociferus</i>)	
Western Hognose Snake (<i>Heterodon nasicus</i>)	
Extirpated:	
Greater Prairie-Chicken (<i>Tympanuchus cupido</i>)	
Grizzly Or Brown Bear (<i>Ursus arctos</i>)	
Kit or Swift Fox (<i>Vulpes velox</i>)	
Long-Billed Curlew (<i>Numenius americanus</i>)	
Muskox (<i>Ovibos moschatus</i>)	
Plains Bison (<i>Bison bison bison</i>)	
Pronghorn (<i>Antilocapra americana</i>)	
Riding's Satyr (<i>Neominois ridingsii</i>)	

<https://www.gov.mb.ca/conservation/wildlife/sar/sarlist.html>