Altona A&I Products (John Deere Canada)
Street Address, 432 Railway St S, Altona, MB, R0G0B0
Phone: 905-719-0047
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Mahir Ahmed
Environmental Professional
EHS Shared Services

February 20, 2024

Project/File: Licensce No. 3317

Agnes Wittmann
Director
Environmental Approvals Branch
Environment and Climate Change
14 Fultz Boulevard
Winnipeg MB R3Y 0L6

Dear Agnes Wittmann,

Reference: NOA Request for a Parts-Drying Oven- License No. 3317

Please find attached the application and supporting information requesting approval for a Notice of Alteration (NOA) to the above-referenced license. This is submitted in accordance with Section 14(1) of The Environment Act, on behalf of John Deere Canada ULC in partnership with A & I Products Canada Inc. (the proponent) for a proposed alteration to the license for its agricultural equipment metal parts fabrication facility (previously described as a metal combine parts fabrication facility) at 432 Railway Street South, Altona, Manitoba

The proponent seeks approval to proceed with a planned installation of a paint-drying oven in the West Shop paint room of the existing facility to improve the efficiency of the current ambient temperature paint drying process. The proposed alteration would not increase product throughput but would reduce the drying time in the manufacturing process (reducing overflow use of outdoor/unheated areas for drying) and improve the utilization of space within the facility.

As indicated in the attached report, the proposed alteration would be completed entirely within the existing facility. Based on the environmental screening documented in the attached report, potential environmental effects of the alteration are considered negligible and limited to incremental increases in energy use for the oven's operation and fuel use for contractor travel during its installation.

As per the guidance in the Information Bulletin – Alterations to Developments with Environment Act Licenses, this NOA request consists of an electronic copy (PDF file) of the NOA report and the completed NOA form. A $500 application fee, to be provided by John Deere ULC, will follow the submission to MECC. The facility would like to schedule project start by March 15th, 2024.

Should you require any additional information or clarifications, please do not hesitate to contact the undersigned.

Regards,

Altona A&I Products (John Deere Canada)
Mahir Ahmed
Environmental Professional – Canada
905-719-0047
AhmedMahir@JohnDeere.com

Notice of Alteration Form

Manitoba

File No. : 5984.00	Environment Act Licence No. : 3317

Legal name of the Licencee: A & I Products Canada Inc.

Name of the development: Agricultural Equipment Metal Parts Fabrication Facility

Category and Type of development per Classes of Development Regulation:

Manufacturing <SELECT>

Licencee Contact Person: Mahir Ahmed

Mailing address of the Licencee: 295 Hunter Road

City: Grimsby Province: Ontario Postal Code: L3M4H5

Phone Number: (905) 719-0047 Fax: Email: ahmedmahir@johndeere.com

Name of proponent contact person for purposes of the environmental assessment (e.g. consultant):

Johanna Theroux

Phone: (204) 479-8874 Fax:	Mailing address: 500-311 Portage Avenue, Winnipeg, MB R3B 2B9

Email address: johanna.theroux@stantec.com

Short Description of Alteration (max 90 characters):
Installation and operation of a paint-drying oven within the existing facility.

Alteration fee attached: Yes: ☑ No: ☐

If No, please explain:

Date: 2024/02/22

Signature: [redacted]

Printed name: Mahir Ahmed

A complete Notice of Alteration **(NoA)** consists of the following components:

- ☐ **Cover letter**
- ☐ **Notice of Alteration Form**
- ☐ **1 hard copy and 1 electronic copy of the NoA detailed report** (see "Information Bulletin - Alteration to Developments with Environment Act Licences")
- ☐ **$500 Application fee, if applicable** (Cheque, payable to the Minister of Finance)

Submit the complete NoA to:
Director, Environmental Approvals Branch
Manitoba Environment and Climate
14 Fultz Blvd
Winnipeg, Manitoba R3Y 0L6
EABDirector@gov.mb.ca

For more information:
Phone: (204) 945-8321 Fax: (204) 945-5229
https://www.gov.mb.ca/sd/permits_licenses_approvals/eal/licence/index.html

Note: Per Section 14(3) of the Environment Act, Major Notices of Alteration must be filed through submission of an Environment Act Proposal Form (see "Information Bulletin – Environment Act Proposal Report Guidelines")

John Deere Notice of Alteration Report for a Paint-Drying Oven

February 22, 2024

Prepared for:

John Deere ULC.

Prepared by:

Stantec Consulting Ltd.
500-311 Portage Avenue
Winnipeg, MB R3B 2B9

111474708

Revision: Final

JOHN DEERE NOTICE OF ALTERATION REPORT FOR A PAINT-DRYING OVEN

This document entitled John Deere Notice of Alteration Report for a Paint-Drying Oven was prepared by Stantec Consulting Ltd. ("Stantec") for the account of John Deere ULC. (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by [redacted]
(signature)
Johanna Theroux, B.Env.Sc., M.Sc.

Reviewed by [redacted]
(signature)
Stephen Biswanger, P.Eng.

Reviewed by [redacted]
(signature)
Nick Barnes, M.Sc.

Table of Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

1.1 PROJECT OVERVIEW

John Deere ULC in partnership with A & I Products Canada (the proponent) operates an agricultural equipment metal parts fabrication facility located at 432 Railway Street South in Altona, Manitoba (the Site or Facility) (Appendix A; Figure 1-1). The Facility operates under Environment Act Licence No. 3317, issued on February 21, 2020, as part of approvals under *The Environment Act,* based on an Environmental Assessment Report submitted on April 9, 2019. The existing Facility is considered a Class 2 Development under the Classes of Development Regulation (MR 164/88) of this act.

The proponent seeks approval for a Notice of Alteration (NOA) to proceed with a planned installation of a paint-drying oven in the West Shop paint room: Area 4200 (Appendix A; Figure 1-2) to improve the efficiency of the current ambient temperature paint drying process (the Project). The proposed Project would not increase product throughput but would reduce the drying time in the manufacturing process (reducing overflow use of outdoor/unheated areas for drying) and improve the utilization of space within the Facility.

Section 14(1) of *The Environment Act* requires a proponent to notify the Director (for Class 1 and 2 developments) if the proponent intends to alter a licensed development so that it no longer conforms to licence conditions or has the potential to change the environmental effects (Manitoba Sustainable Development [MSD] 2022). Based on e-mail correspondence, on July 27, 2023, Manitoba Environment and Climate Change (MECC) directed the proponent to file a request for Notice of Alteration (NOA) for the proposed change to the existing development. The key consideration for assessing a NOA is the significance of the environmental and human health effects as a result of the alteration and whether there is sufficient detail to allow the Director to determine whether the effects of the alteration are significant, insignificant, or nonexistent (MSD 2022).

This report documents the altered components of the development in terms of installation and operation of the paint-drying oven, the potential resultant environmental effects and planned mitigation measures.

1.2 THE PROPONENT

For the purposes of development licensing, the proponent is John Deere ULC and A & I Products Canada Inc (hereafter “A & I Products”). For further information regarding the Facility please contact the following:

Mr. Mahir Ahmed
Environmental Professional-Canada
John Deere Canada ULC
295 Hunter Road,
Grimsby, ON L3M 4H5

This NOA request was prepared by Stantec Consulting Ltd. (Stantec) on behalf of the proponent. The local Stantec contact is:

Johanna Theroux B.Env.Sc., M.Sc.
Environmental Scientist
Stantec Consulting Ltd.
500-311 Portage Avenue
Winnipeg, MB R3B 2B9
Telephone: (204) 479-8874
Email: johanna.theroux@stantec.com

1.3 LAND OWNERSHIP AND PROPERTY RIGHTS

The existing Facility is located at 432 Railway Street South in Altona, Manitoba on 2.9 ha property owned by LWL Equities Corp. A & I Products leases buildings on the Site for the fabrication of metal agricultural parts. The legal description for the subject property is described as South Lot 13 and 22 of Plan 509 MLTO W Div in Southeast ¼ 05-02-01 WPM CT# 1867772/4 (Appendix B). The existing Facility (buildings and parking areas) occupy approximately 1.7 ha on the 2.9 ha Site.

1.4 SCOPE OF THE ASSESSMENT

1.4.1 Spatial and Temporal Boundaries

The Site comprises the lands occupied by the existing buildings, including the production building, an office and shipping building, and canvas storage sheds for material storage and parts storage (Appendix A; Figure 1-3). For the purposes of this environmental assessment the spatial and temporal boundaries are as described in Table 1-1.

Table 1-1 Spatial and Temporal Boundaries

Spatial Boundaries	Temporal Boundaries
Site – the occupied property (approx. 2.9 ha; (see Appendix A; Figure 1-3)	Construction/installation phase – a period of 16 weeks over which the paint-drying oven is anticipated to be brought to the Site and installed.
Local Assessment Area (LAA) – area up to a 5-km radius from the Site where direct effects to the Project would be expected to occur (consistent with previous environmental assessment by GHD 2019; (Appendix A; Figure 1-4)	Operation phase – the period over which the paint-drying oven will be in operation, anticipated at least 15 years.
Regional Assessment Area (RAA) – area up to a 10-km radius from the Site (area over which direct effects that act on the LAA are compared to determine significance of residual effects; (Appendix A; Figure 1-5).	Decommissioning phase – it is anticipated that the paint-drying oven will have a lifespan of at least 15 years after which it may be repaired or replaced. There are currently no identified decommissioning activities or plans in place; however, decommissioning is anticipated to consist of removal from the Site for disposal/recycling or refurbishment in accordance with applicable regulatory requirements.

1.4.2 Assessment Approach

This assessment was completed to meet the requirements of a request for NOA as generally described in Manitoba Environment, Climate, and Parks' Information Bulletin – Alterations to Developments with Environment Act Licences (MSD 2022), and includes assessing project-specific environmental effects. The assessment focuses on valued components (VCs), which are environmental components of certain value or interest to regulators and other parties and are identified based on the potentially affected biophysical and socio-economic elements as described in Section 3.0.

Biophysical and socio-economic VCs that could be affected through interactions of the Project (i.e., construction/installation and operation of the proposed paint-drying oven) and the environment are identified to scope the assessment. Following the identification of VCs, an analytical framework is used to evaluate and characterize the potential project effects on those VCs identified as having potential project interactions, based on standardized criteria to facilitate quantitative (where possible) and qualitative assessment of residual environmental effects. Project-related effects on potentially affected VCs (if applicable) are then assessed sequentially in terms of direction, magnitude, geographic extent, frequency, duration, reversibility and ecological/social context as summarized in Table 1-2.

Table 1-2 Characterization of Residual Environmental Effects

Characterization	Description	Quantitative Measure or Definition of Qualitative Categories
Direction	The long-term trend of the residual effect.	**Positive**— an improvement in the valued component compared with existing conditions and trends. **Adverse**— a decline in the valued component compared with existing conditions and trends. **Neutral**— no change in the valued component from existing conditions and trends.
Magnitude	The amount of change in the VC relative to existing conditions.	**Negligible**—no measurable change **Low**— a change that falls within the level of natural variability. **Moderate**— a measurable change which is unlikely to affect the valued component. **High**— a measurable change which is likely to affect the valued component.
Geographic Extent	The geographic area in which an environmental effect occurs.	**S**—residual effects are restricted to the Site. **LAA**—residual effects extend into adjacent areas to the property (5 km radius). **RAA**—residual effects extend to other adjacent areas to the property (10 km radius).
Frequency	Identifies when the residual effect occurs and how often during the Project or in a specific phase.	**Single event**— residual effect occurs once throughout the life of the Project. **Multiple irregular event**— residual effect occurs sporadically and intermittently (no set schedule) throughout. **Multiple regular event**— residual effect occurs repeatedly and regularly throughout. **Continuous**—residual effect occurs continuously throughout the life of the Project.
Duration	The period of time required until the VC returns to its existing condition, or the effect can no longer be measured or otherwise perceived.	**Short-term**— residual effect restricted to the duration of the construction/installation phase (approximately 16 weeks). **Medium-term**— residual effect extends up to 5 years. **Long-term**— residual effect extends for longer than 5 years.
Revers bility	Pertains to whether the VC can return to its existing condition after the project activity ceases.	**Reversible**—the effect is likely to be reversed after activity completion and decommissioning. **Irreversible**—the effect is unlikely to be reversed even after decommissioning.
Ecological and Socio-economic Context	Existing condition and trends in the area where environmental effects occur.	**Undisturbed**—area is relatively undisturbed or not adversely affected by human activity. **Disturbed**—area has been substantially previously disturbed by human development or human development is still present. **Note:** all effects for the Project are considered to take place within a disturbed context.

1.5 PUBLIC ENGAGEMENT

The existing Facility is located on a privately-owned parcel of land within an appropriately zoned area for industrial land use. A & I Products began operations at the facility in 2007, with similar operations to the present manufacturing activities occurring on the Site since 1959. As a result, the proposed Project is not anticipated to affect neighboring properties. No formal public engagement is planned beyond the placement of the NOA on the Public Registry for public review and comment if required by MECC.

1.6 FUNDING

A & I Products Canada Inc. and John Deere ULC will provide funding for all undertakings related to the Project.

2.0 PROJECT DESCRIPTION

2.1 EXISTING LICENSED DEVELOPMENT

A & I has been operating the Facility for the manufacturing of over 1,400 different metal parts for agricultural equipment since 2007. The Facility is located on approximately 2.9 ha of land zoned as "Settlement Centre," as identified in Development Plan 3-2011 by the Rhineland, Plum Coulee, Gretna, Altona Planning District. The Facility consists of a heated production building, a heated office/shipping building, and two unheated, canvas storage sheds. A layout of the Site is provided in Appendix A; Figure 1-3).

For the production process, materials such as metal, wood, pallets, and dry materials are shipped to the Facility, where they are unloaded and stored in the south canvas storage shed (Area 9100 in Appendix A; Figure 1-2). Materials are then transported by forklift to the Production Building where they are generally cut, bent, welded, punched, shaped, and assembled. Parts are then moved to the West Shop paint room where they are painted and then to Area 3300 (Appendix A; Figure 1-2) where they are dried prior to transport to the Office and Shipping building for packaging and stored for outgoing shipping. Processes vary depending on the type of parts produced. Once products are manufactured, they are transported to the heated shipping building and are packaged and collected for outgoing transport. Approximately 4.0 million pounds
(lbs; 2,000 tons) of product is manufactured annually at the Facility.

The Facility operates from approximately 7:00 am-10:00 pm Monday to Thursday and to 7:00 am-3:30 pm Friday (approximately 260 days per year). The approximately 44 full-time employees at the Facility typically occupy the heated production building and the heated office building.

2.1.1 Existing Drying Rack

Painting operations are carried out in the West Shop paint room (Area 4200 in Appendix A; Figure 1-2) of the heated Production building. In this area, parts are dip painted (Figure 2-1) and stored to dry on ambient air-drying racks in the paint room (Figure 2-2). During certain times of the year, parts are also brought to Area 3300 to dry in ambient air in the production shelter (Appendix A; Figure 1-2).

Figure 2-1 Parts Conveyor and Paint Tank in West Shop Paint Room

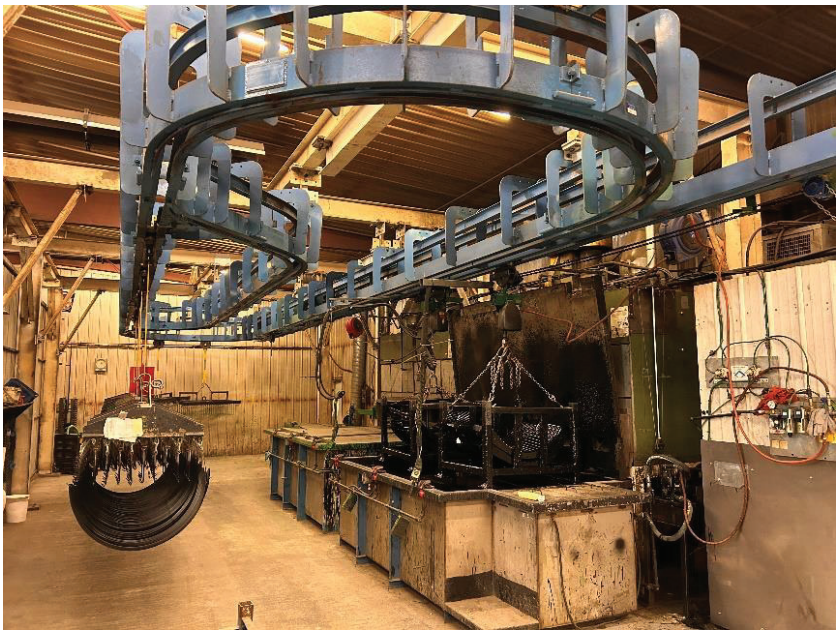


Figure 2-2 Existing Paint-Drying Racks

There are six air intakes located in the West Shop paint room that convey air and volatile organic compounds (VOCs), from the painting activities to two roof mounted stacks (three intakes per stack) located on the north side of the paint room and exhausting to the atmosphere. Air is pulled from the West Shop paint room to the intakes via a 1.32 m^3/s grill exhaust fan located near the paint tanks. No filtration systems are in place on the stacks exhausting from the West Shop paint room.

2.2 PROPOSED ALTERATION

The proposed Project alteration is the removal of the existing ambient air-drying racks in the West Shop paint room, and the installation and operation of an electrically powered paint-drying oven in the same area. The proposed paint-drying oven, manufactured by Saturn Ovens, will be mounted on an approximately 14.1 m long metal frame. The oven will be connected to the existing exhaust system, venting to the atmosphere via the existing roof-mounted stacks that serve the existing paint drying area. The existing grill exhaust fan, which draws air via the intakes in the West Shop paint room, will be replaced with a new, lower output, exhaust fan (reduced from existing 1.32 m^3/s to 0.71 m^3/s).

Installation and operation of the paint-drying oven will proceed as soon as possible, upon regulatory approval and coordination with the selected contractor (Saturn Ovens). There are no proposed changes to raw materials, throughput production, or wastes (other than waste associated with oven cleaning which is anticipated to be seldom required).

2.2.1 Project Inputs and Outputs

During the anticipated 16-week period for Project construction/installation, approximately two contractor staff will be on-site on a full-time basis to remove the existing drying racks and install the paint-drying oven. Anticipated Project inputs include the additional contractor labour, materials/supplies, and negligible additional sanitary water use from the two additional personnel. Project outputs during construction/ installation are anticipated to be negligible and limited to the additional incremental emissions from contractor vehicular traffic (approximately 1-2 vehicles per day) and additional solid waste (such as packaging for equipment and supplies), and sanitary wastewater from the additional two personnel occupying the Facility. Scrap metal from the existing drying rack will be recycled to the extent practical.

During the Project operation (a minimum of 15 years), Project inputs will primarily be limited to energy (power) for the operation of the paint-drying oven and maintenance parts and labour. The Project will reduce drying time from approximately 24 hours to 15 minutes for an average part. With approximately 8 batches of parts dried per day (1 batch per hour), the effective oven power use is estimated at approximately 2 hours per operating day with an energy input estimated at 600 Volts, 200 Amps. Project outputs include the exhaust emissions that are anticipated to be similar to current Site operations, since no changes to product throughput are proposed and no changes to the paint or composition of emissions are anticipated with the use of the paint-drying oven. The grill exhaust fan will be operated at a reduced output from 1.32 m^3/s to 0.71 m^3/s, resulting in a decrease in the flow of exhaust emissions and a marginal decrease in fan energy inputs.

No changes from the existing configuration are anticipated in terms of waste production, traffic volumes, or employment as part of the Project operation since no changes are proposed to product throughput and

since the Project activities are limited to the existing Facility footprint. No upgrades to the Site utility services are anticipated to be required to accommodate the power requirements for the paint-drying oven.

2.3 PROJECT SCHEDULE

The proposed Project is anticipated to start on March 25, 2024, pending regulatory approval. It is anticipated that Project construction/installation will take approximately 16 weeks and Project operation will begin immediately upon the completion of installation, and last approximately 15 years.

3.0 ENVIRONMENTAL EFFECTS AND MITIGATION

Biophysical and socio-economic VCs that could potentially be affected through interactions of the environment and the Project were identified to scope the assessment. The rationale for exclusion or inclusion for further assessment of each VC is explained, and potential general interactions between the Project and VCs are identified in Table 3-1.

Table 3-1 Designation of Valued Components

Valued Component	Potential Project/ Environment Interaction	Rationale for Exclusion or Inclusion and Project Potential Effect
Air quality/ Greenhouse gas emissions	✓	Air emissions (exhausted air) are anticipated from the operation of the paint-drying oven. Project emissions are expected to be similar compared to existing operations, since no changes are anticipated to product throughput. Effects on air quality are anticipated to be negligible. Greenhouse gas emissions at the Site will remain the same, although there would be a negligible increase to emissions due to the increase in power usage for the oven.
Soils/terrain	x	No soil disturbance, excavations or regrading are required for the installation or operation of the paint-drying oven. Soils/terrain are therefore excluded from further assessment of environmental effects.
Surface water/ groundwater	x	There are no substantial changes in water inputs and outputs associated with the operation of the paint-drying oven. The installation will require two additional personnel occupying the Facility resulting in a negligible increase in water use/sanitary wastewater from increased building occupancy. No changes to the Site services for water are required to accommodate the change and therefore, surface water/groundwater is excluded from further assessment of environmental effects.
Vegetation	x	The paint-drying oven will be located within the existing Facility and its installation/operation is not anticipated to affect vegetation at the Site since all activities are anticipated to take place on previously disturbed areas within the existing Facility footprint. Vegetation is therefore excluded from further assessment of environmental effects.
Wildlife and wildlife habitat	x	The installation/operation of the paint-drying oven is contained within the existing production building footprint and will not further directly affect wildlife or wildlife habitat. Effects on wildlife and wildlife habitat are therefore excluded from further assessment of environmental effects.
Property and land use	x	The installation and operation of the paint-drying oven will not change the use of the Site and will occur within the Facility footprint. Property and land use is therefore excluded from further assessment of environmental effects.
Infrastructure and services	✓	The operation of the paint-drying oven will incrementally increase electricity usage; however, there will be no need for changes in the provision of municipal infrastructure and services to the Site (i.e., external roads, sewer, water, power) for its installation or use. A negligible incremental increase in traffic to the Site is anticipated during installation. Effects on infrastructure and services are anticipated to be negligible.
Employment and economy	✓	Installation of the paint-drying oven will be provided by temporary, contracted employment. No changes in product throughput are proposed during the Project operation and therefore, effects on employment and economy are anticipated to be negligible.
Heritage resources	x	The Project installation and operation is located within the existing production building and no ground disturbances are required for the Project; therefore, heritage resources are excluded from further assessment of environmental effects.

Valued Component	Potential Project/ Environment Interaction	Rationale for Exclusion or Inclusion and Project Potential Effect
Aesthetics and noise	✓	Some interior noise is expected to be generated through the operation of the oven's motor/fans; however this effect is anticipated to be typical of operations at the Site and present a negligible increase beyond the production building.
Health and safety	✓	The operation of the paint-drying oven will change worker health and safety risks and exposures. The paint-drying oven will be exhausted directly to the existing stacks and therefore exhaust exposures are not anticipated to increase. Personnel will be trained to reduce operational use risks and therefore, effects are anticipated to be negligible.
Notes: x – no anticipated potential Project/environment interaction ✓ - potential Project/environment interaction		

3.1 VC ASSESSMENT AND SUMMARY OF MITIGATION MEASURES

3.1.1 Air Quality & Greenhouse Gas Emissions

During the approximately 16-week construction/installation phase of the Project, an estimated additional single vehicle (contractor vehicle) will be accessing the Site, generating an increase in vehicle and greenhouse gas emissions. Increased local vehicle emissions in the RAA related to the construction traffic (one or two deliveries and daily contractor travel from/to Winnipeg for 16 weeks) would be negligible in comparison to emissions from existing vehicle traffic in the LAA and RAA. With respect to greenhouse gas (GHG) emissions the following gross assumptions were made:

- An estimated 2,640 L of gasoline fuel would be consumed in travel during the 16-week construction period from additional construction traffic, based on a maximum travel distance of 220 km per day (round-trip from Winnipeg), for 5 days per week and an average fuel economy of 15 L/100 km for a typical pickup truck. This fuel use would produce approximately 6.1 tonnes of CO_2 equivalent (CO_2e) using standard emission factors (ECCC 2023).
- An estimated 21,120 L of gasoline fuel would be consumed in travel during the 16-week construction period for the existing operational employee traffic, based on 44 staff with an average round trip commute of 40 km/day (or less). This fuel use would produce 49.0 tonnes CO_2e, based on standard emission factors (ECCC 2023).
- An estimated 19,712 L of diesel fuel would be consumed during the 16-week construction period for the existing shipping/receiving traffic, based on approximately 3.5 trucks per day, round-trip from Winnipeg 5 days per week (pers comm. A & I Products 2024), with an assumed average fuel economy of 32 L/100 km for a typical semi-truck. This fuel use would produce 53.1 tonnes CO_2e, based on standard emission factors (ECCC 2023).
- An estimated 203,380 m^3 of natural gas would be consumed during the 16-week construction period for the existing manufacturing activities, based on a desktop value of typical manufacturing facility natural gas use of 14.6 m^3 per year per square foot of facility space (FriendlyPower n.d). This fuel use for the Production Building (approximately 45,273 ft^2) would produce 398.6 tonnes CO_2e, based on standard emission factors (Manitoba Hydro 2021).

- An estimated 240 kwh/day of energy would be consumed by the paint-drying oven during the 15-year operation period. With power in Manitoba producing an estimated 1.1 g CO_2/kwh, (Government of Manitoba 2023), the power for the paint-drying oven would produce 1.5 tonnes of CO_2 during its operational life.

The Facility greenhouse gas emissions over the 16-week construction period (500.7 tonnes CO_2e), is estimated to increase by 6.1 tonnes CO_2e, representing a 1% increase during the construction phase and less than a 0.5% in a year. The Facility greenhouse gas emissions over the 15-year operation period (24,410 tonnes of CO_2e) is estimated to increase by 1.5 tonnes, representing a negligible increase to overall greenhouse gas emissions from Site operations and contributes a negligible amount to the province of Manitoba's annual GHG emissions of approximately 21 Mt CO_2e (ECCC 2023b).
The increase in greenhouse gas emissions is expected to be an adverse effect that is negligible, irreversible, long-term, and a multiple-regular event occurring in the RAA in a disturbed context.

During operation, facility air emissions are expected to be similar in composition compared to existing operations, since no changes are anticipated to product throughput and since the use of the paint-drying oven is not anticipated to change the chemical characteristics of existing exhaust.

- The drying time for an average part is expected to be reduced from 24 hours to approximately 15 minutes with the use of the paint-drying oven.
- The oven is expected to operate for 15 minutes every hour for 8 hours (an estimated total run-time of two hours per day, corresponding to a 92% decrease in drying time. It can be assumed that the corresponding exhaust emissions would vary (similar to present) although daily emissions would remain the same.
- The grill exhaust fan pulling emissions from the paint-drying oven to the existing stack will be replaced with a similar fan operating at a reduced output from 1.32 m^3/s to 0.71 m^3/s, corresponding to a 54% decrease in the flow of exhaust emissions.

The intermittent variability of the emissions, combined with the reduced exhaust flow, is not anticipated to result in off-site air quality conditions that are discernible from existing conditions. The change from paint drying in covered outdoor locations and the existing drying area to having all drying completed within the paint-drying oven with dedicated exhaust and the elevated stack is expected to adequately disperse odours and reduce air quality effects on nearby off-site receptors. Changes to air quality are therefore expected to be a neutral effect that is negligible relative to existing conditions, reversible, long-term, and a multiple-regular event that is expected to be limited to the Site and occurring in a disturbed context.

3.1.2 Infrastructure and Services

During the construction/installation period of the Project, there will be an increase in Site traffic associated with the additional contractor vehicles accessing the Site. The additional traffic is estimated to be one contractor vehicle accessing the Site 5 days per week, for approximately 16 weeks. The increase relative to the existing Site traffic (approximately 44 vehicles per day) is a temporary 2% increase and is expected to be indiscernible relative to existing Site traffic. The adverse effect on traffic services will be negligible, short-term, reversible and of a multiple-regular frequency limited to the LAA. During the operation of the Project, no increase is anticipated in Site traffic since the Project will not increase product throughput or require additional personnel accessing the Site.

An increase is anticipated in electricity/power usage to operate the paint-drying oven. The power requirement is estimated to be 600 Volts, 200 Amps, for approximately 2 hours per day (5 days per week), for a total of 240 kwh/day. No upgrades are required to the Site's power services and therefore, the increase is expected to be an adverse effect that is negligible to low, reversible, short-term, and a multiple-regular event that is expected to be limited to the Site and occurring in a disturbed context.

3.1.3 Employment and Economy

There will be two contracted personnel required for the Project for approximately 8 hours per day, 5 days per week, during the 16-week construction/installation period. Current employment at the Site is 44 full time employees. The contracted employment results in a small temporary increase to the total Site employment but no adverse effects to the workforce in the RAA are anticipated. The increase in employment is anticipated to be a positive effect that is negligible relative to the employment in the RAA., reversible, short-term, and continuous during construction, limited to the Site and occurring in a disturbed context.

Similarly, the purchase, installation and operation of the oven will be negligible in the RAA and no increase in product throughput or Site staffing is anticipated; therefore, no changes to employment and economy are anticipated.

3.1.4 Aesthetics and Noise

No discernible changes to aesthetics or noise are anticipated at the Site during the construction/ installation period of the Project given that activities for equipment installation and removal will be within the existing footprint and within the existing production building. The adverse effect of the construction/ installation of the oven is anticipated to be negligible in terms of aesthetics and noise generation beyond the existing buildings, it will be a short-term, reversible, and continuous effect that is expected to be indiscernible compared to the existing disturbed Site conditions.

During Project operation, effects on noise and aesthetics are anticipated to be improved, as the paint-drying oven will expedite the drying process and allow for more efficient use of the space within the production building, reducing the need to dry parts outside and reducing noise associated with transporting parts outdoors. Containing the parts to within the building will also improve overall aesthetics of the Site. Some noise associated with the use of the oven (motors, fans) is anticipated; however, the increase is anticipated to be indiscernible from existing Site noise and limited to the production building. The overall adverse effects on aesthetics and noise during operation are anticipated to be negligibly positive, long-term, continuous, and limited to the disturbed Site.

3.1.5 Health and Safety

The operation of the paint-drying oven will change worker health and safety risks and exposures. The paint-drying oven will be exhausted to the existing stacks and therefore exhaust exposures are not anticipated to increase within the West Shop paint room. Given that paint exhaust during the drying process will be exhausted to the existing stack, overall emission exposures in the West Shop paint room are anticipated to decrease compared to the existing ambient drying rack system. The existing exhaust will be reduced from 1.32 m^3/s to 0.71 m^3/s (54%), which is not anticipated to result in a net adverse effect on air quality in the LAA given the reduced exposure from the paint-drying process. The operation of the paint-drying oven also reduces the need to transport parts outdoors to dry, which may reduce ergonomic hazards associated with additional lifting and handling. With regular maintenance and inspection, and provision of personal protective equipment and adequate training, effects to workplace health and safety from the Project are anticipated to be adverse, long-term, multiple-regular events, limited to the Site but negligible relative to the existing health and safety risks at the Site associated with other metal fabrication activities such as welding.

4.0 MITIGATION MEASURES

As the Project only involves the removal of the existing drying rack and the installation and operation of the paint-drying oven within the existing Facility West Shop paint room, the mitigation measures incorporated in the Project are primarily related to proper installation of the oven by the installers and training workers on the proper operation of the paint-drying oven and operating exhaust systems to reduce workplace health and safety risks and accidents.

5.0 ACCIDENTS AND MALFUNCTIONS

Accidents and malfunctions can potentially result in harm to on-site personnel, damage to equipment, the release of contaminants and/or hazardous materials from equipment, and degradation of the environment and human health and safety. Due to the limited nature of the Project, the effects of accidents and malfunctions are anticipated to be negligible and primarily related to the potential for operational failure of the existing ventilation systems or the paint-drying oven, which could lead to an accumulation of paint fumes, a risk of fire/melting of equipment, or similar event that would and present a risk to human health and safety. In the event of an operational failure to the ventilation systems, painting operations will be suspended until the ventilation issue is repaired, similar to existing operations. The paint-drying oven is equipped with temperature and heat sensors and emergency stop features and will only be operated under the care of trained Site personnel, limiting the risks of adverse effects from equipment failures.

During installation, the manufacturer will provide maintenance and service training which will become part of the maintenance plan for operation. Maintenance is expected to include regular visual inspections of the paint-drying oven and ventilation systems for signs of wear. Routine maintenance is anticipated to be limited to periodic cleaning and lubrication of moving parts as required to address issues and concerns. The implementation of regular monitoring and maintenance of equipment in the paint-drying room is expected to mitigate potential effects related to accidents and malfunctions and will serve to reduce the likelihood of an operational failure occurring.

In addition, fire extinguishers will continue to be inspected and maintained in the production building to reduce adverse effects from an operational failure and an emergency response plan is in place at the Facility to reduce adverse effects in the event of an emergency. The emergency response plan will be updated to include procedures related to the paint-drying oven, as applicable.

6.0 CONCLUSION

Stantec has prepared this environmental assessment report on behalf of A & I Products Canada Inc. in support of the NOA application for the installation and use of a paint-drying oven. The NOA application is filed in accordance with Section 14(1) of *The Environment Act* that requires a proponent to notify the Director (for Class 1 and 2 developments) if the proponent intends to alter a licensed development (MSD 2022). Potential interactions of the Project and the environment were evaluated with likely interactions examined to assess residual effects on the assumption of typical mitigation measures representative of best practices. On the basis of information available to date and as presented in this report, adverse effects of the proposed Project to the biophysical and socio-economic environment are expected to be not significant. It is anticipated that the proposed alteration will be considered as a minor alteration to the Facility.

7.0 REFERENCES

7.1 LITERATURE CITED

ECCC (Environment and Climate Change Canada). 2023. Emission Factors and Reference Values. Version 1.1. June 2023. Available online at: https://publications.gc.ca/collections/collection_2023/eccc/En84-294-2023-eng.pdf. [accessed February 7, 2024].

ECCC (Environment and Climate Change Canada). 2023b. National Inventory Report. 1990-2021: Greenhouse Gas Sources and Sinks in Canada. Canada's submission to the united nations framework convention on climate change. Executive Summary. Available online at: https://publications.gc.ca/collections/collection_2023/eccc/En81-4-1-2021-eng.pdf. [accessed February 7, 2024].

FriendlyPower. N.d. Manufacturing Facilities. Available online at: https://esource.bizenergyadvisor.com/article/manufacturing-facilities. [accessed February 7, 2024].

Government of Manitoba 2023. Manitoba's Energy Roadmap. Available online at: https://www.gov.mb.ca/jec/files/mb_energy_roadmap.pdf. [accessed February 7, 2023].

Manitoba Hydro. 2021. Manitoba Hydro's Greenhouse Gas Emission Factors. Available online at: https://www.hydro.mb.ca/docs/corporate/ghg-emission-factors.pdf. [accessed February 7, 2024].

Manitoba Sustainable Development (MSD). 2022. Information Bulletin – Alterations to Developments with Environment Act Licences. Available at: https://www.gov.mb.ca/sd/eal/publs/alteration_guidelines2016.pdf. [accessed January 12, 2024).

7.2 PERSONAL COMMUNICATIONS

A & I Products. 2024. E-mail communication to Stantec Consulting Ltd. on January 26, 2024.

APPENDIX A

Figures

C:_GIS_Project_Folder\111474708_JohnDeere_Altona\Figures\111474708_001_ProjectSite_20240103.mxd Revised 2024-01-03 By: ACampigotto

Legend

- Site Location
- Major Road
- Minor Road
- Local Road
- Watercourse

0 200 400 Metres

(At original document size of 8.5x11)
1:25,000

N

Stantec

Project Location
432 Railway Street South,
Altona, Manitoba

Prepared by ACampigotto on 2024-01-03
Reviewed by JTheroux on 2024-01-03

Client/Project 111474708
John Deere ULC
Parts Manufacturing Facility NOA
432 Railway Street South, Altona, Manitoba

Figure No.
1-1

Title
Site Location Plan

Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba.
3. Aerial Imagery Source: Microsoft product screenshot reprinted with permission from Microsoft Corporation

OPERATIONAL FLOOR PLAN AREAS	
DEPARTMENT	DEPT. ID. No.
Machining	1100
Tumbler / Kiln	1200
Maintenance	2100
Welding Area 2	2200
Induction Hardening	3100
Cylinder Bars / Drill / Punch	3200
Outdoor Storage / Production Shelter	3300
Dip Paint	4200
Beet Rims / Notching	4300
Slats / Recappers	4400
Productiom Offices	5100
Prod. Loading Dock	5200
Laser Parts Storage	5300
Welding Area 1	6100
Break & Shear	6200
Robot Area	6300
Chaffer Production	7100
Louver Prod. / Drilling	7200
Bar cutting / Saw	7300
Shipping Loading Dock	8100
Finished Goods Receiving	8200
Packaging / Kitting	8300
Administration Offices	8400
Packaging / Assembly	8500
Parts Storage	8600
Raw Material Storage	9100

Source: *GHD, Figure 4: Operational Floor Plan. Mar 21, 2019. Supplemental Phase II ESA Site Plan.*

Project Location
Altona
Manitoba

111474708

Prepared by AC on 2024-02-05
Technical Review by JT on 2024-02-05

Stantec

Client/Project
John Deere ULC
Parts Manufacturing Facility NOA
Altona Manitoba

Figure No.
1-2

Title
Operational Floor Plan

G:_GIS_Project_Folder\111474708_JohnDeere_Altona\InDesign\Template_for_OperationalFloorPlan_20240205.mxd Revised: 2024-02-05 By: ACampigotto

C:\...G.S_Project_Folder\111474708_JohnDeere_Altona\figures\111474708_003_SiteLayout_20240103.mxd Revised: 2024-01-03 By: ACampigotto

Legend

Site Location

0 20 40 Metres

(At original document size of 8.5x11)
1:2,000

N

Stantec

Project Location
432 Railway Street South,
Altona, Manitoba

Prepared by ACampigotto on 2024-01-03
Reviewed by JTheroux on 2024-01-03

Client/Project 111474708
John Deere ULC
Parts Manufacturing Facility NOA
432 Railway Street South, Altona, Manitoba

Figure No.
1-3

Title
Site Layout

Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba.
3. Aerial Imagery Source: Microsoft product screenshot reprinted with permission from Microsoft Corporation

Legend

- Site Location
- Local Assessment Area
- Parcels

0 50 100 Metres

(At original document size of 8.5x11)
1:6,000

N

Stantec

Project Location
432 Railway Street South, Altona, Manitoba

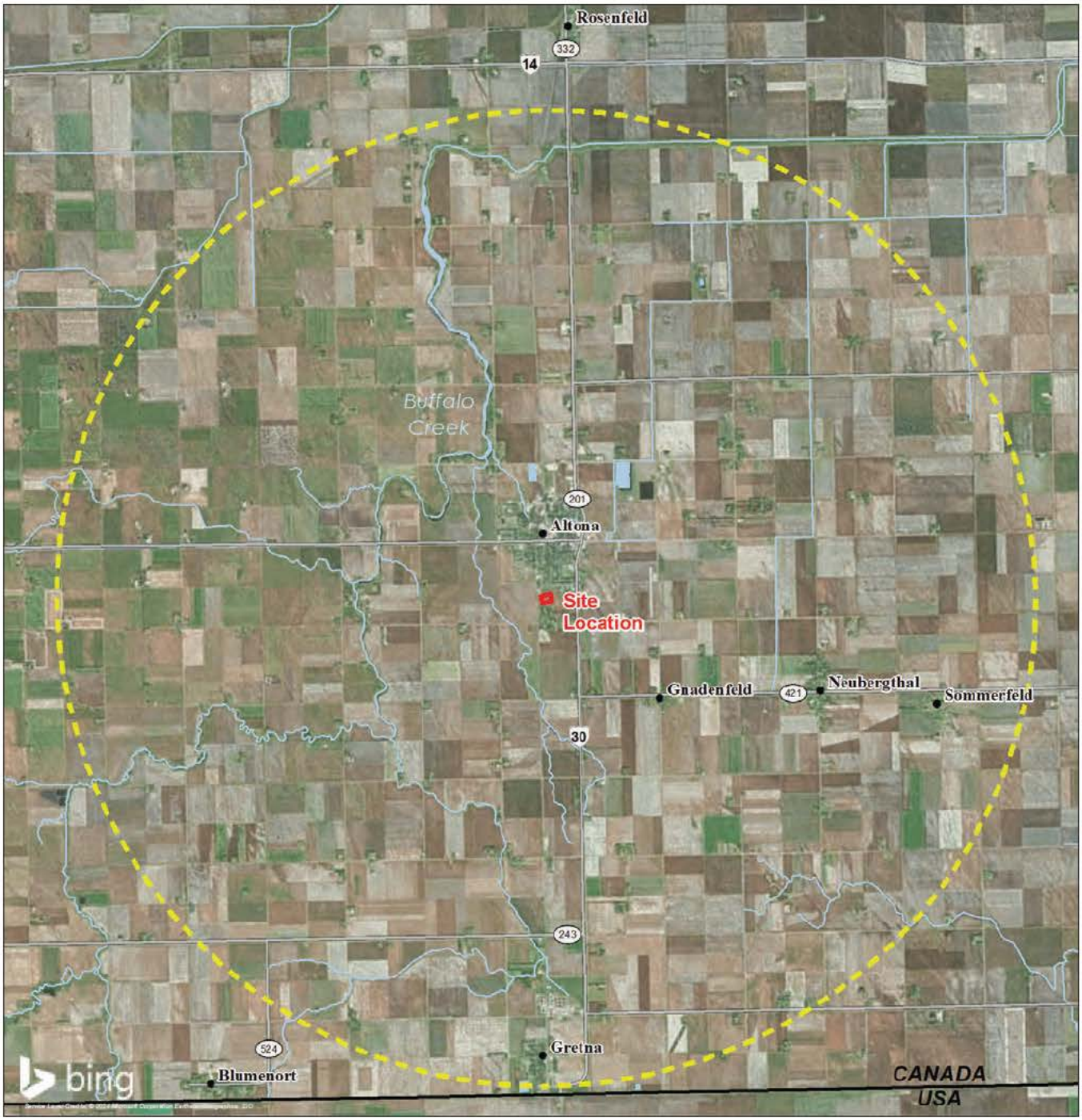
Prepared by ACampigotto on 2024-01-03
Reviewed by JTheroux on 2024-01-03

Client/Project 111474708
John Deere ULC
Parts Manufacturing Facility NOA
432 Railway Street South, Altona, Manitoba

Figure No.
1-4

Title
Local Assessment Area

Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba.
3. Aerial Imagery Source: Microsoft product screenshot reprinted with permission from Microsoft Corporation



Legend

- Site Location
- Regional Assessment Area
- Towns/Villages
- Watercourse

0 1,000 2,000 Metres

(At original document size of 8.5x11)
1:3,500,000

N

Stantec

Project Locat on
432 Railway Street South,
Altona, Manitoba

Prepared by JHiebert on 2024-01-19
Reviewed by JTheroux on 2024-01-19

C ient/Project 111474708
John Deere ULC
Parts Manufacturing Facility NOA
432 Railway Street South, Altona, Manitoba

Figure No.
1-5

Title
Regional Assessment Area

Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba.
3. Aerial Imagery Source: Microsoft product screenshot reprinted with permission from Microsoft Corporation

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APPENDIX B

Certificates of Title

STATUS OF TITLE

Title Number **1867772/4**
Title Status **Accepted**
Client File March 14

The Property Registry
A Service Provider for the Province of Manitoba

1. REGISTERED OWNERS, TENANCY AND LAND DESCRIPTION

LWL EQUITIES CORP.

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

PARCEL I:
LOT 13 PLAN 509 MLTO (W DIV)
IN SE 1/4 5-2-1 WPM
EXCEPTING - THE N 1/2

PARCEL II:
LOT 22 PLAN 509 MLTO (W DIV)
IN SE 1/4 5-2-1 WPM
EXCEPTING -
FIRSTLY - THE ELY 384 FEET OTHER THAN THE SLY 66 FEET
SECONDLY - ALL THAT PORTION OF THE SLY 66 FEET WHICH LIES TO THE EAST
OF A LINE DRAWN WEST OF, PARALLEL WITH AND PERP DISTANT 50 FEET FROM
THE WESTERN LIMIT OF PUBLIC ROAD SHOWN COLOURED PINK ON PLAN 545 MLTO

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:	**Mortgage**
Registration Number:	**1097296/4**
Instrument Status:	**Accepted**
Registration Date:	2006-03-20
From/By:	LWL EQUITIES CORP.
To:	LLOYD WESLEY INC., ET AL
Amount:	$5,000,000.00
Notes:	No notes
Description:	No description

Instrument Type:	**Caveat**
Registration Number:	**1167921/4**
Instrument Status:	**Accepted**
Registration Date:	2012-02-16
From/By:	RURAL MUNICIPALITY OF RHINELAND
To:	
Amount:	
Notes:	ALL
Description:	EASEMENT AGREEMENT DATED 2011/10/20

Instrument Type:	**Caveat**
Registration Number:	**1167942/4**
Instrument Status:	**Accepted**
Registration Date:	2012-02-16
From/By:	RURAL MUNICIPALITY OF RHINELAND
To:	
Amount:	
Notes:	PART (PARCEL I)
Description:	LOW PRESSURE SEWER CONNECTION AGMT DATED 2011/09/09

3. ADDRESSES FOR SERVICE

LWL EQUITIES CORP.
BOX 820
ALTONA MB
R0G 0B0

4. TITLE NOTES

No title notes

5. LAND TITLES DISTRICT

Morden

6. DUPLICATE TITLE INFORMATION

Duplicate not produced

7. FROM TITLE NUMBERS

1839213/4 All

8. REAL PROPERTY APPLICATION / CROWN GRANT NUMBERS

No real property application or grant information

9. ORIGINATING INSTRUMENTS

Instrument Type:	**Transfer Of Land**
Registration Number:	**1053492/4**
Registration Date:	2002-04-19
From/By:	ESTATE OF JAKE LOEWEN
To:	LWL EQUITIES CORP.
Consideration:	$20,000.00

10. LAND INDEX

Lot 13 Plan 509
EXC N 1/2 (IN SE 5-2-1W)

Lot 22 Plan 509
EXC PARTS (IN SE 5-2-1W)

CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA STORAGE SYSTEM OF TITLE NUMBER 1867772/4