



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

August 17, 2018  
File: 1193710227

**Attention: Siobhan Burland Ross, M.Eng., P.Eng**  
Acting Director, Environmental Approvals Branch  
Manitoba Sustainable Development  
1007 Century Street  
Winnipeg, MB, R3H 0W4

Dear Ms. Burland Ross,

**Reference: B/E Aerospace Environment Act Proposal, Winnipeg, MB**

Enclosed are four hard copies and one electronic copy of the Environment Act Proposal (EAP) Form and supporting information to obtain approval for the continued operation of Rockwell Collins' manufacturing facility operating as B/E Aerospace in Winnipeg, filed on behalf of Rockwell Collins Inc.

We understand the B/E Aerospace facility is considered a Class 2 development as per the Classes of Development Regulation. According to correspondence from Manitoba Sustainable Development dated July 5, 2018, a complete Environment Act Proposal is required. The EAP application fee of \$7,500, provided by the proponent, is enclosed. We trust that the information on the form and in the EAP is sufficient for the Environmental Approvals Branch to undertake its review.

Should you have any questions regarding the Project or attached information, please contact me directly at 204-924-7061.

Regards,

**Stantec Consulting Ltd.**

**Stephen Biswanger** P.Eng.  
Senior Project Manager, Environmental Engineer  
Phone: 204-924-7061  
Stephen.biswanger@stantec.com

Attachment: One EAP Form and Supporting Information and application fee (\$7,500)  
Four hard copies and one electronic copy of the EAP

c. Barb Salter, Rockwell Collins Inc.



**Rockwell Collins Environment  
Act Proposal for B/E  
Aerospace Manufacturing  
Facility**

FINAL REPORT



Prepared for:  
Rockwell Collins Inc.

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

193710227

August 17, 2018



## Sign-off Sheet

This document entitled Rockwell Collins Environment Act Proposal for B/E Aerospace Manufacturing Facility was prepared by ("Stantec") for the account of Rockwell Collins Inc. (the "Client") for Manitoba Sustainable Development. 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 \_\_\_\_\_

(signature)

**Johanna Theroux, M.Sc**



Reviewed by \_\_\_\_\_

(signature)

**Stephen Biswanger, P.Eng.**



Approval to transmit: \_\_\_\_\_

(signature)

**Karen Mathers M.Sc., P.Geo. FGC, PMP**



## Table of Contents

<b>ENVIRONMENT ACT PROPOSAL FORM .....</b>	<b>IV</b>
<b>EXECUTIVE SUMMARY .....</b>	<b>I</b>
<b>1.0 INTRODUCTION .....</b>	<b>1.1</b>
1.1 PROJECT OVERVIEW .....	1.1
1.2 THE PROPONENT.....	1.1
1.3 LAND OWNERSHIP AND PROPERTY RIGHTS.....	1.2
1.4 PREVIOUS ACTIVITIES/STUDIES .....	1.2
1.5 FUNDING .....	1.2
<b>2.0 REGULATORY AND POLICY SETTING.....</b>	<b>2.1</b>
2.1 FEDERAL APPROVALS .....	2.1
2.2 PROVINCIAL APPROVALS .....	2.1
2.3 MUNICIPAL APPROVALS AND PERMITS .....	2.1
2.3.1 Municipal Sewer System .....	2.1
2.4 PUBLIC ENGAGEMENT .....	2.1
<b>3.0 PROJECT DESCRIPTION .....</b>	<b>3.1</b>
3.1 OVERVIEW.....	3.1
3.1.1 Existing Development .....	3.1
3.1.2 Production Process.....	3.4
3.1.3 Hazardous Waste Management .....	3.5
3.1.4 Wastewater Management .....	3.7
3.1.5 Solid Waste Management .....	3.7
3.1.6 Chemical Use On-site .....	3.8
3.1.7 Water, Electric and Gas Utilities.....	3.8
3.1.8 Health and Safety.....	3.9
<b>4.0 SCOPE OF THE ASSESSMENT .....</b>	<b>4.1</b>
4.1 SPATIAL AND TEMPORAL BOUNDARIES .....	4.1
<b>5.0 EXISTING ENVIRONMENT IN PROJECT AREA.....</b>	<b>5.1</b>
5.1 BIOPHYSICAL SETTING.....	5.1
5.1.1 Physiography.....	5.1
5.1.2 Climate and Air Quality .....	5.1
5.1.3 Hydrogeology and Groundwater .....	5.2
5.1.4 Soils .....	5.2
5.1.5 Surface Water .....	5.2
5.1.6 Vegetation and Wildlife.....	5.3
5.1.7 Aquatic Environment .....	5.3
5.1.8 Species of Concern.....	5.3
5.2 SOCIO-ECONOMIC SETTING .....	5.3
5.2.1 Land Use and Property Ownership .....	5.3

**ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY**

5.2.2	Population and Economy .....	5.5
5.2.3	Infrastructure and Services.....	5.5
5.2.4	Parks and Protected Areas .....	5.6
5.2.5	First Nation Communities .....	5.6
5.2.6	Recreation and Resource Use .....	5.6
5.2.7	Aesthetics and Noise .....	5.6
5.2.8	Heritage Resources .....	5.6
<b>6.0</b>	<b>ASSESSMENT APPROACH.....</b>	<b>6.1</b>
6.1	SELECTION OF PROJECT INTERACTIONS AND VALUED COMPONENTS .....	6.1
6.2	RESIDUAL EFFECTS DESCRIPTION CRITERIA.....	6.4
<b>7.0</b>	<b>ENVIRONMENTAL EFFECTS AND MITIGATION .....</b>	<b>7.1</b>
7.1	ASSESSMENT OF ENVIRONMENTAL EFFECTS .....	7.1
7.1.1	Air Quality .....	7.1
7.1.2	Greenhouse Gas Emissions.....	7.2
7.1.3	Infrastructure and Services.....	7.5
7.1.4	Human Health.....	7.5
7.1.5	Summary of Mitigation Measures.....	7.6
7.2	SUMMARY OF RESIDUAL EFFECTS CHARACTERIZATION.....	7.7
7.3	ACCIDENTS AND MALFUNCTIONS .....	7.9
7.3.1	Fire/Explosion.....	7.9
7.3.2	Spills.....	7.9
7.3.3	Transportation Accidents .....	7.9
7.3.4	Prevention Measures.....	7.10
<b>8.0</b>	<b>SUMMARY CONCLUSIONS.....</b>	<b>8.1</b>
<b>9.0</b>	<b>REFERENCES.....</b>	<b>9.1</b>
9.1	LITERATURE CITED .....	9.1
9.2	PERSONAL COMMUNICATIONS .....	9.4

**LIST OF TABLES**

Table 5-1	Climate Normals for the Winnipeg International Airport (1981-2010)....	5.1
Table 6-1	Designation of Valued Components.....	6.2
Table 6-2	Characterization of Residual Environmental Effects.....	6.4
Table 7-1	Greenhouse Gas Emissions Summary .....	7.4
Table 7-2	Summary of Residual Environmental Effects.....	7.8



**ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY**

**LIST OF APPENDICES**

<b>APPENDIX A</b>	<b>FIGURES .....</b>	<b>A.1</b>
<b>APPENDIX B</b>	<b>PHOTOS .....</b>	<b>B.1</b>
<b>APPENDIX C</b>	<b>CHEMICAL INVENTORY .....</b>	<b>C.1</b>
<b>APPENDIX D</b>	<b>CORRESPONDENCE .....</b>	<b>D.1</b>
<b>APPENDIX E</b>	<b>CERTIFICATE OF TITLE .....</b>	<b>E.1</b>



# Environment Act Proposal Form



Name of the development: B/E Aerospace Manufacturing Facility	
Type of development per Classes of Development Regulation (Manitoba Regulation 164/88): Class 2 Manufacturing and Industrial	
Legal name of the applicant: Rockwell Collins Inc.	
Mailing address of the applicant: 25 Dunlop Ave	
Contact Person: Barb Salter	
City: Winnipeg	Province: MB                      Postal Code: R2X 2V2
Phone Number: (204) 594-5292	Fax:                      email: barb_salter@beaerospace.com
Location of the development: 25 Dunlop Ave, Winipeg, Manitoba	
Contact Person: Barb Salter	
Street Address: 25 Dunlop Ave	
Legal Description: SP Lot 3 Plan 26529 WLTO in OTM Lots 1 & 2 of Parish of Kildonan	
City/Town: Winnipeg	Province: MB                      Postal Code: R2X 2V2
Phone Number: (204) 594-5292	Fax:                      email: barb_salter@beaerospace.com
Name of proponent contact person for purposes of the environmental assessment: Stephen Biswanger P.Eng	
Phone: (204) 924-7061	Mailing address: 500-311 Portage Ave, Winnipeg, MB, R3B 2B9
Fax:	
Email address: stephen.biswanger@stantec.com	
Webpage address:	
Date: August 1st/2018	Signature of proponent, or corporate principal of corporate proponent:  FOR BARB SALTER
	Printed name:

**PRINT**

**RESET**



## **Executive Summary**

Rockwell Collins Inc., operates a low volume, high variety, make-to-order manufacturing facility of aerospace parts as B/E Aerospace in the Inkster Industrial Park located in Winnipeg, Manitoba. Upon provision of a project description by Rockwell Collins, Manitoba Sustainable Development (MSD) advised Rockwell Collins that the operation of the existing plant (the Project) requires a Class 2 license under *The Environment Act* as a Manufacturing and Industrial Facility. The facility currently does not hold an *Environment Act* License.

The facility is located at the Project site in Winnipeg on property that is owned by 6829695 Manitoba Ltd. The facility has been in operation at this location as B/E Aerospace since 2014. The plant is located on a site zoned "M2 – Manufacturing General" under the City of Winnipeg Zoning By-law No. 200/06.

This Environment Act Proposal (EAP) has been prepared by Stantec Consulting Ltd. (Stantec) on behalf of Rockwell Collins Inc. The following is a summary of the existing environmental attributes of the Project area, which are pertinent to the environmental assessment conducted:

- The Project site is located within the City of Winnipeg in an existing industrial park currently developed and zoned for that purpose. The plant has been in operation as B/E Aerospace at its present location since 2014.
- A desktop examination by Stantec did not identify any ecological issues with the present Project site.
- Full-time truck routes pursuant to City of Winnipeg Traffic By-law No. 1573/77 provide access to Dunlop Avenue and the Project site from the east as Hutchings Street and from the north as Inkster Boulevard (City of Winnipeg 2017).

Positive socio-economic effects associated with the Project include direct and indirect economic benefits of the plant operations. These benefits include wages paid to employees, the purchase of goods and services for operational activities, and contributions to municipal, provincial and federal tax revenue.

Potential adverse effects of Project operation are primarily related to the following:

- Operational noise generated at the B/E Aerospace site (comparable to the noise of traffic and operations in the surrounding industrial park)
- The facility's greenhouse gas emissions (negligible in comparison to total provincial greenhouse gas emissions).

## ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

- Traffic generated by plant operations (accommodated within the capacity of the existing level of service of the existing transportation network).
- Hazardous waste generated by plant operations such as waste machining coolant, oil, and waste paint products (collected by a licensed hazardous waste processor including GFL and Miller Environmental)
- Air emissions generated the plant operations (negligible and managed by regular maintenance, repair, and replacement of equipment including fume hoods and air filters).

The Proponent has committed to, and initiated, the following mitigation and prevention measures to reduce the effects to the environment during Project operation:

- Particulates generated by processes in the operations of the plant are contained and controlled within the plant building by maintaining dedicated booths for deburring and grinding, which includes filtration with air recycled internal to the booth.
- An electric forklift is utilized within the plant and used batteries from battery operated equipment are collected by a licensed service provider for proper recycling and disposal (approximately 2 kg/year).
- The Project site is regularly inspected by plant personnel to clean up loose debris and waste.
- Mixed recyclables and cardboard materials are collected for recycling monthly.
- Hazardous materials are secured in designated storage areas and handled, labelled and transported in accordance with applicable regulatory requirements. Products are picked up by a licensed hazardous waste processor approximately every three months.
- Metal scrap from aluminum parts manufacturing, including shavings and sheet metal are stored in secure bins and removed quarterly for off-site recycling.
- Three absorbent material spill kits are available for immediate cleanup of spills and leaks by trained personnel.
- Paints and sealants are prepared in filtered booths. Filters are regularly replaced and disposed of every six weeks via municipal landfill.
- Fire extinguishers are available on-site for plant operations and are maintained according to manufacturer's standards. The plant also maintains a fire suppression system (sprinklers). Equipment is checked on a routine basis to confirm their proper working order in accordance with municipal fire safety regulations.
- A Safety and Health Management System is in place at the site and includes policies related to emergency preparedness, workplace hazardous materials information system (WHMIS) and incident reporting.



## **ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY**

On the basis of the desktop studies undertaken, site observations and information available to date as presented in this report, the Project is not expected to create significant adverse effects to the biophysical and socio-economic environment and is expected to yield continued economic benefits. The likelihood of fire/explosion, spills and transportation accidents occurring at the Project site is limited given the implementation of prevention measures identified in the recent Environment, Health, and Safety audit and the current development of safe work practices.



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Introduction  
August 17, 2018

## 1.0 INTRODUCTION

### 1.1 PROJECT OVERVIEW

Rockwell Collins Inc. operates a low volume, high variety make-to-order production plant under the name of B/E Aerospace in the Inkster Industrial Park in the City of Winnipeg, Manitoba (Appendix A, Figure 1-1; Appendix B, Photos). Upon provision of a project description to Manitoba Sustainable Development (MSD) Rockwell Collins was advised that the plant (the Project) operations require a license under *The Environment Act*. The facility is considered a Class 2 Development under the Classes of Development Regulation (MR 164/88). The current facility does not hold an *Environment Act* Licence.

This EAP has been prepared by Stantec Consulting Ltd. (Stantec) on behalf of Rockwell Collins Inc. in accordance with MSD's Information Bulletin, "*Environment Act Proposal Report Guidelines*" and the guidance provided in a communication dated July 5, 2018, from MSD included in Appendix D. This report documents the existing facility operations, potential environmental effects and implemented mitigation measures associated with the plant operations. The EAP report is submitted as supporting information along with the Environment Act Proposal Form for licensing consideration by MSD for ongoing facility operation.

### 1.2 THE PROPONENT

For the purposes of development licensing, the proponent is Rockwell Collins Inc. (hereafter "Rockwell Collins").

For further information regarding Rockwell Collins, please contact the following:

Barb Salter  
Manager, Manufacturing and Operations  
Interior Systems  
B/E Aerospace Inc.  
25 Dunlop Avenue  
Winnipeg, MB R2X 2V2  
Telephone: (204) 594-5292  
Email: [Barb\\_Salter@beaerospace.com](mailto:Barb_Salter@beaerospace.com)

This Environment Act Proposal was prepared by Stantec Consulting Ltd. The local contact is:

Mr. Stephen Biswanger, P.Eng.  
Senior Project Manager, Environmental Engineer  
Stantec Consulting Ltd.  
500-311 Portage Avenue  
Winnipeg, MB R3B 2B9  
Telephone: (204) 924-7061  
Email: [stephen.biswanger@stantec.com](mailto:stephen.biswanger@stantec.com)



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Introduction  
August 17, 2018

## 1.3 LAND OWNERSHIP AND PROPERTY RIGHTS

The subject facility includes the plant and office, located at 25 Dunlop Avenue, in the Inkster Industrial Park in the City of Winnipeg, Manitoba. The legal plan for the subject property is described as SP Lot 3 Plan 26529 WLTO in OTM [Outer Two Mile] Lots 1 and 2 of Parish of Kildonan and in NE ¼ 24-11-2 EPM, encompassing approximately 2.3 acres (Appendix A, Figure 1-2). A copy of the current Certificate of Title (CT# 2711581/1) for the subject property is included in Appendix E. 6829695 Manitoba Ltd has owned the property since 2014. The facility occupies a building of approximately 3,716 m<sup>2</sup>, with approximately 1,579 m<sup>2</sup> used as a manufacturing area (see Appendix A, Figure 1-3; Appendix B, Photos). According to the Mineral Resources Branch (2018), there are no mineral dispositions for the subject property. Ownership of the mineral rights beneath the land is expected to rest with the Crown (Province of Manitoba).

## 1.4 PREVIOUS ACTIVITIES/STUDIES

The site has been used for office and aircraft parts manufacturing since 2014 in its current configuration. Previous environmental studies conducted at the site include a Phase 1 Environmental Site Assessment (2016) as well as a recent Environment, Health, and Safety (EHS) audit (June 2018), including wastewater sampling and analysis of a sump pit (June 2018). The EHS audit also identified the potential requirement for the facility to be licensed under *The Environment Act*, at which time Rockwell Collins submitted a project description to MSD. Upon review of the project description, MSD instructed Rockwell Collins to enter into the process of obtaining an *Environment Act* license for the facility by submitting an Environment Act proposal by September 30, 2018.

A notification was submitted to MSD on July 10, 2018, indicating that preparations were underway on the subject EAP to obtain a license for the operations of the B/E Aerospace plant (Appendix D).

## 1.5 FUNDING

Rockwell Collins is providing all funding for necessary undertakings related to the Project.

# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Regulatory and Policy Setting  
August 17, 2018

## 2.0 REGULATORY AND POLICY SETTING

The following is an overview of the regulatory and policy setting pertinent to the operation of the B/E Aerospace facility and the statutes and regulations considered in this assessment.

### 2.1 FEDERAL APPROVALS

The existing manufacturing plant is not considered a designated project pursuant to the *Regulations Designating Physical Activities SOR/2012-147* under the *Canadian Environmental Assessment Act, 2012*, and as such, no federal environmental assessment is required.

No other federal environmental approvals or permits are required for the operation of the facility. Should facility processes change, reporting requirements may exist under the *Canadian Environmental Protection Act (1999)*, for reporting to the National Pollutant Release Inventory.

### 2.2 PROVINCIAL APPROVALS

*The Environment Act, C.C.S.M. c. E125* provides for the environmental assessment of projects, or “developments” which are likely to have significant effects on the environment. Industrial manufacturing plant operations are defined under the *Classes of Development Regulation (MR 164/88)* as a “Class 2 Development” as described in Section 11 of *The Environment Act (Manitoba)*. The facility therefore requires the submission of an EAP for a valid and subsisting Environment Act License from MSD for its operations.

### 2.3 MUNICIPAL APPROVALS AND PERMITS

#### 2.3.1 Municipal Sewer System

The B/E Aerospace facility discharges wastewater from their Inkster Industrial Park plant via gravity sewer to the City of Winnipeg's municipal sewer system that conveys wastewater to the Winnipeg North End Water Pollution Control Center in accordance with City of Winnipeg Bylaw 92/2010. The wastewater is then discharged into the Red River in accordance with the City of Winnipeg's Environment Act License 2684 RRR.

### 2.4 PUBLIC ENGAGEMENT

The existing facility is located on one privately-owned parcel of land within an existing industrial park, operating as B/E Aerospace since 2014. There have been no known complaints registered to date with MSD about the operation (Salter pers. comm. 2018).

## **ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY**

Regulatory and Policy Setting  
August 17, 2018

The Proponent recognizes and understands that this EAP may be posted on the MSD public registry for government and public review and comment as part of the licensing process. No additional public engagement activities are proposed or have been undertaken.

# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Project Description  
August 17, 2018

## 3.0 PROJECT DESCRIPTION

### 3.1 OVERVIEW

Rockwell Collins has been in operation as B/E Aerospace in the Inkster Industrial Park in Winnipeg, Manitoba since 2014. Operations are located on a site zoned “M2 – General Manufacturing” under the City of Winnipeg Zoning By-law No. 200/06. The footprint for the manufacturing facility, including general offices and parking areas, is approximately 9,000 m<sup>2</sup>. The facility occupies a building of approximately 3,716 m<sup>2</sup> which includes approximately 1,579 m<sup>2</sup> of manufacturing area, with the remainder of the facility used as office space. The total property size is approximately 0.93 ha (Appendix A, Figure 1-2).

The activities conducted at the facility include off-site aircraft interior inspection services and the manufacture and modification of various airplane parts from sheet aluminum and aluminum billets. The facility also conducts flammability tests for various aircraft materials including upholstery, plastic, and leather. Employment at the facility includes approximately 45 employees in the office area and 15 in the manufacturing area of the plant.

The manufacturing area of the plant includes a paint bake room and paint booth, parts coating and cleaning, flammability lab, manual metal fabrication such as grinding, cutting, riveting, routing, and shearing, as well as automated machining using Computer Numerical Control (CNC) mills and a lathe. Assembly, inspection, shipping, and receiving also occur in the manufacturing area.

The following section provides a description of the existing operations at the facility.

#### 3.1.1 Existing Development

The existing B/E Aerospace facility consists of the main office and manufacturing building, a loading area to the north, and parking areas on the south, west, and north sides. The office and plant consist of a steel frame, sheet metal clad building (Appendix B, Photo B-1). Access to the plant is provided via Dunlop Avenue. Photos illustrating the existing plant site and operations are included in Appendix B. The main activity areas, as shown on Figure 1-3, are described further below:

- General offices, avionics, and calibration lab.
- Manufacturing area, including shipping and receiving (Appendix B, Photo B-22).
- Outdoor areas including recycling, hazardous waste storage, and vehicle parking (Appendix B, Photo B-17 to B-21).

# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Project Description  
August 17, 2018

The operations specific to the different areas at the facility include:

## **General Offices, Avionics and Calibration Lab**

- A reception area/lobby, located in the southernmost portion of the building.
- Typical office space for staff, washrooms, lunchroom, office equipment, meeting rooms, reception, and customer care.
- The avionics room is designated for the design and development of aircraft avionic instrumentation and programming.
- The calibration lab for testing and calibration of avionic equipment.
- The stock room, for aluminum formed parts, hardware, filters, insulation, gaskets, foam tape, bearings, motors, fittings, and general shop supplies.

## **Manufacturing Area, Shipping, and Receiving**

The manufacturing plant includes a burn lab, a sealant mixing booth, a paint mixing area, a paint bake room, a parts cleaning room, CNC machining area (2 mills and 1 lathe), grinding, deburring, shipping, receiving and general inspection, assembly, and storage areas. Bending, shearing and forming equipment is also used in this area.

- The burn lab consists of a ventilated inspection area, and the flammable lab area, housing the material conditioning unit, and the burning fume hood, which is serviced by a piped natural gas connection and two Bunsen burners (Appendix B, Photos B-6 and B-7).
- The sealant mixing area consists of a fume hood (filtered).
- Two storage cabinets for flammable materials are located adjacent to the sealant mixing booth (Appendix B, Photo B-11).
- The parts conversion coating area contains an Alodine line with five metal rinse tubs, and a wash station for large parts with a separate, isolated sump pit. This room also houses the electric Encon Drum evaporator (model DE4-A), and an Omegasonic, water-based, cleaning unit (Appendix B, Photos B-2 to B-5).
- Receiving of materials and equipment occurs at the northeast receiving area. A shipping area is located within the warehouse in the northwest corner. The shipping area houses the electric forklift charging station (warehouse operations utilize one electric forklift), and stores general shipping supplies including bubble wrap, shrink wrap, and cardboard.

## ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Project Description  
August 17, 2018

- Dry-chemical type Class 3 Pyrene fire extinguishers are situated for use throughout the manufacturing plant. The plant also has a fire suppression system (sprinklers). There are no backup generators located on-site.
- A sump pit is located in a former wash bay area of the workshop, outside of the paint bake room and the Alodine room. This wash bay sump pit and grated floor drain are no longer in use and were recently decommissioned by covering the metal grating with a cover plate and sealing it with flush mount screws and silicone (Pawluk pers. comm. 2018).
- An air compressor is located in the northwest area of the plant, south of the shipping area, and is used for pneumatic tools throughout the plant (Appendix B, Photo B-15).
- Natural gas-fueled equipment includes the Bunsen burners in the flammability lab and the three hot water tanks located throughout the plant.
- Several 200-litre spill-containment pallets are located throughout the plant (Appendix B, Photo B-23).

### Outdoor Storage Areas and Vehicle Parking

- The site includes paved parking (approximately 60 stalls) on the south, east and north of the plant along with paved shipping and receiving areas on the northeast and northwest side.
- Courier deliveries (UPS and FedEx) pick up/drop off once per day to the shipping/receiving areas. Larger freight trucks provide pick up/drop off approximately once per month.
- A large scrap metal bin exists along the northwest fence line of the property. Eight scrap metal bins for waste shavings exist northeast and adjacent of the receiving area. All bins are picked up for removal by a contracted third party on quarterly basis or as needed (Appendix B, Photos B-18, B-19, and B-20).
- Three roll bins (approximately 4.6 m<sup>3</sup>); one each for collecting mixed recyclables, cardboard, and general solid waste, are located on the northeast side of the plant, adjacent to the receiving area (Appendix B, Photos B-17 and B-19). All bins are picked up for removal by contracted third parties on a monthly basis or as needed.
- Solid and liquid hazardous waste, along with associated containers, are stored in a designated hazardous waste storage bin where it is temporarily stored for pickup by a licensed hazardous waste processor (Appendix B, Photo B-21). Pickup occurs approximately every 3 months by Miller or GFL Environmental. Waste drums located along the northern fence line during the site visit (July 2018) were on secondary containment pallets and are destined for immediate disposal by Miller Environmental (Appendix B, Photo B-24).

# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Project Description  
August 17, 2018

- A small garden shed exists along the northwest fence line of the property and contains non-production related materials, such as the staff barbecue. A metal shipping container (33 m<sup>3</sup> capacity) also exists along the northwest fence line and houses miscellaneous furniture such as tables and shelving (Appendix B, Photo B-16).
- Three hydro pole transformers – one on the north property line (PCB free) and two along the east property line – are present on-site and are owned and maintained by Manitoba Hydro.

## 3.1.2 Production Process

The facility operates a low-volume, high-variety, make-to-order manufacturing process. Raw aluminum parts arrive at the plant site via two delivery trucks, once per day (UPS and FedEx). Due to the specialized nature of the facility, a single, generalized process for all incoming materials is not followed. Rather, a specialized, sometimes isolated and often non-linear process, exists for each part that is handled at the facility.

The manufacturing portion of the plant is divided into five specialized process areas:

1) automated machining; 2) manual machining (grinding and deburring); 3) cleaning and painting; 4) flammability testing; and 5) Omegasonic cleaning (utilized on a limited, as-needed basis). These processes are described in detail below. Other areas throughout the manufacturing portion of the plant include general inspection, assembly, storage, shipping and receiving. The processes are illustrated in Appendix A, Figure 3-1.

- 1) The automated machining area includes three electric CNC programmable machines (two mills and one lathe; Appendix B, Photo B-9). Sealants, adhesives, and epoxies used in this process are prepared in a sealant mixing booth, equipped with a filtered fume hood (Appendix B, Photo B-12). Once prepared, raw aluminum billets are inserted into the machines that are programmed to automatically fabricate the parts required. Waste generated from the CNC machines includes waste metal shavings and hydraulic fluid (oil/coolant). Metal shavings are transferred to a third-party recycling facility and waste oil/coolant (approximately 240 L/year) is collected for disposal by a licensed hazardous waste processor. Waste filters from the sealant mixing booth are disposed of to landfill and waste sealant and adhesives are disposed of as hazardous waste.
- 2) The manual machining areas are primary manufacturing processes that do not have a linear process flow and are specialized for each individual part that is required. The manual machining areas consist of shearing, bending, routing, grinding, and deburring. The grinding and deburring areas consist of two separate booths for each specialized process. These areas are filtered to collect dust and particulates with filters and recovered material disposed of to landfill. Photos of these processes are depicted in Appendix B, Photos B-8 and B-10.

## ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Project Description  
August 17, 2018

- 3) The cleaning and painting area consists of an Alodine line, Omegasonic cleaning unit (see process 5 below), paint mixing room, and paint booth. Parts requiring Alodine treatment and painting are transferred to the Alodine room, where they are sequentially dipped in the Alumiprep 33 tank, the Alodine600 RTU tank, and then two water rinse tanks. The spent Alumiprep and Alodine agents and rinse-water are drained into a storage container prior to transfer into the electric EnconDrum evaporator (model DE4-A, equipped with a reusable filter-screen) to be evaporated and vented to the atmosphere. Larger parts that do not fit in the Alodine tubs are manually pressure washed in a wash bay in the Alodine room where the fluids are drained to a separate, isolated sump pit that is also periodically pumped to the EnconDrum evaporator. Photos of this process are depicted in Appendix B, Photos B-2, B-4 and B-5. Solid waste from the evaporator is stored within the drum until full and then will be disposed of as hazardous waste.

Paint is prepared in an adjacent paint mixing room (equipped with air filters). After the parts are cleaned, and/or treated via the Alodine process, they are transferred to a temperature controllable paint room where they are painted and baked (Appendix B, Photos B-13 and B-14). The paint booth is equipped with two intake filters and one exhaust filter. From there, masking is removed from the parts and they are marked and sent to inspection, assembly, and shipping or are kept as stock. Waste paint generated is stored for disposal as hazardous waste, while spent filters from the paint room are disposed of to the municipal landfill.

- 4) The flammability lab houses a conditioning unit which conditions material samples so that the temperature and humidity of each sample is consistent prior to testing (Appendix B, Photo B-6). From the conditioning unit, material samples are subjected to a flame for a specified time according to standard testing requirements, using a natural gas-fire Bunsen burner, in a cabinet within a fume hood (Appendix B, Photo B-7). The spent samples are then inspected and disposed of via municipal landfill.
- 5) A tabletop Omegasonic cleaning unit is used on a limited, as needed, basis for degreasing parts. This cleaning unit uses ultrasound vibrations and water mixed with a commercial degreaser (Omegaclean soap) (Appendix B, Photo B-3). Wastewater from this process is decanted into the EnconDrum evaporator for reduction to solids for and eventual disposal (Section 3.1.4).

Finished product shipping occurs daily via small package courier (FedEx and UPS). Finished goods are generally small packages. Large product receiving, and delivery occurs approximately once per month, or on an as-required basis.

### 3.1.3 Hazardous Waste Management

The facility is registered as a provincial hazardous waste generator, #MB31185. Hazardous waste is generated at the facility primarily from painting, machining, and chromatic plating. Waste



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Project Description  
August 17, 2018

paint, adhesives, epoxies, petroleum-based solvents, cleaners, and sealers are also generated in the assembly and manufacturing process.

Waste machining oil/coolant is generated as part of the primary manufacturing process in the automated CNC machines, where the oil is drained from the cuttings and stored for disposal. Waste oil is also generated from air compressor oil changes that are conducted on-site. Waste oil and coolant is temporarily stored in drums on spill containment pallets in the plant prior to pick-up for disposal by a licensed hazardous waste processor. Approximately 240 liters per year of waste oil and coolant is generated at the facility.

Hazardous waste solids are also generated from the chromate conversion process where wastewater is transferred to the electric EnconDrum evaporator. The retained solids form a puck in the drum for future pickup and disposal as hazardous waste. All hazardous waste drums are stored on spill containment pallets within the plant. Small volume hazardous waste containers (<5 gal) are stored in the designated yellow hazardous waste storage container (Appendix B, Photo B-21).

Any used forklift and machinery batteries at the plant are stored in the designated hazardous waste disposal area until they are picked up for recycling/disposal by GFL Environmental.

Unused chemicals/reagents including sealants, polymers, and resins are stored according to the SDS for each chemical. Spent containers or expired chemicals are moved to the designated hazardous waste storage container for pickup/disposal by a licensed hazardous waste processor.

Approximate volumes of hazardous wastes generated on-site are summarized in Table 3-1 based on hazardous materials collection invoices, including volumes of empty containers. All hazardous wastes (approximately 2,450 L/year) are collected via a licensed hazardous waste processor approximately every three months.

**Table 3-1 Estimated Hazardous Waste Volumes (L/year)**

Chemical Group	Liters/year
waste paint	164
oxidizing liquid	8
acidic solution, liquid	82
amine labpack	8
flammable liquid labpack	37.6
paint thinner sludge	82
paint, aqueous-base	64
adhesives, resins polymer	8
adhesives, resins labpack	32



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Project Description  
August 17, 2018

**Table 3-1 Estimated Hazardous Waste Volumes (L/year)**

<b>Chemical Group</b>	<b>Liters/year</b>
hydrocarbon aerosol	8.8
non-regulated cleaners, surfactants	1,484
sludges (EOX<100 mg/L)	8
Non-regulated chemical labpack	16
paint related labpack	207.6
Machining oil/coolant	240
Liquid hazardous waste generated (L/year)	2,450
<b>Solid hazardous waste generated</b>	<b>Kg/year</b>
Batteries	2

## 3.1.4 Wastewater Management

Sanitary wastewater from the employee lunch room, washrooms, etc. is conveyed to the City of Winnipeg's municipal sewer on the south side of the facility. Wash water from mopping the general shop floor is disposed of to a sink along with sanitary wastewater.

Aluminum parts are cleaned using the Alodine line in a dedicated room. The resulting spent Alumiprep and Alodine agents and rinse-water are piped into a collection tank that is transferred to an EnconDrum evaporator for reduction to solids (Appendix B, Photo B-2). The evaporative emissions from the EnconDrum are passed through a reusable filter screen prior to venting to atmosphere. Large parts that do not fit in the rinse tubs are washed using a hand-held pressure washer in a curtained rinsing area in the Alodine room (Appendix B, Photo B-5). The fluids from the pressure wash rinsing area are collected in an isolated sump that is then pumped to the EnconDrum evaporator for reduction and disposal. An Omegasonic cleaning unit and Omegaclean soap are also used in the Alodine room (see Table C-1, in Appendix C, for a list of other degreasers used). This wash water is manually decanted into the EnconDrum evaporator. Maintenance of the EnconDrum evaporator consists of filter screen cleaning every two months.

## 3.1.5 Solid Waste Management

Solid waste management within the plant includes waste bins and recycling bins situated throughout the plant. The general waste bins (i.e., packaging materials) are regularly emptied into one outdoor garbage/trash roll bin (approximately 4.6 m<sup>3</sup>) located outside of the receiving area on the northwest side of the plant (Appendix B, Photo B-17). Two recycling roll bins (approximately 5 m<sup>3</sup>) for mixed recyclables and cardboard are also located outside on the receiving area (Appendix B, Photo B-17). Removal of the waste and recycling is currently contracted to GFL with pick-up occurring three to four times per month. The monthly average weight of solid waste collected is approximately 1 tonne and the monthly average weight of



## ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Project Description  
August 17, 2018

recyclables collected is approximately 2 tonnes (based on the full bin sizes and assuming an uncompacted bulk density of 56 kg/m<sup>3</sup> [EPA 2016]).

Spent filters from the deburring and grinding booths, as well as filters from the paint booth/mixing area and sealant mixing area are disposed of to the municipal landfill (Brady Road). The filter screen on the EnconDrum evaporator is reusable and is cleaned through the Alodine line every two months.

### 3.1.6 Chemical Use On-site

The B/E Aerospace plant maintains an approved list of chemicals for its operations (provided in Appendix C, Table C-1), including the current volumes of each chemical on site. SDSs are kept on-site for controlled chemical products used for manufacturing activities and maintenance of equipment. Two main storage cabinets are situated adjacent to the sealant mixing booth for storage of the controlled chemicals (Appendix B, Photo B-11). There is no above or below ground fuel storage at the site and no gas-powered equipment or backup generators kept on-site.

### 3.1.7 Water, Electric and Gas Utilities

Potable and process water for the B/E Aerospace plant is provided via the City of Winnipeg's municipal water supply system. Water is used in the production process for rinsing and cleaning aluminum parts in the Alodine room, and sanitary water is used for other incidental needs typical of those required for normal plant and employee purposes.

The main water line connection is located on the south side of the plant at the southeast corner of the building. The annual water consumption for the facility is estimated at 572 m<sup>3</sup>, based on the most recent utility bills (Salter pers. comm. 2018). Individual process areas within the plant are not separately metered for water consumption.

Employee washroom facilities are located on the north side of the manufacturing area and additional connections to the municipal sewer system are present in the office portion of the building for sanitary wastewater from washrooms and an employee lunch room. There is presently no over-strength discharge permit for the facility.

One floor sump (approximately 0.9 m x 1.2 m x 1.2 m) exists in the manufacturing area, in a former wash bay area, between the paint room and the Alodine room (which are both separated from the wash bay). The sump reportedly does not directly drain to a sewer system, however it includes a pump that can be used to transfer contents overhead to the other side of the workshop where it joins the sanitary wastewater from the workshop washrooms and discharges to the City of Winnipeg sewer system. The wash bay is no longer in use and the sump is no longer utilized. The sump was essentially dry during the site visit on July 13, 2018, and has

## ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Project Description  
August 17, 2018

since been decommissioned by covering the grating with a metal cover plate and sealing it with flush mount screws and silicone (Pawluk pers. comm. 2018).

Electricity is provided to the site via overhead power lines from the north edge of the property to a pole transformer (PCB free) along the north property line to two additional pole transformers along the east property line (PCB free and low level, respectively). The annual electricity consumed by the plant is approximately 648,960 kW.h (Salter pers. comm. 2018).

The main natural gas line runs along the north west side of the building to a meter located on the southwest side of the building. Annual natural gas usage recorded at the plant is approximately 45,265 m<sup>3</sup>/year, based on recent utility estimates (Salter pers. comm. 2018).

There are three natural gas-fired hot water tanks at the facility, located in the main utility room in the office area, above the Alodine Room in the manufacturing area, and adjacent to the employee washrooms in the manufacturing area. A natural gas line is also provided to the burn lab. There are four roof-mounted, natural gas, air exchange units located above the offices, assembly, lobby, and laboratories, respectively, in the southern portion of the building and there are two HVAC units (RTU) dedicated for the manufacturing portion located on the manufacturing roof (north portion). All units reportedly use R22A refrigerant (a recognized chlorodifluoromethane, set to be phased out in Canada by 2030 (Government of Canada 2015)). Maintenance of this equipment is conducted by qualified staff or service providers as required. The last maintenance was performed on March 9, 2018 (Salter pers. comm. 2018).

### 3.1.8 Health and Safety

Rockwell Collins is committed to a safety and health management system that provides a work environment that supports its employees. The facility has been operating the B/E Aerospace Health and Safety program since 2014. This program contains several key policies including:

- emergency response (fire/evacuation)
- first aid
- reporting unsafe conditions
- accident/incident reporting
- personal protection equipment (hat, boots, safety glasses, hearing protection, gloves, respirator)
- lockout procedure
- safety training and orientation
- safe work practices
- workplace hazardous materials information system (WHMIS)

## **ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY**

Project Description  
August 17, 2018

The B/E Aerospace Health and Safety Program is established by the policy framework and clearly explains the commitments, roles and responsibilities of management, supervisors, and its workers. With approximately 60 employees at the facility, a Workplace Safety Committee plays an important role in supporting the system through collaboration between management and workers. The Committee is made up of four staff members with two representatives from management and two production workers. This committee meets every month to review safety related incidents and routinely inspect the facility.

# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Scope of the Assessment  
August 17, 2018

## 4.0 SCOPE OF THE ASSESSMENT

### 4.1 SPATIAL AND TEMPORAL BOUNDARIES

For the purposes of this environmental assessment, the Project site, Local Assessment Area and Regional Assessment Area are defined as:

- Project Site (PS)– the existing facility property including the general office and manufacturing facility, paved parking and loading areas, defined as SP Lot 3 Plan 26529 WLTO in OTM [Outer Two Mile] Lots 1 and 2 of Parish of Kildonan and in NE ¼ 24-1 1-2 EPM (see Appendix A, Figure 1-2).
- Local Assessment Area (LAA) – area within a 1-km radius of the facility including the surrounding areas of the Inkster Industrial Park (Appendix A, Figure 4-1). For the purposes of the assessment, the LAA is the area over which the majority of direct Project residual effects are expected to potentially occur.
- Regional Assessment Area (RAA) – area beyond the LAA up to a 2 km radius from the Project site, including the surrounding residential communities of the Maples, Tyndall Park, Shaughnessy Heights, and Mynarski (Appendix A, Figure 4-2). For the purposes of the assessment, the RAA represents the area over which direct residual effects of the Project are compared to provide context in terms of significance. As the effects of greenhouse gas emissions are not practical to assess over a 2-km radius, the RAA for greenhouse gas effects is interpreted on a provincial scale.

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

- Operation phase – the period over which the facility will be in operation at its present location, which is anticipated to be at least 25 years.
- Decommissioning phase – the period in which the facility is anticipated to be decommissioned (at least beyond 25 years). Decommissioning would be anticipated to consist of the removal of all Rockwell Collins-specific equipment, materials, and wastes from the site. Decommissioning would be conducted according to Licence conditions and regulatory requirements at the time.



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Existing Environment in Project Area  
August 17, 2018

## 5.0 EXISTING ENVIRONMENT IN PROJECT AREA

### 5.1 BIOPHYSICAL SETTING

#### 5.1.1 Physiography

The RAA is located in the northwestern portion of the City of Winnipeg within the Winnipeg Ecodistrict of the Lake Manitoba Plain Ecoregion, which is within Manitoba's Prairie Ecozone (Smith et al. 1998). The local relief in the Winnipeg Ecodistrict is fairly level, with the landscape described as a smooth to very gently sloping, clayey glaciolacustrine plain with a mean elevation of about 236 m above sea level (Smith et al. 1998).

The surficial geology within the RAA consists of glacial till, clays and silts and channel deposits associated with the Red River (Matile 2004), deposited by glacial Lake Agassiz. The underlying bedrock consists of Paleozoic dolomitic limestone bedrock associated with the upper Red River Formation, Fort Garry Member (Manitoba Energy and Mines 1990; Smith et al. 1998).

#### 5.1.2 Climate and Air Quality

The climate of the Winnipeg Ecodistrict is characterized by short, warm summers and long, cold winters. The mean annual temperature is about 2.8°C. The mean annual precipitation is approximately 544 mm, but varies from year to year and is highest in spring and summer. Snow accounts for less than one quarter of the precipitation. The nearest meteorological station to the Project is located at the Winnipeg Richardson International Airport in Winnipeg, Manitoba approximately 5.3 km southwest of the Project site (Environment and Climate Change Canada 2018b). Monthly climate normals are provided in Table 5-1. The predominant wind direction at the Winnipeg Airport weather station is from the northwest for nine months of the year (Environment and Climate Change Canada 2018b).

**Table 5-1 Climate Normals for the Winnipeg International Airport (1981-2010)**

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yr
<b>Temperature (°C)</b>													
Daily Avg.	-16.4	-13.2	-5.8	4.4	11.6	17	19.7	18.8	12.7	5	-4.9	-13.2	3
Daily Max.	-11.3	-8.1	-0.8	10.9	18.6	23.2	25.9	25.4	19	10.5	-0.5	-8.5	8.7
Daily Min.	-21.4	-18.3	-10.7	-2	4.5	10.7	13.5	12.1	6.4	-0.5	-9.2	-17.8	-2.7
<b>Precipitation</b>													
Rainfall (mm)	0.2	2.7	9.7	19.2	54.1	90	79.5	77	45.5	32.7	6.9	1.5	418.9
Snowfall (cm)	23.7	12.5	16.5	10.6	2.6	0	0	0	0.3	4.8	19.9	23	113.7
Total (mm)	19.9	13.8	24.5	30	56.7	90	79.5	77	45.8	37.5	25	21.5	521.1
Source: <a href="http://www.weatheroffice.ec.gc.ca">http://www.weatheroffice.ec.gc.ca</a>													



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Existing Environment in Project Area  
August 17, 2018

The closest air quality monitoring station is located in downtown Winnipeg, approximately 5.1 km to the east of the site. Air quality in the Project area is represented by data collected for the City of Winnipeg. The City of Winnipeg generally has good air quality. Air quality concerns in the province from pollutants tend to be localized in nature. The sources of airborne pollutants typically include industrial operations, vehicle emissions, man-made substances and other specific activities (MSD 2018a).

## 5.1.2.1 Greenhouse Gas Emissions

The Province of Manitoba's greenhouse gas (GHG) emissions from various sectors for the years 1990 to 2016 were reviewed. According to Canada's National Inventory Report 1990-2016, Manitoba emitted a total of 20,900,000 tonnes of carbon dioxide equivalent (CO<sub>2</sub>e) in 2016, a 100,000 tonne increase from 2015 (Environment and Climate Change Canada 2018c). Based on the latest Manitoba data, GHG emissions were composed of the following sources: fossil fuel burning (59%) involving the transportation of goods and people, stationary combustion (e.g., commercial heating) and fugitive sources (e.g., flaring); agriculture (31%); waste disposal (5%); and industrial processes (4%). Manitoba's fossil fuel burning category was much lower proportionally than that of Canada largely due to Manitoba's use of hydro power to produce electricity. The overall trend in Manitoba's GHG emissions was higher in 2015, 11.0% above the 1990 level. Manitoba's GHG emissions also increased between 2005 and 2015 but to a lesser extent than in other provinces (Environment and Climate Change Canada 2017a).

## 5.1.3 Hydrogeology and Groundwater

The RAA is underlain by the Stony Mountain Formation (Ordovician age) calcareous shale and limestone beds. The underlying bedrock is overlain by overburden that is about 9 to 12 m thick and includes the Upper Carbonate aquifer. The Upper Carbonate Aquifer is a partially confined aquifer above the glacial drift and below slightly impervious underlying carbonate rock. The aquifer rests on the upper shale of the underlying Winnipeg Formation (Kjartanson et al. 1983) and contains variable potable water. Regional groundwater flow direction in the aquifer is to the southeast.

## 5.1.4 Soils

Shallow soils in the vicinity of the site have been identified as silt and clay glacial till with relatively shallow depth to limestone and granite bedrock (CRB 2016).

## 5.1.5 Surface Water

Aside from man-made regional storm drainage ponds, the nearest natural surface water body to the Project is Omand's Creek which is nearly 3.5 km southwest of the site. Drainage from the Project site is to a storm-water catch basin on the property and then to retention ponds, located approximately 1.6 km to the southwest of the site near Lord Selkirk Park, and draining via land

# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Existing Environment in Project Area  
August 17, 2018

drainage sewer to the Red River, approximately 5 km to the east (City of Winnipeg 2008; CRB 2016).

## 5.1.6 Vegetation and Wildlife

Historically, natural vegetative cover in the RAA within the Winnipeg Ecodistrict consisted of a mixture of tall-grass prairie and meadow grass prairie communities (Smith et al. 1998).

The LAA currently is all disturbed land within an existing industrial area. Limited vegetation remains on the Project site. Small, isolated clumps of trees and landscaped grassed areas are located on boulevards along the perimeter of the property. A cleared field is located to the south of the site.

The industrial area does not contain any natural wildlife habitat. Common domestic urban bird species (e.g., crows) were observed on the plant property during a site visit conducted in July 2018. None of these species are expected to be affected by the Project.

## 5.1.7 Aquatic Environment

As indicated in Section 5.1.4, the nearest natural water body to the plant site is Omand's Creek, located approximately 3.5 km to the southwest. There is no direct discharge to Omand's Creek from the Project site. Site wastewater from plant operation is directed to the City of Winnipeg sewer system for treatment at the North End Water Pollution Control Centre.

## 5.1.8 Species of Concern

The MCDC, Occurrence of Species by Ecoregion (Lake Manitoba Plain) was examined to determine the potential for species at risk in the RAA (MCDC 2013). The species listed on the MCDC were cross-referenced with the *Manitoba Endangered Species and Ecosystems Act* (MESEA) to determine provincially listed rare or sensitive species that may occur in the RAA and with Schedule 1 of the Federal *Species at Risk Act* (SARA). Species distribution maps were also consulted where possible to determine listed species that may occur in the RAA. The search results found that there is potential for 24 listed species to occur in the Lake Manitoba Plain Ecoregion. However; the Project site is fully developed in an established industrial park and does not support natural habitat. Accordingly, none of the protected species are expected to be directly affected by the Project.

## 5.2 SOCIO-ECONOMIC SETTING

### 5.2.1 Land Use and Property Ownership

The parcel of land for the Project (SP Lot 3 Plan 26529 WLTO in OTM [Outer Two Mile] Lots 1 and 2 of Parish of Kildonan and in NE ¼ 24-11-2 EPM) is privately owned by 6829695 Manitoba Ltd. Rockwell Collins, operating as B/E Aerospace, has occupied the site for aerospace services and



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Existing Environment in Project Area  
August 17, 2018

parts manufacturing since 2014. A site visit was conducted by Stantec on July 13, 2018. Site photographs are included in Appendix B. The land surrounding the plant site is primarily a mix of commercial and industrial land use with manufacturers, processing, and warehousing operations, as follows:

- To the north: commercial properties including distribution center warehouses and Ceratec Corporation tile and glass distribution.
- To the east: Commercial properties including NC Machine Tool Co., Bomex Graphics, Forex Cargo, Keller Equipment Supply, and Hostmann-Steinberg quality printing.
- To the south: Dunlop Ave and cleared vacant field.
- To the west: Commercial manufacturing facility (Industrial Rubber Supply).

## 5.2.1.1 Land Development Controls

The lands within the Inkster Industrial park are all privately owned. Crown owned, and Crown-leased lands are associated with the Winnipeg James Armstrong Richardson International Airport southwest of the Project site in the RM of Rosser. The closest residential development to the subject site in the City is in the Maples neighborhood, located approximately 400 m to the north.

Municipal jurisdictions may adopt development plans<sup>1</sup> and zoning by-laws<sup>2</sup> to guide land use decisions within their respective boundaries. The following municipal development controls are applicable in the RAA:

- Land use in the City of Winnipeg is subject to the development planning document *Our Winnipeg By-Law No. 67/2010* and the *Complete Communities Direction Strategy Secondary Plan No. 68/2010*. The Project RAA is designated "General Manufacturing" land use (City of Winnipeg 2011a).
- Land use in the City of Winnipeg is also subject to the City of Winnipeg Zoning By-Law No. 200/06. The Project RAA is zoned "M2 – Manufacturing General" (City of Winnipeg 2018a, 2018b). The existing development and activities are compatible with permitted land use and zoning restrictions for the property.

---

<sup>1</sup> A development plan is a by-law outlining the long-term vision and goals of a community. It is used to guide development within a municipality or planning district.

<sup>2</sup> A zoning by-law is used to implement development plan policies and must conform to the development plan. Zoning works by regulating the use of land and location of buildings and structures (Manitoba Municipal Government 2015).

# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Existing Environment in Project Area  
August 17, 2018

## 5.2.2 Population and Economy

The population within the Project RAA is represented by the adjacent residential neighborhoods in the City of Winnipeg. The neighborhood of the Maples, 400 m to the north of the Project site had a population of 14,320 in 2011, a 7.4% increase from the 2006 population of 13,335 and a population density of 4,873.1 persons per km<sup>2</sup> (Statistics Canada 2012a). The neighborhood of Shaughnessy Park, 1.5 km to the south of the Project site, had a population of 2,750 in 2011, a 20.4% increase from the 2006 population of 2,285 and a population density of 3,407.8 persons per km<sup>2</sup> (Statistics Canada 2012a). The closest neighborhood dissemination area<sup>3</sup> that encompasses the LAA has a population of 1,093 according to 2011 Census data (Statistics Canada 2012b). The Inkster Industrial park has no permanent residential population.

Economic activity within the RAA is principally manufacturing, warehousing, processing, service, storage, wholesale trade and distribution related.

## 5.2.3 Infrastructure and Services

Dunlop Avenue and the site can be accessed via City of Winnipeg Route 25 (Inkster Boulevard) and Hutchings Street, paved-surface regional streets that are full-time truck routes (City of Winnipeg 2015, 2016).

One rail line is located in the proximity to the Project site. The CP line is approximately 300 m west of the site, and the CP rail yard is approximately 2 km south of the site. There is no direct rail service at the Project site.

Overhead utility electrical lines are located adjacent to the north boundaries of the Project site. Other utilities, including gas, sewer and water, are also present at the Project site.

Traffic volumes for main regional thoroughfares surrounding the LAA were obtained from the City of Winnipeg's 2015 Traffic Flow Map (City of Winnipeg 2015). In 2015, the 24-hour Average Weekday Daily Traffic for Inkster Boulevard west of Keewatin Street was 31,300 vehicles. Inkster Boulevard is considered a Major Arterial under the city's primary road network classification and is designed for efficient flow of traffic, with limited access and parking and accommodate larger traffic volumes (City of Winnipeg 2016).

Traffic generated by B/E Aerospace employees and operations is composed of approximately 60 personal vehicles accessing the site per day by employees and visitors as well as approximately two courier trucks per day (UPS and FedEx) for shipping product into and/or out of the plant. One large delivery truck accesses the site approximately once per month to deliver larger sheet metal products. Waste disposal vehicles include Urban Mine and Miller

---

<sup>3</sup> Small area composed of one or more neighborhood dissemination blocks (equivalent to a city block), with a population of 400 to 700 persons.

# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Existing Environment in Project Area  
August 17, 2018

Environmental once every three months and GFL once every three to four weeks. The total traffic generated by the site operations is less than 1% of traffic on Inkster Boulevard.

## 5.2.4 Parks and Protected Areas

There are no provincial parks or protected areas located within the RAA. The nearest natural area/greenspaces include: Shaughnessy Soccer Park in Shaughnessy Heights, Kinver Park, Arthur Wright/Filkow Park, and Madrigal-Marquis Park in the Maples.

## 5.2.5 First Nation Communities

There are no First Nation communities or lands located in the RAA. The closest First Nation community is an urban reserve held by Long Plain First Nation on land near Century Street in the City of Winnipeg. The urban reserve (1.2 ha parcel) is located approximately 6 km south of the Project site in the Polo Park retail district.

## 5.2.6 Recreation and Resource Use

Recreational attractions in the RAA include several local city neighborhood playgrounds, sports fields and community clubs, including Woodsworth Park, Albina Park, and Shaughnessy Soccer Field. The nearest recreational area to the LAA is Kinver Park, located 1 km west of the Project site.

## 5.2.7 Aesthetics and Noise

The principal viewshed for the RAA is industrial and warehouse-oriented in nature, which is commensurate with the existing use of the site.

Existing ambient noise levels are expected to be typical of an urban industrial park. Ambient noise levels may be intermittently high, particularly near industrial and commercial operations and main arterial traffic routes. Existing sources of noise in the Project RAA are primarily man-made noise such as road traffic, airplanes, rail movements, related large vehicle movements, and light manufacturing facilities. The maximum desirable sound level for industrial areas in the province is 70 dBA (daytime and nighttime) according to the Province of Manitoba Guidelines for Sound Pollution. Noise sources from the Project site operations are not anticipated to exceed the maximum desirable sound level for industrial areas at the property site boundary. Noise sources external to the plant are principally the truck traffic on-site. These noises are intermittent in nature and are less than the noise generated by traffic on the surrounding streets. No noise complaints have been made known to Rockwell Collins regarding the facility operations.

## 5.2.8 Heritage Resources

No heritage resources have been previously recorded at the subject site. The closest recorded archaeological site is 1.2 km northeast of the property, consisting of a small scatter of

## **ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY**

Existing Environment in Project Area  
August 17, 2018

lithic reduction flakes and fragmented bone recovered along the edge of the soccer field at Maples Community Club (McLeod pers. comm. 2018).

Given the absence of recorded sites at or near the Project site, there is a low potential for site operations to affect heritage resources.



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Assessment Approach  
August 17, 2018

## 6.0 ASSESSMENT APPROACH

This assessment was completed to meet the requirements of an Environment Act Proposal and includes assessing project-specific environmental effects.

For the purposes of this assessment, the term “*environment*” refers broadly to biophysical and socio-economic elements of the environmental setting, and the “*Project site*” refers to the site operations of the B/E Aerospace facility.

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

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

### 6.1 SELECTION OF PROJECT INTERACTIONS AND VALUED COMPONENTS

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

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

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

- Represent a broad biophysical or socio-economic component that might be affected by the Project; or
- Are a part of the heritage of Aboriginal peoples<sup>4</sup> or a part of their current use of lands for traditional purposes; or

---

<sup>4</sup> As defined by the *Constitution Act, 1982*

# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Assessment Approach  
August 17, 2018

- Are of scientific, historical, or archaeological importance.

For those VCs where a potential interaction could occur; however, it was determined based on past experience and professional judgement that the resulting environmental effect could be managed to acceptable levels through standard operating practices and/or through the application of best management or codified practices, the VC was excluded from further assessment. The designation, potential project interaction and rationale for selecting each VC is explained in Table 6-1.

**Table 6-1 Designation of Valued Components**

Component Name	Potential Project Interaction	Included/ Excluded	Valued Component	Rationale for Exclusion or Inclusion and Project Potential Effect
Soils and terrain	x	Excl	No	The Project site is already developed with fairly level paved and graveled surfaces; landscaped areas are limited to periphery of property; no additional changes to the physical landscape are proposed; there are reportedly no above or below storage tanks on the site (CRB 2016). All drums stored along the northern property boundary are on secondary containment pallets and are destined for immediate pickup. No interaction between Project operations and soils are anticipated and no interactions were identified in the previous environmental site assessment (CRB 2016).
Vegetation	x	Excl	No	Limited natural vegetation (i.e., grasses) are present on the site along with some perimeter bushes. The property has been developed since the 1970s for industrial use based on aerial photographs (CRB 2016).
Surface water quality	x	Excl	No	Sanitary wastewater generated at the Project site is directed to the municipal sewer system. Process wastewater generated at the Project site is evaporated through a filtered electric Encon Drum evaporator or stored in drums for appropriate off-site disposal. Potential for on-site storm water generation to affect water quality off-site after residence in surrounding lands and a 5 km (approx.) drain to the Red River is unlikely.
Fish and fish habitat	x	Excl	No	No fish habitat present on-site and there is no direct discharge proposed to surface water bodies.
Wildlife and wildlife habitat	x	Excl	No	The Project site does not directly support resident wildlife.

# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Assessment Approach  
August 17, 2018

**Table 6-1 Designation of Valued Components**

Component Name	Potential Project Interaction	Included/ Excluded	Valued Component	Rationale for Exclusion or Inclusion and Project Potential Effect
Air quality	v	Incl	Yes	Existing operation activities contribute to airshed loading via fugitive emissions from on-site fumes generated from processes used on site that are vented to the surrounding environment. No odour complaints have been received at the site. No mobile equipment exists on the Project site. All access roads and parking areas are paved.
Noise	x	Excl	No	Noise level generation is deemed typical for an industrial area; no residences in immediate proximity; no noise complaints have been received.
Greenhouse gas emissions	v	Incl	Yes	Existing operation activities contribute to GHG from natural gas consumption for building/water heating and flammability testing.
Land and resource use	x	Excl	No	Site activities occur within an existing industrial park; site already zoned for existing land use.
Heritage resources	x	Excl	No	The Project site is located within an existing industrial park that is already disturbed. No known heritage resources exist in the LAA.
Human health and aesthetics	v	Incl	Yes	Existing operations include handling of Alodine600 and other hazardous materials that are managed and disposed of according to applicable registration. The Project site is within an existing industrial park; not in immediate proximity to residences and no complaints have reportedly been received by proponent to date.
Infrastructure and services	v	Incl	Yes	Existing operation activities contribute to traffic on Inkster Boulevard. Municipal services (power, water, sewer) have sufficient capacity to accommodate the plant operations. Third party services are utilized for recyclables, hazardous waste, and household waste generated on site.
Employment and economy	x	Excl	No	No significant adverse effects are anticipated; positive effects include benefits related to employment and tax generation.
Note: x – no interaction; v – interaction				

# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Assessment Approach  
August 17, 2018

VCs included in this assessment are:

- Air quality
- Greenhouse gas emissions
- Human health
- Infrastructure and services

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

## 6.2 RESIDUAL EFFECTS DESCRIPTION CRITERIA

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

**Table 6-2 Characterization of Residual Environmental Effects**

Characterization	Description	Quantitative Measure or Definition of Qualitative Categories
Direction	The long-term trend of the residual effect	<p><b>Positive</b> — an improvement in the valued component compared with existing conditions and trends</p> <p><b>Adverse</b> — a decline in the valued component compared with existing conditions and trends</p> <p><b>Neutral</b> — no change in the valued component from existing conditions and trends</p>
Magnitude	The amount of change in the VC relative to existing conditions	<p><b>Negligible</b> — no measurable change</p> <p><b>Low</b> — a change that falls within the level of natural variability</p> <p><b>Moderate</b> — a measurable change which is unlikely to affect the valued component</p> <p><b>High</b> — a measurable change which is likely to affect the valued component</p>
Geographic Extent	The geographic area in which an environmental effect occurs	<p><b>Project Site</b> — residual effects are restricted to the Project site</p> <p><b>LAA</b> — residual effects extend into the LAA (1 km radius of the Project site)</p> <p><b>RAA</b> — residual effects extend between a 1 km and 2 km radius of the Project site; for greenhouse gases the applicable RAA is the province of Manitoba</p>

# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Assessment Approach  
August 17, 2018

**Table 6-2 Characterization of Residual Environmental Effects**

Characterization	Description	Quantitative Measure or Definition of Qualitative Categories
Frequency	Identifies when the residual effect occurs and how often during the Project or in a specific phase	<p><b>Single event</b> — residual effect occurs once throughout the life of the Project</p> <p><b>Multiple irregular event</b> — residual effect occurs sporadically and intermittently (no set schedule)</p> <p><b>Multiple regular event</b> — residual effect occurs repeatedly and regularly</p> <p><b>Continuous</b> — residual effect occurs continuously</p>
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	<p><b>Short-term</b> — residual effect restricted to the duration of 1 year</p> <p><b>Medium-term</b> — residual effect extends up to 25 years</p> <p><b>Long-term</b> — residual effect extends for longer than 25 years</p>
Reversibility	Pertains to whether the VC can return to its existing condition after the Project activity ceases	<p><b>Reversible</b> — the effect is likely to be reversed after activity completion and decommissioning/remediation</p> <p><b>Irreversible</b> — the effect is unlikely to be reversed even after decommissioning/remediation</p>
Ecological and Socio-economic Context	Existing condition and trends in the area where environmental effects occur	<p><b>Undisturbed</b> — area is relatively undisturbed or not adversely affected by human activity</p> <p><b>Disturbed</b> — area has been previously disturbed by human development or human development is still present</p>



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Environmental Effects and Mitigation  
August 17, 2018

## 7.0 ENVIRONMENTAL EFFECTS AND MITIGATION

### 7.1 ASSESSMENT OF ENVIRONMENTAL EFFECTS

#### 7.1.1 Air Quality

Potential air emission sources from operations at the Project site include particulate emissions from the grinding and deburring booths, fugitive dust from vehicular traffic on site, and emissions generated from ventilation of the sealant mixing booth, paint mixing booth, paint bake room, Alodine room, and the flammability lab.

The filter in the sealant mixing booth is changed every six weeks and disposed of to the municipal landfill (Brady Road). There are two filters for the paint mixing booth and paint bake room which are changed every four weeks to reduce emissions and are also landfilled.

In the Alodine room, the electric EnconDrum wastewater evaporator (model DEA-4) includes a reusable filter screen to reduce air emissions from the evaporation process. This filter is washed in the Alodine booth every two months, with wastewater returning to the evaporator, as per manufacturer's instructions. All tubs, including the Alumiprep33, Alodine 600RTU, and associated rinse-water are closed with metal lids when not in use, and are not heated, reducing fugitive emissions, resulting in negligible emissions being generated from this process. When larger parts require Alodine rinsing, the Alodine spray booth is used, collecting wastewater into an isolated sump pit that is pumped to the wastewater evaporator. This process is infrequent as the majority of parts generated at the plant can be accommodated by the tubs, which are enclosed (Salter pers. comm. 2018).

The Omegasonic cleaning unit is a tabletop unit located in the Alodine room. It is covered with a lid and is infrequently used. Emissions generated from the evaporation of Omegaclean soap mixed with water for this process are therefore considered negligible.

In the flammability lab, two standard tabletop, natural gas fueled, Bunsen burners are used to conduct flammability testing in an unfiltered fume hood. Natural gas usage for this process is approximately 170 m<sup>3</sup>/year, based on recent utility bills (Salter pers. comm. 2018). The resulting effects on air quality are deemed to be negligible, given the annual natural gas usage in Manitoba of approximately 1x10<sup>9</sup> m<sup>3</sup>/year (MB Hydro 2018). The annual sample testing volume is approximately 4,160 sample coupons/year. Each sample is exposed to a flame for 60 seconds, extinguished, and the resulting sample inspected for damage. This process results in approximately 69 hours of combustion/year of materials such as carpets, leathers, hardwoods, thermoplastic, and composite panels. The resulting emissions are anticipated to be negligible.

Metal particulates generated during the deburring and grinding in the plant are captured through filters in dedicated and internally recycled booths and disposed of to landfill annually.

# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Environmental Effects and Mitigation  
August 17, 2018

Dust generation from visitor and employee traffic (approximately 60 vehicles per day) and courier traffic (2 vehicles per day) is negligible since the roads and parking areas are paved. No complaints have been received to date regarding air emissions, odors, or noise (Salter pers. comm. 2018).

## Summary

With the implementation of the mitigation and prevention measures identified, the potential adverse effects on air quality from the Project operations are expected to be negligible, limited to the LAA, short-term in duration, multiple regular in frequency, and reversible upon Project decommissioning.

### 7.1.2 Greenhouse Gas Emissions

MSD's EAP Guidelines require a consideration of climate change implications. Specifically, the guidelines indicate that a GHG inventory should be conducted in the assessment of environmental effects of a development. Technical guidance for conducting such an inventory is provided by Environment and Climate Change Canada (2018a) and the United Nations Framework Convention on Climate Change (IPCC 2006). The inventory is to include direct emissions associated with facility operations.

The existing facility generates direct GHG emissions under the Stationary Fuel Combustion source category. The direct GHG emission source identified includes natural gas combustion for building and water heating on-site and for the flammability lab.

To determine the potential GHG emissions related to the existing manufacturing facility, a facility level estimate of direct GHG emissions was completed for the Project site. Fuel consumption estimates for natural gas usage for commercial building heat was determined from Rockwell Collins recent billing data (Rockwell Collins 2018).

#### 7.1.2.1 Stationary Fuel Combustion

The use of natural gas for the flammability lab and to heat the building and water on-site produces CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, NO<sub>x</sub>, CO emissions, volatile organic compounds (VOCs), trace sulphur dioxide (SO<sub>2</sub>) and particulate matter (PM). Annual natural gas usage at the plant, was estimated at 45,265 m<sup>3</sup> based on recent utility bills (Rockwell Collins 2018) and these are not expected to increase substantially. GHG emissions associated with the plant's use of Manitoba marketable natural gas is presented in Table 7-1.

#### 7.1.2.2 Current Facility Emissions

The estimated GHG emissions created from natural gas usage in the operation of the existing facility as shown in Table 7-1 is approximately 85.81 tonnes (0.086 kt) per year carbon dioxide equivalent (CO<sub>2</sub> e). Environment and Climate Change Canada's mandatory reporting threshold

## **ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY**

Environmental Effects and Mitigation  
August 17, 2018

for GHG emissions on an annual basis is 10,000 tonnes (or 10 kt) of CO<sub>2</sub> e. The current facility generates less than 1% of the reporting threshold. As such, the plant is not considered a major contributor of GHG emissions.

The GHG emissions reported in 2016 by the Province of Manitoba in Canada's National Inventory Report 1990-2016 totaled 20,900,000 tonnes of CO<sub>2</sub> equivalent (Environment and Climate Change Canada 2018c). The B/E Aerospace site GHG emissions are considered to be negligible in comparison to total provincial GHG emissions.



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Environmental Effects and Mitigation  
August 17, 2018

**Table 7-1 Greenhouse Gas Emissions Summary**

B/E Aerospace Plant Existing Conditions						
GHG Source	Consumption <sup>1</sup>	Emission Factors	Units	Emissions	Reference	
<b>GHG Emissions = Fuel Consumption x Emission Factor</b>						
Stationary Fuel Combustion - Natural gas	45,265 m <sup>3</sup> /year	g/m <sup>3</sup> CO <sub>2</sub> – 1,886	g/year	CO <sub>2</sub> – 85,369,790	Environment Canada NRI Report 1990-2015 Table A6-1 CO <sub>2</sub> Emission Factors for Natural Gas, Manitoba Marketable emission factor	
		CH <sub>4</sub> – 0.037 N <sub>2</sub> O – 0.035		CH <sub>4</sub> – 1,675 N <sub>2</sub> O – 1,584	Environment Canada NRI Report 1990-2015 Table A6-2 CH <sub>4</sub> and N <sub>2</sub> O Emission Factors for Natural Gas, Commercial/Institutional emission factor	
<b>GHG Emissions</b>		Total CO <sub>2</sub> Total CH <sub>4</sub> Total N <sub>2</sub> O	kg/day	CO <sub>2</sub> – 233.89 CH <sub>4</sub> – 0.005 N <sub>2</sub> O – 0.004	IPCC 2006	
<b>Global Warming Potentials<sup>2</sup></b>		GWP	100-year	CO <sub>2</sub> – 1 CH <sub>4</sub> – 28 N <sub>2</sub> O – 265	IPCC GWP values (updated 2014)	
<b>Total CO<sub>2</sub> Equivalent = Total GHG Emissions x GWP</b>		Total CO <sub>2</sub> e	kg/day	CO <sub>2</sub> e 235.1	IPCC 2006	
Notes: <sup>1</sup> Usage numbers provided by Rockwell Collins Inc.; <sup>2</sup> the 100-year GWP for methane (CH <sub>4</sub> ) is 28 – an emission of 100 kilotonnes (kt) of methane is equivalent to 2,800 kt CO <sub>2</sub> equivalent (28 x 100 kt) Source: Environment and Climate Change Canada 2018a; IPCC Fifth Assessment Report 2014; IPCC Guidelines for National Greenhouse Gas Inventories 2006; Rockwell Collins Inc. 2018						



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Environmental Effects and Mitigation  
August 17, 2018

## Summary

The facility is expected to have a negligible adverse contribution to GHG emissions in the RAA and the province. However, emissions are long-term in duration, of continuous frequency, and irreversible upon Project decommissioning.

### 7.1.3 Infrastructure and Services

The B/E Aerospace site's adverse effect on services (i.e., water, power, wastewater treatment, natural gas, solid waste disposal and recycling) is considered negligible and continuous over the medium term and will continue as-is with no substantial changes proposed for continued plant operation. The services are in place with sufficient capacity to accommodate the demands of the plant operations without further changes to the supporting infrastructure. Use of municipal services (i.e., water, power, natural gas) is expected to continue as is with no change for continued plant operation.

Traffic Flow Rates for the City of Winnipeg (2015) and information provided by Rockwell Collins on traffic movements from vehicles and trucks traveling to and from the plant site (i.e., number of employee vehicles and truck deliveries) was reviewed. The designated truck routes surrounding the Project site have accommodated traffic generated at the plant (approximately 60 personal vehicles and 2 small package delivery trucks). The annual average daily traffic on major roads in the vicinity of the Project site ranges from 31,300 veh/day to a maximum of 46,600 veh/day (City of Winnipeg 2015). The existing traffic flow volumes can be accommodated within the design capacity of the existing transportation network. The traffic loads associated with facility operations comprise less than 1% of area traffic and are considered to be negligible.

Solid waste, cardboard, and mixed recyclables are currently collected three to four times per month by GFL for disposal at the City of Winnipeg Brady Road landfill or recycling. Metals are collected by Urban Mine approximately four times per year for recycling. Hazardous wastes are collected approximately four times per year for processing and disposal by Miller Environmental. These waste streams are currently within the service capacity of service providers and are expected to continue with no increases for continued plant operation.

## Summary

The potential adverse residual effects on infrastructure and services are expected to be negligible in the RAA, medium-term in duration, continuous in frequency, and reversible upon Project decommissioning.

### 7.1.4 Human Health

The operations at the facility utilize some hazardous materials in the production process and consequently generate approximately 2,450 L/year of hazardous waste. A list of chemicals used at the site is included in Appendix C and includes adhesives, sealants, cleaners, degreasers,



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Environmental Effects and Mitigation  
August 17, 2018

primers, paints, and coatings, all of which may represent potential hazards to the employees working with and around these chemicals.

Health and safety information for the site was provided by Rockwell Collins. Specifically, the SDS for the Alumiprep33 and Alodine 600 RTU chemicals were reviewed, since the chromium component of these products can lead to human health effects including developmental, carcinogenic, and gastrointestinal effects. Alumiprep33 is regularly used in the production process; as is the Alodine600 RTU. These chemicals are contained, usage tracked, limited to dedicated areas of the plant with ventilation, and handled using PPE, to limit the risk to worker health.

Currently, SDS information is available for all products and all employees are oriented to the health and safety program including general rules, reporting unsafe conditions and incidents, fire, evacuation, first aid procedures, and PPE (Personal Protective Equipment). A joint Health and Safety Committee also meets every month to monitor and improve health and safety activities and is composed of management and manufacturing staff. General safe work guidelines are also available. Job-specific safe work practices are in the process of being updated and developed (Salter pers. comm. 2018) and will reflect the hazards of each specialized process in the manufacturing facility including the specific procedures for safely working with chromium compounds and other potential hazardous materials and processes. The facility has also recently undergone an EHS audit (June 2018) with the identified findings being addressed. The site health and safety record includes only 1 lost time incident over the last 18 months.

## Summary

The potential adverse residual effects on human health are expected to be restricted to the Project site, low to high in magnitude, multiple irregular in frequency, short- to long-term in duration, and reversible to irreversible, depending on the specific hazard and event.

### 7.1.5 Summary of Mitigation Measures

Mitigation measures to be employed to prevent or mitigate adverse effects identified in the sections above include the following:

- Metal particulate emissions are contained and controlled within the plant building through the use of filtration equipment and particle collection systems on the grinding and deburring booths. Filters from these areas are disposed of to the municipal landfill and are regularly replaced.
- Emissions from plant paint and sealant mixing booths and paint bake room are contained within dedicated ventilated areas of the plant building and controlled through the use of filtration equipment. Filters from these areas are disposed of to the municipal landfill and are regularly replaced.



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Environmental Effects and Mitigation  
August 17, 2018

- Hazardous materials are secured in flammability resistant storage cabinets and prepared under the exhaust fume hoods in the paint mixing area and sealant mixing area; containers used for storing chemicals are labelled, including product name, hazard information and MSDS reference.
- Chemical emissions from the Alodine line are contained through the use of lids on the rinse tubs and through the use of the Encon Drum wastewater evaporator, for which the reusable wastewater filter is regularly cleaned as per manufacturer's instructions. The Alodine room is ventilated and separated from the rest of the manufacturing area.
- Chemical disposal follows the SDS disposal methods for the chemical being disposed.
- Hazardous waste containers and liquid hazardous waste generated at the plant are stored in a designated hazardous waste collection bin and are collected every three months by a third-party licensed hazardous waste processor.
- Solid hazardous waste (used batteries from the electric forklift) are stored in the designated hazardous waste collection bin and collected every three months by a third-party licensed hazardous waste processor. The solids from the evaporator will be stored in the evaporator drum until full, and similarly disposed of as hazardous waste.
- Use of the electric EnconDrum evaporator serves to reduce the volume of hazardous waste that is disposed of via Miller Environmental under hazardous waste generator licence #MB31185. No liquid is discharged to the municipal sewer from the Alodine room.
- The Project site is regularly inspected by plant personnel for loose debris and waste to maintain a clean site.
- Mixed recyclables and cardboard materials are collected by third party service providers for proper recycling every three to four weeks.
- Scrap metal shavings and metal sheets generated on-site are stored in secure bins and removed by a third-party recycling service provider on a quarterly basis.
- Vehicles for shipping and receiving are provided by a third party (UPS and FedEx) and are therefore maintained at off-site locations. Vehicle idling in the shipping and receiving areas are kept to a minimum through the no idling signs posted.
- Spent samples from flammability testing are disposed of to the municipal landfill.
- A Health and Safety program is implemented at the Project site and is currently being augmented and updated with the development of comprehensive Safe Work Practices.

## 7.2 SUMMARY OF RESIDUAL EFFECTS CHARACTERIZATION

A summary of residual environmental effects characterization is found in Table 7-2. Positive effects are not addressed, only adverse effects are characterized.



**ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY**

Environmental Effects and Mitigation  
August 17, 2018

**Table 7-2 Summary of Residual Environmental Effects**

Project Effects	Residual Environmental Effects Characterization						
	Direction	Magnitude	Geographical Extent	Duration	Frequency	Reversibility	Ecological and Socio-economic Context
<b>Air Emissions</b>							
Facility emissions	A	N	LAA	S	MR	R	D
<b>Greenhouse Gas Emissions</b>							
Facility emissions	A	N	RAA	L	C	IR	D
<b>Infrastructure and Services</b>							
Traffic level impacts	A	N	RAA	M	C	R	D
Waste disposal and recycling	A	N	RAA	M	C	R	D
<b>Health and Safety</b>							
Hazardous materials safety	A	L-H	PS	S-L	MI	R-IR	D
<b>KEY</b> See Table 4-3 for detailed definitions	<b>Geographical Extent</b> PS Project Site LAA Local Assessment Area RAA Regional Assessment Area <b>Duration</b> S Short-term M Medium-term L Long-term <b>Frequency</b> S Single event MI Multiple irregular event MR Multiple regular event C Continuous						
<b>KEY</b> <b>Direction</b> P Positive A Adverse N Neutral <b>Magnitude</b> N Negligible L Low M Moderate H High	<b>Reversibility</b> R Reversible IR Irreversible <b>Ecological/Socio-Economic Context:</b> U Undisturbed D Disturbed N/A Not applicable						



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Environmental Effects and Mitigation  
August 17, 2018

## 7.3 ACCIDENTS AND MALFUNCTIONS

The effects of accidents and malfunctions for the Project are primarily related to the potential for mechanical equipment failure, hazardous material spills, and transportation accidents. Rockwell Collins has a Workplace Health and Safety Handbook and all employees are trained in the daily operations of the facility. The presence of prevention measures and procedures for managing adverse effects associated with accidents and malfunctions should minimize the effects in the event of an emergency situation. Safe work practices are presently being developed and updated for the facility and will further reduce the likelihood of such events occurring.

The following sections provide additional details on the potential effects from accidents and malfunctions and the measures in place to prevent accidents and malfunctions.

### 7.3.1 Fire/Explosion

During operation, there exists potential for fires at the Project site involving mechanical equipment (e.g., dust collectors) and combustible liquids. Combustible liquids are stored in designated flammable materials storage cabinets and are only prepared in the ventilated mixing areas to reduce fire and explosion risks. Potential effects related to fires include: harm to on-site personnel, equipment, and the potential release of contaminants and hazardous materials. The facility maintains a fire evacuation procedure and a fire suppression system (sprinklers). Necessary precautions are taken to prevent fire hazards at the Project site including practicing good housekeeping and maintenance, limiting the quantity of combustible materials on-site, and replacing dust collection filters on a regular basis.

### 7.3.2 Spills

During operation, there is potential for environmental and human health effects due to accidental spills of hazardous materials. Spill-related effects on air quality, and human health and safety are possible. Three spill kits are on-site for use at the plant. The hazardous waste drums are stored on spill containment pallets and checked daily to confirm spills have not occurred. Any spills if they were to occur, would be contained within the Project site through the use of the designated hazardous waste storage bin and through the use of spill kits and spill containment pallets. All employees are trained in WHMIS (Workplace Hazardous Materials Information System) and SDS information is available for all employees working near hazardous chemicals to reduce the potential of accidental spills and impacts on human health.

### 7.3.3 Transportation Accidents

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



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Environmental Effects and Mitigation  
August 17, 2018

Traffic at the plant site (i.e., deliveries and pickups) operates at slow speeds to minimize the potential for on-site transportation accidents. Rockwell Collins also utilizes qualified transportation companies to transport materials and final products to and from the site to further minimize the potential for transportation risks. Miller Environmental and GFL are contracted at the Project site to pick up hazardous wastes. They are licensed hazardous waste processors and are therefore responsible for proper training of their transport operators.

## 7.3.4 Prevention Measures

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

- Potentially hazardous materials are stored at dedicated areas and handled and labelled in accordance with applicable regulatory requirements.
- Hazardous materials are transported in accordance with the *Dangerous Goods Handling and Transportation Act*. Product use is carried out per product instructions and SDS requirements.
- Fire extinguishers are available on-site and are maintained to manufacturer's standards. Equipment is checked on a routine basis to confirm their proper working order in accordance with municipal fire safety regulations. The plant also maintains a fire suppression system (sprinkler).
- Absorbent material spill kits are available for immediate cleanup of spills and leaks by trained personnel.
- Regular inspections of the HVAC systems are undertaken on a routine basis. Repairs and maintenance are undertaken by trained personnel.
- Rockwell Collins maintains a Safety and Health Management System which includes policies related to emergency preparedness, inspections, workplace hazardous materials information system (WHMIS) and incident reporting. All employees are trained under this program as part of their orientation to the facility.
- Rockwell Collins has recently completed an Environment, Health, and Safety Audit and is presently developing safe work practices to address audit findings in order to reduce risks to human/worker health and the environment.

# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Summary Conclusions  
August 17, 2018

## 8.0 SUMMARY CONCLUSIONS

Stantec has prepared this EAP of Rockwell Collins' B/E Aerospace industrial manufacturing facility, on behalf of Rockwell Collins Inc., to support the Environment Act Proposal and license application for continued operation of the same.

Rockwell Collins is employing mitigation and preventative measures to minimize potential adverse effects associated with their operations to the environment.

The site is presently zoned for manufacturing in an established industrial park; site operations comply with this zoning. The land use is consistent with activities that have been present in the area over the past 40 years.

The number of vehicles travelling to and from the site by employees and inbound and outbound truck traffic using designated roadways surrounding the Project site are not expected to exceed the infrastructure capacity at current service levels.

There are no substantial air or noise emissions associated with the current operations at the Project site. Sanitary wastewater generated by plant operations is accommodated by the City of Winnipeg municipal treatment system.

The potential for adverse effects from accidents and malfunctions at the Project site would be primarily related to fire/explosion, spills, and transportation accidents. The current prevention systems, mitigation measures, and safe work practices reduce the potential likelihood/severity of these events.

On the basis of the desktop studies undertaken, site observations and information available to date as presented in this report, the Project is not expected to create significant adverse effects to the biophysical and socio-economic environment and is expected to yield continued economic benefits to the region.



# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

References  
August 17, 2018

## 9.0 REFERENCES

### 9.1 LITERATURE CITED

Bird Studies Canada. 2018. Manitoba Breeding Bird Atlas. Available at: [http://www.birdatlas.mb.ca/index\\_en.jsp](http://www.birdatlas.mb.ca/index_en.jsp). Accessed July 23, 2018.

Committee on the Status of Endangered Wildlife in Canada. 2018. Wildlife Species Search. Available at: <https://www.canada.ca/en/environment-climate-change/services/committee-status-endangered-wildlife.html>. Accessed July 23, 2018.

City of Winnipeg. 2008. Land Drainage Collection and Retention Pond Map, G-0134. Winnipeg Water and Waste Department. Winnipeg, MB.

City of Winnipeg. 2011a. OurWinnipeg and the Complete Communities Direction Strategy. By-law No. 67/2010. Council of The City of Winnipeg. Winnipeg, MB.

City of Winnipeg. 2011b. Winnipeg Transportation Master Plan. The City of Winnipeg. Winnipeg, MB.

City of Winnipeg. 2015. 2015 Traffic Flow Map. City of Winnipeg Public Works Department, Transportation Division. Winnipeg, MB.

City of Winnipeg. 2016. The City of Winnipeg Regional Street Network. City of Winnipeg. Winnipeg, MB.

City of Winnipeg. 2017. Truck Routes in the City of Winnipeg. The City of Winnipeg. Winnipeg, MB.

City of Winnipeg. 2018a. The City of Winnipeg Zoning By-law No. 200/2006. Council of The City of Winnipeg. Winnipeg, MB.

City of Winnipeg. 2018b. City of Winnipeg, Assessment and Taxation, 2019 Property Assessment Notice. City of Winnipeg, Assessment and Taxation Department. Winnipeg, MB.

CRB. 2016. CRB Geological and Environmental Services Inc. Phase 1 Environmental Site Assessment. File No. BEA 414-117. Miami, FL. CRB.

Environment and Climate Change Canada. 2017a. National Inventory Report 1990-2015, Greenhouse Gas Sources and Sinks in Canada. Part 3 – Canada's Submission to the United Nations Framework Convention on Climate Change. Environment and Climate Change Canada, Pollutant Inventories and Reporting Division. Gatineau, QC.

## ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

### References

August 17, 2018

Environment and Climate Change Canada. 2018a. Facility Greenhouse Gas Emissions Reporting: Technical Guidance on Reporting Greenhouse Gas Emissions – 2017 data. GHG Emissions Reporting Program. Environment Canada. Gatineau, QC.

Environment and Climate Change Canada. 2018b. Climate Normals 1981 to 2010 – Station data: Winnipeg Richardson Int'l A. Available at:

[http://climate.weather.gc.ca/climate\\_normals/results\\_1981\\_2010\\_e.html?searchType=stnProv&lstProvince=MB&txtCentralLatMin=0&txtCentralLatSec=0&txtCentralLongMin=0&txtCentralLongSec=0&stnID=3698&dispBack=0](http://climate.weather.gc.ca/climate_normals/results_1981_2010_e.html?searchType=stnProv&lstProvince=MB&txtCentralLatMin=0&txtCentralLatSec=0&txtCentralLongMin=0&txtCentralLongSec=0&stnID=3698&dispBack=0). Accessed on July 23, 2018.

Environment and Climate Change Canada. 2018c. National Inventory Report 1990-2016: Greenhouse Gas Sources and Sinks in Canada – Executive Summary. Canada's Submission to the United Nations Framework Convention on Climate Change. Environment and Climate Change Canada, Pollutant Inventories and Reporting Division. Gatineau, QC.

Environmental Protection Agency. 2016. Memorandum: Volume-to-weight conversion factors for Solid Waste. Office of Resource Conservation and Recovery. Available at:

<https://www.epa.gov/smm/volume-weight-conversion-factors-solid-waste>.

Government of Canada. 2018. Species at Risk Public Registry. Canadian Wildlife Service. Ottawa, ON. Available at: [http://www.sararegistry.gc.ca/species/schedules\\_e.cfm?id=1](http://www.sararegistry.gc.ca/species/schedules_e.cfm?id=1). Accessed July 13, 2018.

Groundwater Information Network. 2018. Available at: <http://gw-info.net>. Accessed July 25, 2018.

Kjartanson, B., A. Baracos and D.H. Shields. 1983. Geological Engineering Report for Urban Development of Winnipeg. Department of Geological Engineering, The University of Manitoba. Winnipeg, MB.

Long Plain First Nation (LPFN) Arrowhead Development Corporation–Madison Reserve. Long Plain First Nation. Available at: <http://www.longplainfirstnation.ca/madison>. Accessed July 17, 2018.

Matile, G.L.D. and Keller, G.R. 2004: Surficial geology of the Winnipeg map sheet (NTS 62H), Manitoba. Manitoba Industry, Economic Development and Mines. Manitoba Geological Survey. Surficial Geology Compilation Map Series, SG-62H, scale 1:250 000.

Matile, G.L.D. 2004: Surficial Geology Winnipeg, Manitoba (Map 2055A). Manitoba Industry, Economic Development and Mines, Manitoba Geological Survey, Geoscientific Map, Map 2003-7, scale 1:100 000.

## ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

### References

August 17, 2018

Manitoba Sustainable Development. 2005. Manitoba Ambient Air Quality Criteria (Updated July 2005). Available at: [https://www.gov.mb.ca/conservation/envprograms/airquality/aa-criteria/ambientair\\_e.html](https://www.gov.mb.ca/conservation/envprograms/airquality/aa-criteria/ambientair_e.html). Accessed July 20, 2018.

Manitoba Conservation Data Centre. 2016. Occurrence of Species by Ecoregion – Lake Manitoba Plain. Manitoba Conservation and Water Stewardship, Wildlife Branch. Winnipeg, MB. Available at: <http://www.gov.mb.ca/conservation/cdc/ecoreg/lakembplain.html>. Accessed July 12, 2018.

Manitoba Sustainable Development. 2013. Manitoba Air Quality Data – 2013 Annual Pollutant Summary – Continuous Monitoring. Environmental Programs and Strategies. Winnipeg, MB. Available at: [https://www.gov.mb.ca/conservation/envprograms/airquality/pdf/2013\\_data\\_table.pdf](https://www.gov.mb.ca/conservation/envprograms/airquality/pdf/2013_data_table.pdf). Accessed July 20, 2018.

Manitoba Sustainable Development. 2018. Species At Risk. Wildlife Branch. Winnipeg MB. Available at: <http://www.manitoba.ca/conservation/wildlife/sar/sarlist.html>. Accessed July 15, 2018.

Manitoba Historical Society (MHS). 2017a. Historic Sites of Manitoba. Available at: <http://www.mhs.mb.ca/docs/sites/index.shtml>. Accessed June 20, 2018.

Manitoba Hydro. 2018. Natural Gas Distribution. Available at: [https://www.hydro.mb.ca/corporate/facilities/natural\\_gas.shtml](https://www.hydro.mb.ca/corporate/facilities/natural_gas.shtml). Accessed July 18, 2018.

Manitoba Tourism, Heritage, Sport and Consumer Protection. 2018. Manitoba's Historic Places and Significant Heritage Resources. Heritage Resources Branch. Available at: <http://www.gov.mb.ca/chc/hrb/mun/index.html>. Accessed July 20, 2018.

Mineral Resources Branch. 2018. Mines (Regulatory) / Geoscience, GIS Map Gallery, Mineral Dispositions. Available at: <http://web33.gov.mb.ca/mapgallery/mgm-md.html>. Accessed June 15, 2018.

NatureNorth. 2016. The Manitoba Herps Atlas. Available at: [http://www.naturenorth.com/Herps/MHA\\_Data.html](http://www.naturenorth.com/Herps/MHA_Data.html). Accessed July 11, 2018.

Province of Manitoba. 2015a. Air Quality Management in Manitoba. Environmental Programs and Strategies. Winnipeg, MB. Available at: <https://www.gov.mb.ca/conservation/envprograms/airquality/index.html>. Accessed June 20, 2016.

Sherlock Publishing Ltd. 2013. Sherlock's Map of Winnipeg and Surrounding Areas, 17<sup>th</sup> Edition. Sherlock Publishing Ltd. Winnipeg, MB.

## ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

### References

August 17, 2018

Smith, R.E., H. Velhuis, G.F. Mills, R.G. Eilers, W.R. Fraser, and G.W. Lelyk. 1998. Terrestrial Ecozones, Ecoregions, and Ecodistricts of Manitoba. Technical Bulletin 98-9E. Land Resource Unit, Brandon Research Centre, Agriculture Canada.

Statistics Canada. 2011a. City of Winnipeg Neighborhood Profiles. 2011 Census and National Household Survey Data – The Maples. Available from: <https://winnipeg.ca/census/2011/>

Statistics Canada. 2011b. City of Winnipeg Neighborhood Profiles. – 2011 Census and National Household Survey Data – Shaughnessy Park. Available from: <https://winnipeg.ca/census/2011/>

The Clean Environment Commission. 1981. Report on a Proposal for the Classification of Manitoba's Surface Water: Red River Principal Watershed Division. November 1981. Winnipeg, MB.

The Intergovernmental Panel on Climate Change (IPCC). 2006. IPCC Guidelines for National Greenhouse Gas Inventories 2006. Volume 2 Energy. National Greenhouse Gas Inventories Programme. Institute for Global Environmental Strategies. Hayama, Kanagawa, Japan.

The Intergovernmental Panel on Climate Change (IPCC). 2014. Greenhouse Gas Protocol Global Warming Potentials. Fifth Assessment Report (AR5). Available at: [https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5\\_Chapter08\\_FINAL.pdf](https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_Chapter08_FINAL.pdf). Accessed July 12, 2018.

The Property Registry. 2018. Land Titles, Surveys and Personal Property Registry. Winnipeg Land Titles Office and Survey Section. Winnipeg, MB.

Treaty Relations Commission of Manitoba. 2018. Treaties in Manitoba – Map of the Numbered Treaties. Available at: <http://www.trcm.ca/treaties/treaties-in-manitoba/view-pdf-interactive-map-of-numbered-treaties-trcm-july-20-entry/>. Accessed July 11, 2018.

## 9.2 PERSONAL COMMUNICATIONS

Rockwell Collins Inc. Barb Salter, Manager of Manufacturing and Operations. Email correspondence with Johanna Theroux, Stantec Consulting Ltd. July 2018.

Rockwell Collins Inc. Derrick Pawluk, Manufacturing Supervisor. Email correspondence with Johanna Theroux, Stantec Consulting Ltd. August 2018.

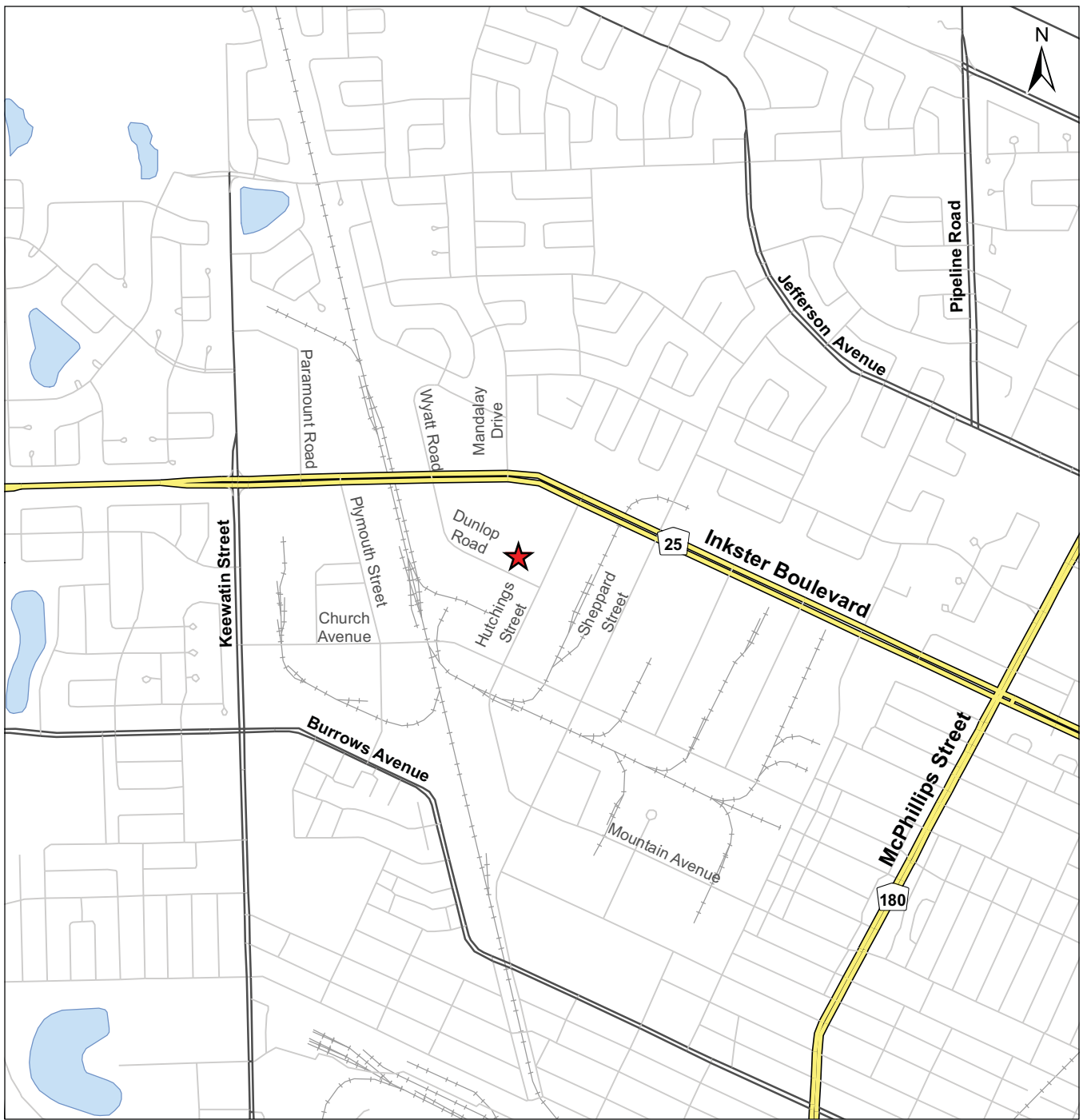
McLeod, K. David. Senior Archaeologist, Stantec Consulting Ltd. Internal Memo: Heritage 25 Dunlop Avenue Rockwell Collins to Johanna Theroux, Stantec Consulting Ltd. July 17, 2018.





# ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY

Appendix A Figures  
August 17, 2018

## Appendix A Figures





- Legend**
-  Site Location
  -  Major Road
  -  Minor Road
  -  Local Road
  -  Railway
  -  Waterbody



Project Location: 25 Dunlop Avenue, Winnipeg, Manitoba  
 193710227  
 Prepared by AC on 2018-07-16  
 Technical Review by JI on 2018-07-16

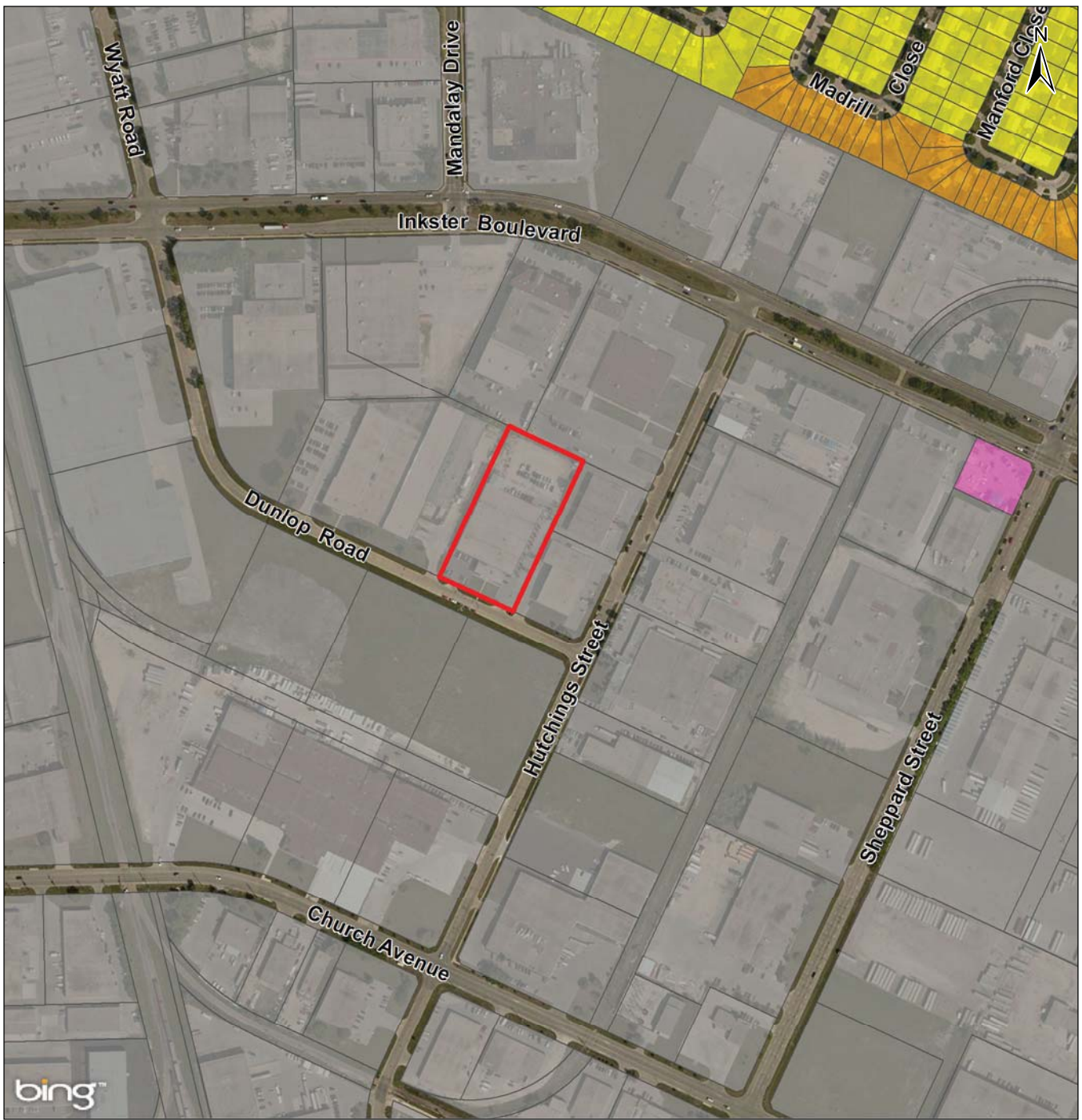
Client/Project: ROCKWELL COLLINS B/E Aerospace EAP

Figure No. 1-1

Title Location Plan

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

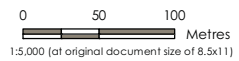
Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.



**Legend**

- Project Site (Lot 3 Plan 26529) Parcels

- Zoning**
- Commercial (C1-C4)
  - Manufacturing (M1-M3 & MMU)
  - Residential Single Family (R1)
  - Residential Two Family (R2)



Project Location: 25 Dunlop Avenue, Winnipeg, Manitoba 193710227  
 Prepared by AC on 2018-07-23  
 Technical Review by JI on 2018-07-23

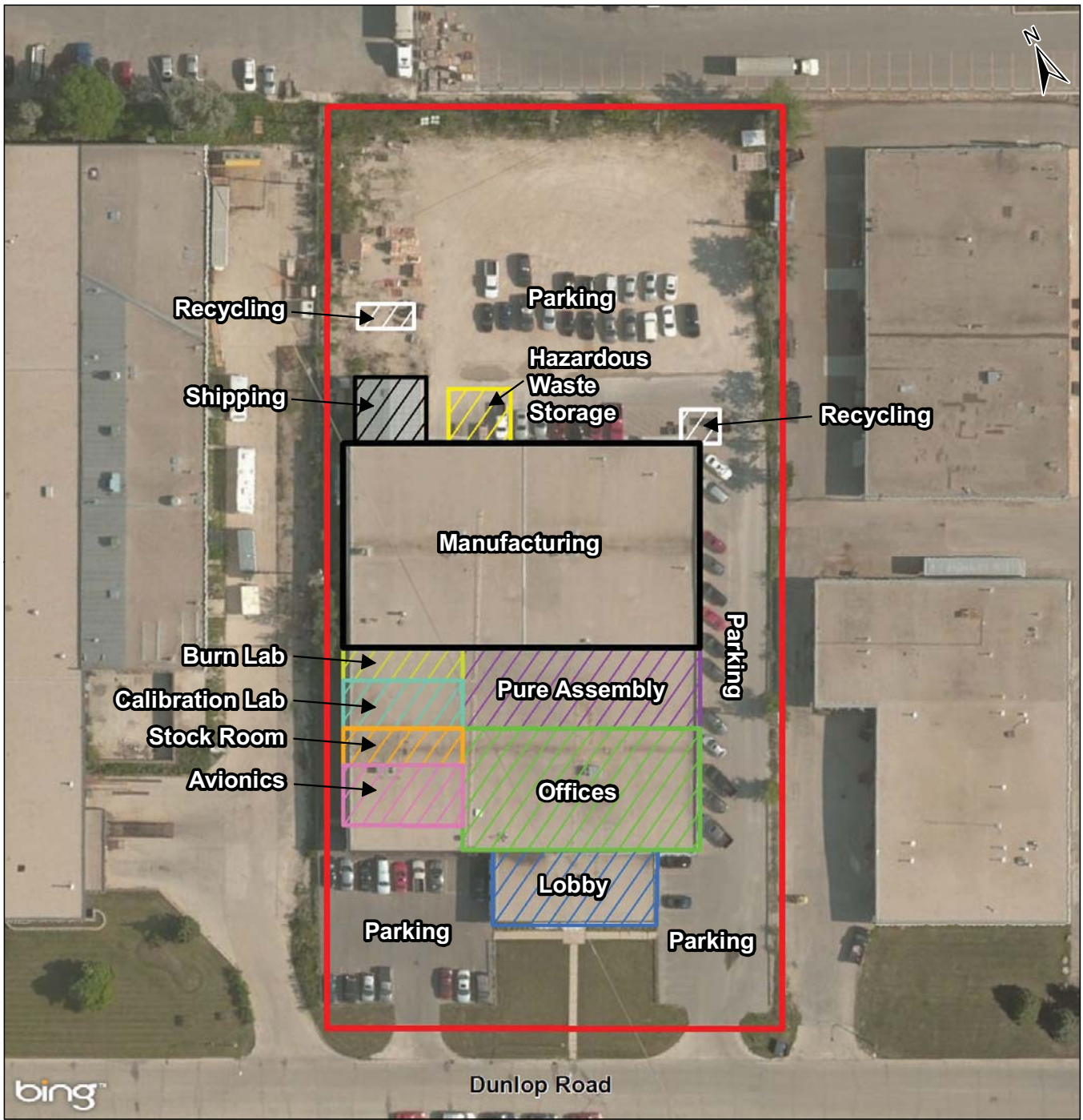
Client/Project: ROCKWELL COLLINS  
 B/E Aerospace EAP

Figure No. 1-2

Title: **Legal Plan**

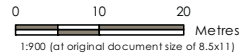
- Notes**
1. Coordinate System: NAD 1983 UTM Zone 14N
  2. Base features provided by the Government of Manitoba and the Government of Canada
  3. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.



**Legend**

Property Boundary



Project Location: 25 Dunlop Avenue, Winnipeg, Manitoba  
 193710227  
 Prepared by AC on 2018-07-23  
 Technical Review by J1 on 2018-07-23

Client/Project: ROCKWELL COLLINS  
 B/E Aerospace EAP

Figure No. **1-3**

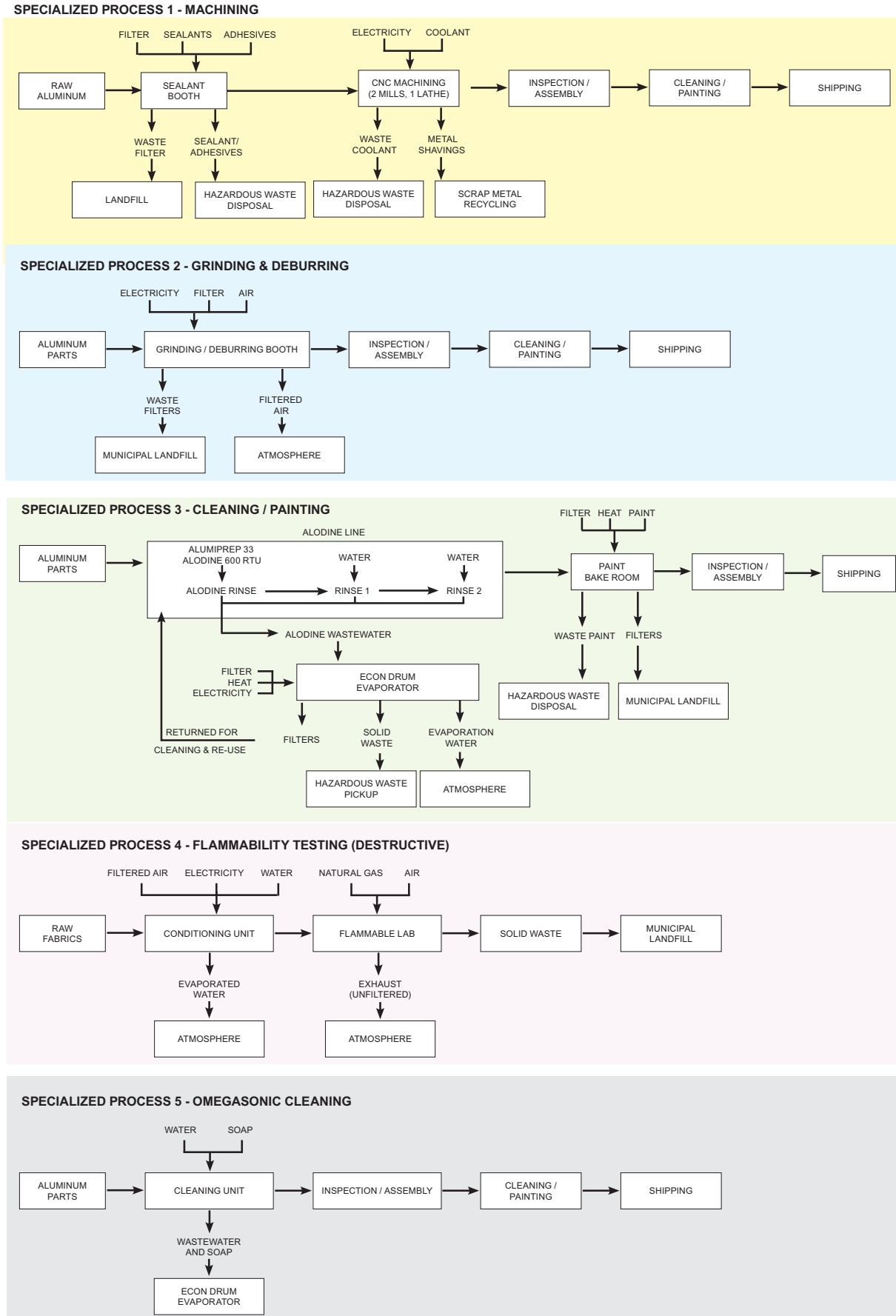
Title: **Site Plan**

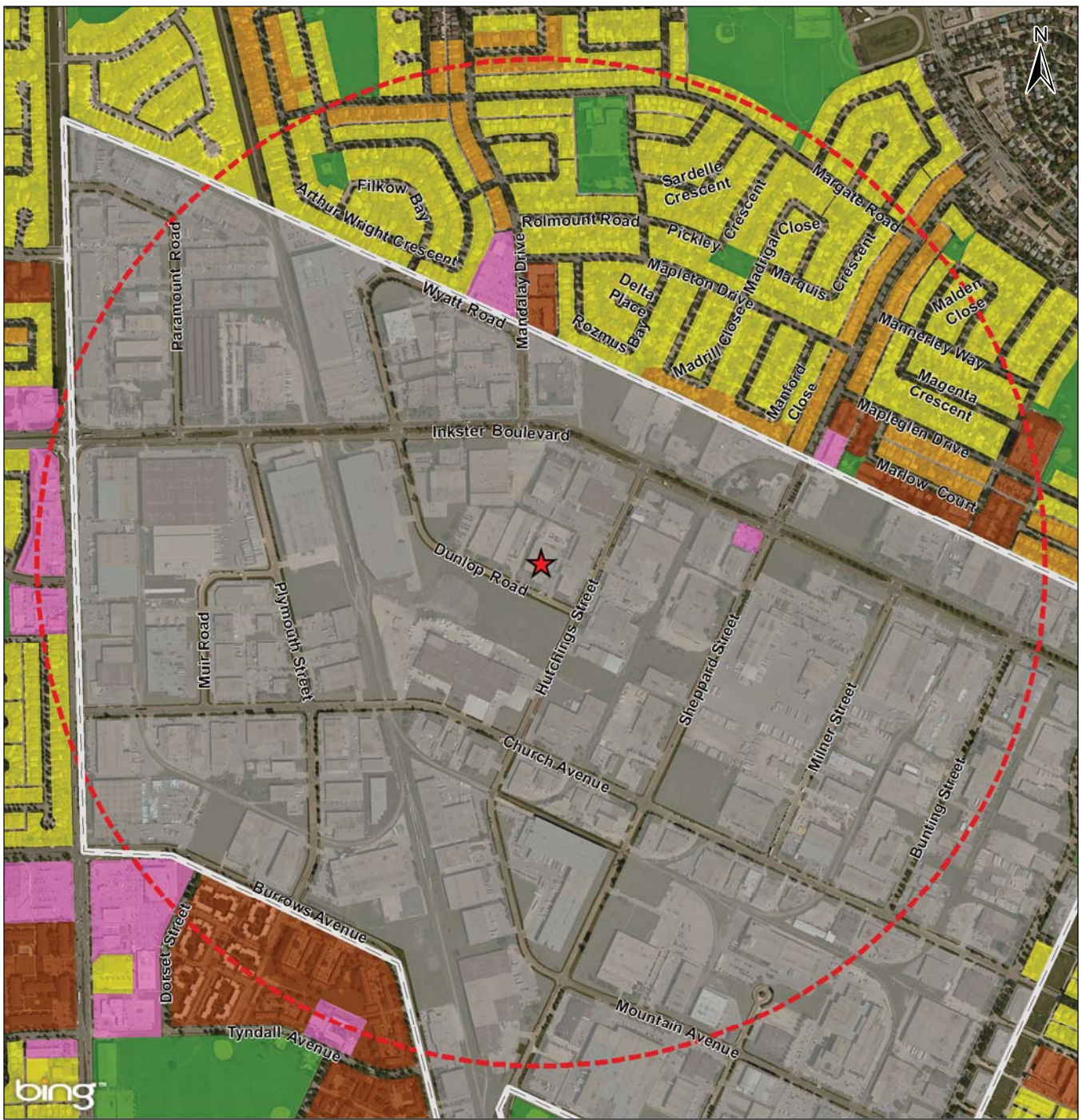
**Notes**

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base features provided by the Government of Manitoba and the Government of Canada
3. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation




Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.







**Figure 3-1  
Process Schematic**

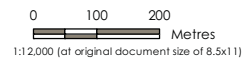




**Legend**

-  Site Location
-  Local Assessment Area (1 km Radius)
-  Inkster Industrial Park

- Zoning**
-  Commercial (C1-C4)
  -  Manufacturing (M1-M3 & MMU)
  -  Parks and Recreation (PR)
  -  Residential Single Family (R1)
  -  Residential Two Family (R2)
  -  Residential Multi Family (RMF)



Project Location: 25 Dunlop Avenue, Winnipeg, Manitoba  
 193710227  
 Prepared by AC on 2018-07-23  
 Technical Review by JI on 2018-07-23

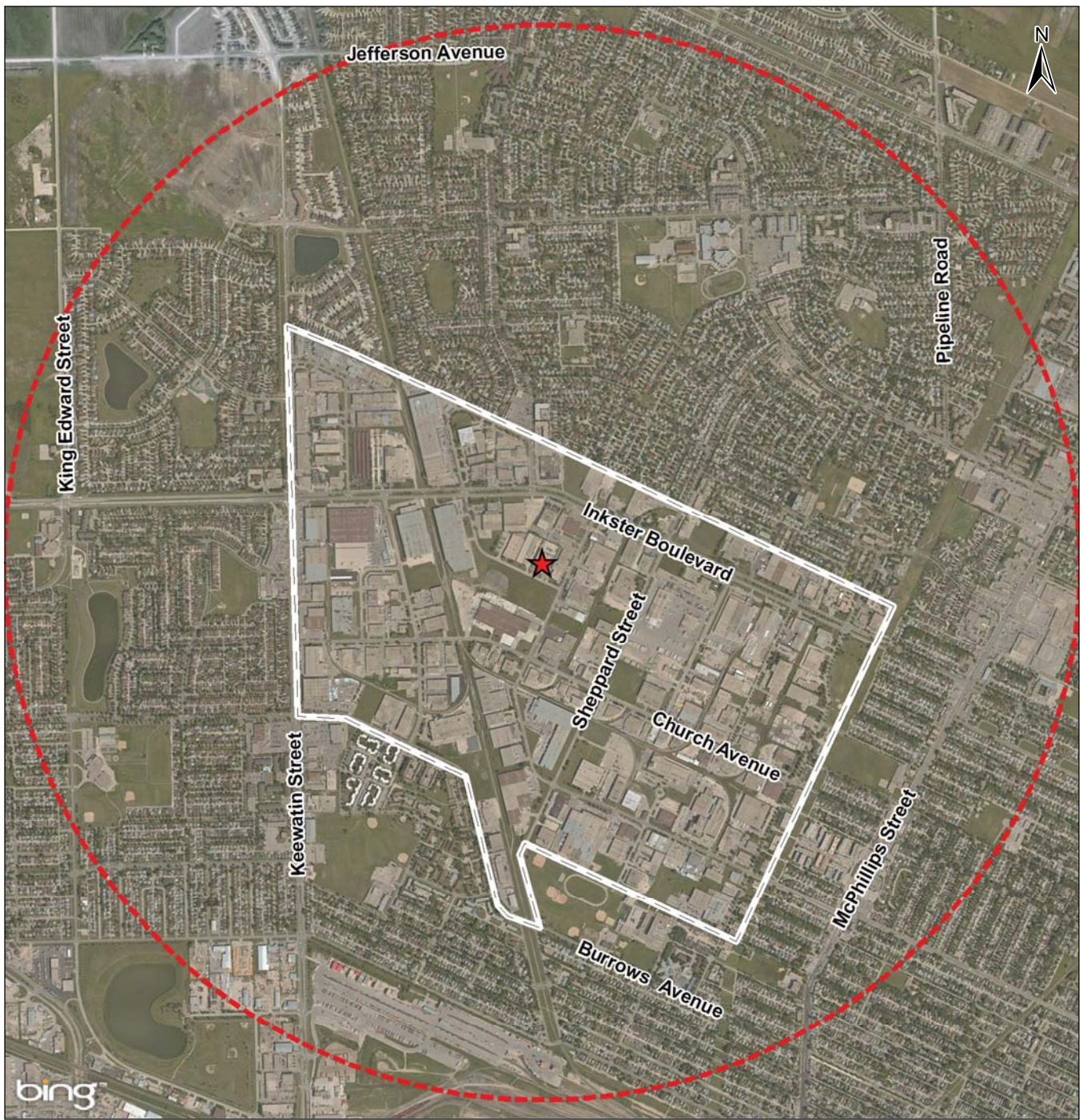
Client/Project: ROCKWELL COLLINS  
 B/E Aerospace EAP

Figure No. 4-1




**Local Assessment Area (1 km Radius)**

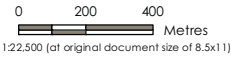
- Notes**
1. Coordinate System: NAD 1983 UTM Zone 14N
  2. Base features provided by the Government of Manitoba and the Government of Canada
  3. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.



**Legend**

-  Site Location
-  Regional Assessment Area (2 km Radius)
-  Inkster Industrial Park



Project Location 193710227  
 25 Dunlop Avenue,  
 Winnipeg, Manitoba  
 Prepared by AC on 2018-07-23  
 Technical Review by JI on 2018-07-23

Client/Project  
 ROCKWELL COLLINS  
 B/E Aerospace EAP

Figure No.  
**4-2**

Title  
**Regional Assessment Area  
 (2 km Radius)**

- Notes**
1. Coordinate System: NAD 1983 UTM Zone 14N
  2. Base features provided by the Government of Manitoba and the Government of Canada
  3. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

**ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY**

Appendix B Photos  
August 17, 2018

**Appendix B Photos**





Photo B-1: B/E Aerospace building facing north and adjacent parking areas



Photo B-2: EconDrum Evaporator and Alodine line rinsewater storage

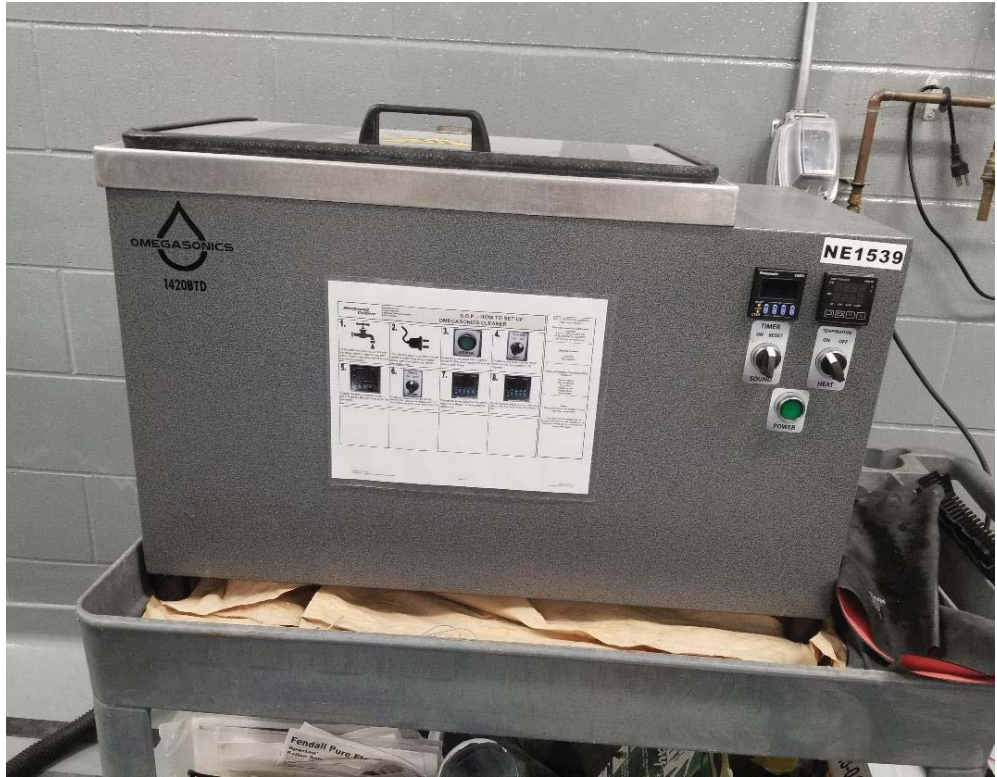


Photo B-3: Omegasonic cleaning unit



Photo B-4: Alodine line rinse tubs



Photo B-5: Alodine wash area for large parts



Photo B-6: Flammability lab conditioning unit



Photo B-7: Flammability lab fume hood, with samples stacked



Photo B-8: Grinding Booth



Photo B-9: CNC Machining area



Photo B-10: Deburring area



Photo B-11: Flammable materials storage cabinets



Photo B-12: Sealant mixing booth



Photo B-13: Paint booth



Photo B-14: Paint mixing room adjacent to the paint booth



Photo B-15: Air compressor servicing the tools throughout the plant



Photo B-16: Outdoor storage shipping container (facing west)



Photo B-17: Mixed recycling, cardboard, and solid waste storage containers (facing southeast)

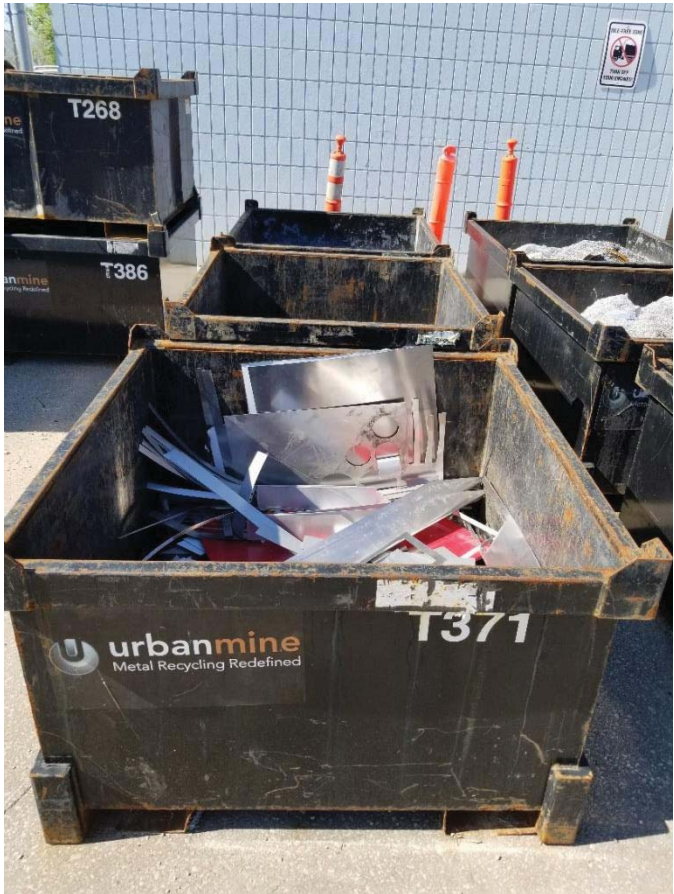


Photo B-18: Waste metal storage containers and idle-free signage (facing south)



Photo B-19: Paved parking and receiving area (facing south)



Photo B-20: Large scrap metal recycling container and perimeter fence line, facing west



Photo B-21: Designated hazardous waste storage container



Photo B-22: General manufacturing areas, facing north



Photo B-23: Spill containment pallet for waste paint



Photo B-24: North fence line including drums for immediate hazardous waste pickup

**ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY**

Appendix C Chemical Inventory  
August 17, 2018

**Appendix C CHEMICAL INVENTORY**



**TABLE C-1: CHEMICAL INVENTORY LIST**

Product Name	Quantity (L)	Supplier	Category
3M FASTBOND CONTACT ADHESIVE 30-NF, NEUTRAL	3.8	Adhere Distributor	Adhesive / Sealant
3M SCOTCH GRIP INDUSTRIAL ADHESIVE 1300L (LOW HEXANE)	1	E.B. Peerless Ltd.	Adhesive / Sealant
3M SCOTCH-WELD 7236 STRUCTURAL ADHESIVE B/A WHITE	1	Interturbine Aviation Logistics	Adhesive / Sealant
3M SCOTCH-WELD EC-3505 B/A VOID FILLING COMPOUND	0	E.B. Peerless Ltd.	Adhesive / Sealant
3M SCOTCH-WELD EC-3524 B/A VOID FILLING COMPOUND	11.3	E.B. Peerless Ltd.	Adhesive / Sealant
3M VHB FOAM TAPES	0	Interturbine Aviation Logistics	Adhesive / Sealant
5368 BLACK 310ML GB	2.8	Interturbine Aviation Logistics	Adhesive / Sealant
736 HEAT RESISTANT/SEALANT PASTE	0.9	Aviall Inc.	Adhesive / Sealant
ATACS 5103	0	BE Aerospace Limited	Adhesive / Sealant
ATR 1000 (PART A & B)	0	E.B. Peerless Ltd. / Aviall	Adhesive / Sealant
ATR 525 PART (PART A & B)	18.9	E.B. Peerless Ltd.	Adhesive / Sealant
EPOCAST 1619 A US	1.9	Interturbine Aviation Logistics	Adhesive / Sealant
EPOCAST 1619 B US	0	Interturbine Aviation Logistics	Adhesive / Sealant
EPOCAST 50-A1 9816 (RESIN & HARDENER)	0	E.B. Peerless Ltd.	Adhesive / Sealant
LOCTITE 222MS THREADLOCKER LOW STRENGTH 22221	0	Acklands Grainger	Adhesive / Sealant
LOCTITE 242	<0.1	E.B. Peerless Ltd.	Adhesive / Sealant
LOCTITE 262	<0.1	C.K. Machine/ Aviall	Adhesive / Sealant
LOCTITE 609 RETAINING COMPOUND PRESS FIT	<0.1	Acklands Grainger	Adhesive / Sealant
LOCTITE EA 9309.3NA AERO PART A MOULDING COMPOUND	3	E.B. Peerless Ltd.	Adhesive / Sealant
LOCTITE EA 9309.3NA AERO PART B MOULDING COMPOUND	0	E.B. Peerless Ltd.	Adhesive / Sealant
LOCTITE EA 9323 AERO PART A QT	0	Aviall Inc.	Adhesive / Sealant
LOCTITE EA 9323 AERO PART B PT	0	Aviall Inc.	Adhesive / Sealant
LOCTITE EA 9394 PART A QT	1.1	E.B. Peerless Ltd.	Adhesive / Sealant
LOCTITE EA 9394 PART B QT	0	E.B. Peerless Ltd.	Adhesive / Sealant
LOCTITE SUPERFLEX CLEAR TV 29575	0	E.B. Peerless Ltd.	Adhesive / Sealant
LOCTITE SI 598	0.3	Aviall	Adhesive / Sealant

AC665	0.5	Aviall	Adhesive / Sealant
AEROSHELL 33	2	Aviall/Krayden	Adhesive / Sealant
AEROSHELL A7	2	Aviall	Adhesive / Sealant
DP100	0	Aviall	Adhesive / Sealant
RTV732	0.2	Aviall	Adhesive / Sealant
E-20 ADHESIVE	0	Source Atlantic	Adhesive / Sealant
EC 7236	1	KLX/Interturbine Aviation Logistics	Adhesive / Sealant
EPOCAST 50-A1	0	n/a	Adhesive / Sealant
FREKOTE 700 NC	0	n/a	Adhesive / Sealant
LOCTITE EA 960 / LOCTITE 960 F	1	KLX	Adhesive / Sealant
LOCTITE SI 595	0	Aviall Inc.	Adhesive / Sealant
PR 1440 B ½	0.2	Aviall	Adhesive / Sealant
SUPER COLD	0	Krayden	Adhesive / Sealant
TECTYL 502C CLASS 1	0	Aviall	Adhesive / Sealant
TECTYL 502C CLASS 2	0	Aviall	Adhesive / Sealant
SCOTCH-WELD EPOXY ADHESIVE B/A ½ GAL	0	Aviall/Krayden	Adhesive / Sealant
METALSET A-4 (PART A & B)	5.3	Aviall Inc.	Adhesive / Sealant
MICRO-ULTRA 15-3 FILLER	1.1	E.B. Peerless Ltd.	Adhesive / Sealant
PEROXIDE CREAM HARDENER	0	E.B. Peerless Ltd.	Adhesive / Sealant
PR 148 CLEAR PINT	0.5	Aviall Inc.	Adhesive / Sealant
PR-1422 A 1/2 PART A	2.4	Aviall Inc.	Adhesive / Sealant
PR-1422 A 1/2 PART B	0	Aviall Inc.	Adhesive / Sealant
PR-1422 B 1/2 PART A	1.4	PPG Canada	Adhesive / Sealant
PR-1422 B 1/2 PART B	0	PPG Canada	Adhesive / Sealant
PR-1422 B 2 PART A	2.2	Aviall Inc.	Adhesive / Sealant
PR-1422 B 2 PART B	0	PPG Canada	Adhesive / Sealant
PRO-SEAL 870 C-24, PART A	0	E.B. Peerless Ltd.	Adhesive / Sealant
PRO-SEAL 870 C-24, PART B	0	E.B. Peerless Ltd.	Adhesive / Sealant
SCOTCH-WELD EPOXY ADHESIVE EC-2216, B/A GREY	0	E.B. Peerless Ltd.	Adhesive / Sealant
THERMALCOTE I-HEAT TRANSFERING COMPOUND	0	BE Aerospace Limited	Adhesive / Sealant
ZINC ANTI-SEIZE #39901	1.3	Aviall Inc.	Adhesive / Sealant
ALUMIPREP 33 TURCO	197	E.B. Peerless Ltd.	Cleaner / Degreaser
FLUX REMOVER FOR PC BOARDS MSDS CODE: 4140-AEROSOL	0	Active Tech Electronics Canada	Cleaner / Degreaser
BLASOCUT BC 20 SW	416	Thomas Skinner & Son Ltd.	Lubricant
COOLUBE 2210	83	Spence Distributors Ltd.	Lubricant

TECTYL® 502C, CLASS II (3115000)	0	E.B. Peerless Ltd.	Lubricant
WAYLUBE GEAR OIL 32, 68, 220 - (MACHINE WAY LUBRICANT)	37.9	n/a	Lubricant
WD-40	7.6	n/a	Lubricant
10P8-11: ALUMIGRIP 10P8-11 EPOXY PRIMER	106.4	E.B. Peerless Ltd.	Primer / Paint / Coat
20P1-21; INTEGRAL FUEL TANK COATING	0	Hypercoat-Downing	Primer / Paint / Coat
A-702 GREEN ZINC PHOSPHATE PRIMER	1.4	Aviall Inc.	Primer / Paint / Coat
ACRYLIC LACQUER CONFORMAL COATING 419C - LIQUID -55ML; 1L; 4L; 20L	102.2	Electro Sonic Inc.	Primer / Paint / Coat
ACRYLIC LACQUER CONFORMAL COATING 419C AEROSOL	0	Electro Sonic Inc.	Primer / Paint / Coat
ALEXIT - THINNER 62	4	Mankiewicz Coatings	Primer / Paint / Coat
ALEXIT-FST 343-55/PRIMER	2	Mankiewicz Coatings	Primer / Paint / Coat
ALEXIT-HARDENER 345-15	4.4	Mankiewicz Coatings	Primer / Paint / Coat
ALEXIT-HARDENER 400	4	Mankiewicz Coatings	Primer / Paint / Coat
ALODINE 1132 TOUCH-N-PREP COATING IDH # 1445846	<0.1	E.B. Peerless Ltd.	Primer / Paint / Coat
ALODINE 871 TOUCH-N-PREP COATING IDH# 1446363	<0.1	E.B. Peerless Ltd.	Primer / Paint / Coat
ALODINE T 5900 RTU IDH# 772744	0	E.B. Peerless Ltd.	Primer / Paint / Coat
BONDERITE M-CR 600RTU AERO IDH# 594094	699.3	E.B. Peerless Ltd.	Primer / Paint / Coat
COR-BAN 35 AEROSOL	15.4	Aviall Inc.	Primer / Paint / Coat
DE HAVILLAND CURE 6600-C-1	37.8	Tempo Aerospace Inc.	Primer / Paint / Coat
DUPLI-COLOR (ENAMEL PAINT, CHERRY RED) DA1640	0.7	Chase Auto Body Supplies	Primer / Paint / Coat
DURAMAR AGFA GREY TEXTURED 6503-B-493TX	30.3	Tempo Aerospace Inc.	Primer / Paint / Coat
EC-286 THINNER (GREEN PRIMER 10P8-11/EC-286)	0	E.B. Peerless Ltd.	Primer / Paint / Coat
ECL-G-11269-GRAY BAC 71258 PANTONE 7545C	0	Hypercoat-Downing	Primer / Paint / Coat
EPOXY PRIMER CURE 4500-C-15	79.5	Tempo Aerospace Inc.	Primer / Paint / Coat
GLSS CONAIR REVISITED WHITE DURA 6600-W-209	34.1	Tempo Aerospace Inc.	Primer / Paint / Coat
G-SERIES ACTIVATOR	8.5	Bisco Industries	Primer / Paint / Coat
JETFLEX INTERIOR AIRCRAFT FINISH REDUCER	8.5	E.B. Peerless Ltd.	Primer / Paint / Coat
JETFLEX INTERIOR AIRCRAFT FINISHES (PART B), CATALYST CM0981520	1.9	E.B. Peerless Ltd.	Primer / Paint / Coat

JET-GLO / ACRY GLO ACCELERATOR CM0120975	0	Hypercoat-Downing	Primer / Paint / Coat
JET-GLO CATALYST CM0578520	3.8	Hypercoat-Downing	Primer / Paint / Coat
JETGLO POLYURETHANE, SNOW WHITE CM0570566	3.8	Hypercoat-Downing	Primer / Paint / Coat
JET-GLO/ACRYGLO REDUCER, MEDIUM TEMPERATURE CM0110701	0	Aviall Inc.	Primer / Paint / Coat
PC-233 CURING SOLUTION	0	Tempo Aerospace Inc.	Primer / Paint / Coat
PC-235 INTEGRAL FUEL TANK COATING CURE SOLUTION	0	Hypercoat-Downing	Primer / Paint / Coat
REDUCER PAINT SO 575	16.1	Bisco Industries	Primer / Paint / Coat
REDUCER SO-660	11.4	Bisco Industries	Primer / Paint / Coat
TR-113 REDUCER FOR FAST DRY VERSION 1	0	Hypercoat-Downing	Primer / Paint / Coat
URETHANE REDUCER 6503-S-1	18.9	McMaster Carr Supply Co.	Primer / Paint / Coat
URETHANE REDUCER VOC EXEMPT 204900	11.4	Tempo Aerospace Inc.	Primer / Paint / Coat
WATERBASE TOPCOAT SEMIGLOSS BAC-701 BLACK	0	AxonHentzen Aerospace	Primer / Paint / Coat
X-501 CURING SOLUTION	3.8	Tempo Aerospace Inc.	Primer / Paint / Coat
X-503 CURING SOLUTION	0	Tempo Aerospace Inc.	Primer / Paint / Coat
YELLOW BASE EPOXY PRIMER 4500-PB-15Y	30.3	Tempo Aerospace Inc.	Primer / Paint / Coat
ZINC CHROMATE PRIME YELLOW D-90Y-Q	3.8	Krayden	Primer / Paint / Coat
58-SERIES 646-58-1105 RED GLOSS 595-11105	3.8	Hypercoat-Downing	Primer / Paint / Coat
58-SERIES 646-58-6280 GREY SEMI GLOSS 595-26280	0	Hypercoat-Downing	Primer / Paint / Coat
58-SERIES 666-58-6118 GREY FLAT 595-36118	0	Hypercoat-Downing	Primer / Paint / Coat
58-SERIES TOPCOAT 646-58-3538 YELLOW GLOSS 595-13538	7.6	Hypercoat-Downing	Primer / Paint / Coat
58-SERIES TOPCOAT 666-58-7038 BLACK SG 595-27038	0	Hypercoat-Downing	Primer / Paint / Coat
58-SERIES TOPCOAT 666-58-1136 REDFLAT 595-31136	0	Hypercoat-Downing	Primer / Paint / Coat
58-SERIES TOPCOAT 666-58-3538 YELLOW FLAT 595-33538	0	Hypercoat-Downing	Primer / Paint / Coat
FLOW CONTROL COMPONENT TR109	3.8	n/a	Primer / Paint / Coat
IFGH SOLIDS LUSTERLESS ENAMEL 666-58-7038	3.8	Hypercoat-Downing	Primer / Paint / Coat

JET FLEX LO9003 BAC 7363 SOFT WHITE	3.8	Hypercoat-Downing	Primer / Paint / Coat
RUST-OLEUM 249127 FPP/065820 FLAT BLACK	2	Bisco	Primer / Paint / Coat
RUST-OLEUM N1954830-00529 Y3513C FLUORESCENT	0	Bisco	Primer / Paint / Coat
TREM CLAD 27048 H7716C 1820 FLAT BLACK	0.7	Bisco Industries	Primer / Paint / Coat
TREM CLAD 27049 X54302 FIRE RED	0.3	Rona/Walmart	Primer / Paint / Coat
58 SERIES POLYURETHANE TOPCOAT 656-58-7875 WHITE SEMI GLOSS 595-27875	0	Hypercoat-Downing	Primer / Paint / Coat
58-SERIES 656-58-8915 ORANGE SG 595-28915	0	Hypercoat-Downing	Primer / Paint / Coat
58-SERIES TOPCOAT 666-58-7875 WHITE FLAT 595-37875	3.8	Hypercoat-Downing	Primer / Paint / Coat
AIRCRAFT PAINT STRIPPER RX127	11.3	Rondex	Primer / Paint / Coat
ALEXIT FST-MICOEFFEKT 404-75 11TC PEARL	0	Mankiewicz Coatings	Primer / Paint / Coat
ALEXIT FST-MICOEFFEKT 404-75 73EU LIGHT GREY	8	Mankiewicz Coatings	Primer / Paint / Coat
DURA-MAR HARDENER 6503-C-1	0	Tempo Aerospace	Primer / Paint / Coat
DURATHANE/DURA-MAR THINNER S-1	0	Tempo Aerospace	Primer / Paint / Coat
ECLIPSE HIGH PERFORMANCE TOPCOAT ECL-G-46 WHITE 595-17875	1	Hypercoat-Downing	Primer / Paint / Coat
EXEMPT URETHANE REDUCER 20-4900	7.6	Tempo Aerospace	Primer / Paint / Coat
GREY URETHANE SANDABLE PRIMER 4400-PB-21B-BG	0	Tempo Aerospace	Primer / Paint / Coat
POLY URETHANE SLOWBLEND REDUCER S-125	7.6	Tempo Aerospace	Primer / Paint / Coat
PRIMER RUST INHIBITOR LPS3	3.8	n/a	Primer / Paint / Coat
RONDEX FINAL WIPE SOLVENT RX123	3.8	Rondex	Primer / Paint / Coat
TEMPO AIRCRAFT ENAMEL 13032 00519 3108243420 WHITE	3.8	Tempo Aerospace	Primer / Paint / Coat
URETHANE SANDABLE HARDENER 4400-C-21-Q	1	Tempo Aerospace	Primer / Paint / Coat
ACETONE 13-264	49.2	E.B. Peerless Ltd.	Solvent
GUNWASH 23-389	585.9	chase Auto Body Supplies	Solvent
ISOPROPHYL ALCOHOL	75	E.B. Peerless Ltd.	Solvent
METHYL AMYL KETONE	359	E.B. Peerless Ltd.	Solvent

PF 603-1 FINAL WIPE SOLVENT	3.8	Chase Auto Body Supplies	Solvent
245 LEAD FREE FLUX CORE SOLDER	2 spools	Future Electronics	Welding Product
ARCAL 21 BLUESHIELD ALFLUX	0	n/a	Welding Product
CARBON DIOXIDE INERT GAS MIXTURE	0	n/a	Welding Product
ER70S-2, ER70S-3, ER70S-6	5 lb (metals)	Welders Supply Ltd.	Welding Product
44 FLUX-CORED WIRE SN63PB37; SN60PB40; SN50PB50; SN40PB60	0	Digi-key Corporation	Others
CHEM WIK ROSIN	0	NeWark InOne	Others
FREKOTE 700-NC/PINT MOLD RELEASE	1 spool	CCP Composites	Others
MANGANESE DIOXIDE (CR TYPE) LITHIUM BATTERIES	0	n/a	Others
BLASOCUT_BC_20_SW_01200-65_USA	69.2	n/a	Cutting Fluid
SDS_COOLUBE_2210	3.8	n/a	Lubricant
MOBIL SHC 625	1	n/a	Lubricant
ROYSON 53-F – 5GAL	18	n/a	
WAYLUBE-OIL-ISO-VG-68-220_NEMCO	20	n/a	Lubricant
CALCIUM ACETATE SOLUTION - ADDITIVE_A32_29111-02_USA	3.8	n/a	Water Hardener
MULTIGEAR-80W-90-LS_NEMCO	38	n/a	Lubricant
AW 46 HYDRAULIC OIL	40	n/a	Lubricant

**ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY**

Appendix D Correspondence  
August 17, 2018

**Appendix D CORRESPONDENCE**



Environmental Stewardship Division  
Environmental Approvals Branch  
1007 Century Street, Winnipeg, Manitoba R3H 0W4  
T 204 945-8321 F 204 945-5229  
[www.gov.mb.ca/sd/eal](http://www.gov.mb.ca/sd/eal)

August 1, 2018

Stephen Biswanger, P. Eng.  
Environmental Engineer, Senior Project Manager  
Stantec  
500-311 Portage Avenue  
Winnipeg MB R3B 2B9 CA

**Via Email:** [Stephen.Biswanger@stantec.com](mailto:Stephen.Biswanger@stantec.com)

Dear Mr. Biswanger:

**Re: Rockwell Collins operating as B/E Aerospace. – Environment Act Proposal**

This letter is a follow-up of my emails dated July 5 and 11, 2018 with respect to B/E Aerospace licensing requirement. Environmental Approvals always prefer to work with clients to comply with the legislative requirement. We appreciate that you took the proactive action and approached the Department to initiate the environmental assessment and licensing process.

The environmental assessment and licensing process will proceed while the facility is operating. However, the EAP shall be submitted by the deadline of September 30, 2018 unless extended by the Director.

If you have any questions on this matter, please contact the undersigned at (204) 945-7023.

Yours truly,



Eshetu Beshada, PhD, P. Eng.  
Environmental Engineer  
Environmental Approvals Branch



**ROCKWELL COLLINS ENVIRONMENT ACT PROPOSAL FOR B/E AEROSPACE MANUFACTURING FACILITY**

Appendix E Certificate of Title  
August 17, 2018

**Appendix E CERTIFICATE OF TITLE**



## STATUS OF TITLE

Title Number **2711581/1**  
Title Status **Accepted**  
Client File **Johanna Theroux - 193710227**

**The Property Registry**

A Service Provider for the Province of Manitoba



### 1. REGISTERED OWNERS, TENANCY AND LAND DESCRIPTION

6829695 MANITOBA LTD.

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

SP LOT 3 PLAN 26529 WLTO  
IN OTM LOTS 1 AND 2 PARISH OF KILDONAN AND  
IN NE 1/4 24-11-2 EPM

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: **228829/1**  
Instrument Status: **Accepted**

Registration Date: 1973-12-10  
From/By: CITY OF WINNIPEG  
To:

Amount:  
Notes: No notes  
Description: No description

---

Instrument Type: **Caveat**  
Registration Number: **3645318/1**  
Instrument Status: **Accepted**

Registration Date: 2008-07-18  
From/By: AERO CONSULTING SERVICES LTD.  
To: KEVIN R. BOLT AS AGENT

Amount:  
Notes: No notes  
Description: LEASE, TERM PLUS RENEWALS EXPIRES JUNE 30 2018

Instrument Type: **Mortgage**  
Registration Number: **4461553/1**  
Instrument Status: **Accepted**

Registration Date: 2014-03-05  
From/By: 6829695 MANITOBA LTD.  
To: LA CAISSE POPULAIRE GROUPE FINANCIER LTEE

Amount: \$3,000,000.00  
Notes: No notes  
Description: No description

---

Instrument Type: **Caveat**  
Registration Number: **4461554/1**  
Instrument Status: **Accepted**

Registration Date: 2014-03-05  
From/By: LA CAISSE POPULAIRE GROUPE FINANCIER LTEE  
To:

Amount:  
Notes: No notes  
Description: GENERAL ASSIGNMENT OF RENTS AND LEASES

---

Instrument Type: **Caveat**  
Registration Number: **4770479/1**  
Instrument Status: **Accepted**

Registration Date: 2016-09-28  
From/By: B/E AEROSPACE LIMITED  
To: PHILIP MARTIN SHEPS, AS AGENT

Amount:  
Notes: No notes  
Description: LEASE EXPIRES 2026-06-30

---

**3. ADDRESSES FOR SERVICE**

6829695 MANITOBA LTD.  
UNIT 14-5 SCURFIELD BLVD.  
WINNIPEG MB  
R3Y 1G3

**4. TITLE NOTES**

No title notes

<b>5. LAND TITLES DISTRICT</b>
Winnipeg
<b>6. DUPLICATE TITLE INFORMATION</b>
Duplicate not produced
<b>7. FROM TITLE NUMBERS</b>
2186409/1          All
<b>8. REAL PROPERTY APPLICATION / CROWN GRANT NUMBERS</b>
No real property application or grant information
<b>9. ORIGINATING INSTRUMENTS</b>
Instrument Type: <b>Transfer Of Land</b>
Registration Number: <b>4461552/1</b>
Registration Date:         2014-03-05
From/By:                    ACS HOLDINGS LTD.
To:                            6829695 MANITOBA LTD.
Consideration:             \$3,100,000.00
<b>10. LAND INDEX</b>
Lot 3 Plan 26529

CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA STORAGE SYSTEM OF TITLE NUMBER 2711581/1