

April 1, 2015

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

RE: Facility Name: Graphic Packaging International Canada
Facility Location: 531 Golspie Street, Winnipeg, Manitoba R2K 2T9
Environmental Act Proposal application

Dear Sir/Madam:

Enclosed please find four (hard) copies of Graphic Packaging International Canada (“GPII”) **Environmental Act Proposal (“EAP”) application** for an Environmental License to operate a folding carton manufacturing and printing facility located at 531 Golspie Street, Winnipeg, Manitoba. This EAP application consists of this cover letter, the Environmental Act Proposal Form, the Development Environmental Assessment Report, and the application fee.

Enclosed is a check in the amount of \$1,000.00 (payable to Minister of Finance) for the application fee per Environmental Act Fees Regulation (Manitoba Regulation 168/96), for a Class 1 Development.

The Environment Act stipulates that an Environmental License must be obtained in order to construct, alter or operate a various types of facilities, including manufacturing facilities. GPII had recently acquired this facility from Cascades in February 2015. Please note GPII is not proposing any changes to the existing equipment at this facility.

If you have any questions regarding this application or require additional information, please contact our Corporate Environmental Director (located in Atlanta Georgia USA), Mr. Furqan Shaikh, at 770-240-5983 or via email at Furqan.Shaikh@graphicpkg.com.

Please acknowledge receipt of this EAP application. Thank you in advance for your assistance with this application.

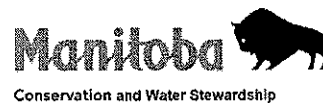
Sincerely,



Herb Vielhaber
Plant Manager,
Graphic Packaging International Canada
531 Golspie Street,
Winnipeg MS R2K 2T9

cc: Tracey Sokoloski (GPII, Winnipeg MS)
Herb Vielhaber (GPII, Winnipeg MS)
Furqan Shaikh (GPII, Corporate Office, Atlanta Georgia USA)

Environment Act Proposal Form



| | |
|--|--|
| Name of the development: Graphic Packaging International Canada | |
| Type of development per Classes of Development Regulation (Manitoba Regulation 164/88): Class I | |
| Legal name of the applicant: Graphic Packaging International Canada | |
| Mailing address of the applicant: 531 Golspie Street | |
| Contact Person: Herb Vielhaber | |
| City: Winnipeg | Province: Manitoba Postal Code: R2K 2T9 |
| Phone Number: 204-654-5658 | Fax: 204-663-1812 email: herb_vielhaber@cas |
| Location of the development: 531 Golspie Street, Winnipeg MB R2K 2T9 | |
| Contact Person: Herb Vielhaber | |
| Street Address: 531 Golspie Street, Winnipeg MB R2K 2T9 | |
| Legal Description: Paperboard package manufacturing and printing facility | |
| City/Town: Winnipeg | Province: Manitoba Postal Code: R2K 2T9 |
| Phone Number: 204-667-6600 | Fax: 204-663-1812 email: herb_vielhaber@cas |
| Name of proponent contact person for purposes of the environmental assessment: Furqan Shaikh | |
| Phone: 770-240-5983 | Mailing address: 1500 Riveredge Parkway NW Suite 100 |
| Fax: | Atlanta GA 30328 USA |
| Email address: furqan.shaikh@graphicpkg.com | |
| Webpage address: http://www.graphicpkg.com | |
| Date: April 1, 2015 | Signature of proponent, or corporate principal of corporate proponent: |
| | Printed name: Herb Vielhaber |

DEVELOPMENT ENVIRONMENTAL ASSESSMENT (EA) REPORT

1.0 Executive summary

Graphic Packaging International Canada requests approval for an “Environmental Assessment and License” to operate a paper box folding carton manufacturing and printing facility located at 531 Golspie Street in Winnipeg, Manitoba to comply with the Environmental Act. Graphic Packaging International Canada acquired this site recently from Cascades in February 2015. This facility should be considered as a Class 1 Development as per the Classes of Development Regulation in the Manufacturing Category.

Attached is the Development Environmental Assessment Report for this facility, including Attachment 1 (Off-Property Air Impact), and Attachment 2 (Screen 3 Model Output).

2.0 Introduction and background

Graphic Packaging International Canada owns and operates a paper box folding carton manufacturing and printing facility located at 531 Golspie Street in Winnipeg, Manitoba (the “site” or the “facility”). The approximately 13.6-acre site is located approximately 3,541 meters northeast of downtown Winnipeg (Figure 1). The site consists of an approximately main building, which is located on the western side of the property, and a small firewater pump building located north of the main building. The single-story main building houses manufacturing, maintenance, shipping/receiving, and office operations (Figure 2).

This plant employs approximately 200 individuals in the manufacture and printing of paperboard packaging. Based on the operations conducted, the facility’s North American Industry Classification System (NAICS) code is 322212, Folding Paperboard Box Manufacturing. The major operations conducted at the facility consist of receiving, sheeting, printing, waxing, folding and gluing, shipping, and ancillary operations, as described in more detail below.

- Receiving – The site receives recycled paperboard from mills located in Quebec or third party mills. The site also receives chemicals used in the printing process, including blanket wash, coatings, and inks.
- Sheeting – Rolls of paperboard are cut to size using two sheeting lines.
- Printing – Cut paper is put through one of three lithographic printing presses with die cutting and drying capabilities to add graphic designs to the paperboard. The sheets are fed through the printing rolls and coating application, as required for customer specifications. The coating is pumped from a tote directly into the applicator.
- Waxing – The facility operates one waxing line, which covers select paperboard products with wax.
- Folding and Gluing – Printed paperboard is cut to individual sizes, automatically folded, and glued in five folding and gluing lines.

- Ancillary Operations – The facility performs packaging, palletizing (including adding cellophane in one machine), shipping, baling of waste paperboard using three bailers, graphic design, die making, and administrative operations, none of which involve the use of significant quantities of chemicals. Other ancillary operations conducted at the facility include the operation of four natural gas-fired roof-mounted heating, ventilation, and air conditioning units (HVAC) and two chillers, two air compressors, boiler for steam generation, a reverse osmosis water treatment system, and general building and machinery maintenance. One parts washer unit, containing “a biodegradable aqueous degreaser, is located in the maintenance area. To remove finished products within the buildings, the site uses one electric forklift and 5 propane forklifts, which are serviced on site by outside contractors.

The primary raw materials used at the site include paperboard, blanket wash, water etch, coatings, inks, and glues. In addition, the plant uses maintenance-related materials, such as oils, lubricants, greases, degreasers, adhesives, welding gases, and boiler treatment chemicals.

This plant’s production is approximately 77,000,000 sheets per year for 2014. The facility primarily uses a vegetable base ink called Mineral Free Packaging Plus, and the facility uses approximately 3,000 kilogram per month of this vegetable based mineral-free ink. The plant has a Vacuum Extraction System installed that collects die cutting scrap into a centralized Baling system. The facility has one natural gas fired boiler (for steam generation) which has a maximum heat input capacity of 17.5 million BTUs per hour.

3.0 Description of proposed development, including construction, operation, maintenance, and decommissioning if applicable

Not applicable

4.0 Description of existing environment in the project area

The site is located in a typical urban area with a mix of industrial, commercial, and residential land uses in the surrounding area.

Zoning: The facility is located in light industrial use area

Total area of buildings: Main building: 172,000 square feet
Pump House: 240 square feet

Nearby River or Lake: The closest waterway is the Red River, located at 1.5 kilometers to the west of the facility.

Hospitals: Concordia Hospital - located 3.1 kilometers away
St Boniface Hospital - located 5.0 kilometers away

Parks: Kildonan Park – located 2.9 kilometers away
Provencher Park – located 3.3 kilometers away

Schools: St Alphonsus School – located 700 meters away
Elmwood High School – located 850 meters away
John Henderson Junior High – located 1.6 kilometers away
Salisbury Morse Place School – located 1.7 kilometers
Kildonan-East College – located 2.0 kilometers
Springfield Heights School – located 2.3 kilometers away
River East College – located 2.9 kilometers away

5.0 Description of environmental effects of the proposed development

Air

Air emissions from the facility consist of Volatile Organic Compounds (VOCs) from printing and finishing operations, as well as products of combustion from a boiler and HVAC equipment on site.

For the purposes of this assessment, all VOCs used at the facility (based on 2014 purchasing records) were assumed to be emitted to air. These compounds are primarily components of inks, adhesives and wash solvents. The annual emission inventory of these compounds is summarized in table below:

| Fugitive Emissions (HAPs and VOC) | CAS Number | Total Fugitive Emissions (tons per year) | Fugitive Emissions (grams per second) |
|-----------------------------------|------------|---|--|
| Isopropyl Alcohol | 67-63-0 | 1.30 | 0.055 |
| Vinyl Acetate | 108-05-4 | 0.17 | 0.007 |
| Solvent Naphtha | 64742-88-7 | 5.99 | 0.252 |
| 1-Methoxy-2-Propanol Acetate | 108-65-6 | 0.00 | 0.00020 |
| D-Limonene | 5989-27-5 | 0.00 | 0.00014 |
| 2-Butoxyethanol | 111-76-2 | 2.16 | 0.091 |
| Ethylene Glycol | 107-21-1 | 0.96 | 0.040 |
| 2-Propoxyethanol | 2807-30-9 | 1.24 | 0.052 |
| Light aromatic naphtha | 64742-95-6 | 7.49 | 0.315 |
| VOC | - | 18.05 | 0.758 |

The facility operates a natural gas fired boiler with fuel input rating of 17.5 million Btu per hour, and four natural gas fired heating, ventilation, and air conditioning (HVAC) units with combined fuel input rating of 0.630 million Btu per hour. Emission rates of nitrogen oxides have been estimated assuming all equipment is firing at capacity simultaneously. Combustion emissions from the boiler and HVAC units are summarized below:

| Combustion Emissions (Criteria Pollutants) | Total Combustion Emissions (tons per year) | Boiler Emissions (grams per second) | HVAC Emissions (grams per second) |
|--|---|--|--------------------------------------|
| NOX | 7.79 | 0.216 | 0.0078 |
| CO | 6.54 | 0.182 | 0.0065 |
| Lead | 0.00 | 0.000 | 0.0000 |
| PM (Total) | 0.59 | 0.016 | 0.0006 |
| SO2 | 0.05 | 0.001 | 0.0000 |
| VOC | 0.43 | 0.012 | 0.0004 |
| CO2 | 9342.28 | 259.41 | 9.34 |

The off-property impacts of these emissions have been estimated with atmospheric dispersion modeling. Due to the relatively low emissions from the facility, a conservative screening approach was taken, and details of the methodology are given in Attachment 1 (Off-Property Air Impacts). **The modeling indicates that concentrations of contaminants emitted from this facility do not exceed any Manitoba objectives or guidelines, or any applicable limits from other jurisdictions**

There have been no complaints or notices of violation for air emissions from this site.

Water Supply

The site receives water from the City of Winnipeg. Water is used by the presses, for cleaning Equipment, and for sanitary purposes. The facility does not have any production wells located on site.

Process Wastewater Discharge

Wastewater generated at the site includes sanitary wastewater, air compressor condensate, and discharge from the pre-press area, press cleaning, and plate making. Sanitary wastewater is discharged directly to the sanitary sewer system and the non-sanitary wastewater streams are discharged via below-grade concrete sump pits and below-grade piping to the municipal sanitary sewer system.

Graphic Packaging has been granted permission to discharge wastewater into the sewer by the City of Winnipeg (License Number GPKG-2015, issued on February 27, 2015). This Over-strength Discharge License (Sewer By-law No. 92/2010) is renewed annually by the facility.

Storm Water Discharge

Storm water runoff from the site either infiltrates into the ground surface at landscaped and unpaved areas or enters storm drains that discharge to the municipal storm water sewer system. No process wastewater is discharged to the storm sewer. There are no areas of surface staining or significant outdoor storage that may impact storm water quality.

Hazardous Waste Management

The facility generates waste solvent, waste oil, waste ink, used oily rags, and waste adhesives. The facility has registered with Manitoba Conservation and holds a registration number of MBG07572.

6.0 Description of the human health effects of the proposed development

Human health could potentially be affected by airborne contaminants emitted from the facility or by wastes discharged to the environment. The effect of the facility on the surrounding environment is described above in Section 5.0. As indicated in that section: the concentration of airborne contaminants is below applicable limits at the fence line and beyond; wastewater is discharged to municipal sewers in accordance with bylaws; and minor quantities of waste products are disposed of in accordance with Manitoba regulations.

As a result, the facility does not have the potential to significantly impact human health.

7.0 Mitigation measures to protect the environment and human health and residual environmental effects

Not applicable

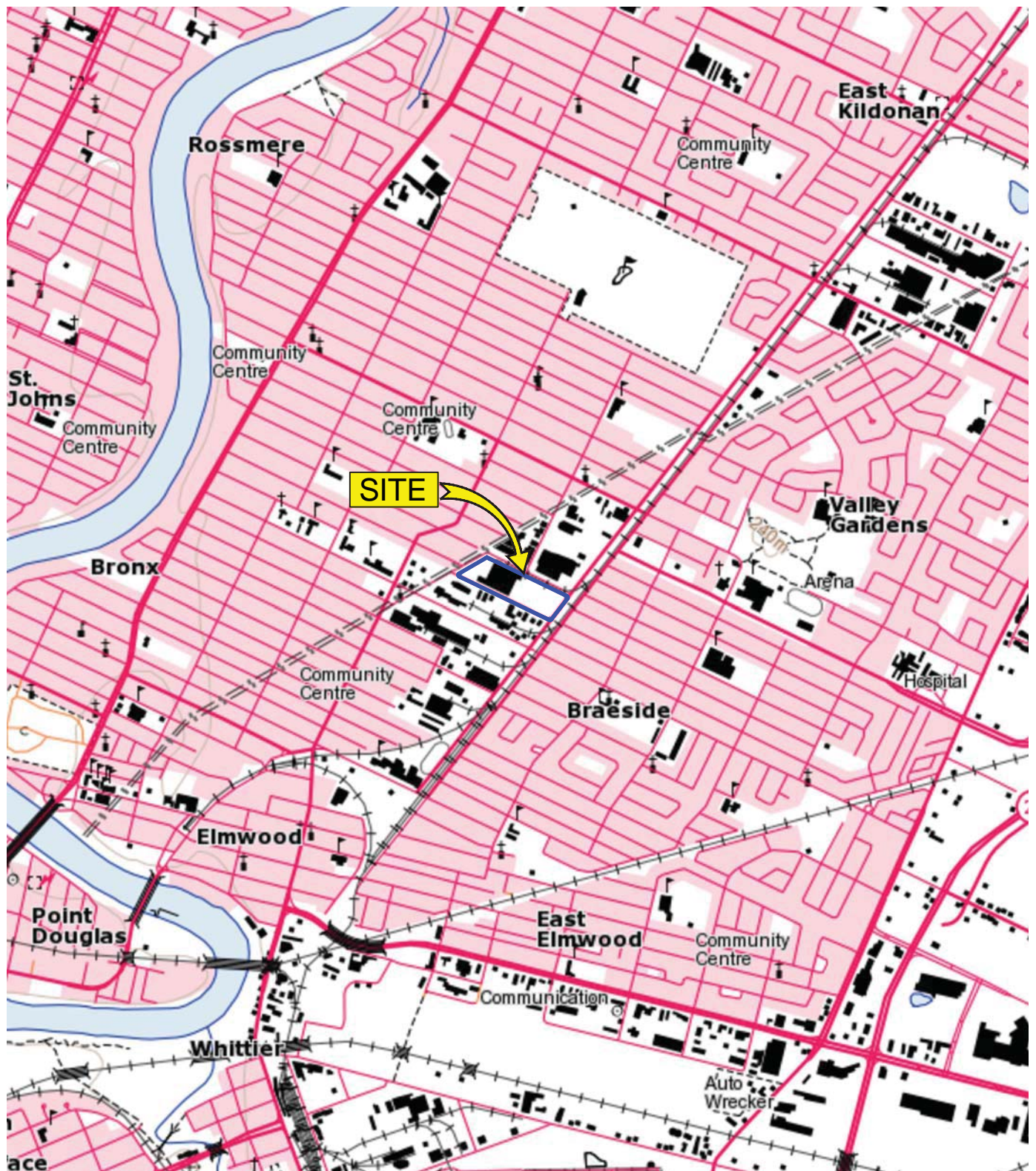
8.0 Follow-up plans, including monitoring and reporting

Not applicable

9.0 Conclusions

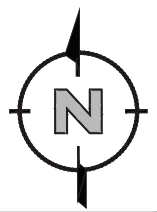
This facility does not have the potential to significantly impact human health. The modeling indicates that concentrations of contaminants emitted from this facility do not exceed any Manitoba objectives or guidelines, or any applicable limits from other jurisdictions. Therefore, Graphic Packaging International Canada requests approval for an “Environmental Assessment and License” to operate a paper box folding carton manufacturing and printing facility located at 531 Golspie Street in Winnipeg, Manitoba to comply with the Environmental Act.

L:\Loop Project Files\00_CAD FILES\21\GP\1_P\Project Barcelona 2136350A\01_Site Location Map (Winnipeg MB).dwg



SOURCE: Government of Canada; Natural Resources Canada; Canada Centre for Mapping and Earth Observation
 1:50,000 Scale Topographic
 Winnipeg, Edition 8.0, 2013-07-19.

| LEGEND | |
|--------|-------------------------------|
| | APPROXIMATE PROPERTY BOUNDARY |



| | | |
|------------------------|--|---|
| | <p align="center">SITE LOCATION MAP CASCADES FOLDING CARTONS 531 GOLSPIE STREET WINNEPEG, MANITOBA</p> | <p align="center">FIGURE 1</p> |
| | | <p align="right">2136350A</p> |
| <p>DRAFTED BY: ELS</p> | <p>DATE: 10/17/14</p> | |



LEGEND

--- APPROXIMATE PROPERTY BOUNDARY

SITE FEATURES:

1. OFFICE AREA
2. MAINTENANCE AREA
3. SHIPPING AREA
4. RECEIVING AREA
5. BOILER ROOM
6. MANUFACTURING AREA

SURROUNDING PROPERTIES

- A. RESIDENCES
- B. PRICE INDUSTRIES
- C. MULTI-TENANT COMMERCIAL
- D. ABESCO
- E. ANDERS CONSTRUCTION
- F. IMAGINE WINDOWS AND SIDING
- G. NO SIGN
- H. SELF STORAGE

AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO. PHOTO TAKEN JUNE 2012.

0 30 60 120
(APPROX. SCALE) METERS

ENVIRON

DRAFTED BY: ELS DATE: 10/20/14

SITE LAYOUT
 CASCADES FOLDING CARTONS
 531 GOLSPIE STREET
 WINNEPEG, MANITOBA

FIGURE
2

2136350A

ATTACHMENT 1: Off-Property Air Impacts

The off-property concentrations of contaminants emitted to air were estimated using the US EPA's SCREEN3 atmospheric dispersion model.

The natural gas fired boiler emits through a stack and was modelled as a point source (Source ID Boiler). The four natural gas fired HVAC units are located on the roof of the office area, and were modelled as a single roof-based volume source (Source ID HVAC). The locations of sources are shown in Figure 1.

All VOC emissions from use of inks, adhesives and solvents are emitted as fugitives. As a result this source was modelled as a single volume source with horizontal dimension equal to the width of the building (Source ID Fugitive).

The model was run with the Urban, Simple Terrain, Building Downwash, and Full Meteorology options. Concentrations were calculated at the property line nearest the source, and beyond.

The model requires a maximum hourly emission rate as an input. For this project each source was run with a unit emission rate of 1 g/s to obtain emission factors in $(\mu\text{g}/\text{m}^3)/(\text{g}/\text{s})$. Maximum concentrations of each contaminant were then calculated as the product of emission rate in g/s and maximum dispersion factor.

In the case of the Boiler and HVAC sources, the maximum emission rates were based on the maximum firing rate of the natural gas fired equipment. In the case of fugitive VOCs, the maximum emission rate was conservatively based on emission of total quantities purchased in 2014, over 6,000 hours (24 hr/day x 5 day/week x 50 weeks/year). This is conservative since the facility operated 24 hr/day x 6 days/week throughout 2014.

Source parameters and building dimensions used in the model are provided in Table 1. SCREEN3 output files are attached as Attachment 2 (Screen3 Output). Emission rates for each contaminant are documented in Table 2. The maximum dispersion factors and the resulting concentration of each contaminant are given in Table 3.

Note that nitrogen oxides are emitted from two sources. For this case, maximum concentration was conservatively assumed to be the sum of the maximum concentrations resulting from the individual sources. This is extremely conservative in that it assumes that peak concentrations resulting from each source occur at the same place and time, even though the sources are located on opposite sides of the facility and peaks occur on opposite property lines.

Peak concentrations are compared to Manitoba Ambient Air Quality Criteria (AAQC) in Table 3. In the case of nitrogen dioxide, 100% conversion of NO_x to NO₂ is conservatively assumed. For contaminants without objectives or guidelines in the AAQC, appropriate limits from other jurisdictions have been included in the table, where available. No limits were found for one contaminant.

In summary, off-property concentrations of all airborne contaminants emitted from the facility are below applicable air quality objectives, guidelines, standards and screening values.

Figure 1. Source Locations



Table 1. SCREEN3 Modelling Parameters

Point Sources

| Source ID | Height Above Grade (m) | Height Above Roof (m) | Temperature | | Diameter (m) | Velocity (m/s) |
|-----------|------------------------|-----------------------|-------------|------|--------------|----------------|
| | | | (°C) | (°K) | | |
| Boiler | 8.8 | 2.7 | 300 | 573 | 1.07 | 4 |

Volume Sources

| Source ID | Horizontal Dimension (m) | Building Height (m) | Release Height (m) | Initial Dimensions | |
|-----------|--------------------------|---------------------|--------------------|--------------------|--------------|
| | | | | Lateral (m) | Vertical (m) |
| HVAC | 25 | 6 | 6 | 5.81 | 2.79 |
| Fugitives | 120 | 6 | 6 | 27.9 | 2.79 |

Building Dimensions

| Horizontal Dimensions | | Height |
|-----------------------|---------|--------|
| Minimum | Maximum | |
| 123 | 177 | 6 |

Table 2. Modelled Emission Rates

| Compound | CAS No. | Emission Rate | | |
|------------------------------|------------|---------------|------------|-----------------|
| | | Boiler (g/s) | HVAC (g/s) | Fugitives (g/s) |
| Nitrogen Oxides | 10102-44-0 | 0.216 | 0.00779 | |
| Isopropyl Alcohol | 67-63-0 | | | 0.055 |
| Vinyl Acetate | 108-05-4 | | | 0.0070 |
| Solvent Naphtha | 64742-88-7 | | | 0.25192 |
| 1-Methoxy-2-Propanol Acetate | 108-65-6 | | | 0.000198 |
| D-Limnene | 5989-27-5 | | | 0.000141 |
| 2-Butoxyethanol | 111-76-2 | | | 0.091 |
| Ethylene Glycol | 107-21-1 | | | 0.041 |
| 2-Propoxyethanol | 2807-30-9 | | | 0.052 |
| Light aromatic naphtha | 64742-95-6 | | | 0.315 |

Table 3. Summary of Emissions and Impact

| Compound | CAS# | Emission Rate (g/s) | Dispersion Factor ($\mu\text{g}/\text{m}^3$)/(g/s) | Maximum Concentration ($\mu\text{g}/\text{m}^3$) | Averaging Period | Limit ($\mu\text{g}/\text{m}^3$) | Jurisdiction ¹ of Limit | Percent of Limit |
|--------------------------------------|------------|---------------------|--|--|---------------------|------------------------------------|------------------------------------|------------------|
| Nitrogen oxides (Boiler) | 10102-44-0 | 0.216 | 529 | 115 | 1 hr | | | |
| Nitrogen oxides (HVAC) | 10102-44-0 | 0.0078 | 3661 | 29 | 1 hr | | | |
| Nitrogen oxides (Total) ² | 10102-44-0 | | | 143 | 1 hr | 400 | AAQC | 36% |
| | | | | 57 | 24 hr ³ | 200 | AAQC | 29% |
| | | | | 11 | Annual ⁴ | 100 | AAQC | 11% |
| Isopropyl Alcohol | 67-63-0 | 0.055 | 543.1 | 29.7 | 1 hr | | | |
| | | | | 11.9 | 24 hr ³ | 7,300 | Ont. Std. | 0.2% |
| Vinyl Acetate | 108-05-4 | 0.0070 | 543 | 3.8 | 1 hr | | | |
| | | | | 1.5 | 24 hr ³ | 140 | Ont. JSL | 1.1% |
| Solvent Naphtha | 64742-88-7 | 0.25192 | 543 | 137 | 1 hr | --- | --- | --- |
| 1-Methoxy-2-Propanol Acetate | 108-65-6 | 0.00020 | 543 | 0.107 | 1 hr | --- | --- | --- |
| | | | | 0.043 | 24 hr ³ | 5,000 | Ont. GL | 0.001% |
| D-Limnene | 5989-27-5 | 0.00014 | 543 | 0.077 | 1 hr | --- | --- | --- |
| | | | | 0.031 | 24 hr ³ | 625 | Ont. JSL | 0.005% |
| 2-Butoxyethanol | 111-76-2 | 0.091 | 543 | 49 | 1 hr | --- | --- | --- |
| | | | | 19.7 | 24 hr ³ | 2,400 | Ont. GL | 0.8% |
| Ethylene Glycol | 107-21-1 | 0.041 | 543 | 22.0 | 1 hr | --- | --- | --- |
| | | | | 8.8 | 24 hr ³ | 12,700 | Ont. GL | 0.1% |
| 2-Propoxyethanol | 2807-30-9 | 0.052 | 543 | 28.4 | 1 hr | --- | --- | --- |
| | | | | 11.4 | 24 hr ³ | 148 | Ont. JSL | 8% |
| Light aromatic naphtha | 64742-95-6 | 0.315 | 543 | 171 | 1 hr | --- | --- | --- |
| | | | | 68 | 24 hr ³ | 305 | Ont. JSL | 22% |

Notes: 1. AAQC - Manitoba Ambient Air Quality Criteria, 2005

Ont. Std. - Ontario Air Standard, O.Reg. 419/05

Ont. GL - Guideline from "Summary of Standards and Guidelines to support Ontario Regulation 419/05", 2012

Ont. JSL - Ontario Jurisdictional Screening Level List, 2008

- 2. Peak NOx concentration conservatively assumed to be the sum of peak concentrations due to the Boiler and HVAC sources, though these peaks occur on opposite sides of the facility and will not occur at the same time.
- 3. 1 hr average concentrations converted to 24 hour averages with a factor of 0.4, based on guidance in the Air Dispersion Modeling Guideline for Ontario, and the Guidelines for Air Quality Dispersion Modelling in British Columbia.
- 4. 1 hr average concentrations converted to annual averages with a factor of 0.08, based on guidance in the Guidelines for Air Quality Dispersion Modelling in British Columbia.

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 13043 ***

Boiler

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = 1.000000
STACK HEIGHT (M) = 8.8000
STK INSIDE DIAM (M) = 1.0700
STK EXIT VELOCITY (M/S) = 4.0000
STK GAS EXIT TEMP (K) = 573.0000
AMBIENT AIR TEMP (K) = 293.0000
RECEPTOR HEIGHT (M) = 0.0000
URBAN/RURAL OPTION = URBAN
BUILDING HEIGHT (M) = 6.0000
MIN HORIZ BLDG DIM (M) = 123.0000
MAX HORIZ BLDG DIM (M) = 177.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BOUY. FLUX = 5.486 M**4/S**3; MOM. FLUX = 2.342 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | SIGMA Y (M) | SIGMA Z (M) | DWASH |
|-------------|-------------------|------|---------------|---------------|---------------|-----------------|----------------|----------------|-------|
| 16. | 0.000 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | NA |
| 100. | 163.1 | 4 | 5.0 | 5.0 | 1600.0 | 14.98 | 15.69 | 13.79 | SS |
| 200. | 72.57 | 4 | 3.0 | 3.0 | 960.0 | 28.71 | 30.79 | 27.20 | SS |
| 300. | 51.18 | 4 | 2.0 | 2.0 | 640.0 | 41.54 | 45.36 | 40.23 | SS |
| 400. | 51.68 | 6 | 1.5 | 1.5 | 10000.0 | 42.02 | 40.85 | 25.30 | SS |
| 500. | 58.87 | 6 | 1.0 | 1.0 | 10000.0 | 48.19 | 50.21 | 30.24 | SS |
| 600. | 59.19 | 6 | 1.0 | 1.0 | 10000.0 | 48.19 | 59.27 | 34.82 | SS |
| 700. | 55.97 | 6 | 1.0 | 1.0 | 10000.0 | 48.19 | 68.06 | 39.11 | SS |
| 800. | 51.62 | 6 | 1.0 | 1.0 | 10000.0 | 48.19 | 76.59 | 43.15 | SS |
| 900. | 47.16 | 6 | 1.0 | 1.0 | 10000.0 | 48.19 | 84.89 | 46.97 | SS |
| 1000. | 42.99 | 6 | 1.0 | 1.0 | 10000.0 | 48.19 | 92.97 | 50.60 | SS |

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 16. M:
26. 529.4 1 3.0 3.0 960.0 10.46 8.59 6.57 SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** REGULATORY (Default) ***

PERFORMING CAVITY CALCULATIONS
 WITH ORIGINAL SCREEN CAVITY MODEL
 (BRODE, 1988)

*** CAVITY CALCULATION - 1 ***
 CONC (UG/M**3) = 0.000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 6.00
 CAVITY LENGTH (M) = 36.99
 ALONGWIND DIM (M) = 123.00

*** CAVITY CALCULATION - 2 ***
 CONC (UG/M**3) = 0.000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 6.00
 CAVITY LENGTH (M) = 35.14
 ALONGWIND DIM (M) = 177.00

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

END OF CAVITY CALCULATIONS

 *** SUMMARY OF SCREEN MODEL RESULTS ***

| CALCULATION PROCEDURE | MAX CONC (UG/M**3) | DIST TO MAX (M) | TERRAIN HT (M) |
|--------------------------|-----------------------|--------------------|-------------------|
| SIMPLE TERRAIN | 529.4 | 26. | 0. |

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 13043 ***

HVAC

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = VOLUME
EMISSION RATE (G/S) = 1.000000
SOURCE HEIGHT (M) = 6.0000
INIT. LATERAL DIMEN (M) = 5.8100
INIT. VERTICAL DIMEN (M) = 2.7900
RECEPTOR HEIGHT (M) = 0.0000
URBAN/RURAL OPTION = URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | SIGMA Y (M) | SIGMA Z (M) | DWASH |
|-------------|-------------------|------|---------------|---------------|---------------|-----------------|----------------|----------------|-------|
| 18. | 3661. | 4 | 1.0 | 1.0 | 320.0 | 6.00 | 8.64 | 5.29 | NO |
| 100. | 1634. | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 16.38 | 9.90 | NO |
| 200. | 690.3 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 26.56 | 16.21 | NO |
| 300. | 384.6 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 36.39 | 21.91 | NO |
| 400. | 249.7 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 45.88 | 27.11 | NO |
| 500. | 177.9 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 55.08 | 31.92 | NO |
| 600. | 134.8 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 63.99 | 36.39 | NO |
| 700. | 106.8 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 72.65 | 40.58 | NO |
| 800. | 87.38 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 81.05 | 44.54 | NO |
| 900. | 73.31 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 89.23 | 48.29 | NO |
| 1000. | 62.74 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 97.19 | 51.85 | NO |

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 18. M:
18. 3661. 4 1.0 1.0 320.0 6.00 8.64 5.29 NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** SUMMARY OF SCREEN MODEL RESULTS ***

| CALCULATION PROCEDURE | MAX CONC (UG/M**3) | DIST TO MAX (M) | TERRAIN HT (M) |
|--------------------------|-----------------------|--------------------|-------------------|
| ----- | ----- | ----- | ----- |

SIMPLE TERRAIN

3661.

18.

0.

** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 13043 ***

Fugitives

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = VOLUME
EMISSION RATE (G/S) = 1.000000
SOURCE HEIGHT (M) = 6.0000
INIT. LATERAL DIMEN (M) = 27.9000
INIT. VERTICAL DIMEN (M) = 2.7900
RECEPTOR HEIGHT (M) = 0.0000
URBAN/RURAL OPTION = URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | SIGMA Y (M) | SIGMA Z (M) | DWASH |
|-------------|-------------------|------|---------------|---------------|---------------|-----------------|----------------|----------------|-------|
| 141. | 543.1 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 41.60 | 12.57 | NO |
| 200. | 388.9 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 47.14 | 16.21 | NO |
| 300. | 248.6 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 56.29 | 21.91 | NO |
| 400. | 175.8 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 65.17 | 27.11 | NO |
| 500. | 132.8 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 73.79 | 31.92 | NO |
| 600. | 105.0 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 82.16 | 36.39 | NO |
| 700. | 85.90 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 90.31 | 40.58 | NO |
| 800. | 72.09 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 98.25 | 44.54 | NO |
| 900. | 61.72 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 105.98 | 48.29 | NO |
| 1000. | 53.71 | 5 | 1.0 | 1.0 | 10000.0 | 6.00 | 113.53 | 51.85 | NO |

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 141. M:
141. 543.1 5 1.0 1.0 10000.0 6.00 41.60 12.57 NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** SUMMARY OF SCREEN MODEL RESULTS ***

| CALCULATION PROCEDURE | MAX CONC (UG/M**3) | DIST TO MAX (M) | TERRAIN HT (M) |
|--------------------------|-----------------------|--------------------|-------------------|
| SIMPLE TERRAIN | 543.1 | 141. | 0. |

** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

STATUS OF TITLE

Title Number **2766318/1**
Title Status **Accepted**
Client File **K.Cole**

The Property Registry

A Service Provider for the Province of Manitoba



| |
|---|
| <p>1. REGISTERED OWNERS, TENANCY AND LAND DESCRIPTION</p> <p>GRAPHIC PACKAGING INTERNATIONAL CANADA, ULC</p> <p>IS REGISTERED OWNER SUBJECT TO SUCH ENTRIES RECORDED HEREON IN THE FOLLOWING DESCRIBED LAND:</p> <p>LOTS 29 TO 43 PLAN 6146 WLTO IN RL 87 TO 94 PARISH OF KILDONAN</p> <p>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 <i>The Real Property Act</i>.</p> |
| <p>2. ACTIVE INSTRUMENTS</p> <p>No active instruments</p> |
| <p>3. ADDRESSES FOR SERVICE</p> <p>GRAPHIC PACKAGING INTERNATIONAL CANADA, ULC 100 - 1500 RIVEREDGE PARKWAY ATLANTA, GEORGIA 30328</p> |
| <p>4. TITLE NOTES</p> <p>No title notes</p> |
| <p>5. LAND TITLES DISTRICT</p> <p>Winnipeg</p> |
| <p>6. DUPLICATE TITLE INFORMATION</p> <p>Duplicate not produced</p> |
| <p>7. FROM TITLE NUMBERS</p> <p>2450735/1 All</p> |
| <p>8. REAL PROPERTY APPLICATION / CROWN GRANT NUMBERS</p> <p>No real property application or grant information</p> |

9. ORIGINATING INSTRUMENTS

Instrument Type: **Transfer Of Land**
Registration Number: **4576294/1**

Registration Date: 2015-02-09
From/By: CASCADES CANADA ULC
To: GRAPHIC PACKAGING INTERNATIONAL CANADA ULC
Consideration: \$1,000,000.00

10. LAND INDEX

Lot 29 Plan 6146
RL 87 TO 94 KI

Lot 30 Plan 6146
RL 87 TO 94 KI

Lot 31 Plan 6146
RL 87 TO 94 KI

Lot 32 Plan 6146
RL 87 TO 94 KI

Lot 33 Plan 6146
RL 87 TO 94 KI

Lot 34 Plan 6146
RL 87 TO 94 KI

Lot 35 Plan 6146
RL 87 TO 94 KI

Lot 36 Plan 6146
RL 87 TO 94 KI

Lot 37 Plan 6146
RL 87 TO 94 KI

Lot 38 Plan 6146
RL 87 TO 94 KI

Lot 39 Plan 6146
RL 87 TO 94 KI

Lot 40 Plan 6146
RL 87 TO 94 KI

Lot 41 Plan 6146
RL 87 TO 94 KI

Lot 42 Plan 6146
RL 87 TO 94 KI

Lot 43 Plan 6146
RL 87 TO 94 KI

**CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA STORAGE
SYSTEM OF TITLE NUMBER 2766318/1**

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