

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 2362-CSANN8
Issue Date: October 4, 2023

Jungbunzlauer Canada Inc.
1555 Elm Street
Port Colborne, Ontario
L3K 5V5

Site Location: JBL Glucose Plant and Citric Acid Plant
1555 Elm Street
City of Port Colborne, Regional Municipality of Niagara
L3K 5V5

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

amendment to the Existing Wastewater Treatment Plant for the collection, transmission, treatment and disposal of process water, once-through non-contact cooling water and stormwater runoff from the Citric Acid production facility (JBL Citric Acid Plant) and the corn derived various sugar and food products manufacturing facility (JBL Glucose Plant), by increasing the Process Wastewater Treatment Capacity from the Annual Average Daily Flow Rate of 20,400 cubic metre per day to 28,000 cubic metre per day with the Annual Peak Process Wastewater Flow treatment capacity from 24,000 cubic metre per day to 35,000 cubic metre per day but keeping the Final Mixed Effluent Peak Annual Daily Flow to the existing 257,500 cubic metre per day by proportionally reducing the Cooling Water Effluent, sewage works located within the JBL Citric Plant (non-contact cooling water, treated process wastewater effluent, and stormwater) discharging to the Welland Canal and the JBL Glucose Plant (non-contact cooling water and stormwater overflow) to the Welland Canal, all Works located at 1555 Elm Street, in the City of Port Colborne, Regional Municipality of Niagara and consisting of the following:

JBL Glucose Plant Sewage Works (No change Proposed currently)

Effluent Stream	Effluent Flow	Effluent Discharge Location
1. Process Water (being treated in the Existing Lagoons and then in the JBL Citric Acid Plant WWTP)	Annual Average Daily Flow 2,300 m ³ /d Annual Maximum Daily Flow 5,000 m ³ /d	being pre-treated in the Existing Lagoons and then in the JBL Citric Acid Plant WWTP
2. Cooling Water	Annual Average Daily Flow 25,000 m ³ /d Annual Maximum Daily Flow 66,060 m ³ /d	Discharged to the Welland Canal
3. Contact Stormwater (being treated in the JBL Citric Acid Plant WWTP)	Annual Maximum Daily Flow 2,240 m ³ /d Annual Average Flow 102,200 m ³ /year	being treated in the JBL Citric Acid Plant WWTP with large flows discharging via an emergency spillway to the roadside drainage ditch located along Invertose Drive, the Invertose Drain Outlet and the Biedermann Drain #1 to the Welland Canal

JBL Citric Acid Plant Sewage Work

Effluent Stream	Prior to the Construction of All Proposed Works	Upon Completion of Construction of All Proposed Works	Effluent Discharge Location
1. Process Water	Annual Average Daily Flow 20,400 m ³ /d Annual Maximum Daily Flow 24,000 m ³ /d	Annual Average Daily Flow 28,000 m ³ /d Annual Maximum Daily Flow 35,000 m ³ /d	Discharging to Welland Canal
2. Cooling Water	Annual Average Daily Flow 130,000 m ³ /d Annual Maximum Daily Flow up to 233,500 m ³ /d	Annual Average Daily Flow 130,000 m ³ /d Annual Maximum Daily Flow up to 233,500 m ³ /d	Discharging to Welland Canal

Final Effluent/Combined Flow (JBL Glucose Plant and Citric Acid Plant)

Effluent Stream	Prior to the Construction of All Proposed Works	Upon Completion of Construction of All Proposed Works	Effluent Discharge Location
1. Combined Process Water and Non-Contact Cooling Water from Citric Plant	Annual Maximum Daily Flow 257,500 m ³ /d	Annual Maximum Daily Flow 257,500 m ³ /d	Discharging to Welland Canal

PROPOSED WORKS

Amendment to the Existing Wastewater Treatment Plant, receiving Process Water Flow from the Glucose Plant, Citric Acid Plant and Stormwater from Glucose Plant, by increasing the Citric Acid Plant Process Water Treatment Capacity from the combined Annual Average Daily Flow rate of 20,400 cubic meters per day to 28,000 cubic meters per day with the peak Process Water Flow treatment capacity increase from 24,000 cubic meters per day to 35,000 cubic meters per day, but keeping the final combined effluent Annual Maximum Daily Flow rate of 257,500 cubic metre per day, by proportionally reducing the Once-Through Non-Contact Cooling Water flow rate (through decrease in the plant production rate and or diversion to the Existing Emergency Storage Pond), consisting of the following:

Citric Acid Plant Process Sewage Works

Addition of a Proposed Aeration Basin No. 6 (AB 6)

One (1) Proposed Aeration Basin, located on the West side of the Existing Aeration Basin 5, having dimensions of 21.2 m x 10.4 m and 3.6 m deep, capable of being operated in parallel or in series, having a maximum working volumetric capacity of 5,000 cubic metres, equipped with ten (10) 45 kilowatt Brush aerators, four (4) 50 kilowatt submersible aerators, discharging via Existing Aeration Basin effluent channel to the secondary clarifier system;

Citric Acid Plant Cooling Water Works

Changes to the release of the Non-Contact Once Through Cooling Water from the Citric Acid Plant proportionally decreasing the release of the non-contact cooling water discharge, in order to keep the existing approved total discharge rate of 2.98 m³/s (257,500 m³/day) from the existing combined effluent diffuser;

EXISTING WORKS

A. JBL GLUCOSE PLANT SEWAGE WORKS (JBL Glucose Plant)

sewage works for the collection, transmission, treatment and disposal of process wastewater, once-through non-contact cooling water and stormwater runoff from the corn derived various sugar and food products manufacturing facility, located at 1555 Elm Street, in the City of Port Colborne, Regional Municipality of Niagara, discharging to JBL Citric Acid Plant Sewage Treatment Plant (except Once Through non-contact Cooling Water comprising:

Glucose Wastewater Treatment Plant

- one (1) 100 cubic metre capacity Process Water Equalization Tank, complete with two (2) Process Waste transfer pumps, each rated 250 cubic metres per hour at 15 metres TDH pumping the effluent from the Process Water Equalization Tank to the North Lagoon or the South Lagoon;
- Aerated Wastewater Treatment Lagoons
 - one (1) **North Lagoon** receiving industrial wastewater from the JBL Glucose Plant, having the floor dimensions of approximately 30 metres by 30 metres, a working depth of approximately 5 metres and a minimum freeboard of 0.6 metre, complete with an aeration system discharging via a pump to the South Lagoon;
 - one (1) **South Lagoon** receiving industrial wastewater from the JBL Glucose Plant, having the floor dimensions of approximately 30 metres by 30 metres, a working depth of approximately 5 metres and a minimum freeboard of 0.6 metre, complete with an aeration system, discharging via gravity to a secondary clarifier;
 - one (1) 15.8 meters diameter Secondary Clarifier, receiving effluent from South Lagoon, equipped with a sludge removal mechanism, discharging via a wastewater treatment system lift station to the JBL Citric Plant Wastewater Treatment facility;
 - one (1) 7.7 metres diameter gravity sludge thickener tank;
- Effluent Pump Chamber/Lift Station

one (1) existing wastewater treatment system lift station consisting of a dry-well located within the existing pump house located within the JBL Glucose Plant portion of the site, east of the existing South Lagoon, housing one (1) sewage pump capable of transferring effluent through a 200 millimetre diameter forcemain to the JBL Citric Acid Plant Wastewater Treatment facility, comprising;

 - one (1) wastewater treatment system lift station receiving effluent from the secondary clarifier, the North Lagoon, the South Lagoon and a stormwater management pond, consisting of a dry-well located within the pump house located east of the North Lagoon, housing;

- one (1) pond transfer pump rated at 102 cubic metres per hours at 15 metres TDH from the stormwater management pond, discharging to the North Lagoon or the South Lagoon;
- one (1) sewage pump rated at 196 cubic metres per hour at 20 metres TDH from the secondary clarifier, discharging via a 625 m long, 200 mm diameter forcemain to a wastewater treatment plant located within the JBL Citric Acid Plant portion of the site;

Cooling Water Works (Glucose Plant)

Once Through Non-Contact Cooling Water Works

- one (1) dechlorination facility consisting of one (1) sodium bisulfite storage tank and one containment berm sized to accommodate 120% of the storage tank volume;
- two (2) chemical metering pumps, to add sodium bisulfite solution to the effluent at manhole No. 4 and No. 11 prior to discharge to the Welland Canal;
- one (1) cooling water discharge pipeline complete with associated manholes along the pipeline; discharging via manhole No. 4 to the Welland Canal;
- one (1) cooling water discharge pipeline complete with associated manholes along the pipeline; discharging via manhole No. 11 to the Welland Canal;

Stormwater Works (Glucose Plant)

stormwater management works for the collection, transmission, treatment and disposal of stormwater runoff from a catchment area of 11.7 hectares of the JBL Glucose Plant portion of the site, to provide Normal Level of water quality protection and temporary storage of stormwater runoff for all storm events up to and including the 5-year return storm before discharge to the JBL Citric Acid Plant Wastewater Treatment facility (WWTP) and discharging all storm events larger than the 5-year return storm via an emergency spillway to the roadside drainage ditch located along Invertose Drive, the Invertose Drain Outlet and the Biederman Drain #1 to the Welland Canal, consisting of the following:

- one (1) culvert located between the fence line and the base of the North Lagoon that directs stormwater runoff flow from historical Outlet A towards the historical Outlet B;
- one (1) culvert located under the driveway that directs stormwater runoff flow from historical Outlet B towards the historical Outlet C;
- one (1) culvert connecting a drainage ditch from the historical Outlet C to a stormwater management wet pond;

- two (2) structures (earth berms or ditch blocks) to block the historical Outlet B and the historical Outlet C to prevent stormwater runoff discharge from the site to the existing roadside drainage ditch located along Invertose Drive;
- one (1) oil/grit separator located in the southeast portion of the site, serving a catchment area of 1.38 hectares, having a sediment storage capacity of 2,269 Litres, an oil storage capacity of 594 Litres, a total holding capacity of 4,543 Litres and a maximum treatment flow rate of 57 Litres per second, discharging via a 500 millimetre diameter culvert, a concrete lined ditch located along the eastern site boundary to a ponding area located within a depression area located upstream of Outlet D, discharging via a culvert to a stormwater management pond;
- a ponding area located within a depression area, upstream of outlet D, having an available storage volume of 610 cubic metres and a maximum ponding depth of 2.35 metres, discharging via a culvert to a stormwater management wet pond;
- one (1) stormwater management pond located in the northern portion of the site, designed to store all storms up to and including the 5-year return storm from a catchment area of 11.7 hectares, providing a permanent pool storage volume of 1,075 cubic metres, and an active storage volume of 5,270 cubic metres, complete with two (2) inlet structures, one consisting of a culvert from the historical Outlet C and one consisting of a culvert from the ponding area, two (2) forebays, an emergency spillway trapezoidal channel discharging via Outlet D, the Invertose Drive drainage ditch and the Invertose Drain Outlet to the Biederman Drain #1 and ultimately to the Welland Canal and one (1) outlet structure consisting of an outlet pipe complete with rip-rap protection around the pipe and a control manhole complete with a gate valve discharging via an outlet pipe to the Wastewater Treatment System lift station located within the JBL Glucose Plant, ultimately discharging to Welland Canal via the Citric WWTP;

B. JBL CITRIC ACID PLANT SEWAGE WORKS

Process Water Works

Wastewater Treatment Plant (WWTP)

Existing Wastewater Treatment Plant receiving Glucose Plant Process Water, Contact Stormwater, and Citric Acid Plant Process Water) with an average daily treatment capacity of 20,400 cubic meters per day and peak treatment capacity of 24,000 cubic meters per day, comprising;

- one (1) network of process wastewater collection systems for collection of process wastewater and boiler wastewater prior to discharge to two (2) neutralization pits;

- two (2) two-celled neutralization pits, each having a nominal volumetric capacity of 67 cubic metres, for mixing and neutralization of acidic and caustic wastewater with caustic and acid reagents, as needed, for the control of wastewater pH prior to transfer of the wastewater to an anoxic selector tank by pumps in the influent pumping station;
- one (1) neutralization and nutrient storage facility consisting of one (1) acid tank and two (2) lime storage silos;
- one (1) flow splitting chamber, normally discharging plant wastewater to the anoxic selector tanks for subsequent treatment in the aeration basins but also including:
 - a diversion line to the emergency storage pond for temporary storage of off-specification plant wastewater for further treatment, and
 - a pumped return line from the emergency storage pond to allow wastewater to be conveyed to the aeration basins via the flow splitting chamber;
- headworks for the aeration basins, including piping with valving to allow Plant wastewater to be pumped to the anoxic selector tanks;
- two (2) screw lift pumps at the influent pumping station for transfer of wastewater to the anoxic selector tank;
- two (2) anoxic selector tanks, each having one five (5) kilowatt submersible mixer, each having a nominal volumetric capacity of 200 cubic metres, for pre-treatment of wastewater with return activated sludge prior to discharge to the aeration basins;
- five (5) Aeration Basins, capable of being operated in parallel or in series, each having a volumetric capacity of 5,000 cubic metres and each equipped with ten (10) 45 kilowatt aerators, seven (7) 50 kilowatt submersible aerators discharging via the Aeration Basin effluent channel to the secondary clarifier system;
- two (2) 50 kilowatt submersible aerators, one (1) aerator positioned in inlet selector tank #1; and one (1) aerator positioned in inlet selector tank #2;
- four (4) 50 kilowatt submersible aerators, two (2) aerators positioned in inlet channel of aeration basin #1; and two (2) aerators positioned in inlet channel of aeration basin #3;
- six (6) 50 kilowatt submersible aerators, one each in each of the two (2) flow channels per each of the three (3) aeration basins (#1, #2 and #3);

- three (3) 30 meters diameter secondary clarifiers having a water depth of 2.4 to 3.4 metres, each equipped with sludge and scum removal mechanisms, with 100% return of activated sludge (RAS) underflow conveyed to the return activated sludge pumping station, the clarifiers discharging treated effluent to an effluent flow monitoring and sampling station prior to mixing with non-contact cooling water in a combined effluent mixing chamber and discharge of the combined effluent via Manhole MH4 and Manhole MH3 to the Welland Canal;
- one (1) return activated sludge pumping station with one (1) screw pump rated at 250 Litres per second with a lift of approximately 2.7 metres for the return of activated sludge to the anoxic selector at a typical rate 50% to 100% of the inlet;
- one (1) gravity sludge thickener having a working depth of 3.5 metres for thickening of sludge from 1% to 4% with return of the overflow to the neutralization pit and underflow to an aerated sludge storage tank having a volumetric capacity of 1,000 cubic metres;
- one (1) emergency storage pond fully lined along the floor and sides with a HDPE liner or a reinforced polypropylene membrane, having the floor dimensions approximately 56 metres by 16.4 metres and a working depth of approximately 3.3 metres, complete with:
 - one (1) pipe inlet from the flow splitting chamber;
 - one (1) sump in the south-west corner draining via a pipe to a concrete pumping manhole to convey the pond contents, as needed, to the flow splitting chamber; and
 - a subdrain running under the pond discharging to a concrete manhole;

Combined Effluent Discharge Outfall (Citric Acid Wastewater Treatment Plant and Citric Acid Non-Contact Cooling Water)

one (1) flow diffuser located at the end of the 1,050 millimetre diameter combined effluent discharge pipe, secured in place to pilings in the Welland Canal, with six (6), 600 millimetre diameter, diffuser ports positioned vertically approximately 2 metres above the diffuser body centre-line, to direct effluent flow at an angle of approximately 45 degrees to the canal flow direction, with the capability of closing off any of the ports by blind flanges, as required, to optimize effluent mixing in the Welland Canal;

Cooling Water Works (Citric Plant)

Once Through Non-Contact Cooling Water Works

Existing once-through non-contact cooling water works serving the Citric Plant, and discharging at the existing maximum discharge rate of up to existing maximum discharge rate of 233,500 cubic meters per day, comprising;

- Intake Works comprising one (1) intake water pipe located over a rip-rap lined area of the Welland Canal, located downstream of the Plant combined effluent discharge;
- one (1) raw water pumping station with dual-flow travelling screen and three (3) pumps and an on-line spare, each rated at 1,500 cubic metres per hour to pump canal water to an 11,200 cubic metre capacity clay lined water storage pond;
- one (1) FRP transmission pipe to convey water from a raw water pumping station to an overhead pipe rack to provide 1,100 to 4,500 cubic metres per hour of non-contact cooling water to the fermenters;

Chlorination System

- two (2) metering pumps, piping and diffusers to continuously feed sodium hypochlorite solution to the head of the raw water intake pipe, when in operation, starting when the Welland Canal water reaches 10 degrees Celsius and terminating when the Welland Canal water drops below 10 degrees Celsius, or as needed;

Water Filtration System

- Water Filtration System three (3) twin multimedia filters, operating in parallel, to clarify incoming raw water, with each filter backwashed as required and the backwash water conveyed to the process waste sewer at the Water Filtration Building for discharge via a sewer to the Wastewater Treatment Plant, with the filtered water conveyed to the Filtered Water Tank for subsequent transfer to the Demineralization System;

Demineralization System

- two (2) demineralization treatment trains, typically operated in parallel, each consisting of a cation exchanger, a decarbonator and an anion exchanger, including hydrochloric acid and sodium hydroxide regeneration facilities, with spent regenerant solution pumped to an overhead process wastewater line and discharged to the Wastewater Treatment Plant via the neutralization basin system;

Dechlorination of spent Non-Contact Cooling Water

- one (1) dechlorination facility consisting of a 25 cubic metre capacity sodium bisulphite solution storage tank and/or 1,000 Litre capacity storage totes located in the Cogen Building with metering pumps, to feed solution via a diffuser to the non-contact cooling water discharge pipe at the dechlorination manhole which is located on the cooling water return line upstream of the cooling water Total Residual Chlorine sampling manhole, whenever the chlorination system is operating;

Outfall for spent Cooling Water Discharge

- one (1) concrete cooling water return line to convey up to approximately 9,729 cubic metres per hour (233,500 cubic metres per day) of spent once-through non-contact cooling water from the fermenter area to the mixing chamber, where it is combined with process effluent and is discharged via Manholes MH No. 4 and MH No. 3 to the Welland Canal;
- one (1) concrete cooling water return line to convey up to approximately 4,500 cubic metres per hour of spent once through non-contact cooling water from the fermenter area to the mixing chamber, where it is combined with process effluent and discharged via Manholes MH No. 4 and MH No. 3 to the Welland Canal;

Stormwater Management Works

stormwater management works for the collection, transmission, treatment and disposal of stormwater runoff from a catchment area of 20.56 hectares of the JBL Citric Acid Plant, discharging via a ditch to the Welland Canal, consisting of the following:

- a stormwater conveyance system consisting of storm sewers with sizes ranging from 450 mm to 1350 mm, and culverts with sizes ranging from 375 mm to 525 mm;
- an extended detention wet pond, located on the east side of the JBL Citric Acid Plant portion of the site, having a permanent pool and an extended detention zone with a total volume of 3,380 cubic meters providing a 24 hours quality control storage time, and an additional 5,700 cubic metres of quantity control storage volume for the 5, 25, or 100 year storm event;
- sediment and erosion control measures including a 30 metre long forebay separated from the wet pond by a small earth berm, with quality control discharges via a 125 millimetre orifice plate and quantity control discharges via a 825 millimetre orifice through a 600 mm diameter culvert into a ditch which ultimately discharges into the Welland Canal;

including all other mechanical system, electrical system, instrumentation and control system, piping, pumps, valves and appurtenances essential for the proper, safe and reliable operation of the aforementioned sewage works in accordance with this Approval, in the context of process performance and general principles of wastewater engineering only;

all in accordance with the supporting documents listed in **Schedule A**.

For the purpose of this environmental compliance approval, the following definitions apply:

"Annual Average Daily Flow" means the cumulative total sewage flow of Influent to the Sewage Treatment Plant during a calendar year divided by the number of days during which sewage was flowing to the Sewage Treatment Plant that year;

"Annual Maximum Daily Flow" means the maximum Influent collected in a single day during a calendar year;

"Approval" means this entire Environmental Compliance Approval (ECA) document, and includes any Schedules, within or attached to it and the application;

"Director" means a person appointed by the Minister pursuant to Section 5 of Part I of the EPA for the purposes of Part II.1 of the EPA;

"District Manager" means the District Manager of the Niagara District Office of the Ministry;

"EPA" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;

"Equivalent equipment" means a substituted equipment or like-for-like equipment that meets the required quality and performance standards of a named equipment;

"Final Effluent" means effluent that is discharged to the environment through the approved effluent disposal facilities, that are required to meet the compliance limits stipulated in the Approval for the Sewage Treatment Plant at the Final Effluent sampling point(s);

"Limited Operational Flexibility" means any modifications that the Owner is permitted to make to the Works under this Approval;

"mg/L" means milligrams per Litre;

"Ministry" means the Ministry of the Government of Ontario responsible for the EPA and OWRA and includes all officials, employees or other persons acting on its behalf;

"Monthly Average Effluent Concentration" is the mean of all Single Sample Results of the concentration of a contaminant in the Effluent sampled or measured during a calendar month;

"Notice of Modifications" means the form entitled "Notice of Modifications to Sewage Works";

"Owner" means Jungbunzlauer Canada Inc., and includes its successors and assignees;

"OWRA" means the Ontario Water Resources Act, R.S.O. 1990, c. O.40, as amended;

"Rated Capacity" means the Annual Average Daily Flow for which the Sewage Treatment Plant is designed to handle;

"Works" means the sewage works described in the Owner's application, and this Approval, and includes Proposed Works, Existing Works, and modifications made under Limited Operational Flexibility.

the following symbols are abbreviations for the monitoring frequencies indicated:

"C" means continuously throughout the year or in the case of failure or unavailability of an on-line monitor for:

- Hydrogen ion (pH) and Dissolved Oxygen measurement, at a grab sample frequency of three times over a 24 hour period with at least 6 hours between successive samples with immediate analysis performed in the field for each grab sample, and for
- temperature measurements at a grab sample frequency of once per hour with at least 30 minutes between successive readings

"D" means daily, i.e. one sample in a 24 hour period

"Q" means quarterly, i.e. one sample every calendar quarter with at least 45 days between successive samples

"SA" means semi-annually, i.e. once every six months with at least 90 days between successive samples

"W" means weekly, i.e. one sample every 7 days with at least 4 days between successive samples.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL CONDITION

- (1) The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Works is notified of this Approval and the Conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
- (2) Except as otherwise provided by these Conditions, the Owner shall design, build, install, operate and maintain the Works in accordance with the description given in this Approval, the application for Approval of the Works and the submitted supporting documents and plans and specifications as listed in this Approval.
- (3) Where there is a conflict between a provision of any submitted document referred to in this Approval and the Conditions of this Approval, the Conditions in this Approval shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.
- (4) Where there is a conflict between the listed submitted documents, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.

- (5) The Conditions of this Approval are severable. If any Condition of this Approval or the application of any requirement of this Approval to any circumstance, is held invalid or unenforceable, the application of such Condition to other circumstances and the remainder of this Approval shall not be affected thereby.

2. CHANGE OF OWNER

- (1) The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within 30 days of the change occurring:
 - (a) change of Owner or operating authority, or both;
 - (b) change of address of Owner or operating authority or address of new owner or operating authority;
 - (c) change of partners where the Owner or operating authority is or at any time becomes a partnership, and a copy of the most recent declaration filed under the *Partnerships Registration Act*; or
 - (d) change of name of the corporation where the Owner or operator is or at any time becomes a corporation, and a copy of the most current "Initial Notice or Notice of Change" (Form 1, 2 or 3 of O. Reg. 189, R.R.O. 1980, as amended from time to time), filed under the *Corporations Information Act* shall be included in the notification to the District Manager.
- (2) In the event of any change in ownership of the Works, the Owner shall notify in writing the succeeding owner of the existence of this Approval, and a copy of such notice shall be forwarded to the District Manager.
- (3) The Owner shall ensure that all communications made pursuant to this Condition will refer to this Approval's number.

3. OPERATION AND MAINTENANCE

- (1) The Owner shall ensure that the Works and related equipment and appurtenances which are installed or used to achieve compliance with this Approval are properly operated and maintained.
- (2) The Owner may use the existing emergency storage pond located within the Citric Acid Plant portion of the site for emergency temporary storage of wastewater sewage. The Owner shall ensure that there is no discharge from the emergency storage pond until all of the wastewater from the pond is returned to the wastewater treatment facility for treatment and disposal. The Owner may also use the services of an approved hauler to haul the wastewater to an approved wastewater treatment facility.

- (3) The Owner shall carry out on a regular basis, specific maintenance requirements associated with the Works.
- (4) The Owner shall use best efforts to immediately identify and clean-up all losses/spills of process materials.
- (5) The Owner shall, upon identification of loss/spill of a process material take immediate action to prevent the further occurrence of such loss.
- (6) In furtherance of, but without limiting the generality of, the obligation imposed by Subsection (1), the Owner shall ensure that equipment and material for the containment, clean-up and disposal of spilled process materials are kept on hand and in good repair for immediate use in the event of:
 - (a) loss of process material from the process areas, storage tanks, tanker trucks and transfer hoses; or
 - (b) a spill within the meaning of Part X of the *Environmental Protection Act*.
- (7) The Owner shall make all necessary investigations, take all necessary steps and obtain all necessary approvals so as to ensure that the physical structure, siting and operations of the stormwater management Works do not constitute a safety or health hazard to the general public.
- (8) The Owner shall design, construct and operate the oil/grit separator with the objective that the effluent from the oil/grit separator is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film, sheen, foam or discoloration on the receiving waters.
- (9) The Owner shall carry out and maintain an annual inspection and maintenance program on the operation of the oil/grit separator in accordance with the manufacturer's recommendation.
- (10) The Owner shall ensure that the design storage volumes are maintained at all times.
- (11) The Owner shall undertake an inspection of the Condition of the stormwater management Works, at least once a year, and undertake any necessary cleaning and maintenance to ensure that sediment, debris and excessive decaying vegetation are removed from the above noted stormwater management Works to prevent the excessive build-up of sediment, debris and/or decaying vegetation to avoid reduction of capacity of the Works. The Owner shall also regularly inspect and clean out the inlet to and outlet from the Works to ensure that these are not obstructed.
- (12) The Owner shall maintain a logbook to record the results of these inspections and any cleaning and maintenance operations undertaken, and shall keep the logbook at the Owner's corporate office for inspection by the Ministry. The logbook shall include the following:

- (a) the name of the Works; and
 - (b) the date and results of each inspection, maintenance and cleaning, including an estimate of the quantity of any materials removed and method of clean-out of the stormwater management Works.
- (13) The Owner shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the operation and maintenance activities required by this Approval.

4. OPERATIONS MANUAL

- (1) The Owner shall prepare an operations manual prior to the commencement of operation of the sewage proposed Works, that includes, but is not necessarily limited to, the following information:
- (a) operating procedures for routine operation of the Works;
 - (b) inspection programs, including frequency of inspection, for the Works and the methods or tests employed to detect when maintenance is necessary;
 - (c) repair and maintenance programs, including the frequency of repair and maintenance for the Works;
 - (d) contingency plans and procedures for dealing with potential spill, bypasses and any other abnormal situations and for notifying the District Manager; and
 - (e) procedures for responding to environmental concerns from the public.
- (2) The Owner shall maintain the operations manual current and retain a copy at the location of the sewage Works for as long as they are in operation. Upon request, the Owner shall make the manual available for inspection by Ministry staff.

5. EFFLUENT OBJECTIVES

- (1) The Owner shall design and undertake everything practicable to operate the Sewage Works in accordance with the following objectives:
- a. Final Effluent parameters design objectives listed in the table(s) included in **Schedule B**.
 - b. Final Effluent is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film or sheen or foam or discolouration on the receiving waters.

c. Annual Average Daily Flow / Annual Maximum Daily Flow is within the Design Capacity of the Sewage Treatment Plant and Cooling Water Works.

- (2) In the event of an exceedance of an objective set out in Subsections (1) and (2), the Owner shall,
- (a) notify the District Manager during normal working hours, within seven (7) days of receipt of the analytical results;
 - (b) take immediate action to identify the cause of the exceedance; and
 - (c) take immediate action to prevent further exceedances.

6. EFFLUENT LIMITS

- (1) The Owner shall operate and maintain the Sewage Treatment Plant such that compliance limits for the Effluent parameters listed in the Table included in **Schedule C and D** are met.
- (2) The Owner shall ensure:
- (a) that the rolling eight hour average Dissolved Oxygen concentration in the combined Plant (located within the JBL Citric Acid Plant portion of the site) effluent, based on continuous measurements, is not less than 47% of the Dissolved Oxygen saturation concentration at the average discharge temperature over the same time period, or
 - (b) that the Dissolved Oxygen concentration in any single grab sample of the combined Plant (located within the JBL Citric Acid Plant portion of the site) effluent is not less than 47% of the Dissolved Oxygen saturation concentration at the sampling temperature.
- (3) The Owner shall ensure that the Dissolved Oxygen concentration in the once-through non-contact cooling water from the sewage Works located within the JBL Glucose Plant portion of the site to the Welland Canal, shall be maintained at a minimum of 4.0 mg/L.
- (4) The Owner shall ensure that the accuracy of the temperature measurements required to demonstrate compliance under this Condition is within plus or minus 0.4 Celsius degrees.

7. EFFLUENT - VISUAL OBSERVATIONS

Notwithstanding any other Condition in this Approval, the Owner shall ensure that the effluent from the Sewage Works is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film, sheen, foam or discoloration to the receiving waters.

8. SAMPLES AND MEASUREMENTS

The Owner shall ensure that samples and measurements taken for the purposes of this Approval are taken at a time and in a location characteristic of the quality and quantity of the effluent stream, over the time period being monitored.

9. EFFLUENT MONITORING AND RECORDING

- (1) The Owner shall continue to carry out a scheduled monitoring program of collecting samples at the required sampling points, at the frequency specified or higher, by means of the specified sample type and analyzed for each parameter listed in the tables under the monitoring program included in **Schedule E** and record all results, as follows:
 - i. all samples and measurements are to be taken at a time and in a location characteristic of the quality and quantity of the sewage stream over the time period being monitored.
- (2) The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following documents and all analysis shall be conducted by a laboratory accredited to the ISO/IEC:17025 standard or as directed by the District Manager:
 - a. the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only), as amended;
 - b. the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater Version 2.0" (January 2016), PIBS 2724e02, as amended;
 - c. the publication "Standard Methods for the Examination of Water and Wastewater", as amended; and
 - d. for any parameters not mentioned in the documents referenced in Paragraphs 2.a, 2.b and 2.c, the written approval of the District Manager shall be obtained prior to sampling.
 - e. the Environment Canada publications "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" (EPS 1/RM/13 Second Edition - December 2000) and "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to *Daphnia magna* " (EPS 1/RM/14 Second Edition - December 2000), as amended, subject to the following:
 - i. the use of pH stabilization in the determination of acute lethality of Final Effluent to Rainbow Trout in accordance with the Environment Canada publication "Procedure for pH Stabilization during the Testing of Acute Lethality of Wastewater Effluent to Rainbow Trout (EPS 1/RM/50)" (2008), as amended, is permitted only if:

- a. all the three criteria stipulated in the Environment Canada EPS 1/RM/50 are met; and
 - b. the Final Effluent is not discharged to a receiver in which the Final Effluent contributes more than 50% of the total flow in the receiving water, unless the District Manager, having reviewed additional information submitted regarding the Final Effluent and the receiving water approves on the use of RM50 on a site-specific basis.

- (3) If the Owner monitors Bisulphite Residual as a surrogate to Total Residual Chlorine, then detected levels of Bisulphite Residual in the sample shall be deemed to confirm absence of Total Residual Chlorine.

- (4) The minimum monitoring frequency with respect to acute lethality to Rainbow Trout and *Daphnia magna* shall, after eight (8) consecutive quarters of monitoring results not indicating acute lethality, be reduced to annually. If any Final Effluent sample indicates acute lethality to Rainbow Trout or *Daphnia magna*, the monitoring frequency shall revert back to quarterly and the Owner shall carry out the following immediately:
 - a. Review the following:
 - i. Final Effluent quality and confirm that concentrations of ammonia are within the limits;
 - ii. plant operations around the time of the toxicity event; and
 - iii. all data available regarding plant operations and Final Effluent quality.
 - b. If the observed effluent toxicity is not associated with ammonia, an investigation shall be undertaken to determine the cause or source of the toxicity.
 - c. Upon determination of cause or source of acute lethality to Rainbow Trout and *Daphnia magna*, the Owner shall determine appropriate control measures to achieve non-acutely lethal effluent and time lines for the implementation of identified control measures. The Owner shall submit the proposed control measures and implementation time lines for approval to the District Manager.

- (5) The temperature and pH of the effluent stormwater from the Works serving the JBL Glucose Plant shall be determined in the field at the time of sampling for Total Ammonia Nitrogen. The concentration of un-ionized ammonia shall be calculated using the Total Ammonia concentration, field pH and field temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended, for ammonia (un-ionized).
- (6) The Owner shall, for the purpose of providing data for the calculation of total waste loading in the effluent, install and maintain a continuous flow measuring device(s) in the Wastewater Treatment Plant effluent stream (before dilution with cooling water) with an accuracy to within plus or minus 15% of the actual flow rate for the entire design range of the flow measuring device.
- (7) The Owner shall measure, record and calculate the flow rate for the effluent stream referred to in Subsection (6) on each day sampling is undertaken.
- (8) The Owner shall calibrate the flow measuring device(s) at regular intervals not exceeding one year to ensure that it meets the accuracy requirements specified in Subsection (6).
- (9) The Owner shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this Approval.

10. RECEIVING WATER MONITORING

The Owner shall continue to implement the Receiving Water Monitoring Program in accordance with the **Schedule F**.

11. CONTINGENCY AND REMEDIAL ACTION PLAN

- (1) The Owner shall prepare and submit for approval to the District Manager a contingency and remedial action plan within one (1) year of the issuance date of this Approval. The contingency and remedial action plan shall identify trigger mechanisms based on the effluent stormwater monitoring results for parameters of concern obtained under Condition 9 (4). The contingency and remedial action plan shall describe the contingency measures to be implemented when identified trigger mechanisms are exceeded. The Owner shall maintain the contingency plan current.
- (2) If, in the opinion of the District Manager, failure of the appropriate contingency plan(s) and remedial measures is confirmed by the Owner or a Provincial Officer of the Ministry, the Owner shall, immediately upon notification from the District Manager, implement any necessary additional contingency plan(s) and remedial measures, including, but not necessarily limited to, the contingency and remedial action plan as approved under Subsection (1).

- (3) If the District Manager deems the additional appropriate contingency plan(s) and remedial measures taken as per Subsection (2) to be unsuitable, insufficient or ineffective, the District Manager may direct the Owner, in writing, to take further remedial measures, as well as making repairs or modifications to equipment or processes, or to prohibit any discharge of potentially contaminated stormwater from the site to the receiving surface water and dispose the potentially contaminated stormwater off-site in a pre-approved manner.

12. SPILL CONTINGENCY PLAN

- (1) Within three (3) months from the issuance of this Approval, the Owner shall implement a spill contingency plan - that is a set of procedures describing how to mitigate the impacts of a spill within the area serviced by the Works. This plan shall include as a minimum:
 - (i) the name, job title and location (address) of the Owner, person in charge, management or person(s) in control of the facility;
 - (ii) the name, job title and 24-hour telephone number of the person(s) responsible for activating the spill contingency plan;
 - (iii) a site plan drawn to scale showing the facility, nearby buildings, streets, catch basins & manholes, drainage patterns (including direction(s) of flow in storm sewers), any receiving body(ies) of water that could potentially be significantly impacted by a spill and any features which need to be taken into account in terms of potential impacts on access and response (including physical obstructions and location of response and clean-up equipment);
 - (iv) steps to be taken to report, contain, clean up and dispose of contaminants following a spill;
 - (v) a listing of telephone numbers for: local clean-up company(ies) who may be called upon to assist in responding to spills; local emergency responders including health institution(s); and MECP Spills Action Centre 1-800-268-6060;
 - (vi) Safety Data Sheets (SDS) for each hazardous material which may be transported or stored within the area serviced by the Works;
 - (vii) the means (internal corporate procedures) by which the spill contingency plan is activated;
 - (viii) a description of the spill response training provided to employees assigned to work in the area serviced by the Works, the date(s) on which the training was provided and by whom;

- (ix) an inventory of response and clean-up equipment available to implement the spill contingency plan, location and, date of maintenance/replacement if warranted; and
 - (x) the date on which the contingency plan was prepared and subsequently, amended.
- (2) The spill contingency plan shall be kept in a conspicuous, readily accessible location on-site.
- (3) The spill contingency plan shall be amended from time to time as required by changes in the operation of the facilities.

13. REPORTING

- (1) All non-compliance with respect to the effluent criteria imposed under Condition 6 shall be reported to the District Manager within seven (7) days of receipt of the analytical results with reasons for non-compliance as well as proposed remedial action and anticipated time frame to return the Works to compliance.
- (2) The Owner shall submit the monitoring results pursuant to Conditions 9 (2) to the District Manager, as part of the Annual Reporting in Condition 13(3).
- (3) The Owner shall prepare and submit an annual performance report to the District Manager by March 31 of the calendar year following the period being reported upon. The report shall contain but shall not be limited to, the following information, in a format acceptable to the District Manager:
- (a) a summary of the monitoring results collected pursuant to Conditions 9 and 10, including a comparison to the Effluent Objectives and Effluent Limits described in Conditions 5 and 6 and comparisons to the Provincial Water Quality Objectives (PWQOs), as appropriate, including an overview of the success and adequacy of the sewage Works;
 - (b) a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 5, including an evaluation of the need for modifications to the sewage Works to improve performance and reliability;
 - (c) a description of any operating problems encountered and corrective actions taken;
 - (d) a summary of annual stormwater management Works (including the oil/grit separator) inspection reports as required by Condition 3(10) and Condition 3(13);
 - (e) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of sewage Works;
 - (f) a summary of any effluent quality assurance or control measures undertaken in the reporting period;

- (g) a summary of the calibration and maintenance carried out on all effluent monitoring equipment;
 - (h) a copy of all Notice of Modifications submitted to the District Manager as a result of **Schedule G**, Section 1, with a status report on the implementation of each modification;
 - (i) a report summarizing all modifications completed as a result of Schedule G, Section 3; and
 - (j) any other information the District Manager requires from time to time.
- (4) The Owner shall, upon request, make all manuals, plans, records, data procedures and supporting documentation available to Ministry staff.

14. REPORTING EMERGENCIES

- (1) As related to the approved Works, the Owner shall ensure that, upon the occurrence of any spill, bypass or loss of any raw material, product, by-product, intermediate product, oils, solvents, waste material or any other polluting substance into the environment, such occurrence be immediately reported to the District Manager, or his/her designate, during normal working hours, or otherwise the Spills Action Centre for the Ministry at 1-800-268-6060. In addition, within ten (10) working days of the occurrence, the Owner shall submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.
- (2) The Owner shall immediately report to the District Manager verbally, and as soon as possible in writing, following any emergency transfer for storage of effluent into the existing emergency storage pond located within the JBL Citric Acid Plant portion of the site.

15. LIMITED OPERATIONAL FLEXIBILITY

- (1) The Owner may make modifications to the Works in accordance with the Terms and Conditions of this Approval and subject to the Ministry's "Limited Operational Flexibility Criteria for Modifications to Works", included under **Schedule G** of this Approval, as amended.
- (2) Sewage works under Limited Operational Flexibility shall adhere to the design guidelines contained within the Ministry's publication "Design Guidelines for Sewage Works 2008", as amended.

(3) The Owner shall ensure at all times, that the Works, related equipment and appurtenances which are installed or used to achieve compliance are operated in accordance with all Terms and Conditions of this Approval.

(4) For greater certainty, the following are not permitted as part of Limited Operational Flexibility:

(a) Modifications to the Works that result in an increase of the approved Rated Capacity of the Works;

(b) Modifications to the Works that may adversely affect the approved effluent quality criteria or the location of the discharge/outfall;

(c) Modifications to the treatment process technology of the Works, or modifications that involve construction of new reactors (tanks) or alter the treatment train process design;

(d) Modifications to the Works approved under s.9 of the EPA, and,

(e) Modifications to the Works pursuant to an order issued by the Ministry.

(5) Implementation of Limited Operational Flexibility is not intended to be used for piecemeal measures that result in major alterations or expansions.

(6) If the implementation of Limited Operational Flexibility requires changes to be made to the Emergency Response, Spill Reporting and Contingency Plan, the Owner shall, provide a revised copy of this plan to the local fire services authority prior to implementing Limited Operational Flexibility.

(7) For greater certainty, any modification made under the Limited Operational Flexibility may only be carried out after other legal obligations have been complied with, including those arising from the *Environmental Protection Act, Niagara Escarpment Planning and Development Act, Oak Ridges Moraine Conservation Act, Lake Simcoe Protection Act* and *Greenbelt Act*.

(8) At least thirty (30) days prior to implementing Limited Operational Flexibility, the Owner shall complete a Notice of Modifications describing any proposed modifications to the Works and submit it to the District Manager.

(9) The Owner shall not proceed with implementation of Limited Operational Flexibility until the District Manager has provided written acceptance of the Notice of Modifications or a minimum of thirty (30) days have passed since the day the District Manager acknowledged the receipt of the Notice of Modifications.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is imposed to ensure that the Works are built and operated in the manner in which they were described for review and upon which Approval was granted. This condition is also included to emphasize the precedence of Conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.
2. Condition 2 is imposed to ensure that the Ministry records are kept accurate and current with respect to approved Works and to ensure that subsequent owners of the Works are made aware of the Approval and continue to operate the Works in compliance with it.
3. Condition 3 is imposed to ensure that the Works will be operated and maintained in a manner enabling compliance with the terms and Conditions of this Approval, such that the environment is protected and deterioration, loss, injury or damage to any person or property is minimized and/or prevented. Furthermore, Condition 3 is imposed as regular inspection and necessary removal of sediment and excessive decaying vegetation from this approved stormwater management works are required to mitigate the impact of sediment, debris and/or decaying vegetation on the treatment capacity of the works. It is also required to ensure that adequate storage is maintained in the stormwater management facilities at all times as required by the design and to ensure that the stormwater management works are operated and maintained to function as designed.
4. Condition 4 is imposed to ensure that a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner and made available to the Ministry. Such a manual is an integral part of the operation of the Works. Its compilation and use should assist the Owner in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal Conditions. The manual will also act as a benchmark for Ministry staff when reviewing the owner's operation of the Works.
5. Condition 5 is imposed to establish non-enforceable effluent quality objectives which the Owner is obligated to use best efforts to strive towards on an ongoing basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs and before the compliance limits of Condition 6 are exceeded.
6. Conditions 6 and 7 are imposed to ensure that the effluent discharged from the Works to the Welland Canal and the Welland Canal meets the Ministry's effluent quality requirements thus minimizing environmental impact on the receivers.
7. Conditions 8, 9, and 10, relating to sampling and monitoring, are imposed to require the Owner to demonstrate on a continual basis that the quality and quantity of the effluent from the approved Works is consistent with the design objectives and effluent limits specified in the Approval and that the approved Works do not cause any impairment to the receiving watercourses. Furthermore, the Conditions are imposed to ensure that the discharge temperature of the cooling waters from the facilities is acceptable and that the cooling water is not contaminated with the process material due to leakage.

8. Condition 11 is imposed to establish the effluent trigger levels for stormwater runoff discharging from the JBL Glucose portion of the site, which the Owner is obligated to use best efforts to strive towards on an ongoing basis. These trigger levels are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs.
9. Condition 12 is imposed to ensure that the Owner will implement the Spill Contingency Plan, such that the environment is protected and deterioration, loss, injury or damage to any person(s) or property is prevented.
10. Conditions 13 is imposed to provide a performance record for future references and to ensure that the Ministry is made aware of problems as they arise, so that the Ministry can work with the Owner in resolving the problems in a timely manner.
11. Condition 14 is imposed to ensure that the Ministry is immediately informed of the occurrence of an emergency or otherwise abnormal situation so that appropriate steps are taken to address the immediate concerns regarding protection of public health and minimizing of the severity of environmental damage.
12. Condition 15 is imposed to ensure that the Works are operated in accordance with the application and supporting documentation submitted by the Owner, and not in a manner which the Director has not been asked to consider. This Condition is also included to ensure that a Professional Engineer has reviewed the proposed Modifications and attests that the Modifications are in line with that of Limited Operational Flexibility, and provide assurance that the proposed Modifications comply with the Ministry's requirements stipulated in the terms and Conditions of this Approval, MECP policies, guidelines, and industry engineering standards and best management practices.

Schedule A

Current ECA Application

1. Application for Environmental Compliance Approval dated April 25, 2023 and received on May 3, 2023.

Previous ECA Applications/Submissions

Environmental Compliance Approval (ECA) supporting documents:

1. Environmental Compliance Approval Application submitted by Joseph Tetreault, EcoMetrix Incorporated, dated December 13, 2019 and received December 16, 2019.
2. Design Report titled "JBL Canada, Wastewater Capacity Review 2019 Facility Expansion Project - Port Colborne, ON" dated December 11, 2019 and prepared by Azura Associates.
3. All other information and documentation provided by Azura Associates as it relates to this application.
4. Environmental Compliance Approval Application submitted by Joseph Tetreault, EcoMetrix Incorporated, dated December 15, 2015 and received December 18, 2015.
5. Letter Report titled " Wastewater Review for Jungbunzlauer Canada Inc. and Ingridion Canada Inc. - Port Colborne, ON" prepared by Azura Associates, dated October 31, 2015.
6. Design Report titled "Ingridion Stormwater Management" prepared by Calder Engineering Ltd., dated December 14, 2015.
7. Design Report titled "Proposed Stormwater Management Details for ECA Amendment Application (7699-A5EJRH) prepared by EcoMetrix Incorporated, dated May 13, 2016.
8. Environmental Compliance Approval Application for Industrial Sewage Works submitted by Joseph Tetreault, of EcoMetrix Incorporated, and signed by Lee Whitely, of Ingridion Canada Incorporated., dated August 11, 2014, and all supporting documentation and information;
9. Email dated, April 1st, 2014 from Joseph Tetreault of EcoMetrix to Youssef Kalogo, P.Eng. of the Ontario Ministry of the Environment;
10. Email dated, March 31, 2014 from Joseph Tetreault of EcoMetrix to Youssef Kalogo, P.Eng. of the Ontario Ministry of the Environment;

11. A document entitled “Thermal Plume Delineation and Assessment in the Welland Canal for Jungbunzlauer Canada Inc. (JBL)”, dated October, 2013;
12. Environmental Compliance Approval Application for Sewage Works dated October 24, 2013 signed by Sharon Grant, and cover letter submitted by Joseph Tetreault of EcoMetrix Incorporated, dated October 31, 2013;
13. Information letters dated August 15, September 10 and September 26, 2012 from D. Lampman, P.Eng., Senior Project Manager, AECOM, St. Catharines, Ontario with a new set of design drawings to reflect a revised layout of the new facilities and additional process information;
14. An information letter dated July 26, 2012 from D. Lampman, P.Eng., Senior Project Manager, AECOM, St. Catharines, Ontario with additional process information;
15. An information letter dated April 24, 2012 from D. Lampman, P.Eng., Senior Project Manager, AECOM, St. Catharines, Ontario with additional water taking and effluent quality information;
16. Environmental Compliance Approval Application dated March 29, 2012 and signed by Lee Dimascio, VP Operations, Jungbunzlauer Canada Inc., Port Colborne, Ontario with design information and drawings provided by AECOM, St. Catharines, Ontario;
17. Application for Approval of Industrial Sewage Works dated April 18, 2008 and signed by Ryan Waines, Environmental Coordinator, Jungbunzlauer Canada Inc., Port Colborne, Ontario;
18. Application for Approval of Industrial Sewage Works dated July 19, 2006 and signed by Ryan Waines, Environmental Coordinator, Jungbunzlauer Canada Inc., Port Colborne, Ontario;
19. Application for Approval of Industrial Sewage Works dated May 17, 2006 and signed by Ryan Waines, Environmental Coordinator, Jungbunzlauer Canada Inc., Port Colborne, Ontario;
20. Application for Approval of Industrial Sewage Works dated September 24, 2003, and the associated documents submitted by the General Manager, Jungbunzlauer Canada Inc., Port Colborne, Ontario;
21. Application for Approval of Industrial Sewage Works dated December 9, 1999 and the associated documents submitted by the Project Manager of Jungbunzlauer Canada Inc., Toronto, Ontario;
22. Environmental Compliance Approval Application dated February 7, 2011 and received February 8, 2011; and

23. Design Report titled "Stormwater Management Plan CASCO - 55 Invertose Drive Port Colborne" dated January 2011, final plans, specifications and the Figure 1M - Stormwater Monitoring Locations, CASCO, Port Colborne, received February 22, 2012, all prepared by Upper Canada Planning & Engineering Ltd.

24. Engineering plans and specifications submitted by Earth Tech (Canada), St. Catharines, Ontario in the "Jungbunzlauer - Stormwater Management Report" Project EO 99522, dated April 26, 2000.

Schedule B

Effluent Design Objectives

Wastewater Treatment Plant

Sampling Location: Parshall Flume prior to mixing with once-through non-contact water

Effluent Parameter	Averaging Calculator	Effluent Concentration Objective (milligrams per litre unless otherwise indicated)
Dissolved Organic Carbon (DOC)	Single Sample Result	15 mg/L
Total Suspended Solids	Single Sample Result	15 mg/L
Total Phosphorus	Single Sample Result	0.3 mg/L
Total Ammonia Nitrogen	Single Sample Result	3.0 mg/L

Final Effluent (After Mixing with the Citric Acid Plant Cooling Water)

Sampling Location: Final Effluent exiting the Mixing Chamber leading up to Manholes No. 4 to the Welland Canal

Final Effluent Parameter	Averaging Calculator	Final Effluent Concentration (milligrams per litre unless otherwise indicated)
Total Residual Chlorine*	Single Sample Result	Non-detectable

*Total Residual Chlorine shall be non-detectable as measured by a method with a sensitivity of at least 0.02

Glucose Plant Cooling Water

Sampling Location: Effluent exiting the Mixing Chamber leading up to Manholes No. 11 to the Welland Canal

Effluent Parameter	Averaging Calculator	Effluent Concentration (milligrams per litre unless otherwise indicated)
Total Residual Chlorine*	Single Sample Result	Non-detectable

*Total Residual Chlorine shall be non-detectable as measured by a method with a sensitivity of at least 0.02

Schedule C

FINAL EFFLUENT COMPLIANCE LIMITS

Sewage Works serving JBL Glucose Plant

Cooling Water Final Effluent

Sampling Location: Effluent exiting to Manhole No. 11 to the Welland Canal

Final Effluent Parameter	Averaging Calculator	Final Effluent Concentration (milligrams per litre unless otherwise indicated)
Total Residual Chlorine (TRC)*	Single Sample Result	0.02 mg/L

Sewage Works serving JBL Glucose Plant and JBL Citric Acid Plant

Wastewater Treatment Plant Process Effluent

Sampling Location: Parshall Flume prior to mixing with once-through non-contact water

Effluent Parameter	Maximum Daily Effluent Concentration (mg/L)* (maximum unless otherwise indicated)	Monthly Average Effluent Concentration (mg/L) (maximum unless otherwise indicated)
Dissolved Organic Carbon (DOC)	35	25
Total Suspended Solids	35	25
Total Phosphorus	0.75	0.5
Total Ammonia Nitrogen	7	5

*Based upon single sample result

Final Effluent (After Mixing with the Citric Acid Plant Cooling Water)

Final Effluent Parameter	Final Daily Average Temperature
Effluent Temperature	33 Degrees Celsius
Temperature Differential (Edge of mixing zone minus Natural ambient water)	10 Celsius Degrees

Note: Removal of the temperature monitoring buoy at the edge of the mixing zone is permitted during winter months, if needed.

Sewage Works serving JBL Citric Acid Plant

Cooling Water effluent

(prior to mixing with the Wastewater Treatment Plant effluent)

Effluent Parameter	Averaging Calculator	Maximum Concentration (milligrams per litre unless otherwise indicated)
Total Residual Chlorine (TRC)*	Single Sample Result	0.01 mg/L

Final Effluent (After Mixing with the Citric Acid Plant Cooling Water, at the combined effluent sampling Manhole MH No. 4 prior to discharge to the Welland Canal)

Effluent Parameter	Range Limit
Hydrogen ion (pH)	6.0 to 9.5

Schedule D

FINAL EFFLUENT COMPLIANCE LIMITS (TEMPERATURE)

Sewage Works serving JBL Glucose Plant

Final Effluent Parameter	Daily Average Temperature
Temperature	36 Degrees Celsius
Temperature Differential	11 Celsius Degrees

- (a) the daily average temperature of the once-through non-contact cooling water effluent prior to discharge to the Welland Canal, calculated from continuous temperature recording or grab sample meets the daily average temperature limit listed in the table below.
- (b) the measured temperature minus the natural ambient water temperature meets the temperature differential limit set out in the table below.

Citric Acid Plant Final Effluent including that from Glucose Plant

Effluent Parameter	Daily Average Temperature Limit
Effluent Temperature*	33 Degrees Celsius
Temperature Differential** (Edge of mixing zone minus Natural ambient water)	10 Celsius Degrees

Note: Removal of the temperature monitoring buoy at the edge of the mixing zone is permitted during winter months, if needed.

*the daily average temperature of the combined Plant effluent prior to discharge to the Welland Canal, calculated from continuous temperature recording or grab sample meets the daily average temperature limit

**the measured temperature at the edge of the mixing zone at a predetermined location acceptable to the District Manager, minus the natural ambient water temperature meets the temperature differential limit

Schedule E

Monitoring Program

Wastewater Treatment Plant Effluent (prior to dilution with cooling water)		
Effluent Parameters	Frequency	Sample Type
DOC, Total Suspended Solids, Total Phosphorus, Total Ammonia Nitrogen, TKN, NO ₃ , NO ₂ , Chloride, Sulphate	W	Composite
pH, Temperature	C	On-line
Acute Lethality (using Rainbow Trout and Daphnia magna)	SA	Grab

Combined Effluent Discharge at MH4 (after mixing with non-contact cooling water)		
Final Effluent Parameters	Frequency	Sample Type
Temperature, Dissolved Oxygen and pH	C	On-line

Non-contact Cooling Water Discharge		
Effluent Parameter	Frequency	Sample Type
Total Residual Chlorine	D*	Grab

* During periods when the non-contact cooling water is chlorinated and for two (2) days following the cessation of chlorination activities.

Welland Canal Water Temperature* - deemed to be the natural ambient water temperature		
Effluent Parameter	Frequency	Sample Type
Temperature	C	On-line

* The Owner shall install a continuous/on-line monitoring station with proper approval that is independent of the Seaway Authority in terms of maintaining the monitoring equipment and retrieving the necessary data or the wet well header temperature can be representative of the intake water temperature measurement.

Sewage Works Serving JBL Glucose Plant

The Once-Through Non-contact Cooling Water effluent

Each Discharge Line from the Sewage Works located within the JBL Glucose Plant portion of the site*		
Effluent Parameter	Frequency	Sample Type
Total Residual Chlorine (TRC), Dissolved Oxygen	1.) Every eight (8) hours during the first week of shock treatment period for zebra mussel control; 2.) D - during remainder of the shock treatment; 3.) D - for one (1) week after discontinuation of chlorination for zebra mussel control; 4.) W - during low level chlorination for algae and slime control.	Grab

*During chlorination for zebra mussel control as well as for algae and slime control

Non-contact Cooling Water Discharge		
Effluent Parameter	Frequency	Sample Type
Temperature*	C	On-line

*The Owner shall monitor the Temperature of the final once-through non-contact cooling water discharge on a continuous basis:

Stormwater Management Works Serving JBL Glucose Acid Plant

Effluent Stormwater Monitoring Locations		
1.) Invertose Drive roadside ditch (upstream of the site) 2) Outlet D (during discharge events discharging to the Invertose Drive roadside ditch) and, 3) Invertose Drive roadside ditch (downstream of the site)		
Effluent Parameter	Frequency	Sample Type
BOD ₅ , Total Suspended Solids, Total Phosphorus, Total Kjeldahl Nitrogen, Total Ammonia Nitrogen, field pH, field Temperature, Un-ionized Ammonia (calculated), Nitrite Nitrogen, Nitrate Nitrogen	1.) Once in the 1 st and 4 th quarters and 2.) Twice in the 2 nd and 3 rd quarters	Grab

Schedule F

Welland Canal Receiving Water Monitoring Program

Canal Monitoring at Transects 1* and 3**		
Effluent Parameters	Frequency	Sample Type
Temperature, Dissolved Oxygen and pH	SA	Grab

* Transect 1, Station M

- upstream of the Plant combined effluent discharge point (as per supporting document titled "Baseline Aquatic Study for Proposed Citric Acid Production Facility on the Welland Canal dated December 8, 1999" Figure 2);
- at approximately the mid-point of the Canal width; and
- at three equally spaced depths in the water column.

** Transect 3, Station R

- downstream of the Plant combined effluent discharge point (as per supporting document titled "Baseline Aquatic Study for Proposed Citric Acid Production Facility on the Welland Canal dated December 8, 1999" Figure 2);
- directly north of the effluent diffuser location; and
- at three equally spaced depths in the water column

Schedule G

Limited Operational Flexibility Criteria for Modifications to Industrial Sewage Works

1. The modifications to sewage works approved under an Environmental Compliance Approval (Approval) that are permitted under the Limited Operational Flexibility (LOF), are outlined below and are subject to the LOF Conditions in the Approval, and require the submission of the Notice of Modifications. If there is a conflict between the sewage works listed below and the Terms and Conditions in the Approval, the Terms and Conditions in the Approval shall take precedence.

1.1 Sewage Pumping Stations

- a. Adding or replacing equipment where new equipment is located within an existing sewage treatment plant site or an existing sewage pumping station site, provided that the facility Rated Capacity is not exceeded and the existing flow process and/or treatment train are maintained, as applicable.

1.2 Sewage Treatment Process

- a. Installing additional chemical dosage equipment including replacing with alternative chemicals for pH adjustment or coagulants (non-toxic polymers) provided that there are no modifications of treatment processes or other modifications that may alter the intent of operations and may have negative impacts on the effluent quantity and quality.
- b. Expanding the buffer zone between a sanitary sewage lagoon facility or land treatment area and adjacent uses provided that the buffer zone is entirely on the proponent's land.
- c. Optimizing existing sanitary sewage lagoons with the purpose to increase efficiency of treatment operations provided that existing sewage treatment plant Rated Capacity is not exceeded and where no land acquisition is required.
- d. Optimizing existing sewage treatment plant equipment with the purpose to increase the efficiency of the existing treatment operations, provided that there are no modifications to the works that result in an increase of the approved Rated Capacity, and may have adverse effects to the effluent quality or location of the discharge.

- e. Replacement, refurbishment of previously approved equipment in whole or in part with Equivalent Equipment, like-for-like of different make and model, provided that the firm capacity, reliability, performance standard, level of quality and redundancy of the group of equipment is kept the same. For clarity proposes, the following equipment can be considered under this provision: pumps, screens, grit separators, blowers, aeration equipment, sludge thickeners, dewatering equipment, UV systems, chlorine contact equipment, bio-disks, and sludge digester systems.

1.3 Sewage Treatment Plant Outfall

- a. Replacement of discharge pipe with similar pipe size and diffusers provided that the outfall location is not changed.

1.4 Sanitary Sewers

- a. Pipe relining and replacement with similar pipe size within the Sewage Treatment Plant site, where the nominal diameter is not greater than 1,200 millimetre.

1.5 Pilot Systems

- a. Installation of pilot systems for new or existing technologies provided that:
 - (i) any effluent from the pilot system is discharged to the inlet of the sewage treatment plant or hauled off-site for proper disposal;
 - (ii) any effluent from the pilot system discharged to the inlet of the sewage treatment plant or sewage conveyance system does not significantly alter the composition/concentration of the influent sewage to be treated in the downstream process; and that it does not add any inhibiting substances to the downstream process, and
 - (iii) the pilot system's duration does not exceed a maximum of two years; and a report with results is submitted to the Director and District Manager three months after completion of the pilot project.
- 2. Sewage works that are exempt from section 53 of the OWRA by O. Reg. 525/98 continue to be exempt and are not required to follow the notification process under this Limited Operational Flexibility.
- 3. Normal or emergency operational modifications, such as repairs, reconstructions, or other improvements that are part of maintenance activities, including cleaning, renovations to existing approved sewage works equipment, provided that the modification is made with Equivalent Equipment, are considered pre-approved.

4. The modifications noted in section (3) above are not required to follow the notification protocols under Limited Operational Flexibility, provided that the number of pieces and description of the equipment as described in the Approval does not change.

Notice of Modification to Sewage Works

RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA AND SEND A COPY TO THE WATER SUPERVISOR (FOR MUNICIPAL) OR DISTRICT MANAGER (FOR NON-MUNICIPAL SYSTEMS)

Part 1 – Environmental Compliance Approval (ECA) with Limited Operational Flexibility <i>(Insert the ECA's owner, number and issuance date and notice number, which should start with "01" and consecutive numbers thereafter)</i>		
ECA Number	Issuance Date (mm/dd/yy)	Notice number (if applicable)
ECA Owner		Municipality

Part 2: Description of the modifications as part of the Limited Operational Flexibility <i>(Attach a detailed description of the sewage works)</i>
<p>Description shall include:</p> <ol style="list-style-type: none"> 1. A detail description of the modifications and/or operations to the sewage works (e.g. sewage work component, location, size, equipment type/model, material, process name, etc.) 2. Confirmation that the anticipated environmental effects are negligible. 3. List of updated versions of, or amendments to, all relevant technical documents that are affected by the modifications as applicable, i.e. submission of documentation is not required, but the listing of updated documents is (design brief, drawings, emergency plan, etc.)

Part 3 – Declaration by Professional Engineer	
<p>I hereby declare that I have verified the scope and technical aspects of this modification and confirm that the design:</p> <ol style="list-style-type: none"> 1. Has been prepared or reviewed by a Professional Engineer who is licensed to practice in the Province of Ontario; 2. Has been designed in accordance with the Limited Operational Flexibility as described in the ECA; 3. Has been designed consistent with Ministry's Design Guidelines, adhering to engineering standards, industry's best management practices, and demonstrating ongoing compliance with s.53 of the Ontario Water Resources Act; and other appropriate regulations. <p>I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate</p>	
Name (Print)	PEO License Number
Signature	Date (mm/dd/yy)
Name of Employer	

Part 4 – Declaration by Owner	
<p>I hereby declare that:</p> <ol style="list-style-type: none"> 1. I am authorized by the Owner to complete this Declaration; 2. The Owner consents to the modification; and 3. This modifications to the sewage works are proposed in accordance with the Limited Operational Flexibility as described in the ECA. 4. The Owner has fulfilled all applicable requirements of the <i>Environmental Assessment Act</i>. <p>I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate</p>	
Name of Owner Representative (Print)	Owner representative's title (Print)
Owner Representative's Signature	Date (mm/dd/yy)

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 9565-BWHK7Z issued on March 31, 2021.

In accordance with Section 139 of the *Environmental Protection Act*, you may by written notice served upon me, the Ontario Land Tribunal and in accordance with Section 47 of the *Environmental Bill of Rights, 1993*, the Minister of the Environment, Conservation and Parks, within 15 days after receipt of this notice, require a hearing by the Tribunal. The Minister of the Environment, Conservation and Parks will place notice of your appeal on the Environmental Registry. Section 142 of the *Environmental Protection Act* provides that the notice requiring the hearing ("the Notice") shall state:

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the *Environmental Protection Act*, a hearing may not be available with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

Registrar*
Ontario Land Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5
OLT.Registrar@ontario.ca

and

The Minister of the Environment,
Conservation and Parks
777 Bay Street, 5th Floor
Toronto, Ontario
M7A 2J3

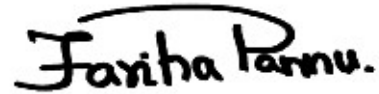
and

The Director appointed for the purposes of
Part II.1 of the *Environmental Protection Act*
Ministry of the Environment,
Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

* Further information on the Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or www.olt.gov.on.ca

This instrument is subject to Section 38 of the *Environmental Bill of Rights*, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at <https://ero.ontario.ca/>, you can determine when the leave to appeal period ends.

The above noted activity is approved under s.20.3 of Part II.1 of the *Environmental Protection Act*.
DATED AT TORONTO this 4th day of October, 2023



Fariha Pannu, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

KH/
c: District Manager, MECP Niagara District.
Joseph Tetreault, EcoMetrix Incorporated.
Dave Ellis, P.Eng., Azura Associates