

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 2821-CW5NJ4
Issue Date: December 20, 2023

De Beers Canada Inc.
1601 Airport Rd NE, No. 300
Calgary, Alberta
T2E 6Z8

Site Location: Victor Diamond Mine
Victor Project Site 52.8031° N, 83.8906° W, 90 to 100 kilometres west of the Community of Attawapiskat
Unsurveyed Territory (Timmins District Office) Unorganized Area, District of Kenora, Ontario
P0L 1A0

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:

the establishment, usage and operation of Proposed Works in two stages for the treatment of greywater from a temporary work camp accommodating up to 100 persons via a temporary greywater treatment system (WETT-G) with a Rated Capacity of 15,000 litres per day (7,500 litres per day for each stage), and disposal of treated effluent to the pit lake via pipelines, located at the above site location and consisting of the following:

PROPOSED WORKS

Influent Storage Tank

- one (1) proposed minimum 10,000 litre greywater influent storage tank to be installed in Stage 1, receiving raw greywater from the KDR (kitchen, dining, recreation), BOOT (boot room), wash tent and toilet sinks at the site via four (4) sets of sumps, pumps (with a shared standby pump) and forcemains dedicated to each facility described above, equipped with level sensing apparatus and an alarm system, discharging via a feed pump to the WETT-G greywater treatment system described below (or to the overflow bladder described below under peak flow conditions in Stage 2);

Overflow Bladder

- one (1) proposed minimum 25,000 litre overflow bladder to be installed in Stage 2, receiving excessive raw greywater from the influent storage tank by gravity and discharging back to the influent storage tank via a pump as capacity allows;

WETT-G Greywater Treatment System

- two (2) proposed WETT-G greywater treatment units to be installed in two stages, with Stage 1 to include one (1) unit designed to accommodate up to 50 persons, and Stage 2 to include the other unit to accommodate the remaining population up to 50 persons (100 persons in total), if and as needed;
- each unit to have a Rated Capacity of 7,500 litres per day and a maximum treatment capacity of 10,000 litres per day, consisting of an electrocoagulation unit, a turbidity removal unit and a final polishing unit, receiving raw greywater from the influent storage tank and discharging via a pump to the disinfection system as described below;

Disinfection System

- one (1) disinfection system to be installed for each stage, consisting of a perforated/mesh cage that contains calcium hypochlorite pucks (or approved equivalent chemical), an inline static mixer and a minimum 800 litre chlorine contact tank, discharging chlorinated effluent to the proposed dechlorination system as described below;

Dechlorination System

- one (1) dechlorination system to be installed for each stage, consisting of a perforated/mesh cage that contains sodium sulphite pucks (or approved equivalent chemical), an inline static mixer and a minimum 30 litre dechlorination contact tank, discharging dechlorinated final effluent to the proposed effluent storage tank as described below;

Effluent Storage Tank

- one (1) proposed minimum 10,000 litre effluent storage tank to be installed in Stage 1, equipped with level sensing apparatus, receiving treated effluent from the dechlorination system and discharging to the pit lake via a proposed pump and pipelines;

Sludge Management System

- one (1) proposed 1,000 litre sludge storage tote to be installed in Stage 1, equipped with level sensing apparatus, receiving sludge from the WETT-G greywater treatment system, discharging via a pump to a proposed bag dewatering system as described below;
- one (1) proposed TEKNOBAG-DRAIMAD bag dewatering system or Equivalent Equipment for

both stages, receiving pumped sludge from the storage tote with filtrate to be pumped back to the influent storage tank and final thickened waste sludge to be flown off-site for final disposal at a Ministry approved facility;

EXISTING WORKS

(To be decommissioned and removed upon commissioning of the Proposed Works)

an existing sewage treatment plant installed to service a peak workforce of up to 880 persons (up to 650 persons from the Phase 2 construction camp, plus up to 230 persons for the commissioning and operations phases), having a Rated Capacity of approximately 250 cubic metres per day, or 284 litres per day per person, together with intermittent and limited quantities of bioremediation oil/water separator effluent, air compressor condensate, and incinerator scrubber blowdown water, consisting of the following:

- one (1) package membrane bioreactor (MBR) sewage treatment plant (Sanitherm Technology) capable of handling an average daily flow of approximately 184.5 cubic metres per day to service the peak 650 person construction workforce;
- a second smaller package MBR sewage treatment plant (Sanitherm Technology), operating alone or in tandem with the larger plant, capable of handling an average daily flow of approximately 65.5 cubic metres per day to service a mine commissioning and operations workforce of 230 persons;
- with each of the two plants separately consisting of a dedicated aerated flow equalization (EQ) tank, an anoxic tank to provide for both de-nitrification and biological demand (BOD) reduction, a membrane bioreactor, an alum dosing pump and solution tank (for phosphorus reduction), ultraviolet (UV) disinfection, and an effluent discharge sump;
- with combined components to service both plants together, consisting of a sludge digestion system, a polymer blending system, and a sludge press;
- all associated appurtenances, piping, ventilation, electrical, instrumentation and control systems, with all components for both plants to be housed within one or more, pre-engineered buildings; and,
- with the treated water discharged through the rerouted pipeline to the processed kimberlite tailings cell (not considered part of the sewage treatment plant system), and the pressed sludge to be incinerated on site (also not considered part of the sewage treatment plant system);

all other controls, electrical equipment, instrumentation, piping, pumps, valves and appurtenances essential for the proper operation of the aforementioned Works;

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

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

1. "Annual Average Daily Influent 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;
2. "Approval" means this environmental compliance approval and any schedules attached to it;
3. "BOD5" (also known as TBOD5) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demand;
4. "CBOD5" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;
5. "Composite Sample" means a sample made up of at least 24 individual samples taken approximately one (1)-hour apart, collected over a time period of 24 consecutive hours;
6. "Daily Concentration" means the concentration of a contaminant in the effluent discharged over any single day, as measured by a composite or grab sample, whichever is required;
7. "Director" means a person appointed by the Minister pursuant to section 5 of the EPA for the purposes of Part II.1 of the EPA;
8. "District Manager" means the District Manager of the appropriate local district office of the Ministry where the Works is geographically located;
9. "*E. coli*" refers to coliform bacteria that possess the enzyme beta-glucuronidase and are capable of cleaving a fluorogenic or chromogenic substrate with the corresponding release of a fluorogen or chromogen, that produces fluorescence under long wavelength (366 nm) UV light, or color development, respectively. Enumeration methods include tube, membrane filter, or multi-well procedures. Depending on the method selected, incubation temperatures include $35.5 + 0.5$ °C or $44.5 + 0.2$ °C (to enumerate thermotolerant species). Depending on the procedure used, data are reported as either colony forming units (CFU) per 100 mL (for membrane filtration methods) or as most probable number (MPN) per 100 mL (for tube or multi-well methods);
10. "EPA" means the *Environmental Protection Act*, R.S.O. 1990, c.E.19, as amended;
11. "Equivalent Equipment" means alternate piece(s) of equipment that meets the design requirements and performance specifications of the piece(s) of equipment to be substituted;
12. "Existing Works" means those portions of the Works included in the Approval that have been constructed previously;
13. "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

Works at the Final Effluent sampling point(s);

14. "Grab Sample" or "Grab" means an individual sample of at least 1000 millilitres collected in an appropriate container at a randomly selected time over a period of time not exceeding 15 minutes;
15. "Licensed Engineering Practitioner" means a person who holds a licence, limited licence or temporary licence under the Professional Engineers Act, R.S.O. 1990, c. P.28;
16. "Limited Operational Flexibility" (LOF) means the conditions that the Owner shall follow in order to undertake any modification that is pre-authorized as part of this Approval;
17. "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;
18. "Monthly Average Effluent Concentration" is the mean of all Daily Concentrations of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar month;
19. "Monthly Geometric Mean Density" is the mean of all Single Sample Results of *E.coli* measurement in the samples taken during a calendar month, calculated and reported as per the methodology specified in Schedule F;
20. "Notice of Modifications" means the form entitled "Notice of Modifications to Sewage Works";
21. "Owner" means De Beers Canada Inc., and includes its successors and assignees;
22. "OWRA" means the *Ontario Water Resources Act* , R.S.O. 1990, c. O.40, as amended;
23. "Proposed Works" means those portions of the Works included in the Approval that are under construction or to be constructed;
24. "Rated Capacity" means the Annual Average Daily Influent Flow for which the Works is designed to handle;
25. "Single Sample Result" means the test result of a parameter in the effluent discharged on any day, as measured by a probe, analyzer or in a composite or grab sample, as required;
26. "Works" means the approved sewage works, and includes Proposed Works, Existing Works and modifications made under Limited Operational Flexibility.

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 PROVISIONS

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 terms and conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
2. The Owner shall design, construct, operate and maintain the Works in accordance with the conditions of this Approval.
3. Where there is a conflict between a provision of any document referred to in this Approval and the conditions of this Approval, the conditions in this Approval shall take precedence.
4. The issuance of, and compliance with the conditions of, this Approval does not:
 - a. relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement, including, but not limited to, the obligation to obtain approval from the local conservation authority, Fisheries and Oceans Canada (DFO) and Ministry of Northern Development, Mines, Natural Resources and Forestry necessary to construct or operate the Works; or
 - b. limit in any way the authority of the Ministry to require certain steps be taken to require the Owner to furnish any further information related to compliance with this Approval.

2. EXPIRY OF APPROVAL

1. This Approval will cease to apply to those parts of the Works which have not been constructed within **five (5) years** of the date of this Approval.
2. In the event that completion and commissioning of any portion of the Works is anticipated to be more than five (5) years, the Owner shall submit an application for extension at least **twelve (12) months** prior to the end of the five (5) years from the day of issuance of this Approval. The application shall include the reason(s) for the delay, whether there is any design change(s) and a review of whether the standards applicable at the time of Approval of the Works are still applicable at the time of request for extension, to ensure the ongoing protection of the environment.

3. CHANGE OF OWNER

1. The Owner shall notify the District Manager and the Director, in writing, of any of the following

changes within **thirty (30) days** of the change occurring:

- a. change of address of Owner;
 - b. change of Owner, including address of new owner;
 - c. change of partners where the Owner is or at any time becomes a partnership, and a copy of the most recent declaration filed under the *Business Names Act, R.S.O. 1990, c. B.17* shall be included in the notification; or
 - d. change of name of the corporation, and a copy of the most current information filed under the *Corporations Information Act, R.S.O. 1990, c. C39* shall be included in the notification.
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 and the Director.
 3. The Owner shall ensure that all communications made pursuant to this condition refer to the number of this Approval.

4. CONSTRUCTION OF PROPOSED WORKS

1. Upon completion of construction of the Proposed Works, the Owner shall prepare a statement, certified by a Licensed Engineering Practitioner, that the Works are constructed in accordance with this Approval, and upon request, shall make the written statement available for inspection by Ministry personnel.
2. **One (1) week** prior to the commencement of the operation of the Proposed Works, the Owner shall notify the District Manager (in writing) of the pending start-up date.
3. Within **three (3) months** of the construction of the Proposed Works, a set of as-built drawings showing the Works “as constructed” shall be prepared. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be retained at the Works for the operational life of the Works.

5. EFFLUENT OBJECTIVES

1. The Owner shall design and undertake everything practicable to operate the Works in accordance with the following objectives:
 - a. Final Effluent parameters design objectives listed in the Tables 1 and 2 included in **Schedule B**.
 - b. In the event of an exceedence of the total residual chlorine objective set out in Paragraph a, the Owner shall:

- i. notify the District Manager as soon as possible during normal working hours;
 - ii. take immediate action to identify the source of contamination; and
 - iii. take immediate action to prevent further exceedence.
- c. 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 discoloration on the receiving waters.
- d. Annual Average Daily Influent Flow is within the Rated Capacity of the Works.

6. COMPLIANCE LIMITS

1. The Owner shall operate and maintain the Works such that compliance limits for the Final Effluent parameters listed in the table included in **Schedule C** are met.
2. The Owner shall operate and maintain the Works such that the Final Effluent is disinfected continuously year-round.

7. OPERATIONS AND MAINTENANCE

1. 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 Works do not constitute a safety or health hazard to the general public.
2. The Owner shall ensure that, at all times, the Works and the related equipment and appurtenances used to achieve compliance with this Approval are properly operated and maintained. Proper operation and maintenance shall include appropriate process controls, effective performance, adequate laboratory facilities, adequate staffing and training, including training in all procedures and other requirements of this Approval and the OWRA and relevant regulations made under the OWRA.
3. The Owner shall prepare an operations manual prior to the commencement of operation of the Works that includes, but is not necessarily limited to, the following information:
 - a. operating and maintenance 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 receiving, responding and recording public complaints, including recording any follow-up actions taken.
4. The Owner shall maintain an up to date operations manual and make the manual readily accessible for reference at the Works for the operational life of the Works. Upon request, the Owner shall make the manual available to Ministry staff.
 5. The Owner shall provide for the overall operation of the Works with an operator who holds a licence that is applicable to that type of facility and that is of the same class as or higher than the class of the facility in accordance with Ontario Regulation 129/04.
 6. The Owner shall carry out and maintain an annual inspection and maintenance program on the operation of the oil/grit separators in accordance with the manufacturer's recommendation.
 7. In furtherance of, but without limiting the generality of the obligation imposed by subsection 2, the Owner shall ensure that equipment and material for the containment, clean-up and disposal of contaminants are kept on hand and in good repair for immediate use in the event of:
 - a. upset;
 - b. bypass;
 - c. abnormal loss of contaminants to the environment or interior of any building;
 - d. a spill within the meaning of Part X of the EPA.
 8. The Owner shall maintain a logbook to record the results of all inspections, repair and maintenance undertaken, calibrations, monitoring and spill response or contingency measures undertaken and shall make the logbook available for inspection by Ministry staff. The logbook shall include the following:
 - a. the name of the operator making the entry; and
 - b. the date and results of each inspection, repair, maintenance, calibration, monitoring, spill response and contingency measure.
 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 operation and maintenance activities required by this Approval.

8. EFFLUENT MONITORING AND RECORDING

1. The Owner shall, upon commencement of operation of the Works, carry out the scheduled monitoring program of collecting samples at the required sampling location, at the frequency specified or higher, by means of the specified sample type and analyzed for each parameter listed in the tables included in

Schedule D and record all results, as follows:

- a. 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.
 - b. definitions and preparation requirements for each sample type are included in the document referenced in Paragraph 2.a.
 - c. definitions for frequency:
 - i. Weekly means once every week during operation of the Works;
 - ii. Monthly means once every month during operation of the Works;
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 publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater Version 2.0" (January 2016), PIBS 2724e02, as amended;
 - b. the publication "Standard Methods for the Examination of Water and Wastewater", as amended; and
 - c. for any parameters not mentioned in the documents referenced in Paragraphs 2.a and 2.b, the written approval of the District Manager shall be obtained prior to sampling.
3. When collecting grab samples for total ammonia, the temperature and pH of the effluent from the Works shall be determined in the field at the time of sampling. The concentration of un-ionized ammonia shall be calculated using the pH, temperature, and total ammonia concentration, as per the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended, for un-ionized ammonia.
4. The parameters and measurement frequencies specified in subsections 2 through 4 are the minimum requirements which may be modified by the Director in writing from time to time.
5. The Owner shall install and maintain continuous flow measuring device, to measure the flowrate of the effluent from the Works with an accuracy to within plus or minus 15 per cent (+/- 15%) of the actual flowrate for the entire design range of the flow measuring device, and record the daily flow rate.
6. 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 Condition 7 and other conditions in this Approval.

9. REPORTING

1. The Owner shall report to the District Manager orally **as soon as reasonably possible** any non-compliance with the compliance limits, and in writing within **fourteen (14) days** of non-compliance.
2. In addition to the obligations under Part X of the EPA and O. Reg. 675/98 (Classification and Exemption of Spills and Reporting of Discharges) made under the EPA, the Owner shall, within **fifteen (15) days** of the occurrence of any reportable spill as provided in Part X of the EPA and O. Reg. 675/98, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill, clean-up and recovery measures taken, preventative measures to be taken and a schedule of implementation.
3. The Owner shall, upon request, make all reports, manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.
4. The Owner shall prepare performance reports on a calendar year basis and submit to the District Manager in an electronic format by **March 31** of each calendar year following the first year when operations commence. The reports shall contain, but shall not be limited to, the following information pertaining to the reporting period:
 - a. a summary and interpretation of all effluent monitoring data collected in accordance with Condition 8, including concentrations, flow rates and a comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;
 - b. a description of efforts made and results achieved in meeting the effluent objective outlined in Condition 5.
 - c. a summary of all operating issues encountered and corrective actions taken.
 - d. a summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the Works;
 - e. a summary of any effluent quality assurance or control measures undertaken;
 - f. a summary of the calibration and maintenance carried out on the effluent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in this Approval or recommended by the manufacturer;
 - g. a copy of all Notice of Modifications submitted to the District Manager as a result of **Schedule E**, Section 1, with a status report on the implementation of each modification;
 - h. a report summarizing all modifications completed as a result of **Schedule E**, Section 3;

- i. a summary of any complaints received and any steps taken to address the complaints;
- j. a summary of all spills within the meaning of Part X of EPA and abnormal discharge events; and
- k. any other information the District Manager requires from time to time.

10. 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 E** of this Approval, as amended.
2. 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 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. Condition 1.4 is included to emphasize that the issuance of this Approval does not diminish any other statutory and regulatory obligations to which the Owner is subject in the construction, maintenance and operation of the Works. The condition specifically highlights the need to obtain any necessary approvals from other authorities indicated herein. The Condition also emphasizes the fact that this Approval doesn't limit the authority of the Ministry to require further information.
2. Condition 2 regarding expiry of approval is included to ensure that, when the Works are constructed, the Works will meet the standards that apply at the time of construction to ensure the ongoing protection of the environment.
3. Condition 3 regarding change of Owner is included to ensure that the Ministry records are kept accurate and current with respect to ownership and Operating Authority of the 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.
4. Condition 4 regarding construction of Proposed Works is included to ensure that the Works are constructed in accordance with the approval and that record drawings of the Works "as constructed" are maintained for future references.
5. Condition 5 regarding effluent objectives is imposed to establish non-enforceable effluent quality objectives which the Owner is obligated to use best efforts to meet on an ongoing basis. Also imposed are procedures to be followed to minimize environmental impact in the event the objectives are exceeded.
6. Condition 6 regarding effluent limits is imposed to ensure that the effluent discharged from the Works meets the Ministry's effluent quality requirements, as specified, on a continuous basis, thus minimizing environmental impact on the receiver.
7. Condition 7 regarding operations and maintenance is included to require that the Works be properly operated, maintained, funded, staffed and equipped such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented. As well, the inclusion of a comprehensive

operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner. 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.

8. Condition 8 regarding effluent monitoring and recording is included to enable the Owner to evaluate and demonstrate the performance of the Works, on a continual basis, so that the Works are properly operated and maintained at a level which is consistent with the design objectives and compliance limits
9. Condition 9 regarding reporting is included to provide a performance record for future references, to ensure that the Ministry is made aware of problems as they arise, and to provide a compliance record for this Approval.
10. Condition 10 regarding Limited Operational Flexibility is included to ensure that the Works are constructed, maintained and operated in accordance with the Approval, and that any pre-approved modification will not negatively impact on the performance of the Works.

Schedule A

1. Application for Environmental Compliance Approval for Industrial Sewage Works, dated February 3, 2023 and received on September 7, 2023, submitted by De Beers Canada Inc., including the design brief, engineering drawings and all other supporting documentation enclosed.
2. Letter re: Victor 100-Person Camp, Grey Water Disposal, Supplemental to March 2, 2023 Amendment Application for ECA 5131-CADPL5, dated May 9, 2023 and prepared by Dave Simms, P.Eng. of WSP.
3. Letter re: Victor Diamond Mine Draft Amendment ECA for Temporary Greywater Treatment Plant - Review and Response Comments, dated June 23, 2023 and prepared by Lars Sterne, P.Eng. of WSP.
4. Updated drawings (T01, C101 and P001) re. Victor Mine Camp Greywater Treatment, dated November 2023 and prepared by WSP.
5. Contact Volume Requirement for Victor Mine Greywater Treatment for Chlorine Disinfection and Dechlorination, dated November 24, 2023 and prepared by WSP.

Schedule B

Table 1 - Final Effluent Design Objectives for Proposed Works
(WETT-G Greywater Treatment System)

Final Effluent Parameter	Averaging Calculator	Objective (milligrams per litre unless otherwise indicated)
CBOD5	Daily Concentration	15
Total Suspended Solids	Daily Concentration	15
Nitrate Nitrogen	Daily Concentration	10
Nitrite Nitrogen	Daily Concentration	1.0
Total Ammonia Nitrogen	Daily Concentration	2.0
Total Phosphorus	Daily Concentration	0.3
Total Residual Chlorine	Daily Concentration	0.02
<i>E. coli</i>	Monthly Geometric Mean Density	100 CFU/100 mL*
pH	Single Sample Result	6.5 - 8.5 inclusive

*If the MPN method is utilized for *E. coli* analysis the objective shall be 100 MPN/100 mL.

Table 2 - Final Effluent Design Objectives for Existing Works
(MBR Sewage Treatment Plant)

Final Effluent Parameter	Averaging Calculator	Objective (milligrams per litre unless otherwise indicated)
CBOD5	Daily Concentration	15
Total Suspended Solids	Daily Concentration	15
Nitrate Nitrogen	Daily Concentration	10
Nitrite Nitrogen	Daily Concentration	1.0
Total Ammonia Nitrogen	Daily Concentration	2.0
Total Phosphorus	Daily Concentration	0.3
<i>E. coli</i>	Monthly Geometric Mean Density	100 CFU/100 mL*
pH	Single Sample Result	6.5 - 8.5 inclusive

*If the MPN method is utilized for *E. coli* analysis the objective shall be 100 MPN/100 mL.

Schedule C

Table 3 - Final Effluent Compliance Limits
(Applicable to both Proposed Works and Existing Works)

Final Effluent Parameter	Averaging Calculator	Limit (maximum unless otherwise indicated; milligrams per litre unless otherwise indicated)
CBOD5	Monthly Average Effluent Concentration	25
Total Suspended Solids	Monthly Average Effluent Concentration	15
	Daily Concentration	30
<i>E. coli</i>	Monthly Geometric Mean Density	200 CFU/100 mL*
pH	Single Sample Result	6.0 - 9.5 inclusive

*If the MPN method is utilized for *E. coli* analysis the objective shall be 200 MPN/100 mL.

Schedule D

Monitoring Program

Table 4 - Influent

(Proposed Works: influent storage tank upstream of the WETT-G system)

(Existing Works: inlet pipe to the MBR sewage treatment plant)

Parameters	Sample Type	Minimum Frequency
BOD5	Composite	Monthly
Total Suspended Solids	Composite	Monthly
Total Phosphorus	Composite	Monthly
Total Ammonia Nitrogen	Composite	Monthly

Table 5 - Effluent

(Proposed Works: effluent storage tank downstream of the WETT-G system)

(Existing Works: discharge pipe of the MBR sewage treatment plant)

Parameters	Sample Type	Minimum Frequency
CBOD5	Composite	Weekly
Total Suspended Solids	Composite	Weekly
Total Phosphorus	Composite	Weekly
Total Ammonia Nitrogen	Composite	Weekly
Nitrate as Nitrogen	Composite	Weekly
Nitrite as Nitrogen	Composite	Weekly
<i>E. coli</i>	Grab	Weekly
Total Residual Chlorine*	Grab	Weekly
pH**	Grab	Weekly
Temperature**	Grab	Weekly
Un-ionized Ammonia**	As Calculated	Weekly

* Applicable to Proposed Works only.

** See Condition 8.3 for specific sampling and calculation requirements.

Schedule E

Limited Operational Flexibility Criteria for Modifications to Works

1. The modifications to 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 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. Alter pumping capacity by 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 modifications do not result in an increase of the sewage treatment plant Rated Capacity and the existing flow process and/or treatment train are maintained, as applicable.
 - b. Forcemain relining and replacement with similar pipe size where the nominal diameter is not greater than 1,200 mm.
 - 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 or exceeded. For clarity purposes, 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 or 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 mm.

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.

1.6 Tailings Management Facilities

- a. Routine dam raises and dam extensions to allow continued management of tailings and storage of mineral materials and sewage, provided that:
 - i. Routine dam raises and extensions are in adherence with a tailings management plan prepared by a Licensed Engineering Practitioner.
 - ii. Routine dam raises and extensions are sealed by a Licensed Engineering Practitioner.
 - iii. Routine dam raises and extensions have an associated Erosion and Sediment Control Plan applying best management practices that is to be implemented during construction.
- b. New dams are not eligible under LOF, unless described in an Amended Environmental Compliance Approval.

- c. Pipe replacement or extension with similar pipe size within the Tailings Management area, where the nominal diameter is not greater than 1,200 mm.
2. 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 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.

This page contains an image of the form entitled "Notice of Modification to Sewage Works". A digital copy can be obtained from the District Manager.



Ontario

Ministry of the Environment, Conservation and Parks

Notice of Modification to Sewage Works

RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA ON-SITE PRIOR TO THE SCHEDULED IMPLEMENTATION DATE.

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)

Schedule F

Methodology for Calculating and Reporting Monthly Geometric Mean Density

Geometric mean is defined as the n^{th} root of the product of n numbers. In the context of calculating Monthly Geometric Mean Density for *E. coli*, the following formula shall be used:

$$\sqrt[n]{x_1 x_2 x_3 \cdots x_n}$$

in which,

" n " is the number of samples collected during the calendar month; and

" x " is the value of each Single Sample Result.

For example, four weekly grab samples were collected and tested for *E. coli* during the calendar month. The *E. coli* densities in the Final Effluent were found below:

Sample Number	<i>E. coli</i> Densities* (CFU/100 mL)
1	10
2	100
3	300
4	50

The Geometric Mean Density for these data:

$$\sqrt[4]{10 \times 100 \times 300 \times 50} = 62$$

*If a particular result is zero (0), then a value of one (1) will be substituted into the calculation of the Monthly Geometric Mean Density. If the MPN method is utilized for *E. coli* analysis, values in the table shall be MPN/100 mL.

**Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s).
5131-CADPL5 issued on January 12, 2022.**

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

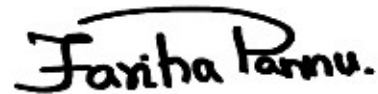
and

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 20th day of December, 2023



Fariha Pannu, P.Eng.

Director

appointed for the purposes of Part II.1 of the
Environmental Protection Act

SW/

c: District Manager, MECP Timmins District Office
Sarah McLean, De Beers Canada Inc.