Statutory Instrument 132 of 2020.

Epworth (Water Pollution and Trade Effluent Control) By-laws, 2020

ARRANGEMENT OF SECTIONS

Section

IT is hereby notified that the Minister of Public Works and National Housing has, in terms of section 229 of the Urban Councils Act [*Chapter 29:15*], approved the following by-laws made by the Epworth Local Board:—

Title

1. These by-laws may be cited as the Epworth (Water Pollution and Trade Effluent Control) By-laws, 2020.

Application

2. These by-laws shall apply to the area under the jurisdiction of the Epworth Local Board.

Interpretation

3. In these by-laws—

   "Act" means the Urban Councils Act [*Chapter 29:15*];

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"Board" means the Epworth Local Board;

"designated officer" means any person employed by the Board and authorised to carry out any functions in terms of these by-laws;

"private drain" means a conduit for conveyance of storm-water or any surface subsoil or spring water from one premises to a public drain;

"private sewer" means, a sewer, exclusive of waste pipes soil pipes and vent pipes, for the purpose of conveying to a combined private sewer, a public sewer or a conserving tank or other receptacle the sewage from one premises and includes all other things necessary in connection therewith;

"public drain" means a conduit vested in, under the control of or used by Municipality or town for the conveyance of storm water or any surface, subsoil or spring water and includes all other things necessary in connection therewith;

"public sewer" means a sewer vested in or under the control of or used by a municipality or town into which is discharged or intended to be discharged sewage from private sewers or combined private sewers and includes pipes, manholes, chambers, ventilating shafts, ejectors, sluices and all other things necessary in connection therewith;

"public stream" has the meaning given to it in section 2 of the Water Act [*Chapter 20:24*];

"sewage" includes trade effluents;

"sewage works" includes reservoirs, tanks, strainers, filters beds, ponds, engines, pumps, machinery, buildings, lands and all other works and things except public sewers which are necessary for the treatment and disposal of sewage;

"storm-water" means all flow of water directly due to rainfall before such water joins a public stream';

"trade effluent" means any liquid with or without particles of matter suspended therein which is produced either wholly or in part or results from or has been or was intended to be used in any trade or business or commercial, manufacturing or industrial process.

Pre-treatment facilities

4. (1) Any person involved in the production or manufacturing of commodities resulting in the discharge of trade effluent shall install within his or her business premises, pre-treatment facilities or works, which shall treat the effluent so produced to meet the discharge standards as determined by the Engineer of the Board.

(2) On submission of new or alteration building plans of production process or activities that result in discharge of trade effluent, detailed pre-treatment facilities or works diagrams must be incorporated to the satisfaction of the Engineer of the Board before the plans are approved by Board.

(3) Any pre-treatment facilities or works installed at any commercial or industrial premises shall be duly inspected by the Engineer of the Board, who shall issue a certificate of compliance if the pre-treatment facilities or works are satisfactory following positive conformity tests of the final effluent.

(4) The Board Engineer shall issue, at a prescribed fee, the necessary licence for the discharge of trade effluent into the Municipal sewer and the licence shall be withdrawn whenever the trade effluent fails to meet the discharge standards laid down in the First Schedule.

Pollution abatement facilities

5. (1) Any owner or occupier of a trade premises carrying out any production, manufacturing or industrial process should ensure that such production is done in appropriate building that is provided with the necessary pollution abatement facilities as prescribed by the Board Engineer and discharge the effluent so produced only into the Municipal sewer after the said effluent has been subjected to such treatment so as to meet the discharge standards set out in section 173 (4) of the Act.

(2) Any owner or occupier of trade premises should provide appropriate storage facilities for waste and raw materials with the necessary pollution abatement facilities as prescribed by the Board Engineer.

*Prohibition of discharge of trade effluent and hazardous
substances*

6. (1) No person shall discharge trade effluent into the public sewer unless such trade effluent complies with the standards set.

(2) No person shall cause, permit or allow trade effluent to enter a public storm-water drain or any stream.

(3) No person shall cause, permit or allow to enter any hazardous substances, chemical, oil or a mixture containing oil into the public storm water drain.

(4) No person shall store mineral oils in the open that would result in discharge into the public storm water drain.

(5) No person shall carry out operation in the open that would result in offensive pollutants discharge into the public storm water drain.

(6) No person shall store solid substances in the open that would result in hazardous leachate from the substance discharge into the public storm water drain.

(7) The Board may stop entry of offensives substances into public sewer or public drain by isolating the premises from the public sewer or public drain where any person discharges or puts into or permits to enter a public sewer or public drain any solid, liquid or gaseous substances which is prohibited in the by-laws and may recover expenses incurred by it in stopping such entry.

(8) The Board may repair and make good any damage effected by the discharge of effluent in contravention of subsections (1) and (2) above and recover the expense incurred thereby from the person responsible.

(9) The Board may close down operations of industrial, manufacturing or production process where any person has contravened subsections (1) and (2) of this section until such a time compliance is achieved.

(10) In the event of a spill or accidental discharge the person or persons responsible for the incident shall immediately report the incident to the Board engineer who shall supervise the clean-up process and making good the damage done.

Inspection of premises

7. (1) A designated officer shall have access to trade premises at any reasonable time during the normal business hours for inspection purpose.

(2) Any samples of trade effluent collected from trade premises by a designated officer shall be taken for testing by the Board Engineer or any person duly authorised by him/her for the purpose of compliance to discharge standards and trade effluent tariffs charges.

Trade effluent tariff charges

8. (1) Trade Effluent charges are based on the formular for effluent.

(2) Where the effluent has oxidising agents the effluent tariff charges are based on the "Mogden formula", which include reception conveyance costs and primary treatment costs that are a function of volume. Biological treatment and sludge treatment and disposal costs are a function of both volume and composition. The strength of the effluent is normally measured as the chemical oxygen demand (COD). Sludge treatment charges are based on either the Settle able solids or the total suspended solids in the effluent. Where Settle able solids are used, the COD of the settled effluent is also used.

The formula which is normally applied is—

$$C = R + V + \frac{Ot}{Os} \times B + \frac{St}{Ss} \times S$$

(3) Where C is the charge per m^3—

R is the cost of reception and conveyance per m^3

V is the cost of primary treatment per m^3

Ot is the biological strength (COD) of the trade effluent

Os is the biological strength (COD) of the sewage

B is the cost of biological treatment per m^3

St is the suspended-solids content of the trade effluent

Ss is the suspended-solids content of the sewage

S is the cost of sludge treatment and disposal per m^3

Offences and penalties

9. (1) Any person who—

   (a)   knowingly gives any false information to a designated officer of the Quality Assurance Manager; or

   (b)   unlawfully attempts to obstruct, hinder or prevent or causes to be obstructed, hindered or prevented, a designated officer or the Quality Assurance Manager in the exercise of his or her duties under these by-laws; or

   (c)   contravenes or fails to comply with any of the provisions of these by-laws or fails to comply with any notice, direction, instruction or order issued in terms of these by-laws.

shall be guilty of an offence and liable on conviction to a fine equivalent to level 10 or, in event of default, to imprisonment for a period not exceeding six months. In the case of a continuing offence a further fine, not exceeding level 8 may be imposed for every day during the continuance of the offence.

(2) A conviction for an offence referred to in subsection (1) shall not be a bar to further prosecution(s) for a continuation of the offence:

Provided that a person found guilty of discharging industrial effluent into storm water drain shall be further liable to pay restitution and reparations to Council for the cost incurred in making good the damage, occasioned by stopping entry of offensive substances into public sewer or public drain, removing offensive substances and repairing the damage occasioned.

First Schedule (*Section 4*)

DISCHARGE STANDARDS

Discharge Standards into the sewer
Unit mg/l(unless otherwise stated)

ITEM	CONCENTRATION
Total suspended solids (mg/l)	600
BOD at 20o Celsius (mg/l)	1500 max
4Hr PV (mg/l)	80 max
COD (mg/l)	1000 max
Total Kjeldahl Nitrogen (KN) (mg/l)	200 max
Detergents (mg/l)(an oxol.O.T)	20 max
Soap, oils, and fats (mg/l)	50 max
Mineral oils & Volatile Solvents (mg/l)	Nil
Silver (Ag) (mg/l)	10 max
Arsenic (As) (mg/l)	Nil
Cadmium (Cd) (mg/l)	15 max
Chloride (Cl) (mg/l)	500 max
Cyanide (CN) (mg/l) (mg/l)	Nil
Cobalt (Co) (mg/l)	1 max
Total Chromium (mg/l)	10 max
Chromium (vi) (mg/l)	Nil
Copper (Cu) (mg/l)	15 max
Mercury (Hg) (mg/l)	0.5 max
Nickel (Nil) (mg/l)	15 max
Lead (Pb) (mg/l)	10 max
Other heavy metals not specified	50 max
Individual limit	
Total phosphates (mg/l)	30 max
Sulphate SO4) (mg/l)	1000 max
Zinc (Zn) (mg/l)	15 max
Pesticides Herbicides (mg/l)	Nil
pH (mg/l)	6.8-9.0
Temperature oC	Not exceeding 45
Settleable Solids cm3/l	Not exceeding 10cc/l

In addition, effluent should not contain any toxic matter or any matter that will cause blockage and damage to sewers. Inflammable material and tar should not be present in the final effluent entering the sewer.

With respect to (1)(d) storm water is prohibited from entering the Municipal sewerage system from any source with the premises including—

    (a) Unroofed structures including wash bay;

    (b) Broken or low sewer inlet gullys;

    (c) Broken sewer manhole covers;

    (d) Broken sewer pipes etc.

SECOND SCHEDULE (*Section 8*)

TRADE EFFLUENT TARIFF CHARGES FORMULA

Effluent Charge	=	$\${[(Sft - 80) / 50 \times P] + B\} \times$ Volume of trade effluent discharged into sewer
Where Sft	=	Effluent Strength factor (absorbed Oxygen)
	=	PV mg/l
80	=	Maximum permissible effluent strength (absorbed oxygen) PV mg/l
50	=	Unit penalty strength factor PV mg/l
P	=	Unit penalty charge per every unit penalty strength of PV 50mg/l (US cents)
B	=	Basic charge of effluent per m^3
V	=	Volume of trade effluent discharged into sewer

NB: A company A discharges $2000m^3$ of effluent into the Municipal sewer and has an average monthly effluent strength factor of PV 1580mg/l.

Effluent basic charge =   US0,50

 Unit Penalty Charge =   US0,30

$\therefore$. Effluent charge

    =   US$\${[(Sft - 80) / 50 \times P] + B\} \times$ Volume

    =   US$\${[(1580 - 80) / 50 \times 0,30] + 0,50\} \times 2000$

    =   US$19 000,00