



City of Grand Island

Tuesday, January 28, 2020

Council Session

Item F-9

#9763 - Consideration of Amendments to Chapter 30 of the Grand Island City Code Relative to Sewers and Sewage Disposal

Staff Contact: John Collins, P.E. - Public Works Director

Council Agenda Memo

From: Jon Menough PE, Wastewater Plant Engineer

Meeting: January 28, 2020

Subject: Consideration of Amendments to Chapter 30 of the Grand Island City Code Relative to Sewers and Sewage Disposal

Presenter(s): John Collins PE, Public Works Director

Background

Proposed revisions to Chapter 30 of the City Code have been drafted for City Council consideration. The applicable section of the existing city code with markups is shown in this memo. A clean version of the proposed city code is attached as an ordinance.

Discussion

The previous revision of Chapter 30 was approved via Ordinance No. 9641 dated August 8, 2017, and due to several changes that have taken place further updates are necessary. The following items are addressed in the attachment and will allow for current and concise information within City Code Chapter 30.

- Addition of Total Nitrogen within the definition of *Normal Strength Wastewater* in Section 30-1
- Updates within Sections 30-57 and 30-58 related to the changes in FY 2020 Fee Schedule; changing from Total Kjeldahl Nitrogen (TKN) to Total Nitrogen
- Revisions within Section 30-67 regarding Excessive Pollutant Penalty according to FY 2020 Fee Schedule

Alternatives

It appears that the Council has the following alternatives concerning the issue at hand. The Council may:

1. Move to approve
2. Refer the issue to a Committee
3. Postpone the issue to future date
4. Take no action on the issue

Recommendation

City Administration recommends that the Council approve the changes to Chapter 30 of the City Code

Sample Motion

Move to approve the ordinance revising a code section in Chapter 30 of the Grand Island City Code.

CHAPTER 30 SEWERS AND SEWAGE DISPOSAL

Article I. Generally

§30-1. Definitions

The definitions of certain words and phrases used in this chapter shall be as follows:

Act shall mean the Clean Water Act of 1977 (PL 95-217), and any amendments thereto, as well as any guidelines, limitations, and standards promulgated by EPA, pursuant to the Act.

Ammonia shall mean the chemical combination of hydrogen and nitrogen occurring in nature expressed as NH₃, NH₂, or any of its derivatives as contained in the wastewater flow.

BOD (biochemical oxygen demand) shall mean the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in five days at 20 degrees Celsius, expressed in milligrams per liter by weight. BOD shall be determined by standard methods as hereinafter defined.

Biodegradable Oils and Grease shall mean fats, oils, and greases of animal or vegetable origin contained in the wastewater flow.

Building Sewer shall mean that part of the lowest horizontal piping of a drainage system which receives the discharge from soil, waste and other drainage pipes inside the walls of a building and conveys it to the lateral sewer. The building sewer shall extend two feet outside the building wall.

Chloride shall mean the anion CL⁻ (Negative Charge at top of CL)

City shall mean the City of Grand Island, Nebraska.

Compatible Wastes shall mean wastes containing pollutants for which the water pollution control plant was basically designed to treat and which are identified in the NPDES permit that is applicable to this treatment plant.

Composite shall mean the makeup of a number of individual samples, so taken as to represent the nature of wastewater or industrial wastes.

Constituents shall mean the combination of particles, chemicals, or conditions which exist in industrial wastes.

Conductivity shall mean the measure of the ability of an aqueous solution to carry an electric charge

Cooling Water shall mean the cleaned wastewaters discharged from any system of heat transfer such as condensation, air conditioning, cooling, or refrigeration.

Department shall mean the City's Department of Public Works.

Director shall mean the Director of the Department of Public Works or his or her authorized representative.

EPA shall mean the United States Environmental Protection Agency.

ICR shall mean industrial cost recovery.

Industrial Plant shall mean any facility which discharges industrial wastes as defined in this ordinance.

Industrial User shall mean:

(A) any nongovernmental, nonresidential user of the City's treatment works which discharges more than the equivalent of 25,000 gallons per day of sanitary waste, or a volume of process waste, or combined process and sanitary waste, equivalent to 25,000 gallons per day of sanitary waste and which is identified in the Standard Industrial Classification Manual under Divisions A, B, D, E, and I; or

(B) any nongovernmental user of the City's treatment works which discharges wastewater to the treatment works which contains toxic pollutants or poisonous solids, liquids, or gases in sufficient quantity either singly or by interaction with other wastes, to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, create a public nuisance, or create any hazard in or have an adverse effect on the waters receiving any discharge from the treatment works.

Industrial Wastes shall mean the liquid wastes resulting from the processes employed in industrial, manufacturing, trade or business establishments, as distinct from domestic wastes.

Lateral Sewer shall mean the sanitary sewer that extends from the building sewer to the public sanitary sewer system.

Major Contributing Industry shall mean an industrial user that:

(A) has a flow of 50,000 gallons or more per average work day; or

(B) has a waste strength greater than 5 percent of the plant design capacity; or

(C) has in its waste a toxic pollutant in toxic amounts; or

(D) is found to have significant impact, either singly or in combination with other contributing industries, on the water pollution control plant, or upon the quality of the plant effluent.

mg/L shall mean milligrams per liter.

Natural Outlet shall mean any natural outlet extending to a water course, pond, or other body of surface or groundwater.

Normal Strength Wastewater shall mean wastewater with pollutant strength values not exceeding the following:

TKN.....	30mg/L
Biochemical Oxygen Demand.....	250 mg/L
Hydrogen Sulfide.....	0mg/L
Suspended Solids.....	250 mg/L
Biodegradable Oils and Grease.....	100 mg/L
Chloride.....	230 mg/L
Nitrate.....	25 mg/L
Total Nitrogen.....	25 mg/L

Where the nature of the wastewater does not permit BOD determination, COD shall be substituted according to the relation $BOD = (K) (COD)$, where "K" is a constant to be determined by the Department.

NPDES Permit shall mean the National Pollutant Discharge Elimination System Permit as established by the Act. All municipalities, industries, and commercial enterprises that discharge to surface watercourses are required to have NPDES permits approved by EPA and in Nebraska by the Department of Environmental Quality.

Owner shall have the same meaning as Person defined in this section.

Planning Area shall mean the Grand Island planning area as adopted by the Regional Planning Commission.

Person or Owner shall mean any individual, firm, company, association, developer, corporation, or group.

pH shall mean the logarithm of the reciprocal of the concentration of hydrogen ions in grams per liter of solution.

Pollution shall mean the placing of any noxious or deleterious substance in any waters of the City in quantities which are or may be potentially harmful or injurious to human health or welfare, animal or aquatic life, or property, or unreasonably interfere with the enjoyment of life or property, including outdoor recreation.

Pretreatment shall mean the application of physical, chemical and biological processes to reduce the amount of pollutants in or alter the nature of the pollutant properties in a wastewater prior to discharge into a sanitary sewer.

Public Sewer shall mean the sanitary and/or storm sewers owned by the people of Grand Island and controlled and maintained by the Department of Public Works.

Residential Strength Wastewater shall mean wastewater with pollutant strength values which average 250 mg/L of BOD and 250 mg/L of SS.

Sanitary Sewer shall mean a sewer which carries sanitary wastewater and industrial wastes and to which storm, surface, and groundwaters are not intentionally admitted.

Sanitary Sewerage System shall mean all facilities for collecting, pumping, and transporting wastewater to the water pollution control plant.

Sanitary Wastes or Wastewater shall mean the water carried wastes discharged from building sewers by reason of human occupancy.

Shall is mandatory; May is permissive.

Standard Methods shall mean those procedures or methods established by the latest edition of the "Standard Methods for the Examination of Water and Wastewater," as prepared, approved, and published jointly by the American Public Health Association and the American Water Works Association.

Storm Sewer or Storm Drain shall mean a sewer which carries storm waters, surface runoff, street wash waters and drainage, but which excludes sanitary wastewater and industrial wastes, other than unpolluted cooling water.

Suspended Solids (SS) shall mean solids that either float on the surface of, or are in suspension in, water, wastewater, or other liquids, and which are removable by laboratory filtering, expressed in milligrams per liter (mg/L).

Total Kjeldahl Nitrogen (TKN) shall mean the sum of organic nitrogen, ammonia (NH₃), and ammonium (NH₄⁺)

Total Sulfides shall mean the chemical combination of dissolved hydrogen sulfide gas (H₂S); dissolved ionic sulfide in the form of HS⁻ and S⁻² and acid-soluble metallic sulfide present in suspended matter

Toxic shall mean constituents of wastes which adversely affect the organisms involved in wastewater treatment.

Unpolluted Water or Drainage shall mean water to which no pollutants have been added, either intentionally or accidentally.

Wastewater Treatment Facility shall mean the wastewater treatment facility owned and operated by the City for the benefit of all persons located within the City's planning area.

Watercourse shall mean a channel in which a flow of water occurs, either continuously or intermittently.

Wastewater shall mean the liquid and water carried domestic or industrial wastes from dwellings, commercial buildings, industrial facilities, and institutions, together with any groundwater, surface water, and storm water that may be present, whether treated or untreated, which is discharged into or permitted to enter the City's treatment works.

Wastewater Treatment Works shall mean the sanitary sewers, pumping, and other equipment and their appurtenances, and other facilities which are an integral part of the wastewater collection and treatment processes and treatment residue disposal system.

§30-57. Discharge Permit; Application

Persons requiring a discharge permit shall complete and file with the Department an application in the form prescribed by the director and accompanied by applicable fees. Except as otherwise agreed in writing by the director, the applicant shall submit, in units and terms appropriate for evaluation, the following information:

- (1) Name, address, and Standard Industrial Classification (SIC) number of applicant.
- (2) Volume of waste to be discharged.
- (3) Waste constituents and characteristics including BOD, suspended solids, pH, biodegradable oils and grease, total sulfides, TKN, **nitrates, ammonia, and total nitrogen**, and any others required by the director.
- (4) Time and duration of discharge.
- (5) Average and thirty minute peak waste flow rates, including daily, weekly, monthly, and seasonal variations, if any.
- (6) Ground plan or plat sufficient to indicate locations of building sewers, building drains, process waste sewers, monitoring facilities and pretreatment facilities with respect to buildings, property lines, streets, public sewers, and industrial process facilities.
- (7) Description of plant activities, facilities, and processes, including all types of waste which are or could be discharged.
- (8) Each product produced by type, amount, and rate of production when required to determine compliance with pretreatment standards.
- (9) Number and type of employees, and hours of work.
- (10) Any other information the director may feel is necessary to evaluate the permit application.

The Department will evaluate the data furnished and may require additional information. After evaluation of the data furnished, the director may issue a discharge permit subject to the terms and conditions of this ordinance. Wastewater constituents and characteristics shall not be recognized as confidential information.

§30-58. Discharge Permit; Requirements

Discharge permits may contain any or all of the following conditions and requirements:

- (1) The average and maximum waste pollutant concentrations permitted to be discharged into the sanitary sewers.
- (2) The maximum daily amounts of BOD, suspended solids, pH, biodegradable oils and grease, total sulfides, TKN, **nitrates, ammonia, total nitrogen, chlorides, conductivity and any others required by the director**, permitted to be discharged into the sanitary sewers.
- (3) Limits on rate and time of discharge and requirements on flow regulations and equalization.
- (4) Requirements for installation of inspection and sampling facilities.
- (5) Pretreatment requirements.
- (6) Specifications for monitoring programs which may include sampling locations, frequency and methods of sampling and the number, types, and standards for tests and reporting schedule.
- (7) Requirements for submission of technical reports or discharge reports.
- (8) Requirements for maintaining plant records relating to waste discharges as specified by the director and making the records available to the Department.
- (9) Additional requirements as may be determined by the director.

§30-67. Excessive Pollutant Penalty

If a person discharges amounts of permissible pollutants in excess of the amounts permitted in the discharge permit, as stated in §30-71, **a charge for "Excessive Pollutant Penalty" in accordance with the City of Grand Island Fee Schedule**, per day of violation shall be imposed and paid by the person discharging wastes in violation of the permit.

§30-71. Pollutants Subject to Surcharge

The monthly amount of pollutants subject to the surcharge will be based on the average loading per plant operating day, times the number of operating days in the month the limits are exceeded. The pollutants limits that shall be subject to a surcharge are as follows:

BOD.....	250 mg/L
Suspended Solids or TSS.....	250 mg/L
Fats, Oils, and Grease.....	100 mg/L
Total Nitrogen (Organic & Inorganic).....	25 mg/L
Hydrogen Sulfide.....	0 mg/L
pH.....	less than 6 S.U.
pH.....	greater than 9 S.U.

ORDINANCE NO. 9763

An ordinance to amend Chapter 30 of the Grand Island City Code; to amend Section 30-1 Definitions; Section 30-57 Discharge Permit; Application; Section 30-58 Discharge Permit; Requirements; Section 30-67 Excessive Pollutant Penalty; Section 30-71 Pollutants Subject to Surcharge as now existing, and any ordinance or parts of ordinances in conflict herewith; and to provide for publication and the effective date of this ordinance.

BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA:

SECTION 1. Section 30 of the Grand Island City Code is hereby amended to read as follows:

§30-1. Definitions

The definitions of certain words and phrases used in this chapter shall be as follows:

Act shall mean the Clean Water Act of 1977 (PL 95-217), and any amendments thereto, as well as any guidelines, limitations, and standards promulgated by EPA, pursuant to the Act.

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Conductivity shall mean the measure of the ability of an aqueous solution to carry an electric charge

Cooling Water shall mean the cleaned wastewaters discharged from any system of heat transfer such as condensation, air conditioning, cooling, or refrigeration.

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(B) any nongovernmental user of the City's treatment works which discharges wastewater to the treatment works which contains toxic pollutants or poisonous solids, liquids, or gases in sufficient quantity either singly or

Approved as to Form	☐ _____
January 24, 2020	☐ City Attorney

ORDINANCE NO. 9763 (Cont.)

by interaction with other wastes, to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, create a public nuisance, or create any hazard in or have an adverse effect on the waters receiving any discharge from the treatment works.

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- (7) Description of plant activities, facilities, and processes, including all types of waste which are or could be discharged.
- (8) Each product produced by type, amount, and rate of production when required to determine compliance with pretreatment standards.
- (9) Number and type of employees, and hours of work.
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The Department will evaluate the data furnished and may require additional information. After evaluation of the data furnished, the director may issue a discharge permit subject to the terms and conditions of this ordinance. Wastewater constituents and characteristics shall not be recognized as confidential information.

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ORDINANCE NO. 9763 (Cont.)

- (2) The maximum daily amounts of BOD, suspended solids, pH, biodegradable oils and grease, total sulfides, TKN, nitrates, ammonia, total nitrogen, chlorides, conductivity and any others required by the director, permitted to be discharged into the sanitary sewers.
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Total Nitrogen (Organic & Inorganic).....	25 mg/L
Hydrogen Sulfide.....	0 mg/L
pH.....	less than 6 S.U.
pH.....	greater than 9 S.U.

SECTION 2. Section 30 is now existing, and any ordinances or parts of ordinances in conflict herewith be, and hereby are, repealed.

SECTION 3. This ordinance shall be in force and take effect from and after its passage and publication, within fifteen days in one issue of the Grand Island Independent as provided by law.

Enacted: January 28, 2020.

Roger G. Steele, Mayor

Attest:

RaNae Edwards, City Clerk