

March 2016

Form TCEQ-10411_10055-inst



**INSTRUCTIONS FOR COMPLETING
THE INDUSTRIAL WASTEWATER
PERMIT APPLICATION**

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Texas Commission on Environmental Quality

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INTRODUCTION

PURPOSE

The industrial wastewater permit application is used to apply for a permit for an industrial facility to discharge or dispose of wastewater.

This application form is for an industrial wastewater discharge authorization only. Your facility may need additional authorizations from the TCEQ Waste Permitting Division or the TCEQ Air Permitting Division.

OBJECTIVES

These instructions will answer the following questions.

- Who must apply for an industrial wastewater permit??
- When must the application be submitted?
- What permit application forms are required?
- How do I complete the application?
- How is the application submitted?
- What fees do I have to pay?
- How do I obtain more information?

STATUTORY CITATIONS

Texas Water Code (TWC) Chapters 5 and 26

Title 40 of the Code of Federal Regulations (CFR)

PRIMARY REGULATORY CITATIONS

Rules of the Texas Commission on Environmental Quality (TCEQ) are found in Title 30 of the Texas Administrative Code (TAC). The TAC can be viewed through the Texas Secretary of State at <http://www.sos.state.tx.us/tac/> and the TCEQ website at <https://www.tceq.texas.gov/rules/current.html>

In addition, printed copies of TCEQ rules are available through TCEQ Publications. The mailing address is TCEQ Publications, MC-118, P.O. Box 13087, Austin, Texas 78711-3087. The telephone number is (512) 239-0028. The fax number is (512) 239-4488. The initial copy is free.

Chapter 21 - Water Quality Fees

Chapter 25 - Lab Accreditation

Chapter 30 - Occupational Licenses and Registrations

Chapter 39 - Public Notice

Chapter 40 - Alternative Dispute Resolution Procedure

Chapter 50 - Action on Applications and Other Resolutions

Chapter 55 - Requests for Reconsideration and Contested Hearings; Public Comment

Chapter 60 - Compliance History

Chapter 80 - Contested Case Hearings

Chapter 213 - Edwards Aquifer

Chapter 217 - Design Criteria for Sewerage Systems
Chapter 222 - Subsurface Area Drip Dispersal Systems
Chapter 281 - Applications Processing
Chapter 305 - Consolidated Permits
Chapter 307 - Texas Surface Water Quality Standards
Chapter 308 - Criteria and Standards for the National Pollutant Discharge Elimination System
Chapter 309 - Domestic Wastewater Effluent Limitation and Plant Siting
Chapter 311 - Watershed Protection
Chapter 312 - Sludge Use, Disposal, and Transportation
Chapter 314 - Toxic Pollutant Effluent Standards
Chapter 315 - Pretreatment Regulations for Existing and New Sources of Pollution
Chapter 319 - General Regulations Incorporated into Permits
Chapter 332 - Composting
Chapter 351 - Regionalization

ABBREVIATIONS AND ACRONYMS

BOD₅ - biochemical oxygen demand, 5-day
CASRN - Chemical Abstract Service Registration Number
CBOD₅ - carbonaceous biochemical oxygen demand, 5-day
CDD - chlorinated dibenzo-p-dioxin
CDF - chlorinated dibenzofuran
CFR - Code of Federal Regulations
cfu - colony forming units
CIU - Categorical Industrial User
CN – Customer Reference Number
CWA - Clean Water Act
CWIS - cooling water intake structure
d.b.a. - doing business as
DMR - discharge monitoring report
DO - dissolved oxygen
ED - Executive Director
EPA - Environmental Protection Agency
GC/MS - gas chromatography/mass spectrometry
GLO - Texas General Land Office
gpd - gallons per day
gpm - gallons per minute
IU - Industrial User
MAL - minimum analytical level

MER - monthly effluent report
mg/kg - milligrams per kilogram
mg/L - milligrams per liter
MGD - million gallons per day
MLSS - mixed liquor suspended solids
mmhos/cm - millimhos per centimeter
MPN - most probable number
MSDS - material safety data sheets
MSGP - Multi-Sector General Permit
NAICS - North American Industry Classification System
NAPD - Notice of Application and Preliminary Decision
NORI - Notice of Receipt and Intent to Obtain a Water Quality Permit
NORM - naturally occurring radioactive material
NPDES - National Pollutant Discharge Elimination System
NRCS - Natural Resources Conservation Service
OCC - Office of the Chief Clerk
pCi/L - picoCuries per liter
PCU - platinum cobalt units
POTW - publicly owned treatment works
ppb - parts per billion (1×10^{-9})
ppq - parts per quadrillion (1×10^{-15})
ppt - parts per trillion (1×10^{-12})
RCRA - Resource Conservation and Recovery Act
RN - Regulated Entity Reference Number
QA/QC - quality assurance/quality control
SADDS - subsurface area drip dispersal system
SAR - sodium adsorption ratio
SIC - Standard Industrial Classification
SIU - Significant Industrial User
SPIF - Supplemental Permit Information Form
SWDA - Solid Waste Disposal Act
TAC - Texas Administrative Code
TBLL - technically based local limit
TCDD - 2,3,7,8-tetrachlorodibenzo-p-dioxin
TCEQ - Texas Commission on Environmental Quality
TDS - total dissolved solids
TEQ - toxicity equivalent
TLAP - Texas Land Application Permit

TMDL - total maximum daily load
TPDES - Texas Pollutant Discharge Elimination System
TPWD - Texas Parks and Wildlife Department
TSS - total suspended solids
TX SOS - Texas Secretary of State
TWC - Texas Water Code
TWDB - Texas Water Development Board
µg/L - micrograms per liter
UIC - underground injection control
USACE - United States Army Corps of Engineers
USDA - United States Department of Agriculture
USGS - United States Geological Survey
USPS - United States Postal Service
WWTP - wastewater treatment plant

GENERAL DEFINITIONS

Numeric

2-Hour Peak Flow – The maximum flow sustained for a two-hour period during the period of daily discharge.

303(d) List - A list of water bodies identified as impaired or threatened in accordance with the *Federal Clean Water Act (CWA) Section 303(d)*.

A-B

Act of God - If a person can establish that an event that would otherwise be a violation of a permit, an order, the rules adopted by the **Commission**, or the Texas Water Code (TWC) was caused solely by an act of God, war, strike, riot, or other catastrophe, the event is not a violation of that permit, order, rule, or statute.

Agricultural Management Unit - A portion of land application area contained within an identifiable boundary, such as a river, fence, or road, where the area has a known **crop** or land use history.

Algae - Plants that lack true roots, stems, and leaves. Algae consist of nonvascular plants that attach to rock and debris in the water or are suspended in the water column. Such plants may be green, blue-green, or olive in color, slimy to the touch, and usually have a coarse filamentous structure.

Annual Average Flow - The arithmetic average of all daily flow determinations taken within the preceding 12 consecutive calendar months.

Aquatic Macrophytes - Vascular plants that usually are arranged in zones corresponding closely to successively greater depths in shallow water. The characteristic plant forms that dominate these gradients (in order of decreasing depth) are: (1) submersed rooted aquatics; (2) floating-leaved rooted aquatics; (3) immersed rooted aquatics; (4) marginal mats. Some vascular plants (like duckweed) may live unattached in the water and may occur anywhere on the water surface.

Biochemical Oxygen Demand, 5-day (BOD5) - The amount of **dissolved oxygen** consumed in five days by biological and chemical processes breaking down organic matter.

C

Carbonaceous Biochemical Oxygen Demand, 5-day (CBOD5) - The amount of **dissolved oxygen** consumed in five days by biological and chemical processes breaking down organic matter, but in which the contribution from nitrogenous bacteria has been suppressed.

Classified Waters - Water bodies classified as segments with specific uses and criteria in Appendix A of 30 TAC §307.10 of the *Texas Surface Water Quality Standards*.

Class I Sludge Management Facility - Any **publicly owned treatment works (POTW)** identified under 40 CFR §403.10(a) as being required to have an approved pretreatment program and any other treatment works treating domestic sewage classified as a Class I sludge management facility by the regional administrator in conjunction with the executive director because of the potential for its sludge use or disposal practices to adversely affect public health and the environment.

Commission - The Texas Commission on Environmental Quality.

Composite Sample - A sample made up of a minimum of three effluent portions or, as specified in 30 TAC §319.9, collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, combined in volumes proportional to flow, and collected no closer than two hours apart.

Continuous Discharge - A discharge which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

Cooling Water Intake Structure (CWIS) - The total physical structure and any waterways used to withdraw cooling water from waters of the United States. The cooling water intake structure extends from the point at which water is withdrawn from the surface water source up to, and including, the intake pumps.

Crop - Proposed permanent plant cover on the application site.

D

Daily Average Concentration - The arithmetic average of all effluent samples, composite or grab as required by a permit, within a period of one calendar month, consisting of at least four separate representative measurements.

Daily Average Flow - The arithmetic average of all determinations of the daily discharge within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily discharge, the determination shall be the average of all instantaneous measurements taken during a 24-hour period or during the period of daily discharge if less than 24 hours. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.

Design Flow - The wet-weather maximum 30-day average flow of wastewater.

Disinfection - A chemical or physical process that kills pathogenic organisms in water.

Discharge Monitoring Report (DMR) - The EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. Permittees with TPDES permits are required to submit this form. Monitoring results must be reported on an approved TPDES self-report form, DMR Form EPA No. 3320-1, signed, and certified.

Disposal - The disposal, deposit, injection, dumping, spilling, leaking, or placing of any solid, liquid, or hazardous waste into or on any land or water so that such waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwater.

Dissolved Oxygen (DO) - the concentration of oxygen dissolved in wastewater or surface water.

Domestic Sewage - Waste and wastewater from humans or household operations that is discharged to a wastewater collection system or otherwise enters a treatment works.

Dry Weight Basis - Calculated on the basis of having been dried at 105 degrees Celsius until reaching a constant mass (i.e., essentially 100% solids content).

E

Effluent - Wastewater, treated or untreated, that flows out of a treatment plant.

Effluent Limitations - Restrictions established by the TCEQ or the EPA on quantities, rates, and concentrations in wastewater discharges.

Executive Director (ED) - The Executive Director of the Texas Commission on Environmental Quality or his/her designee.

Existing Facility - Any facility used for the storage, processing, or disposal of domestic wastewater and which has obtained approval of construction plans and specifications as of March 1, 1990.

F-G

Facility - All contiguous land and fixtures, structures, or appurtenances used for storing, processing, or disposing of waste. (See also the definition relating to sewage sludge.)

Fixture of the Land - An item that has become so annexed to the realty that it is regarded as part of the land (i.e., ponds, lagoons).

Glide - Portion of the water column that resembles flow that would be found in a shallow canal. Water surface gradient over a glide is nearly zero, so velocity is slow, but flow is shore to shore without eddy development.

Grab Sample - An individual sample collected in less than 15 minutes.

Groundwater - Water below the land surface in the saturated zone.

I-L

Industrial Wastewater - Wastewater generated in a commercial or industrial process.

Interference - A discharge that, alone or in conjunction with a discharge or discharges from other sources, both: (1) inhibits or disrupts the treatment system, its treatment processes or operations, or its sludge processes, use, or disposal; and (2) therefore is a cause of a violation of any requirement of the facility's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): *Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.*

Intermittent Stream - A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow of less than 0.1 cubic feet per second is considered intermittent.

Land Application - The spraying of wastewater onto the land surface; the injection of wastewater below the land surface; or the incorporation of wastewater into the soil so that the wastewater can fertilize crops or vegetation grown in the soil.

M

Major Amendment of Permit - Any change that is not listed in *40 CFR §122.63* is considered a major amendment. A major amendment changes a substantive term, provision, requirement, or limiting parameter of a permit.

Minimum Analytical Level (MAL) - The lowest concentration at which a particular substance can be quantitatively measured with a defined precision level, using approved analytical methods. The minimum analytical level is not the published method detection limit for an EPA-approved analytical method, which is based on laboratory analysis of the substance in reagent (distilled) water. The minimum analytical level is based on analyses of the analyte in the matrix of concern (i.e., wastewater effluents). The commission will establish general minimum analytical levels that will be applicable when information on matrix-specific minimum analytical levels is unavailable.

Minor Amendment of Permit - An amendment to improve or maintain the permitted quality or method of disposal of waste or injection of fluid if there is neither a significant increase of the quantity of waste or fluid to be discharged or injected nor a material change in the pattern or place of discharge or injection. A minor amendment includes any other change to a permit issued under *30 TAC Chapter 305, Subchapter D*, that will not cause or relax a standard or criterion which may result in a potential deterioration of quality of water in the state. A minor amendment may also include, but is not limited to: except for TPDES permits, changing an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date; and except for TPDES permits, requiring more frequent monitoring or reporting by the permittee.

Minor Modification of Permit - Under *40 CFR §122.63* and *30 TAC §305.62(c)(3)*, a minor modification may only:

- correct typographical errors;
- require more frequent monitoring or reporting by the permittee;
- change an interim compliance date in a schedule of compliance (not to exceed 120 days of date specified in existing permit and not to interfere with final compliance date);
- allow for a change in ownership or operational control of a facility where the Director determines that no other change in the permit is necessary;
- change the construction schedule for a discharger which is a new source;
- delete a point source outfall when the discharge from that outfall is terminated; or
- incorporate conditions of a POTW pretreatment program as enforceable conditions of the POTW's permits.

Monthly Effluent Report (MER) - Facilities with ***Texas Land Application Permits*** or Sludge Permits are required to complete this form or equivalent.

N

National Pollutant Discharge Elimination System (NPDES) - The national program for issuing, amending, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment requirements, under *CWA Sections 307, 402, 318, and 405*. The term includes an approved program.

Naturally Occurring Radioactive Material (NORM) - Solid, liquid, or gaseous material or combination of materials, excluding source material, special nuclear material, and byproduct material, that in its natural physical state spontaneously emits radiation and that is not exempt under *Texas Health and Safety Code §401.106*.

New Discharger - Any building, structure, facility or installation from which there is or may be a discharge of pollutants that did not commence the discharge of pollutants at a particular site prior to August 13, 1979, which is not a new source, and which has never received a finally effective NPDES permit for discharges at that site.

New Facility - Any domestic or industrial wastewater treatment facility which is not an existing facility.

Non-Stormwater Wastestreams - Wastewater that is listed in TXR050000, the TPDES Industrial Storm Water Multi-Sector General Permit, Part II, Section A, Item 6, as follows:

- discharges from emergency firefighting activities and uncontaminated fire hydrant flushings (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);
- potable water sources (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);
- lawn watering and similar irrigation drainage, provided that all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
- water from the routine external washing of buildings, conducted without the use of detergents or other chemicals;
- water from the routine washing of pavement conducted without the use of detergents or other chemicals and where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed);
- uncontaminated air conditioner condensate, compressor condensate, and steam condensate, and condensate from the outside storage of refrigerated gases or liquids;
- water from foundation or footing drains where flows are not contaminated with pollutants (e.g., process materials, solvents, and other pollutants);
- uncontaminated water used for dust suppression;
- springs and other uncontaminated groundwater;
- incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but excluding intentional discharges from the cooling tower (e.g., “piped” cooling tower blowdown or drains); and
- other discharges described in Part V of TXR050000 that are subject to effluent guidelines and effluent limitations.

Nuisance Odor Prevention - The reduction, treatment, and dispersal of potential odor conditions that interfere with another's use and enjoyment of property that are caused by or generated from a wastewater treatment plant unit, which conditions cannot be prevented by normal operation and maintenance procedures of the wastewater treatment unit.

O

Off-site - Property which cannot be characterized as **on-site**.

On-site - The same or contiguous property owned, controlled, or supervised by the same person. If the property is divided by public or private right-of-way, the access shall be by crossing the right-of-way or the right-of-way shall be under the control of the person.

Operator - The person responsible for the overall operation of a facility or beneficial use site.

Outfall - The point or location where waterborne waste discharges from a sewer system, treatment facility, or disposal system into or adjacent to water in the state.

Overhanging Vegetation - Vegetation that overhangs the water column and indirectly provides fish food and cover and shades the water from solar radiation.

Owner - The person who owns a facility or part of a facility.

P

Peak Flow - The highest two hour average flow rate expected to be delivered to the treatment units under any operational conditions, including periods of high rainfall (generally the two-year, 24-hour storm is assumed) and prolonged periods of wet weather.

Permit - A written document issued by the **Commission** which, by its conditions, may authorize the permittee to construct, install, modify, or operate, in accordance with stated limitations, a specified facility for waste discharge, for solid waste storage, processing or disposal, or for underground injection.

Perennial Stream - A normally flowing stream.

Persistent Pools - Enduring pools containing sufficient habitat to maintain significant aquatic life uses.

Person - An individual, corporation, organization, government, governmental subdivision or agency, business trust, estate, partnership, or any other legal entity or association.

Pool - An area of the water column that has slow velocity and is deeper than a **riffle**, **run**, or **glide**. The water surface gradient of pools is very close to zero and their channel profile is usually concave. Pools often have eddies with varying directions of flow.

Process Wastewater - Any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Publicly Owned Treatment Works (POTW) - Any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature which is owned by the State or a municipality (and including certain political subdivisions created by the State of Texas that provide regional municipal and industrial wastewater treatment). This definition includes sewers, pipes, and other conveyances only if they convey wastewater to a POTW treatment plant. For a complete legal definition of POTW, see *40 CFR §403.3(q)*.

R

Radioactive Material - A naturally occurring or artificially produced solid, liquid, or gas that emits radiation spontaneously.

Renewal of Permit - An extension of the effective date of a permit that authorizes the continued discharge or disposal of wastewater without substantive changes in term, provision, requirement, or limiting parameters of a permit.

Renewal of Permit With Changes (or Minor Amendment with Renewal) - An extension of the effective date of a permit that authorizes the continued discharge or disposal of wastewater without substantive changes in term, provision, requirement, or limiting parameters of a permit but with a change that would be considered a minor amendment if the applicant was not seeking to extend the expiration date of the permit.

Riffle – A portion of the water column that is usually constricted where water velocity is fast due to a change in surface gradient. Stream depth is generally shallow, and the channel profile is usually straight to convex. Surface flow through riffles usually ripples due to constriction, shallowness, and presence of irregular bottom substrates.

Riparian Zone - Area that includes the stream bank and flood plain.

Run – A portion of the water column that has rapid, non-turbulent, shore-to-shore flow. A run is too deep to be a **riffle** and its flow is too fast to be a **pool**. The channel profile under a run is usually a uniform flat plane.

S

Saltwater - A coastal water which has a measurable elevation change due to normal tides. In the absence of tidal information, saltwater is generally considered to be a coastal water which typically has a salinity of two parts per thousand or greater in a significant portion of the water column.

Site - The land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.

Stream Bend – A curved part of a stream. A well-defined bend has a deep outside area and shallow inside area accentuated by point bar development. Due to sharp bending, stream flow is forced to the outside and eddies develop on the inside of the bend. A moderately developed bend forces some flow to the outside and has only a slight change in depth across the channel. A poorly defined bend has no noticeable change in water depth across the channel, and stream flow is generally not forced to one side.

Stream Depth - The vertical height of the water column from the existing water surface level to the channel bottom.

Stream Width - The horizontal distance along the transect line from shore to shore along the existing water surface.

Substantial Change in the Function or Use - An increase in the pollutant load or modification in the existing purpose of the unit.

Substrate - The mineral or organic material that forms the bottom of the stream.

Table 1: Classification of substrate materials by particle size

Type of Substrate	Size (inches)	Size (metric)
Bedrock	Solid	Solid
Large Boulders	>17.7	>45 cm
Boulders	9.8 – 17.1	25 – 45 cm
Rubble	2.4 – 9.8	6 – 25 cm
Gravel	0.2 – 2.4	6 – 60 mm
Sand	0.002 – 0.2	0.06 – 6 mm
Mud/Silt	<0.002	<0.06 mm

Subsurface Area Drip Dispersal System (SADDS) - A waste dispersal system that 1) uniformly injects processed wastewater effluent into the ground at a depth of not more than 48 inches; and 2) spreads the waste over the entire disposal area so that the soil hydrologic absorption rate and crop/plant root absorption rate are not exceeded. The following systems are not subsurface area drip dispersal systems: 1) wastewater disposal systems authorized under *30 TAC Chapter 285 (On-Site Sewage Facilities)* and *Texas Health and Safety Code 366*; 2) disposal systems for oil and gas waste, tar sands, sulfur, brine from desalination plants and hazardous waste as defined by *Texas Health and Safety Code, Section 361.003*; and/or 3) drainfields, leaching chambers, or other gravity trench systems.

T

Texas Land Application Permit (TLAP) - An authorization issued by the **Commission** for the discharge of waste adjacent to water in the state in compliance with the Texas Water Code.

Texas Pollutant Discharge Elimination System (TPDES) - The state program for issuing, amending, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment requirements under *CWA Sections 307, 402, 318, and 405*, the *Texas Water Code*, and the *Texas Administrative Code*.

Total Dissolved Solids (TDS) – A measure of the dissolved solids in wastewater or effluent.

Total Maximum Daily Load (TMDL) - The maximum amount of a pollutant that a lake, river, stream, or estuary can receive without seriously harming its beneficial uses. Also, a detailed water quality assessment that provides the scientific foundation for a watershed action plan. A watershed action plan outlines the steps necessary to reduce pollutant loads in a certain body of water to restore and maintain uses or aquatic life.

Total Suspended Solids (TSS) - A measure of the suspended solids in wastewater.

TPDES Wastewater Permit - An authorization issued by the **Commission** for the discharge of waste into water in the state in compliance with the Clean Water Act and the Texas Water Code.

Transect Line - A straight line, perpendicular to stream flow, between two points on opposite stream banks.

Treatment Facility - Wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation, or disposal of domestic sewage, industrial wastes, agriculture wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the **Commission**.

Tree Canopy - The uppermost spreading branchy layer of streamside trees that shades the water surface.

U-W

Unclassified Water - Smaller water bodies that are not designated as segments with specific uses and criteria in Appendix A of *30 TAC §307.10* of the *Texas Surface Quality Standards*.

Vascular - Relating to a channel for the conveyance of a body fluid or to a system of such channels; supplied with or made up of such channels, especially blood vessels.

Wastewater Treatment Plant Unit - Any apparatus necessary for the purpose of providing treatment of wastewater (i.e., aeration basins, splitter boxes, bar screens, sludge drying beds, clarifiers, overland flow sites, treatment ponds, or basins that contain wastewater, etc.). For purposes of compliance with the requirements of *30 TAC §309.13(e)* (relating to Unsuitable Characteristics), this definition does not include off-site bar screens, off-site lift stations, flow metering equipment, or post-aeration structures needed to meet permitted effluent limitations on minimum dissolved oxygen.

Wetlands - Those areas that are inundated or saturated by surface water or groundwater at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

DEFINITIONS RELATING TO PRETREATMENT DEFINED IN 40 CFR PART 403

Categorical Industrial User (CIU) - An industrial user that is subject to Categorical Pretreatment Standards according to *40 CFR §403.6* and *40 CFR Chapter I, Subchapter N, §405 - 471*, which are technology-based standards developed by the EPA setting industry-specific effluent limits. (A list of industrial categories subject to Categorical Pretreatment Standards is included on page 50.)

Commercial User - An **Industrial User** who is not considered to be a significant single source of toxics because of its small size, generally low flow, and insignificant pollutant levels or loadings, including but not limited to, radiator shops, car washes, small laundries, gasoline stations, dry cleaners, and restaurants.

Composite Sample - For purposes of the TPDES Pretreatment Program, a composite sample is defined in *40 CFR §403, Appendix E*.

Industrial User (IU) - Any industrial or commercial facility that discharges wastewater to the treatment works that is not domestic wastewater. Domestic wastewater includes wastewater from connections to houses, hotels, non-industrial office buildings, institutions, or sanitary waste from industrial facilities. A non-regulated IU does not meet the definition of SIU or CIU.

Interference - A discharge that, alone or in conjunction with a discharge or discharges from other sources, both: (1) inhibits or disrupts the treatment system, its treatment processes or operations, or its sludge processes, use, or disposal; and (2) therefore is a cause of a violation of any requirement of the facility's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): *Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.*

Non-Process Wastewater - Wastewater, including sanitary and other non-regulated wastestreams, as referenced in *40 CFR §403.6(e)(1)*.

Nonsubstantial Modification - A modification initiated by a POTW with a TCEQ-approved pretreatment program that is not considered to be a significant modification as defined in *40 CFR §403.18(b)*.

Other Industrial User - IU that does not meet the definition of an SIU or CIU, but may discharge industrial wastewater which results in a pollutant loading that may have reasonable potential to adversely affect the operation and maintenance of a POTW.

Pass Through - A discharge which exits the **publicly owned treatment works (POTW)** into waters of the United States in quantities or concentrations that, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

Significant Industrial User (SIU) - An industrial user defined in *40 CFR §403.3(v)* as follows:

- Subject to Categorical Pretreatment Standards according to *40 CFR §403.6* and *40 CFR Chapter I, Subchapter N*; and
- Any other industrial user that:
 - Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (excluding sanitary, noncontact cooling, and boiler blowdown wastewater);
 - Contributes a process waste stream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment works; or
 - Is designated as such by the Control Authority as defined in *40 CFR §403.3(f)* on the basis that the industrial user has a reasonable potential for adversely affecting the treatment works operation or for violating any pretreatment standard or requirement (according to *40 CFR §403.8(f)(6)*).

Significant Industrial User - Non-Categorical - An industrial user defined in *40 CFR §403.3(v)* but not subject to Categorical Pretreatment Standards according to *40 CFR §403.6* and *40 CFR Chapter I, Subchapter N*.

Substantial Modification - A modification as defined in *40 CFR §403.18(b)* initiated by a POTW with a TCEQ-approved pretreatment program or a POTW developing a new pretreatment program.

Technically Based Local Limits (TBLs) - Specific discharge limits developed and enforced by POTWs upon industrial or commercial users to prevent **interference** and **pass through** and address the general and specific prohibitions, needs and concerns of a POTW. This will include consideration of its receiving waters, sludge contamination and worker health and safety problems.

DEFINITIONS RELATING TO SEWAGE SLUDGE DEFINED IN 30 TAC §312.8

A-C

Active Sludge Unit - A sludge unit that has not closed and/or is still receiving sewage sludge.

Aerobic Digestion - The biochemical decomposition of organic matter in sewage sludge into carbon dioxide, water and other by-products by microorganisms in the presence of free oxygen.

Agricultural Management Unit - A portion of land application area contained within an identifiable boundary, such as a river, fence, or road, where the area has a known crop or land use history.

Agronomic Rate - The whole sludge application rate (dry weight basis) designed: (A) to provide the amount of nitrogen needed by the crop or vegetation grown on the land; and (B) to minimize the amount of

nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to the groundwater.

Beneficial Use - Placement of sewage sludge onto land in a manner which complies with the requirements of *30 TAC Chapter 312, Subchapter B*, and does not exceed the agronomic need or rate for a cover crop or any metal or toxic constituent limitations which the cover crop may have. Placement of sewage sludge on the land at a rate below the optimal agronomic rate will be considered a beneficial use.

Bulk Sewage Sludge - Sewage sludge that is not sold or given away in a bag or other container for application to the land.

Class A Sewage Sludge - Sewage sludge meeting one of the pathogen reduction requirements on *30 TAC §312.82(a)*.

Class B Sewage Sludge - Sewage sludge meeting one of the pathogen reduction requirements on *30 TAC §312.82(b)*.

D-G

Domestic Septage - Either liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater and does not include grease removed from a grease trap.

Dry Weight Basis - Calculated on the basis of having been dried at 105 degrees Celsius until reaching a constant mass (i.e., essentially 100% solids content).

Facility - Includes all contiguous land, structures, other appurtenances, and improvements on the land used for the surface disposal, land application for beneficial use, or incineration of sewage sludge.

Groundwater - Water below the land surface in the saturated zone.

L-M

Land Application - The spraying or spreading of sewage sludge onto the land surface; the injection of sewage sludge below the land surface; or the incorporation of sewage sludge into the soil so that the sewage sludge can either condition the soil or fertilize crops or vegetation grown in the soil.

Monofill - A landfill trench in which sewage sludge is the only type of solid waste placed.

O-P

Off-site - Property which cannot be characterized as **on-site**.

On-site - The same or contiguous property owned, controlled, or supervised by the same person. If the property is divided by public or private right-of-way, the access shall be by crossing the right-of-way or the right-of-way shall be under the control of the person.

Place Sewage Sludge or Sewage Sludge Placed - Disposal of sewage sludge on a surface disposal site.

Process or Processing of Sewage Sludge - These terms shall have the same meaning as treat or treatment of sewage sludge.

S

Saltwater - A coastal water which has a measurable elevation change due to normal tides. In the absence of tidal information, saltwater is generally considered to be a coastal water which typically has a salinity of two parts per thousand or greater in a significant portion of the water column.

Sewage Sludge - Solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in treatment works. Sewage sludge includes, but is not limited to, domestic septage, scum, or solids removed in primary, secondary, or advanced wastewater treatment processes; and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

Sludge Unit - Land on which only sewage sludge is placed for disposal. A sludge unit shall be used for sewage sludge. This does not include land on which sewage sludge is either stored or treated.

Sludge Unit Boundary - The outermost perimeter of a surface disposal site.

T-W

Transporter - Any person who collects, conveys, or transports sewage sludge, water treatment plant sludge, grit trap waste, grease trap waste, chemical toilet waste and/or septage by roadway, ship, rail, or other means.

Treat or Treatment of Sewage Sludge - The preparation of sewage sludge for final use or disposal including thickening, stabilization, and dewatering. This does not include storage.

Vector Attraction - The characteristic of sewage sludge that attracts rodents, flies, mosquitos, or other organisms capable of transporting infectious agents.

Water Treatment Sludge - Sludge generated during the treatment of either surface water or groundwater for potable use, which is not an industrial solid waste as defined in *30 TAC §335.1*.

WHO MUST APPLY FOR AN INDUSTRIAL WASTEWATER PERMIT?

The entity that must apply for an industrial wastewater permit is the owner or owners of any industrial facility that generates wastewater and that wishes to: 1) discharge wastewater into water in the state (TPDES permit) or 2) dispose of wastewater adjacent to waters in the state by irrigation, evaporation, or subsurface disposal (TLAP). In addition, for TPDES permits, whoever has overall financial responsibility for the operation of the facility must apply for the permit as a co-applicant with the facility owner. Facility operators are not required to apply as a co-applicant if they do not have overall financial responsibility of the facility operations.

Entities seeking a domestic wastewater permit must complete and submit a domestic wastewater permit application (forms TCEQ-10053 and TCEQ-10054).

WHEN MUST THE APPLICATION BE SUBMITTED?

For new and amendment applications, the completed application should be submitted at least 180 days before the date the proposed discharge or disposal is to occur. For renewal applications, the completed application must be submitted at least 180 days before the expiration date of the current permit. If an application is not submitted before the existing permit expires, the permit will be terminated. The application will be processed as a new facility, with all applicable forms and fees required.

WHAT PERMIT APPLICATION FORMS ARE REQUIRED?

The industrial wastewater permit application has two parts: 1) the Administrative Report and 2) the Technical Report. Both reports must be completed to apply for a new permit or to amend or renew an existing permit. Both reports and the instructions are available in Adobe Acrobat PDF format on the TCEQ website at

https://www.tceq.texas.gov/permitting/wastewater/industrial/TPDES_industrial_wastewater_steps.html

You need to download all of the following forms:

- TCEQ-10411: Industrial Wastewater Permit Application – [Administrative Report](#)
- TCEQ-10055: Industrial Wastewater Permit Application – [Technical Report](#)
- TCEQ-10411_10055-ins: [Instructions for Completing the Industrial Wastewater Permit Application](#)

Notes:

- Older versions of the application forms **will not be accepted after six months** from the date of the updated or revised forms.
- The TCEQ Central Registry Core Data Form has been incorporated into the Administrative Report. **Do not send a separate core data form to the TCEQ.**

HOW DO I COMPLETE THE APPLICATION?

Follow the instructions while completing the application, as the information being submitted will not be clear unless the instructions are followed. Each item in the application is cross-referenced to a page number in the instructions to assist you in finding the information you need.

The application form may not be altered in any way. Applications that are not in the correct format and page numbering sequence will not be processed and will be returned. Questions cannot be deleted or rearranged.

Only those sections and worksheets that are relevant should be completed and submitted depending on the type of authorization being sought by the applicant. Rarely will all sections and worksheets of the application be submitted. Administrative Report 1.0 and Technical Report 1.0 must be submitted by all applicants, while others, such as the Worksheet 3.0 (Land Disposal of Effluent) are used only when the applicant is requesting authorization to irrigate with treated effluent or another method of land disposal of effluent. If you are unsure whether a section must be submitted, check the instructions for more information or call the Wastewater Permitting Section.

When submitting the application, arrange the sections of the application in the order listed in the Submission Checklist on page 1 of the Administrative Report. Indicate on the Submission Checklist which sections of the application have been submitted by checking either the “Y” or “N” column for each section of the application.

If the answer to a question requires more space than is provided, submit a separate attachment to answer the question. The separate attachments must be clearly cross-referenced back to the original question. In the space provided, write the attachment number or label. Failure to clearly cross-reference attachments may result in delays in processing the application.

All items must be addressed. If an item does not seem to be applicable, write “N/A” as your response. If an item is not addressed, a Notice of Deficiency letter will be sent to the applicant’s representative unless an explanation is provided as to why the item is not applicable. Failure to follow the instructions while completing the application may result in significant delays in processing the application.

Applicants are required to keep records of all data used to complete the permit application and any supplemental information submitted as part of the application process for a period of at least three years from the date the application is signed.

HOW IS THE APPLICATION SUBMITTED?

One original and three copies of the entire application must be submitted. (For subsurface area drip dispersal system (SADDS), submit one original and **four** copies.) Please do not staple or bind the original application. Do not use plastic sleeves for the maps in the original application. Please indicate which applications are copies. Use the following addresses to deliver the application.

Regular US mailing address:

Texas Commission on Environmental Quality
Water Quality Division
Applications Review and Processing Team,
MC-148
P.O. Box 13087
Austin, Texas 78711-3087

Express/Overnight mailing address:

Executive Director
Applications Review and Processing Team,
MC-148
Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, Texas 78753

Hand delivery address:

Texas Commission on Environmental Quality
Applications Review and Processing Team
Building F, Room 2101
12100 Park 35 Circle
Austin, Texas 78753

WHAT FEES DO I HAVE TO PAY?

Wastewater permits are subject to two different types of fees: 1) an application fee and 2) an annual water quality fee. Payment of the fees may be made either by check or money order payable to the TCEQ or through ePay (TCEQ's online payment application on the TCEQ web site).

1. Application Fee

This fee is required to be paid at the time the application is submitted. Failure to submit payment at the time the application is filed will cause delays in processing or denial of permit coverage. Application fees for industrial wastewater permits are based on: 1) the EPA Major/Minor facility designations and 2) whether the facility is subject to categorical effluent guidelines promulgated by the EPA (see table on page 52). All new TPDES permit applications are considered minors until formally classified as majors by the EPA.

Table 2: Application fee schedule

EPA Classification	New	Major Amend. (with or without Renewal)	Renewal Only	Minor Amend./ Minor Mod.
Minor facility not subject to EPA categorical effluent guidelines (40 CFR Parts 400-471)	\$350	\$350	\$315	\$150
Minor facility subject to EPA categorical effluent guidelines (40 CFR Parts 400-471)	\$1,250	\$1,250	\$1,215	\$150
Major facility	N/A	\$2,050	\$2,015	\$450

Postage fees of \$50.00 for new and amendment applications and \$15.00 for renewals are included with the application fees to cover the expense of the required notice (*30 TAC §305.53*). For new and major amendment applications, the \$50.00 postage fee covers the expense of notifying up to 100 landowners. An additional \$50.00 postage fee will be required for each additional increment of up to 100 landowners.

To verify receipt of payment, or for any other questions you may have regarding payment of fees to the TCEQ, please call the Cashier's Office at (512) 239-0357. The applicant is responsible for the cost of publishing the public notices in the newspaper concerning the application for a permit. The applicant will be provided the information necessary to publish, including instructions, by the Water Quality Applications Team (first notice) and by the TCEQ Office of Chief Clerk (second notice).

Mailed Payments

Payment must be mailed in a separate envelope to one of the addresses below. Include the Water Quality Permit Payment Submittal Form located at the end of the Administrative Report.

By regular U.S. mail:

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, TX 78711-3088

By overnight/express mail:

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

ePay Electronic Payment

Make an electronic payment on the TCEQ website at <https://www3.tceq.texas.gov/epay/index.cfm>

When making the payment you must select Water Quality, and then select the fee category “Industrial.” You must include a copy of the payment voucher (see page 19 of the Administrative Report) with your application, which will not be considered complete without the payment voucher.

2. Annual Water Quality Fee

This fee is assessed to permittees with an authorization in effect on September 1 of each year. The permittee will receive an invoice for payment of the annual water quality fee in November. The payment will be due 30 days from the invoice date. A 5% penalty will be assessed if the payment is not received by TCEQ by the due date. **Annual water quality fee assessments cannot be waived if the permit is in effect, whether active or inactive, on September 1.**

Important Note to All Applicants and Permittees:

If your permit is in effect on September 1, you will be assessed an annual water quality fee. It is the responsibility of the permittee to submit a cancellation or transfer form in a timely manner. Pursuant to 30 TAC §305.66, failure to pay fees is good cause for permit denial or revocation. If an applicant has outstanding fees, a proposed permit application will not be considered for approval by the Commission or Executive Director. For account balance information, contact the Financial Administration Division, Revenue Operations Section, at (512) 239-0354.

Mailed Payments

Return your payment with the billing coupon provided with the billing statement.

By regular U.S. mail:

Texas Commission on Environmental Quality
Financial Administration Division
Cashier’s Office, MC-214
P.O. Box 13088
Austin, TX 78711-3088

By overnight/express mail:

Texas Commission on Environmental Quality
Financial Administration Division
Cashier’s Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

ePay Electronic Payment

Make an electronic payment on the TCEQ website at <https://www3.tceq.texas.gov/epay/index.cfm>

Enter your account number provided at the top portion of your billing statement. Payment methods include MasterCard, Visa, and electronic check payment (ACH). A transaction over \$500 can only be made by ACH.

HOW DO I OBTAIN MORE INFORMATION?

Visit the TCEQ website at <https://www.tceq.texas.gov/permitting/wastewater/industrial> for additional information on wastewater permitting and the industrial wastewater permit application:

Questions may also be directed to any of the following specific areas within the Water Quality Division:
(512) 239-4671

- Applications Review and Processing
- Groundwater Assessment
- Industrial Permits
- Municipal Permits
- Pretreatment
- Standards Implementation
- Stormwater
- Water Quality Modeling

Information from the following areas of the TCEQ may also be helpful:

- Cashier's Office (fee payment): (512) 239-0357
- Central Records (copies of records and permits on file): (512) 239-2900
- Environmental Law Division (legal questions): (512) 239-0600
- Publications (agency publications): (512) 239-0028
- Revenue Operations Section (account balance information): (512) 239-0354

Information from the following state agencies may also be useful:

- Texas Secretary of State (information on Charter Numbers): (512) 463-5555
- State Comptroller of Texas (Tax Identification): (800) 252-1386

INSTRUCTIONS FOR INDUSTRIAL ADMINISTRATIVE REPORT 1.0

The following information is required for all permit applications – renewal, amendment, and new – for TPDES permits and TLAPs. PLEASE READ THE INSTRUCTIONS CAREFULLY AND FOLLOW THEM WHILE COMPLETING THE APPLICATION.

Indicate by check mark the type of application being submitted. If submitting an amendment or modification to an existing permit, please describe the changes being requested (e.g., increasing flow from 0.1 to 0.2 MGD, decreasing the monitoring frequency, increasing the irrigation site acreage, adding an outfall, etc.).

1. TYPE OF APPLICATION AND FEES

1. For **existing** permits, provide the permit number and EPA I.D. Number.
2. Check the box next to the appropriate application type.
3. If the application is for an amendment **or** modification of an **existing** permit, describe the proposed changes in the space provided.
4. Indicate with a checkmark the amount submitted for the application fee in the table provided.
5. Provide the payment information for the application fee. If the payment was mailed, provide the check or money order number, check or money order amount, and the name printed on the check or money order. If the payment was submitted via EPAY, provide the voucher number, indicate with a checkmark if a copy of the voucher was included with the application, and include the attachment number in the space provided.

2. APPLICANT INFORMATION

Important Notes:

Co-applicants

The selected entity type indicates the name that must be provided as an applicant for a permit, registration or authorization. It also identifies when a co-applicant/co-permittee on an application for a permit, registration or authorization is required.

Partnership Not Filed with Texas Secretary of State

A customer may be a partnership as defined by the Texas Secretary of State's Office (TX SOS). If the customer is a general partnership or joint venture (not filed with TX SOS), the partnership must be filed in the county where the facility is located, and the applicant must provide a copy of the agreement that lists the legal name of each partner forming the general partnership or joint venture.

Trust or Estate

A trust and an estate are not legal entities, but rather are fiduciary relationships governing the trustee/executor with respect to the trust/estate property. A Trustee and an Executor are considered the legal representatives of the trust/estate. Therefore, the Trust and Trustee or Estate and Executor must be identified as co-applicants/co-permittees. If there is more than one trustee or executor, each trustee or executor must be identified as a co-applicant/co-permittee with the Trust or Estate.

a. Facility owner (applicant)

Legal name

Provide the current legal name of the permittee, as authorized to do business in Texas. The name must be provided exactly as filed with the Texas Secretary of State (TX SOS) or on other legal documents forming the entity that are filed in the county where doing business. You may contact the TX SOS at (512) 463-5555 for more information related to filing in Texas. If filed in the county where doing business, provide a copy of the legal documents showing the legal name.

Customer Reference Number (CN)

TCEQ's Central Registry will assign each customer a number that begins with "CN" followed by nine digits. **This is not a permit number**, registration number, or license number.

- If this customer has not been assigned a CN, leave the space for the CN blank.
- If this customer has already been assigned this number, enter the permittee's CN.

If you do not know the CN, locate it using the [Customer Search](http://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch) page on the TCEQ website at <http://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch>.

Name and Title of the Person Signing the Application

The person signing the application must be an executive official meeting signatory requirements in *30 TAC §305.44*.

Mailing Address

Provide a complete mailing address for receiving mail from the TCEQ. The address must be verifiable with the US Postal Service (USPS) for regular mail delivery (not overnight express mail). You may [verify the address](https://tools.usps.com/go/ZipLookupAction!input.action) on the USPS website at <https://tools.usps.com/go/ZipLookupAction!input.action>.

If you find that the address is not verifiable using the USPS web search, please indicate that the address is used by the USPS for regular mail delivery.

Provide the phone number, fax number, and email address that corresponds to the applicant's mailing address. Be sure to include the area code for the phone number and fax number. Leave Extension blank if this customer's phone system lacks this feature.

Type of Customer

Check only one box that identifies the type of entity. Use the descriptions below to identify the appropriate entity type.

Note that the selected entity type also indicates the name that must be provided as an applicant for a permit, registration or authorization. It also identifies when a co-applicant/co-permittee on an application for a permit, registration, or authorization is required.

- ***Individual***

An individual is a customer who has not established a business, but conducts an activity that needs to be regulated by the TCEQ. If the customer type selected is an Individual, complete Attachment 1.

- ***Sole-Proprietorship***

D.B.A.: a customer that is owned by only one person and has not been incorporated. This business may:

- be under a person's name;
- have its own name ("doing business as" or d.b.a); and
- have any number of employees.

The legal name of the individual business owner must be provided. The d.b.a. name is not recognized as the legal name of the entity. The d.b.a. may be used as the site name.

- ***Partnership***

A customer that is established as a partnership as defined by the TX SOS.

If the customer is a general partnership or joint venture (not filed with TX SOS), the partnership must be filed in the county where the facility is located, and the applicant must provide a copy of the agreement that lists the legal name of each partner forming the general partnership or joint venture.

- ***Corporation***

A customer meets all of these conditions:

- is a legally incorporated entity under the laws of any state or country;
- is recognized as a corporation by the TX SOS; and
- has proper operating authority to operate in Texas.

The corporation's legal name as filed with the TX SOS must be provided as applicant. An assumed name of a corporation is not recognized as the legal name of the entity.

- ***Trust or Estate***

A trust and an estate are not legal entities, but rather are fiduciary relationships governing the trustee/executor with respect to the trust/estate property. A Trustee and an Executor are considered the legal representatives of the trust/estate. Therefore, the Trust and Trustee or Estate and Executor must be identified as co-applicants/co-permittees. If there is more than one trustee or executor, each trustee or executor must be identified as a co-applicant/co-permittee with the Trust or Estate.

- ***Government - federal, state, county, or city government (as appropriate)***

The customer is either an agency of one of these levels of government or the governmental body itself. The government agency's legal name must be provided as the applicant. A department name or other description of the organization should not be included as a part the legal name as applicant.

- ***Other***

The customer does not fit any of the above descriptions. Enter a short description of the type of customer in the blank provided.

Independent Entity

Check **No** if this customer is a subsidiary, part of a larger company, or is a governmental entity. Otherwise, check **Yes**.

Number of Employees

Check one box to show the total number of employees for this customer's entire company, at all locations. This is not necessarily the number of employees at the site named in the application.

Customer Business Tax and Filing Numbers

- **State Franchise Tax ID Number**

Corporations and limited liability companies that operate in Texas are issued a franchise tax identification number. If this customer is a corporation or limited liability company, enter this number here.

- **TX SOS Charter (filing) Number**

Corporations and Limited Partnerships required to register with the TX SOS are issued a charter or filing number. You may obtain further information by calling the TX SOS at (512) 463-5555.

b. Co-applicant information

For TPDES permits, whoever has overall responsibility for the operation of the facility must submit the application for a permit as a co-applicant along with the facility owner. The facility operator is not required to apply as co-applicant if they do not have overall responsibility of the facility operations. If co-applicants are required, please indicate the address to be used on the permit and for permit correspondence (either the address provided for Item 1.a or 1.b). Complete the address as directed for Item 1.a.

If the facility is considered a fixture of the land (e.g., ponds, units half-way in the ground), there are two options. The owner of the land can apply for the permit as a co-applicant or a copy of an executed deed recorded easement must be provided. The deed recorded easement must give the facility owner sufficient rights to the land for the operation of the treatment facility.

3. APPLICATION CONTACT INFORMATION

Provide the name, title, and communication information of the person or persons that the TCEQ can contact for additional information regarding this application.

Below the name and address is a space to indicate by a check mark if the contact is the Administrative contact, the Technical contact, or both. If the contact can answer administrative and technical questions, check both spaces. Two contacts may be provided in the application, one administrative and one technical. If additional contacts are provided, please provide a separate attachment to the application.

4. PERMIT CONTACT INFORMATION

Provide the names of two individuals that can be contacted by the agency as needed during the term of the permit. Include their phone numbers and mailing addresses if different than the permanent address used for the permit. The individuals should be of the level of Vice President or higher of a corporation, an Elected Official of a City or County, or a General Partner of a Partnership.

5. BILLING CONTACT INFORMATION

An annual fee is assessed to each permittee on September 1 of each year. Provide the complete mailing address where the annual fee invoice should be mailed. The address must be verifiable with the US Postal Service for regular mail delivery (not overnight express mail). You may [verify the address](https://tools.usps.com/go/ZipLookupAction!input.action) on the USPS website at <https://tools.usps.com/go/ZipLookupAction!input.action>. Also, provide a phone number of the permittee's representative responsible for payment of the invoice.

6. DMR/MER CONTACT INFORMATION

Provide the name and mailing address of the person responsible for receiving and submitting DMRs or MERs. The preprinted DMRs will be provided by the TCEQ Enforcement Division unless you chose to submit data electronically.

Submit data on line.....



Submit on line through [NetDMR](https://www.tceq.texas.gov/field/netdmr/netdmr.html) system at <https://www.tceq.texas.gov/field/netdmr/netdmr.html>. **Sign up now.**

Establish an electronic reporting account when you get your permit number.

7. NOTICE INFORMATION

a. Individual Publishing the Notices

Provide the name, company name, mailing address, telephone number, and fax number of the person that will publish the notices required during the processing of the application. Only one person can be designated. This person (not the newspaper) will be contacted by the TCEQ to publish the required notices in a newspaper of the largest general circulation in the county where the facility is or will be located. This person must be available during the application processing since the first notice, the “Notice of Receipt of Application and Intent to Obtain a Water Quality Permit” (NORI) must be published within 30 days of the application being declared Administratively Complete.

b. Method for Receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package

Designate the preferred method for receiving the required notice information. The day the application is declared administratively complete, the notice package will be sent to the designated person via the method chosen by the applicant in the application. The notice package includes the TCEQ declaration of completeness, a notice ready for publication, instructions for publishing the notice, and a publication affidavit.

The second notice, Notice of Application and Preliminary Decision (NAPD), must be published within 30 days of a draft permit being filed with the Office of Chief Clerk (OCC). Detailed information may be obtained by referring to TCEQ’s web site and *30 TAC Chapters 39, 50, 55, and 281* regarding notice, public comments, and response to comment procedures. All information necessary to publish the second notice, as well as proof of publication, will be mailed by the OCC. The address to mail the required information back to the TCEQ will be included in the information from the OCC. If the mailing address is a P.O. Box, insert the P.O. Box number within the space provided for the street name. Insert suite numbers within the line provided for the mailing address.

c. Contact in the Notice

Provide the name, title, credentials, organization name, telephone number, fax number, and email address of the one individual that will be identified as the notice contact in the two notices that are mailed out and published as part of the permitting process. This individual may be contacted by the public to answer general and specific questions about all aspects of the permit application.

d. Public Place Information

Provide the name and physical address for the public place where the application information will be available for public viewing and copying. The information requested in this portion of the application regards a public place where the complete application, draft permit, and technical summary/statement of basis or fact sheet, if applicable, must be made available for viewing and copying by the general public by the date the first notice is published. Please verify with the proper authority that they will make the application available for public viewing and copying. The public place must be located within the county in which the facility is or will be located. The address must be a physical address. If the facility or outfall is located in more than one county, a public viewing place for each county must be provided. **Post office box addresses are not acceptable.**

e. Bilingual Notice Requirements

Bilingual notices may be required for new permit applications, major amendment applications, and renewal applications, (not applicable for minor amendment or minor modification applications). If an elementary school or middle school nearest to the facility offers a bilingual program, the applicant may be required to publish notices in an alternative language. The Texas Education Code, upon which the TCEQ alternative language notice requirements are based, requires a bilingual education program to apply to an entire school district should the requisite alternative language speaking student population exist. However, bilingual-speaking students may not be present at a particular school within a district which is required to offer the bilingual education program. For this reason, the requirement to publish notices in an alternative language is triggered if:

- the nearest elementary or middle school, as a part of a larger school district, is required to make a bilingual education program available to qualifying students **and**
- the school either has students enrolled at such a program on-site, or has students who attend such a program at another location in satisfaction of the school's obligation to provide such a program.

The applicant is required to call the bilingual/ESL coordinator for the nearest elementary and middle schools and obtain information to determine if alternative language notices are required. If it is determined that bilingual notices are required, the applicant is responsible for ensuring that the publication in the alternate language is complete and accurate in that language.

8. REGULATED ENTITY AND PERMITTED SITE INFORMATION

Regulated Entity Reference Number (RN)

This is a number issued by TCEQ's Central Registry to sites (a location where a regulated activity occurs) regulated by TCEQ. This is not a permit number, registration number, or license number.

- If this regulated entity has not been assigned an RN, leave this space blank.
- If this customer has been assigned this number, enter the permittee's RN.

If the site of your business is part of a larger business site, an RN may already be assigned for the larger site. Use the RN assigned for the larger site. Use the [TCEQ's Central Registry Regulated Entity Search](http://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=regent.RNSearch) at <http://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=regent.RNSearch> to see if the larger site may already be registered as a regulated site at:

If the site is found, provide the assigned RN and provide the information for the site to be authorized through this application below. The site information for this authorization may vary from the larger site information.

An example is a chemical plant where a unit is owned or operated by a separate corporation that is accessible by the same physical address of your unit or facility. Other examples include industrial parks identified by one common address but different corporations have control of defined areas within the site.

In both cases, an RN would be assigned for the physical address location and the permitted sites would be identified separately under the same RN.

a. State/TPDES Permit No.

Provide the TCEQ Permit No. and the EPA Identification No. if the facility has an existing permit. For new facilities, these spaces should be marked N/A.

b. Name of the Project or Site

Provide the name of the site as known by the public in the area where the site is located. The name you provide on this application will be used in the TCEQ Central Registry as the Regulated Entity. An RN will be assigned by Central Registry if this site is not currently regulated by TCEQ.

c. Edwards Aquifer Proximity

Indicate by checking **yes** or **no** whether the facility is located in Bexar, Comal, Hays, Kinney, Medina, Travis, Uvalde, or Williamson County. The Edwards Aquifer is located under the boundaries of these counties. If the facility is or will be located in one of these counties, *30 TAC §215, Edwards Aquifer Rules*, may be applicable and the applicant may be required to provide additional information.

d. Site/Project (Regulated Entity) Physical Address

Enter the complete address of where the site is located. This address must be validated through US Postal Service. If the physical address is not recognized as a USPS delivery address, you may need to validate the address with your local police (911 service) or through an online map site. Please confirm this to be a complete and valid address. Please do not use a rural route or post office box for a site location.

If a site does not have an address that includes a street (or house) number and street name, enter NO ADDRESS for the street name. For all permits regardless of having a street address or not, provide a complete written location access description. For example: "The site is located 2 miles west from the intersection of Highway 290 IH35, located on the southwest corner of the Highway 290 South bound lane." Do not provide directions to the facility. The location description must use easily identifiable landmarks found on the USGS map submitted with the application. The description must include the direction and distance in feet or miles from road intersections. **If the existing permit includes an accurate description, indicate so by checking 'yes' on the application form.** If, however, the application is for a new facility or the description is inaccurate, provide an accurate description. Two examples of acceptable location descriptions are: (1) The facility is located 2,600 feet southwest of the intersection of State Highway 20 and Farm-to-Market Road 1200; (2) The facility is located approximately 1.2 miles east of the intersection of Farm-to-Market Road 345 and County Road 10. **NOTE:** a new location requires a new (separate) permit - permits are site specific.

e. City Where Site is Located or Nearest City

Provide the name and distance to the nearest city from the location of the facility. The name of the nearest city is used by the commission to include that city on the notice mailing list.

f. Zip Code

Provide the zip code where the facility is located.

g. County Where Site is Located

Identify the county or counties where the facility is located.

h. Latitude and Longitude

Enter the latitude and longitude of the site in degrees, minutes, and seconds to the nearest second or decimal degrees to at least six decimal places. Visit the TCEQ website at <https://www.tceq.texas.gov/gis/sqmapview.html> for help obtaining the [latitude and longitude](#).

i. Description of Activity Regulated

In your own words, briefly describe the primary business that you are doing that requires this authorization. Do not repeat the Standard Industrial Classification (SIC) code description.

j. Owner of Treatment Facility

Provide the name of the owner of the facility. **The plant owner must be the applicant for the permit (same as Item 1).** Indicate with a check mark the type of ownership.

k. Owner of Land Where Treatment Facility Is or Will Be Located

Provide the name, mailing address, phone number, and email address of the owner of the land where the facility is located. If the owner of the land is not the same as the applicant, a long-term lease agreement for the life of the facility must be provided. A lease agreement can only be submitted if the facility is not a fixture of the land (e.g., above-ground package plant). If a long-term lease agreement is required, provide the attachment number in the space provided.

If the facility is considered a fixture of the land (e.g., ponds, units half-way in the ground), there are two options. The owner of the land can apply for the permit as a co-applicant or a copy of an executed deed recorded easement must be provided. A long-term lease agreement is not sufficient if the facility is considered a fixture of the land.

Both the long-term lease agreement and the deed recorded easement must give the facility owner sufficient rights to the land for the operation of the facility.

l. Owner of the Effluent Disposal Site

This item is only applicable for effluent disposal sites (e.g., irrigation, subsurface drip irrigation, evaporation). It is not for the point of discharge to the receiving waters. Provide the name, mailing address, phone number, and email address of the owner of the effluent disposal site (e.g., irrigation, evaporation), if applicable. If the owner of the land is not the same as the applicant, a long-term lease agreement must be provided. If a long-term lease agreement is required, provide the attachment number in the space provided. The lease agreement must give the facility owner uses of the land for effluent disposal. If the term of the lease agreement is less than five years, the permit may be drafted for a term equivalent to the term of the lease.

If ponds (i.e., holding ponds, evaporation ponds) are located on land not owned by the applicant, there are two options: 1) the owner of the land can apply for the permit as a co-applicant **or** 2) the applicant must provide a copy of an executed deed recorded easement. The deed recorded easement must give the facility owner sufficient rights to the land for the operation of the facility and must be recorded in the county where the facility is located.

If the land is to be acquired by the facility owner, a copy of an executed option to purchase agreement must be submitted. The option to purchase must give a legal description of the land to be purchased and identify when the option to purchase agreement expires. An option to purchase may only be submitted with a new permit application.

m. Owner of the Sewage Sludge Disposal Site:

Provide the name, mailing address, phone number, and email address of the owner of the sewage sludge disposal site. The owner of the sewage sludge disposal site only needs to be provided if authorization for the disposal of sewage sludge on property owned or under the direct control of the applicant is being sought in the permit. If the owner of the land where the sewage sludge disposal site is located is not the same as the applicant, a long-term lease agreement for at least the term of the permit must be provided. **If sludge is hauled by a registered transporter to a separate site that is permitted or registered by the TCEQ, such as a municipal solid waste landfill or a registered land application site, ownership information does not need to be provided.**

9. DISCHARGE/DISPOSAL INFORMATION

The following information provides specific location information used in describing the location of the facility, the discharge route, the effluent disposal site, and other information relevant to the facility.

For every application (TPDES and TLAP), provide responses to Items a – c. If this application is for a TPDES permit, also provide responses to the TPDES-related Items (d – i); or if this application is for a TLAP permit, also provide responses to the TLAP-related Items (j – o).

a. Indian Land

Indicate whether the facility is located on, or the discharge route passes through, Indian Land by checking **yes** or **no**.

b. USGS Topographic Map

For **Renewal, Major and Minor Amendment** applications, provide an 8.5"×11", reproduced portion of the most current and original USGS Topographic map(s) that meets the 1:24,000 scale.

For New applications, provide an **original**, full size, 7.5-minute USGS Topographic Quadrangle Map(s). The original USGS quadrangle map(s) must be in color, have a scale, and have the latitude and longitude on **all** four sides of the map. You can obtain an original, full size, 7.5-minute USGS Topographic Quadrangle map by calling the USGS at (888) 275-8747.

For **all** USGS Map submittals, the maps must contain the **applicable information below, clearly outlined and labeled on original and copy portion USGS Map**

- one mile in all directions from the facility. If more than one map is required to show one mile in all directions from the facility, provide each individual map. Do not splice together.
- the applicant's property boundary
- the boundaries of the treatment plant
- the point(s) of discharge (mark with an "X" or a dot)
- the discharge route(s) highlighted for a distance of three stream miles or until the effluent reaches a classified segment (only use a yellow or light colored highlighter so that the stream characteristics are visible - do not mark over the discharge route with dark ink)
- the boundaries of the effluent disposal site such as the irrigation tract or subsurface drainfield
- all ponds including storage/evaporation/holding ponds
- the sewage sludge disposal site if it is in the existing permit or if the applicant is seeking authorization through a new/amended permit application
- all new and future commercial developments, housing developments, industrial sites, parks, schools, and recreational areas

- all springs, public water supply wells, monitor wells, surface water supply intakes, water treatment plants, potable water storage facilities, and sewage treatment facilities within one mile of the facility
- around the point of discharge and one mile downstream of the discharge route(s), all parks, playgrounds, and schoolyards must be highlighted and the names provided on the map

c. Location of the Sewage Sludge Site

If the existing permit includes an accurate description, indicate so by checking ‘yes’ on the application form. If no, provide this information only if authorization for the disposal of sewage sludge is being sought in the permit. If sewage sludge is disposed of at a site permitted or registered by another entity, it is not necessary to address ownership or the location description of the sewage sludge disposal site. If sewage sludge is generated and authorization for disposal is sought in the permit, provide a location description for the sewage sludge site. The location description must use easily identifiable landmarks found on the USGS map submitted as an attachment to the application. The description must include the distance in feet or miles from road intersections.

d. Point(s) of Discharge and Discharge Route(s)

Confirm whether the point(s) of discharge and discharge route(s) in the existing permit are correct by checking **yes** or **no**. **If the existing permit includes an accurate description, indicate so by checking ‘yes’ on the application form.** If **no**, please provide an accurate description. A discharge route must follow the flow of effluent from the point of discharge to the nearest major watercourse (from the point of discharge to a classified segment as defined in *30 TAC Chapter 307*). Two examples of a discharge route are: 1) through a six-inch pipe to a county drainage ditch; thence to Doe Creek; thence to the Brazos River; or 2) from the plant site to an unnamed tributary of Joe Creek; thence to Joe Creek; thence to Quail Creek; thence to the Jane River Below Charles Lake. Classified segments can be found in *30 TAC §307.10 Appendix A* and segment location descriptions can be found in *30 TAC §307.10 Appendix C*. **The issuance of a permit does not grant a permittee the right to use the specific discharge route. The issuance of a permit does not grant the permittee the right to use private or public property for conveyance of wastewater along the discharge route described above. The permittee must acquire all property rights as may be necessary to use the discharge route.**

Please Note: The relocation of the discharge point or discharge route may require a Major Amendment to the permit.

e. City Nearest the Outfall(s)

Provide the name of the city or cities in which the outfall(s) are located or nearest to where the outfall(s) are located.

f. County Where the Outfall(s) are Located

Provide the county or counties in which the outfall(s) are located.

g. Latitude and Longitude of the Outfall(s)

Enter the latitude and longitude of each outfall in degrees, minutes, and seconds to the nearest second or decimal degrees to at least six decimal places. Visit the TCEQ website at <https://www.tceq.texas.gov/gis/sqmapview.html> for help obtaining the [latitude and longitude](#).

h. Discharge to Municipal, County, or State Ditches

Answer the question **yes** or **no** whether the treated effluent is discharged to a city, county, state highway right-of-way, or flood control district drainage ditch. Authorization from this entity must be obtained prior to commencing discharge. The wastewater permit does not grant this authorization; it must be authorized by the owner of the structure. If the answer to the question for this item is **yes**, please read the following and answer the remaining questions as appropriate.

For **renewal** applications, indicate by a check mark whether the entity granted authorization.

For **new and amendment** applications, indicate by a check mark whether the entity granted authorization or if authorization is still pending. Provide a copy of the letter sent to the owner of the drainage structure with the application. Upon receipt, provide a copy of the response letter.

i. Daily Discharge of 5 Million Gallons per Day or More

For permits that have a permitted average flow of 5 million gallons per day (MGD), or for applications requesting an increase in permitted average flow to 5 MGD or greater, provide the name(s) of each county or counties within 100 statute miles downstream of the point(s) of discharge.

j. Disposal Site Location

For TLAPs, if the existing permit includes an accurate description, indicate so by checking yes on the application form. If no, or a new site, provide a location description of the effluent disposal site (e.g., irrigation, subsurface drip irrigation, evaporation). Do not provide directions to the disposal site. The location description must use easily identifiable landmarks found on the USGS map submitted as an attachment to the application. The description must include the distance in feet or miles from road intersections. If, however, the application is for a new facility or the description is inaccurate, provide an accurate location description. Two examples of acceptable location descriptions are: 1) The effluent disposal site is located 2,600 feet southwest of the intersection of State Highway 20 and Farm-to-Market Road 1200; 2) The effluent disposal site is located 1.2 miles east of the intersection of Farm-to-Market Road 345 and County Road 10.

NOTE: a change in location or increase in acreage requires a major amendment.

k. City Nearest the Disposal Site

Provide the name of the city nearest to where the disposal site is located.

l. County in which Disposal Site is Located

Provide the county or counties in which the disposal site is located.

m. Latitude and Longitude of the Disposal Site

Enter the latitude and longitude for the disposal site in degrees, minutes, and seconds to the nearest second or decimal degrees to at least six decimal places. Visit the TCEQ website at <https://www.tceq.texas.gov/gis/sqmaview.html> for help obtaining the [latitude and longitude](#).

n. Effluent Routing Description

For a TLAP, provide a description of how the treated effluent gets from the treatment facility to the effluent disposal site. An example of the flow of effluent to the disposal site is: from the treatment plant through a six-inch pipe to a one-acre holding pond; thence via a four-inch pipe to the irrigation site. **Note: A major amendment** to the permit is required in order to use an effluent disposal site different than the one described in an existing permit.

o. Nearest Watercourse

For a TLAP, provide the name of the nearest watercourse to the effluent disposal site to which rainfall runoff might flow if not contained within the disposal site. The name of the nearest watercourse for TLAP is included as part of the permit. This assists staff in determining the watershed in which the facility is or will be located.

10. MISCELLANEOUS INFORMATION

a. Previous Employment with the TCEQ

List each person formerly employed by the TCEQ who represented your company and was paid for service regarding the application. Any violation of the Health and Safety Code, Texas Water Code, or Government Code relating to conflict of interest may result in denial of the application and filing of charges with the appropriate office.

b./c. Fee and Penalty Information

Please note that effective September 1, 2006, the TCEQ will no longer issue, amend, or renew permits, registrations, certifications, or licenses to an entity or person who is delinquent on a penalty or fee owed to the TCEQ. The TCEQ will not declare any application administratively complete that is submitted by a person or entity who is delinquent on a fee or penalty until the fee or penalty is paid, or if on an approved installment plan, that payments under the plan are current. The TCEQ will withhold final action on an application until the fee or penalty is paid and the account is current, if after the application is considered administratively complete, we discover that the owner or entity who submitted the application is delinquent on a fee or penalty.

Please identify whether you owe any fees or penalties to the TCEQ. If fees or penalties are owed, please identify the type of fee or penalty owed, the amount past due, and the TCEQ identifying number. For penalties, please provide the TCEQ docket number. Visit the TCEQ website at <https://www.tceq.texas.gov/agency/fees/delin/index.html> for further information on the [Delinquent Fee & Penalty Protocol](#).

11. SIGNATURE PAGE

Each entity applying for the permit is required to sign the certification statement. The certification must bear an original signature of a person meeting the signatory requirements specified under *30 TAC §305.44*.

If you have any questions or need additional information concerning the signatory requirements discussed above, please contact the TCEQ's Environmental Law Division at (512) 239-0600.

30 TAC §305.44 - Signatories to Applications

All applications shall be signed as follows.

- For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.
- For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.
- For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).

INSTRUCTIONS FOR INDUSTRIAL ADMINISTRATIVE REPORT 1.1

The following information is required only for new permit applications and major amendment applications.

The following information is not required for renewal and minor amendment applications.

1. AFFECTED LANDOWNER INFORMATION

a. Landowner Map Components

The following information is required for the affected landowner list and other interested parties. Please use the format described below. **Examples of landowner maps have been provided for review and assistance.** Affected landowner information is critical to the processing of the application and any errors may cause significant delays in processing the application.

The landowners list is used by the TCEQ to notify affected landowners of the application by mail. These individuals, as well as others, may provide comments on the application or request a contested case hearing on the application.

1. All applicants shall submit a map that clearly shows the following:
 - the applicant's property boundaries;
 - the location of the treatment facility within the applicant's property; and
 - the property boundaries of landowners surrounding the applicant's property. **(Note 1)** If the application is a **major amendment** for a **lignite mine**, the map shall include the property boundaries of all landowners within a 1/2 mile radius of the newly proposed pond(s)/outfall(s). If notice has previously been given to all landowners within the 1/2 mile radius of the newly proposed pond(s)/outfall(s), identification of landowners isn't required; however, a written statement confirming that notice was previously given is required. **(Note 2)** For all other mines, all landowner's adjacent to the property boundaries where the mine is located must be identified.
2. For applications to discharge treated effluent to waters in the state, in addition to the landowners in **Item 1** above, the map must clearly show the following:
 - the discharge point;
 - the highlighted discharge route for one mile downstream from discharge point;
 - the property boundaries of all landowners surrounding the discharge point and on both sides of the discharge route for one full stream mile downstream of the discharge point; and
 - If the discharge point is to a lake, bay estuary, or affected by tides, the property boundaries of landowners along the shoreline for a 1/2-mile radius from discharge point.
3. For applications to use land disposal of effluent, in addition to the landowners in **Item 1.** above, the map must clearly show the following:
 - the property boundaries of the effluent disposal sites;
 - all effluent holding/storage/evaporation lagoons; and
 - the property boundaries of all landowners surrounding the disposal site.

4. For sewage sludge beneficial use land application site and incineration site, the map must clearly show:
 - the property boundaries of the beneficial use land application site and incineration site within the applicant's property boundaries; and
 - the property boundaries of the landowners **surrounding** the applicant's property boundaries where the beneficial use land applications site is located.

5. For sewage sludge disposal (monofill), the map must clearly show the following:
 - the property boundaries of the sludge disposal site within the applicant's boundaries; and
 - the property boundaries of the landowners within **½-mile** in all directions from the applicant's property boundaries where the sewage sludge disposal site is located.

Two examples of affected landowner maps have been provided in Appendix 5 of these Instructions.

Example 5a

For increases in flow at a plant and disposal of wastewater via irrigation, landowners from items **1** and **3** above must be shown. If the application is for a new permit in which irrigation is being proposed, landowners from Items **1** and **3** must be shown.

Example 5b

The second map shows all the landowners adjacent to the applicant's property, surrounding the point of discharge, and all landowners along the discharge route for a distance of one mile downstream. In this map, landowners 1-10 must be identified as affected landowners with the landowner's name and mailing address submitted with the application in the format described in Item b below.

If there are questions as to which landowners must be identified, call the Wastewater Permitting Section staff. The landowners map should be a city or county plat, another map sketch, or a drawing with a scale adequate enough to show the cross-referenced affected landowners. The landowners map must include a scale so that the TCEQ can verify that all landowners within the required distances have been identified.

b. Landowner List Media

In an effort to expedite processing of the application, the TCEQ requires applicants to provide the mailing list in one of the following formats: either 1) submit the mailing list electronically on a readable/writeable compact disk (CD-RW) using Microsoft Word, as allowed by *30 TAC §39.5(b)*, or, if more convenient, 2) provide four sets of printed labels of the list.

One of these two methods of providing the affected landowners mailing addresses (electronically or printed labels) must be used. If providing the mailing labels on CD-RW, please ensure the names and mailing addresses are in Avery 5160 label format. The application cannot be declared administratively complete until one of the two is received.

Please label the CD-RW with the applicant's name and permit number. Within the file stored on the CD-RW, identify the permit number and applicant's name on the top of the document. Names and addresses must be typed in the format indicated below and in accordance with the US Postal Service guidelines for machine readability. Each letter in the name and address must be capitalized, contain no punctuation, and the appropriate two-character abbreviation must be used for the state. Each entity listed must be blocked and spaced consecutively as shown below.

EXAMPLES:

SHARMAN DUNN
RR 1 BOX 34
SEA TX 76724

MR AND MRS EDWARD PEABODY
1405 MONTAGUE LN
SEA TX 76710-1234

BRIAR LP
PO BOX 249
SEA TX 76710-0249

A list submitted electronically should be the only item on that CD-RW. Do not submit a list on a CD-RW that includes maps or other materials submitted with your application.

If you choose to submit the mailing list in Microsoft Word format, it must be in Avery 5160 label format (3 columns across, 10 columns down, for a total of 30 labels per page).

If you provide the list on printed labels, please use sheets of labels containing 30 labels per page. Please provide four complete sets of labels of the adjacent landowners list.

Each name and corresponding address must appear only once on the mailing labels or computer disk even if the entity owns more than one tract of land identified on the landowners map. Please eliminate duplicate names and addresses.

c. Cross-Referenced Landowner List

All landowners identified must be clearly cross-referenced to a list of the landowner names and complete mailing addresses. The cross reference must be in consecutive numeric order (1, 2, 3). The complete list of affected landowners must be provided on a **separate sheet of 8.5"×11" paper. DO NOT USE THE PROPERTY TAX TRACT NUMBER SYSTEM.**

d. Landowner Data Source

Provide the source of the landowners names and mailing address in the space provided.

e. School Fund Land

Answer the question **yes** or **no** whether any permanent school fund land is affected by this application. This information is required by the *Texas Water Code § 5.115*. If **yes**, provide the location of the property and foreseeable impacts and effects this application has on the land(s).

2. ORIGINAL PHOTOGRAPHS

Photographs of each of the following must be submitted with the application:

- At least one photograph of the new and expanded treatment unit(s) location.
- At least two photographs of the existing/proposed discharge point and as much area downstream (photo 1) and upstream (photo 2) as can be captured on film. If the discharge is to an open water body (e.g., lake, bay), the discharge point should be in the right or left edge of each photograph showing the open water and with as much area on each respective side of the discharge as can be captured.
- At least one photograph of the existing/proposed effluent disposal site.

Submit a plot plan or map that indicates the location of each photograph and the direction (e.g., northwest) the camera was facing when the photograph was taken.

INSTRUCTIONS FOR SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

This form applies to TPDES permit applications.

The SPIF must be completed as a separate document. The TCEQ will mail a copy of the SPIF to each agency as required by the TCEQ Memorandum of Agreement with the EPA. If any of the items are not completely addressed and/or further information is needed, you will be contacted to provide the information before the permit is issued. Each item must be completely addressed.

When filling out the SPIF:

- **Do not refer to a response of any item in the permit application form**
- Each attachment must be provided with this form, separately from the administrative report of the application

The application will not be declared administratively complete without this form being completed in its entirety including all attachments.

INSTRUCTIONS FOR COMPLETING ATTACHMENT 1

1. Individual information

Complete this attachment if the facility owner or co-applicant is an individual. The address provided must be the individual's home address. The address must be verifiable with the US Postal Service for regular mail delivery (not overnight express mail). You may [verify the address](https://tools.usps.com/go/ZipLookupAction!input.action) on the USPS website at <https://tools.usps.com/go/ZipLookupAction!input.action>. If the operator must apply as co-applicant and is an individual, provide a separate sheet for information on the operator. As the facility owner, you need to provide the Customer Reference Number (CN).

End of Instructions for TCEQ Form 10411

INSTRUCTIONS FOR INDUSTRIAL TECHNICAL REPORT 1.0

The following information is required for all applications for renewals, amendments, and new TPDES permits and TLAPs. Please read the instructions carefully.

Please provide detailed technical information as needed. If more than one outfall is included in the application, provide applicable information for each outfall. If an item does not apply to your facility, write N/A to indicate that you have considered it. Attach separate reports or additional sheets as needed. Cross-reference all attachments to the question in the Technical Report. You are not required to submit worksheets that do not apply to your application.

1. FACILITY/SITE INFORMATION

- a. Provide a brief narrative description of the general nature of your business and the type of industrial and commercial activity at the plant, including what specific products are manufactured or produced and what services are provided.
- b. List, in descending order of significance, up to four 4-digit Standard Industrial Classification (SIC) codes that best describe your facility in terms of the principal products or services you produce or provide.

List, in descending order of significance, up to four North American Industry Classification System (NAICS) codes which best describe the activities in which you are engaged.

- c. Provide a detailed description of the processes at the facility which generate wastewater. The description should include information such as any modifications to your process water/stormwater handling facilities, the start-up or shutdown of any process or treatment units, any wastewater recycle projects, or any changes in production throughput.
- d. Provide a list of raw materials, major intermediates, and products handled at your facility that may be reasonably expected to be present in effluent which is either discharged or disposed of via the authorizations requested in this application. Provide corresponding Chemical Abstract Service Registration Numbers (CASRN). Be specific and avoid trade names. For commercial (non-manufacturing) facilities, provide a list of chemicals used on-site which could impact effluent quality. Attach additional pages if necessary.

Note: If a material meeting the description above is confidential information as defined by 30 TAC §1.5(d), the requirements of this provision may be satisfied by identifying the existence of the material and providing non-confidential information about the material. The applicant must submit adequate information about the material, as determined by the Executive Director, for the Executive Director to complete the technical review of the application.

- e. Attach a facility map (drawn to scale) showing the following information:
 - Production areas, maintenance areas, materials handling areas, and waste disposal areas.
 - Location of each unit of the wastewater treatment plant including the location of sumps, impoundments, and outfalls (also include locations of sampling points if significantly different from outfall locations).

Provide a reference to the attachment with the above information in the space provided.

- f. If this is a new permit application for an existing facility, check **yes**. Otherwise, check **no**.

If **yes**, provide background discussion which explains the reason for pursuing an authorization to dispose of wastewater (e.g., new process which generates wastewater, enforcement action, etc.).

- g. If the existing or planned treatment facility or disposal site is or will be located above the elevation of the 100-year frequency flood event, check **yes**. Otherwise, check **no**. List the source of data you used to make your determination. Treatment units and disposal sites must be protected from inundation from a 100-year frequency flood event.

If **no**, provide the elevation of the 100-year frequency flood plain and describe what protective measures are in use or planned to be used to prevent flooding of the treatment facility/disposal area. If applicable, provide the size of dikes or other protective structures being utilized. Include a site map showing the location of the treatment plant/disposal area within the 100-year frequency flood level.

- h. For **new or amendment** permit applications, if any construction operations will result in a discharge of fill material into a water in the state, check **yes**. Otherwise, check **no**.
- i. If **yes** to the above question, provide (if available) the U.S. Army Corps of Engineers (USACE) CWA Chapter 404 Dredge and Fill Permit Number for purposes of tracking the 401 certification by the TCEQ.

If **no**, provide the approximate date you plan to submit your application to the Corps.

Note: It is the responsibility of the applicant to contact the USACE to obtain all necessary authorization, including a Federal CWA Chapter 404 Dredge and Fill permit, if necessary. The TCEQ is responsible for certifying that federal permits for the discharge of fill material into waters in the state are consistent with the state water quality standards. This information about the USACE 404 discharge permit is requested to ensure the most efficient review of all actions by TCEQ on a wastewater discharge permit that also requires a USACE permit.

2. TREATMENT SYSTEM

- a. List any physical, chemical, or biological treatment process(es) that you use to treat wastewater authorized or to be authorized for disposal at your facility. This list should be specific and include each unit in the treatment process and dimensions (e.g., dissolved air flotation, chemical precipitation, equalization, pH control, aeration, steam stripping, clarification, anaerobic lagoon). Please specify the associated outfall for each treatment unit and which wastewaters are chlorinated prior to discharge.
- b. Attach a flow schematic **with a water balance** showing each treatment unit (including any lagoons, ponds, or impoundments) and all sources of wastewater flow into the treatment plant and to each outfall/point of disposal. Provide the attachment number in the space provided. This schematic should include all process wastewater, cooling water, domestic wastewater, and stormwater. The water balance must show average flows at intake, between units, treatment units, and discharge points. If a water balance cannot be determined (e.g., for certain mining activities), the applicant may provide instead a pictorial description of the nature and amount of any sources of water and any collection and treatment measures. (See Appendix 3 for an example of a water balance schematic.)

3. IMPOUNDMENTS

If impoundments (e.g., lagoons or ponds) are used or are planned to be used for treatment, disposal, containment, or evaporation of wastewater, check **yes**. Otherwise, check **no**.

If **yes**, complete **Item 3.a** for **existing** impoundments and **Items 3.a – 3.f** for **new or proposed** impoundments.

If **no**, proceed to Item 4.

For permit applications with more impoundments than spaces provided, copies of page 4 may be used to provide the appropriate information on the additional outfalls and numbered accordingly (i.e., page 4a, 4b, etc.).

Please Note: Surface impoundments may also require additional authorizations from the TCEQ Waste Permits Division.

a. Provide the following information for each existing impoundment:

Use Designation: Indicate the appropriate use designation for each existing or proposed impoundment by designating “T” for treatment, “D” for disposal, “C” for containment, or “E” for evaporation.

Associated Outfall Number: If discharge occurs from the impoundment(s), provide a response to this item by designating the outfall associated with each impoundment. If there are multiple impoundments contributing to an individual outfall, indicate the same outfall for the respective ponds. Indicate “N/A” if there are no discharges associated with any of the impoundments.

Liner Information: Review the following liner types and specifications.

Compacted Clay Liner: The soil liner shall contain at least 3 feet, along the sides and bottom, of clay-rich soil material compacted in lifts of no more than 9 inches, to 95% standard proctor density at the optimum moisture content to achieve a permeability equal to or less than 1×10^{-7} cm/sec.

In-Situ Clay Liner: The soil liner shall contain at least 3 feet, along the sides and bottom, of clay-rich soil material having more than 30% passing a 200-mesh sieve, liquid limit greater than or equal to 30%, and a plasticity index greater than or equal to 15, to achieve a permeability equal to or less than 1×10^{-7} cm/sec.

Synthetic/Plastic/Rubber Liner: The liner shall be either a plastic or rubber membrane liner at least 40 mils in thickness which completely covers the sides and the bottom of the pond and which is not subject to degradation due to reaction with wastewater with which it will come into contact. If this lining material is vulnerable to ozone or ultraviolet deterioration it should be covered with a protective layer of soil of at least 6 inches. A leak detection and leak collection system is also required.

If the impoundments are lined to comply with the liner specifications outlined above, indicate so by providing one of the following letter designations for the appropriate liner type: 1) compacted clay liner (C), 2) in-situ clay liner (I), or 3) synthetic/plastic/rubber liner (S). All new impoundments shall meet the requirements of one of the specified liner types. If the existing pond liner does not meet these specifications, provide a reference to the attachment that provides a description of the alternate liner and any additional technical information necessary for an evaluation.

Dimensions: Provide the following information regarding the dimensions of the impoundments using units indicated for each:

- length
- width
- depth from water surface at maximum capacity—excluding two (2) feet of freeboard for all proposed impoundments and excluding the amount of freeboard required for all existing impoundments.
- average depth from natural ground level—should not include bermed or elevated portions of the impoundments.

- maximum depth from natural ground level—should not include bermed or elevated portions of the impoundments.
- depth of freeboard—for existing impoundments, indicate the required freeboard; for proposed impoundments, indicate the design freeboard.
- compliance with 40 CFR Chapter 257, Subchapter D, indicate by checking **yes** or **no** if compliance is required

For impoundments with irregular shapes, provide surface area (instead of length and width), the average depth, and the maximum depth below natural ground level.

Items 3.b. through 3.f. are required only for new or proposed impoundments.

- b. Submit any available data on the following items and provide a reference to the attachment in the space provided.
1. For impoundments using a compacted clay liner: liner permeability, liner thickness, test results on liner compatibility with appropriate wastes, test results from clay borrow source, test results from liner construction, etc.
 2. For impoundments using in-situ soils as the liner: soils boring information, the depth of impermeable clay soils, test results on soil permeability, procedures for compaction of top layer of in-situ soil, etc.
 3. For impoundments using a synthetic liner: liner material, liner thickness, test results on liner compatibility with appropriate wastes, test results from installation, documentation of the leak detection and leachate collection system, etc.

- c. If any leak detection systems or groundwater monitoring wells are in place or are planned, check **yes**. Otherwise, check **no**.

If **yes**, describe in a separate attachment the leak detection system for each pond or attach any available groundwater monitoring well data. Provide a reference to the attachment in the space provided. All groundwater monitoring wells must be numbered and accurately located on a map submitted with the application.

Existing groundwater monitoring data should be summarized and evaluated to determine whether there is a statistically significant trend in concentrations or a statistically significant difference compared with background. The groundwater monitoring summary should also include information on the monitoring wells such as the driller's logs, well completion data, groundwater elevations, sampling procedures, etc.

- d. If the bottom of the pond is above the seasonal high water table in the shallowest water bearing zone, check **yes**. Otherwise, check **no**.

If **no**, provide additional information as an attachment describing the depth of the seasonal high water in the shallowest water bearing zone in relation to the depth of the bottom of the new or proposed impoundment and how this may or may not impact groundwater. Provide the attachment number in the space provided.

- e. On a USGS quadrangle map, accurately locate and identify water supply wells and monitor wells within a 1/2-mile radius of the impoundments and attach to the application. Copies of the original USGS quadrangle maps with the appropriate information may suffice provided that they are color copies of original quality and scale and all the features of the original map and the information required by this item are legible and can be clearly deciphered. Provide the attachment number in the space provided.

- f. The well locations may also be provided in the map required in Item 8.b of the Administrative Report. Attach copies of State Water Well Reports (driller's logs, completion data) and data on depths to groundwater for water supply wells and monitor wells, including a description of how the depths to groundwater were obtained, and provide the attachment number in the space provided. Well reports may be obtained by accessing the [Texas Water Development Board \(TWDB\) Water Information Integration and Dissemination \(WIID\)](http://wiid.twdb.state.tx.us/) website at <http://wiid.twdb.state.tx.us/>. This website stores water well and groundwater information from TWDB, Texas Department of Licensing and Registration, and TCEQ records files.
- g. **For TLAP permit applications:** If the impoundments and the land application area encompass the same general area, check **yes**. Otherwise, check **no**. If **yes**, provide information for this item in Worksheet 3.0 (item 5).
- h. Attach information pertaining to the groundwater, soils, geology, etc. that has been or can be used to assess the potential for migration of wastes from the impoundments and the potential for contamination of groundwater or surface water, and provide the attachment number in the space provided. Additional data may include logs and location plats of borings, soil analyses, water quality data, etc.

4. **OUTFALL/DISPOSAL METHOD INFORMATION**

Please complete the tables to provide the following information concerning each outfall for discharge operations and each final point of effluent disposal for no-discharge operations:

- latitude and longitude
- description of the location of each outfall/point of disposal and the sampling location (if different)
- description of the flow and duration of each discharge or disposal operation
- additional description of the characteristics (e.g., pumped vs. gravity discharge, etc.) of each discharge or disposal operation
- list of contributing wastestreams (e.g. process wastewater, cooling tower blowdown, once through cooling water, sanitary wastewater) and flow and percent of total flow for each.

For permit applications with more than six outfalls, copies of page 8 (numbered page 8a, page 8b, etc.) may be used to provide the information on the additional outfalls.

Note: For TLAP permit applications, indicate the disposal method and the individual application area (I), evaporation pond (E), or subsurface drainage system (S) by providing the appropriate letter designation for the disposal method followed by a numerical designation for each disposal area (e.g. pond, application area) in the space provided for "Outfall" designation. (i.e., "E1" for evaporation pond 1, "I2" for application area No. 2, etc.).

Outfall Latitude and Longitude: Provide the latitude and longitude (either in degrees, minutes, and seconds or in decimal degrees to six decimal places) to the nearest 15 seconds of each outfall for TPDES permit applications or each final point of disposal for TLAP applications. For TLAP applications, the specified sampling point may suffice as the final point of disposal for location information purposes.

Outfall Location Description: Provide a narrative description of the outfall or final point of disposal (e.g. Outfall 001; at the outlet weir of the treatment plant prior to entering the river or where effluent is land applied via the irrigation system on tract 3).

Description of Sampling Points: Provide a narrative description of the sampling point for each outfall if the sampling point is not at the physical outfall location.

Outfall Flow Information - Permitted and Proposed: Provide the daily average and daily maximum flow information in million gallons per day (MGD) in the spaces provided using the permitted flow for existing facilities and the proposed flow for new or amendment permit applications (e.g., 0.5 MGD daily average and 1.0 MGD daily maximum).

Outfall Discharge - Method and Measurement: Indicate with a “Y” or “N” whether discharges via the permitted or proposed outfall are through a gravity/flow-through system or whether discharges are a result of pumping.

Provide the type of flow measurement device (e.g., V-notch weir, Totalizer, Parshall Flume) used or to be used to measure flow from discharge via the permitted or proposed outfall; from the treatment system to the storage/disposal system for TLAP permits; or from the storage system to the irrigation system for TLAP permits.

Outfall Discharge - Flow Characteristics: Indicate the duration of the discharge in hours/day, days/month, and months/year. Existing permits should base the response on historical discharge data. New or amended facilities should base the response on design flow rates and discharge durations. Note: This information should be representative of periods of the maximum volume or duration of discharge anticipated at the facility. If necessary, please provide additional information to clarify or explain an atypical discharge duration or frequency.

Indicate with a “Y” or “N” whether the permitted or proposed discharge is continuous, intermittent, or seasonal.

A **continuous discharge** is defined (*40 CFR §122.2*) as a discharge that occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

A **seasonal discharge** is considered to be a continuous discharge which typically only occurs during a fraction of a calendar year (e.g., a peaking power plant which primarily operates and discharges during summer months). The response to this item should correspond to the information provided for discharge duration.

Wastestream Contributions: Provide a list of the wastestreams to be discharged or disposed of via each outfall. Provide the volume and the percent contribution of the total discharge for each wastestream. (Example for a total flow of 1.2 MGD – process wastewater: 0.22 MGD/18%; boiler blowdown: 0.18 MGD/15%; once through cooling water: 0.65 MGD/54%; sanitary wastewater: 0.15 MGD/13%).

If there are additional outfalls at the facility than the spaces provided, copy page 8 of this report, complete the wastestream contributions for each outfall, and attach to the application. Provide the attachment number in the space provided.

NOTE: Low-volume waste sources may not include wastestreams from the following processes:

- combustion residual leachate,
- flue gas desulfurization,
- flue gas mercury control, or
- gasification.

These wastestreams must be listed as individual wastestream contribution to an outfall.

5. BLOWDOWN AND ONCE-THROUGH COOLING WATER DISCHARGES

- a. If the facility uses cooling towers or boilers that discharge blowdown or other wastestreams to any of the outfall(s), check **yes**. Otherwise, check **no**.
- b. If the facility discharges once-through cooling water to any of the outfall(s), check **yes**. Otherwise, check **no**.
- c. If **yes** to either Item a **or** b, provide material safety data sheets (MSDS) with the following information on all chemical additives including biocides used for cooling towers, boilers, and once-through cooling discharges.
 - Manufacturer's Product Identification Number
 - Product use (e.g., biocide, fungicide, corrosion inhibitor, etc.)
 - Chemical composition including CASRN for each ingredient
 - Classify product as non-persistent, persistent, or bioaccumulative
 - Product or active ingredient half-life
 - Frequency of product use (e.g., 2 hrs/day once every two weeks)
 - Product toxicity data specific to fish and aquatic invertebrate organisms. If this data is for the whole product or active ingredient, provide the concentration of the whole product or the concentration of the active ingredient in the respective wastestream.

For guidance in determining the product classification, you may refer to pages 143-146 of the *Procedures to Implement the Texas Surface Water Quality Standards* (RG-194), June 2010. If aquatic toxicity information is not available, additional effluent biomonitoring may be required.

Provide MSDS with the information specified above for each specific wastestream and the associated chemical additives, and specify which outfalls are affected. If the MSDS do not contain the information specified above, it will be necessary to obtain the information from the manufacturer. Provide a summary attachment of the MSDS in addition to the submittal of the MSDS for each specific wastestream and the associated chemical additives and specify which outfalls are affected. Provide a reference to the attachment with the above information in the space provided.

- d. **Cooling towers and boilers:** Provide information in the spaces provided for the total number of cooling towers and boilers on-site and the daily average and daily maximum volume of total blowdown discharged to the outfall(s).

6. STORMWATER MANAGEMENT

If any existing or proposed outfalls discharge or propose to discharge stormwater runoff commingled with other wastestreams, check **yes**. Otherwise, check **no**.

If **no**, proceed to Item 7. (**Note:** If discharges via existing or proposed outfalls consist of stormwater runoff **only**, Worksheet 7.0 may be required to be completed and submitted with this application. See instructions for Worksheet 7.0 for further guidance.)

If **yes**, provide the following information:

For each outfall with a component of stormwater runoff, provide a brief narrative description of the industrial processes and activities that occur outdoors or in some manner that may result in exposure of

the materials to precipitation or runoff in areas where runoff is generated (e.g., coal pile storage area, equipment washdown area, maintenance chemical storage area, etc.).

Note: Analytical testing is required if the pollutants listed in Table 3 of Worksheet 2.0 are believed to be present as a result of contact with stormwater runoff contributing to the discharge via the appropriate outfall(s).

7. DOMESTIC SEWAGE, SEWAGE SLUDGE, AND SEPTAGE MANAGEMENT AND DISPOSAL

- e. Please check the method(s) used for treatment/disposal of domestic sewage and domestic sewage sludge and complete Worksheet 5.0 if so directed:
- Facility is connected to a wastewater treatment plant permitted to receive domestic sewage, or the domestic sewage is transported off-site to a permitted facility for treatment, disposal, or both. If this item describes the management of domestic sewage at the facility, **complete Item 7.b.**
 - Domestic sewage is disposed of by on-site septic tank. If this item describes the management of domestic sewage at the facility, **complete Item 7.b.**
 - Domestic treatment sludges or domestic septage **ARE commingled** with industrial wastewater treatment sludges prior to sludge use or disposal. If this item describes the management of domestic sewage at the facility, **proceed to Item 8.**
 - Industrial wastewater and domestic sewage are treated separately. Domestic treatment sludges and domestic septage **ARE NOT commingled** with industrial wastewater treatment sludges prior to sludge use or disposal. If this item describes the management of domestic sewage at the facility, **complete Worksheet 5.0 of the application.**
 - If your facility is a POTW, **complete Worksheet 5.0 of the application.**
 - Domestic sewage is not generated on-site. If domestic sewage is not generated on-site, **proceed to Item 8.**
 - If domestic sewage is managed by a method other than those mentioned above (e.g., portable toilets), provide a description of the management of the waste and the disposal method in the space provided.
- f. If instructed to do so by the previous item, provide the name and TCEQ, NPDES, or TPDES Permit No. of the waste disposal facility which receives the domestic sewage/septage. If the domestic sewage/septage is hauled by motorized vehicle, provide the name and TCEQ Registration No. of the hauler.

8. IMPROVEMENTS OR COMPLIANCE/ENFORCEMENT REQUIREMENTS

If this facility is currently required to meet any implementation schedule for the construction, operation, or upgrading of its wastewater treatment equipment, check **yes**. Otherwise, check **no**. This requirement includes:

- Federal, State, or local authority permit conditions,
- administrative or enforcement orders,
- enforcement compliance schedule letters,
- stipulations,
- court orders, or
- grant and loan conditions.

If **yes**, provide a brief summary of the requirements which includes:

- a background discussion of the requirements,
- an identification of each compliance/abatement requirement, and
- a listing of the required and projected final compliance dates.

9. TOXICITY TESTING

If you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last three years, check **yes**. Otherwise, check **no**. If **yes**,

- identify the tests and describe their purposes in the space provided, and
- attach copies of all test performed that have not been previously submitted to the TCEQ or the EPA, and provide the attachment number in the space provided..

10. OFF-SITE/THIRD PARTY WASTES

If this facility receives wastes from off-site sources for treatment in your facility, disposal on-site via land application (irrigation, evaporation, etc.), or discharge via a permitted outfall, check **yes**. Otherwise, check **no**.

If **no**, proceed to Item 11.

If **yes**, provide responses to the following items. **Note:** Please review *40 CFR Part 437* (Centralized Waste Treatment) to determine the applicability of these guidelines to your facility.

- a. Include a detailed attachment that includes a list of the waste(s) received (including volumes, characterization, and compatibility with on-site wastes), identify the source(s) of the waste(s) (name and address of the generator), and describe the relationship of the waste source(s) with your facility's activities. Please be specific in identifying off-site waste sources, in characterizing these wastes, and in assessing the compatibility of these wastes with the existing or proposed treatment available at the facility. Provide an attachment number in the space provided.
- b. If wastewater from a TCEQ, NPDES, or TPDES permitted facility is commingled with your wastewater after your final treatment and prior to discharge via your final outfall/final point of disposal, check **yes**. Otherwise, check **no**.

If **yes**, provide the name, address, and TCEQ, NPDES, or TPDES permit number of the contributing facility and a copy of any agreements or contracts relating to this activity as an attachment. Provide the attachment number in the space provided..

- c. If this facility is a Publicly Owned Treatment Works (POTW) that accepts process wastewater from any Significant Industrial User (SIU) and has or is required to have an approved pretreatment program under the NPDES/TPDES program, check **yes**. Otherwise, check **no**. **Note:** certain political subdivisions were created by the State of Texas to provide regional municipal and industrial wastewater treatment. Therefore, the wastewater treatment facilities owned by these political subdivisions are POTWs.

If **yes**, complete **Worksheet 6.0** of the application.

If **no**, do not complete **Worksheet 6.0**.

11. RADIOACTIVE MATERIALS

Radioactive materials shall not be discharged in excess of the amount regulated by 30 TAC Chapter 336 (Radioactive Substance Rules) in accordance with 30 TAC §7.118 (Memorandum of Understanding between the Texas Department of Health and the Texas Commission on Environmental Quality Regarding Radiation Control Functions).

- d. If radioactive materials are mined, used, stored, or processed at this facility, check **yes**. Otherwise, check **no**.

If **yes**, list the radioactive materials and provide the results of at least one analysis of your effluent in picoCuries per liter (pCi/L) for all radioactive parameters which may be present. (This requirement is not applicable to radioactive materials fixed in a device or instrument.) If this application is for a new facility, submit results from similar facilities, treatability studies, or literature sources.

- e. If you have any knowledge or reason to believe that radioactive materials may be present in the discharge, including naturally occurring radioactive materials in the source waters or on the facility property, check **yes**. Otherwise, check **no**.

If **yes**, list the radioactive materials and provide the results of at least one analysis of your effluent in picoCuries per liter (pCi/L) for all radioactive parameters which may be present. (This requirement is not applicable to radioactive materials fixed in a device or instrument.) If this application is for a new facility, submit results from similar facilities, treatability studies, or literature sources. Do not include information provided in response to Item 11.a.

Notes on Items 12, 13, and 14:

- Items 12, 13, and 14, are only required for existing permitted facilities.
- For amendment without renewal applications, please note that only the parts of the application which are applicable to the amendment request are required to be submitted. Please contact and coordinate with the program area to determine what specific information will be required to be submitted with the amendment application.

12. MAJOR AMENDMENT REQUESTS

If you are requesting a **major amendment** of an existing permit, check **yes**. Otherwise, check **no**. A major amendment is defined in *30 TAC §305.62(c)(1)* as an amendment that changes a substantive term, provision, requirement, or a limiting parameter of a permit. Examples of a major amendment request include, but are not limited to: an increased flow limit, a reduced monitoring frequency, removal of an effluent limitation, addition of a new wastestream, addition of a new outfall, etc.

If **yes**, list each specific request and provide discussion on the scope of any requested permit changes in the space provided. Explain why the permit amendment is needed and provide supplemental information or additional data that will support the request. For example, if your request is to increase a flow limit, provide an explanation which justifies an increased volume of discharge (e.g. expanded production, additional boilers/cooling towers, change in process, etc.). Provide an attachment and an attachment number if additional information is necessary. If **no**, proceed to Item 13.

13. MINOR MODIFICATION REQUESTS

If you are requesting any minor modifications to the permit, check **yes**. Otherwise, check **no**. A minor modification is defined in *40 CFR §122.63* and *30 TAC §305.62(c)(3)* as a change for the purpose of making corrections or allowances for changes. Minor modifications may only:

- correct typographical errors
- require more frequent monitoring or reporting by the permittee
- change an interim compliance date in a schedule of compliance (not to exceed 120 days of date specified in existing permit and will not interfere with final compliance date)
- allow for a change in ownership or operational control of a facility where the Director determines that no other change in the permit is necessary
- (1) change the construction schedule for a discharger which is a new source
(2) delete a point source outfall when the discharge from that outfall is terminated
- incorporate conditions of a POTW pretreatment program as enforceable conditions of the POTW's permits

If **yes**, provide an itemized list and discuss the requested changes in the space provided. Provide an attachment and an attachment number if additional information is necessary. If **no**, proceed to Item 14.

14. MINOR AMENDMENT REQUESTS

If you are requesting any **minor amendments** to the permit, check **yes**. Otherwise, check **no**. A minor amendment is defined in *30 TAC §305.62(c)(2)* as an amendment to improve or maintain the permitted quality or method of disposal of waste. A minor amendment includes any other changes that will not cause or relax a standard or criterion which may result in a potential deterioration of water quality in the state.

If **yes**, provide an itemized list and discuss the requested changes in the space provided. Provide an attachment and an attachment number if additional information is necessary

WORKSHEETS TO THE INDUSTRIAL WASTEWATER PERMIT APPLICATION TECHNICAL REPORT

The following worksheets may be required to be completed and submitted with the permit application. Depending on the method of disposal, authorizations being sought, or the permitted flow from the facility, some of the following worksheets must be submitted as part of the application. Please indicate on page 1 of the Administrative Report whether the worksheet is completed and submitted with the application based on the following information.

WORKSHEET 1.0: EPA CATEGORICAL EFFLUENT GUIDELINES

If the applicant seeks authorization to discharge wastewaters which are subject to EPA categorical effluent guidelines - 40 CFR, Parts 400 - 471, complete and submit this worksheet.

Note: See the table on page 51 of these instructions for a listing of all industries and businesses that are subject to categorical effluent guidelines.

WORKSHEET 2.0: POLLUTANT ANALYSES REQUIREMENTS

Applicants submitting a renewal, amendment, or new permit application for a TPDES permit are required to complete and submit this worksheet for each outfall. Applications for a permit to dispose of all wastewater by land application or permit applications applying for individual TPDES permit coverage for discharges consisting only of stormwater runoff are not required to complete this worksheet.

WORKSHEET 3.0: LAND APPLICATION OF EFFLUENT

If the application requests authorization to dispose of wastewater via land application (i.e., irrigation, subsurface disposal, evaporation, etc.), complete and submit this worksheet.

WORKSHEET 3.1: SURFACE LAND APPLICATION AND EVAPORATION

If the land disposal method is or will be by surface land application (i.e., irrigation, overland flow, etc.) or evaporation, complete and submit this worksheet.

WORKSHEET 3.2: SUBSURFACE IRRIGATION SYSTEMS (NON-DRIP)

If the land disposal method is or will be by a subsurface land application non-drip system (i.e., conventional drainfield, pressure dosing, mound system, etc.), complete and submit this worksheet.

Note: All applicants authorized for or proposing subsurface disposal MUST also complete and submit **Worksheet 9.0 – Class V Injection Well Inventory/Authorization Form.**

WORKSHEET 3.3: SUBSURFACE AREA DRIP DISPERSAL SYSTEMS

If the land disposal method is or will be by a subsurface area drip dispersal system, complete and submit this worksheet.

Note: All applicants authorized for or proposing subsurface disposal MUST also complete and submit **Worksheet 9.0 – Class V Injection Well Inventory/Authorization Form.**

WORKSHEET 4.0: RECEIVING WATERS

If the application includes the discharge of wastewater directly to surface waters in the state (e.g., to Doe Creek or to an unnamed tributary), complete and submit this worksheet.

WORKSHEET 4.1: STREAM PHYSICAL CHARACTERISTICS

If the application is for a designated major permit, a new permit application, or an amendment to add a new outfall, complete and submit this worksheet.

WORKSHEET 5.0: SEWAGE SLUDGE MANAGEMENT AND DISPOSAL

If sewage sludge is managed or disposed of in accordance with the conditions specified in Item 7 of Technical Report 1.0, complete and submit this worksheet.

WORKSHEET 6.0: INDUSTRIAL WASTE CONTRIBUTION

If the facility is a Publicly Owned Treatment Works (POTW), complete and submit this worksheet.

Note: privately-owned facilities **do not** need to submit this worksheet.

WORKSHEET 7.0: STORMWATER RUNOFF

If the application is for an individual TPDES permit for outfalls with discharges consisting of stormwater runoff only or of stormwater runoff and one or more non-stormwater wastestreams (see General Definitions, page 8), complete and submit this worksheet.

WORKSHEET 8.0: AQUACULTURE

If the application is for an individual TPDES permit for outfalls with discharges of wastewater resulting from aquaculture activities, complete and submit this worksheet.

WORKSHEET 9.0: CLASS V INJECTION WELL INVENTORY/AUTHORIZATION FORM

If the application includes the disposal of wastewater via subsurface disposal, complete this worksheet and submit it to the appropriate program area as directed.

WORKSHEET 10.0: QUARRIES IN THE JOHN GRAVES SCENIC RIVERWAY

If the application is for an individual TPDES permit for outfalls with discharges of wastewater from a municipal solid waste or mining facility located within a water quality protection area in the John Graves Scenic Riverway, complete and submit this worksheet.

WORKSHEET 11.0: COOLING WATER INTAKE STRUCTURES

If the application is for an individual TPDES permit for a facility that has a cooling water intake structure, complete and submit this worksheet.

INSTRUCTIONS FOR INDUSTRIAL WORKSHEET 1.0

EPA CATEGORICAL EFFLUENT GUIDELINES

Worksheet 1.0 **is required** for all applications for TPDES permits for discharges of wastewaters subject to EPA categorical effluent guidelines.

1. CATEGORICAL INDUSTRIES

Review the table below, which lists effluent limitation guidelines found in *40 CFR Parts 400 – 471*, to determine whether your facility is subject to any categorical effluent guidelines. More than one category may apply.

Table 3: Categorical Industries

INDUSTRY	CFR	INDUSTRY	CFR
Dairy Products Processing	405	Mineral Mining and Processing	436
Grain Mills	406	Centralized Waste Treatment	437
Canned and Preserved Fruits and Vegetables	407	Metal Products and Machinery *	438
Canned and Preserved Seafood Processing	408	Pharmaceutical Manufacturing	439
Sugar Processing	409	Ore Mining and Dressing	440
Textile Mills	410	Transportation Equipment Cleaning	442
Cement Manufacturing	411	Paving and Roofing Materials	443
Feedlots	412	Waste Combusters	444
Electroplating	413	Landfills	445
Organic Chemicals, Plastics, and Synthetic Fibers*	414	Paint Formulating	446
Inorganic Chemicals	415	Ink Formulating	447
Soap and Detergent Manufacturing	417	Airport Deicing *	449
Fertilizer Manufacturing	418	Construction and Development *	450
Petroleum Refining	419	Concentrated Aquatic Animal Production *	451
Iron and Steel Manufacturing	420	Gum and Wood Chemicals Manufacturing	454
Nonferrous Metals Manufacturing	421	Pesticide Chemicals	455
Phosphate Manufacturing	422	Explosives Manufacturing	457
Steam Electric Power Generating	423	Carbon Black Manufacturing	458
Ferroalloy Manufacturing	424	Photographic	459
Leather Tanning and Finishing	425	Hospital	460
Glass Manufacturing	426	Battery Manufacturing	461
Asbestos Manufacturing	427	Plastics Molding and Forming	463
Rubber Manufacturing	428	Metal Molding and Casting	464
Timber Products Processing	429	Coil Coating	465
Pulp, Paper, and Paperboard	430	Porcelain Enameling	466
Meat Products	432	Aluminum Forming	467
Metal Finishing	433	Copper Forming	468
Coal Mining	434	Electrical and Electronic Components	469
Oil and Gas Extraction	435	Nonferrous Metals Forming and Metal Powders	471

* New effluent guidelines approved since last application revision

Check **yes** if your facility is seeking authorization or is currently permitted to discharge wastewater subject to one or more of the effluent guidelines referenced in Table 1. Otherwise check **no**.

If **yes**, provide the appropriate category and the associated 40 CFR reference in the space provided and proceed through the worksheet as directed.

If **no**, you are not required to complete this worksheet.

Note: TLAP applications are not required to include this worksheet.

2. PRODUCTION/PROCESS DATA

Industrial wastewater must be treated to levels that meet the requirements of applicable EPA Effluent Limitation Guidelines in *40 CFR Parts 400 - 471*. Therefore, the permit application must contain all information necessary to calculate permit limits based on these guidelines.

a. Production Data

If limitations in the above referenced guidelines that apply to your facility are expressed in terms of production (e.g., lbs of pollutant/1000 lbs of production), provide a quantity representative of the actual level of production over the last three years, if available, for each category or subcategory. For refineries (*40 CFR Part 419*), please include the size of each process unit, the throughput of the refinery, and the throughput of each unit.

b. Organic Chemicals, Plastics, and Synthetic Fibers Manufacturing Data (40 CFR Part 414):

For facilities subject to effluent limitation guidelines for organic chemicals, plastics, and synthetic fibers manufacturing, provide the fraction of total plant production that falls into each subpart (for instance, 45% commodity chemicals, 35% bulk chemicals, and 30% specialty chemicals). Also, identify processes in *40 CFR Part 414, Appendices A and B*, that are used, and provide the flow of metal bearing waste streams and cyanide bearing waste streams, if any. See *40 CFR Part 414*.

c. Refineries (40 CFR Part 419)

For facilities subject to effluent limitation guidelines for refineries (*40 CFR Part 419*), please identify the specific subcategory (i.e., topping, cracking, petrochemical, lube, or integrated) your facility is classified as, and include a justification for the classification and how it is applicable to your operations in the space provided.

3. PROCESS/NON-PROCESS WASTEWATER FLOWS

Provide a breakdown of all process wastewater flows and non-process wastewater flows as defined for the industry in the appropriate guideline category. This quantitative listing of all wastewater sources is required in addition to a schematic flow diagram and the outfall information.

4. NEW SOURCE DETERMINATION

Please list all the processes that are **both** subject to EPA Effluent Limitation Guidelines **and** generate a wastewater that is discharged or proposed to be discharged via this permit. Please provide the appropriate 40 CFR Part and Subpart (if any) for each process listed. For existing facilities, provide the date each process began, which may include the date construction for the process commenced.

INSTRUCTIONS FOR INDUSTRIAL WORKSHEET 2.0 POLLUTANT ANALYSES REQUIREMENTS

Worksheet 2.0 contains 13 analytical tables, some or all of which may need to be completed in order for the application to be technically complete.

Worksheet 2.0 **is required** for applicants submitting a renewal, amendment, or new permit application for a TPDES permit.

Worksheet 2.0 **is not required** for applications for a TLAP or for individual TPDES permit coverage for discharges of stormwater runoff only.

1. LABORATORY ACCREDITATION CERTIFICATION

Effective July 1, 2008, all laboratory tests performed must meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification* with the following general exemptions:

- a. The laboratory is an in-house laboratory and is:
 1. periodically inspected by the TCEQ; or
 2. located in another state and is accredited or inspected by that state; or
 3. performing work for another company with a unit located in the same site; or
 4. performing pro bono work for a governmental agency or charitable organization.
- b. The laboratory is accredited under federal law.
- c. The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.
- d. The laboratory supplies data for which the TCEQ does not offer accreditation.

The applicant should review *30 TAC Chapter 25* for specific requirements. The certification statement must be signed and submitted with every application. See page 34 of these Instructions for a list of designated representatives who may sign the certification.

See Worksheet 7.0 for analytical data requirements for outfalls that discharge only stormwater. See Worksheet 3.0 for analytical data requirements for TLAPs.

2. GENERAL TESTING REQUIREMENTS

All information submitted with this worksheet shall comply with the following requirements:

- **Analytical data provided in the application must be sampled within one year prior to the date the application is submitted to the TCEQ.**
- All sampling and laboratory testing methods should be performed according to *30 TAC Chapter 319, General Regulations Incorporated into Permits*. All testing must conform to EPA approved methodologies for sample collection, preservation, analysis, and detection levels. In addition, this data must comply with the quality assurance/quality control (QA/QC) requirements of *40 CFR Part 136* and other appropriate QA/QC requirements for standard and suggested methods for analytes not addressed by *40 CFR Part 136*.

- For **all pollutants regulated in your existing permit**, report the analytical results from the four most recent samples from the Monthly Effluent Reports (MERs) or Discharge Monitoring Reports (DMRs) and the averages of these values regardless of the required monitoring frequency.
- **Tables 1, 2, 3, 4, and 5:** For **pollutants not regulated in your existing permit**, provide the analytical results from at least four separate grab or composite samples collected at a frequency of once per week for a period of four weeks from the wastewater stream unless otherwise specified in the application or approved by the TCEQ. Also, provide the average of the four samples calculated as directed below. Approval to submit less than four samples should be obtained from the TCEQ prior to application submittal.
- **Tables 6, 8, 9, 10, 11, 12, and 13:** For **pollutants not regulated in your existing permit**, average and maximum concentrations may be calculated from at least one analytical result obtained from a grab or composite sample. Indicate the number of samples analyzed for each pollutant. The quantitative data may be data collected over the past 365 days.
- **Test methods** must be sensitive enough to detect the pollutants at the minimum analytical level (MAL). These values are subject to change, and you may wish to contact the TCEQ Industrial Permitting Team before requesting these tests. Failure to use tests capable of meeting the MAL may compromise the analyses and retesting may be required. See “Minimum Analytical Levels and Suggested Methods for Application Screening” on pages 60-67 of these instructions.
- **Averaging Calculations:** When more than one analytical result is available or required, calculate the **average** values according to the following guidelines. In these instructions, the term “level of detection” shall be the level of detection achieved for that specific analytical test.
 - For any detectable result, the actual analytical result shall be used verbatim regardless of the MAL.
 - For any non-detectable result in which the level of detection was as sensitive as or more sensitive than the specified MAL **and** the analytical data for that parameter includes other samples with detectable results, the value of one-half of the level of detection shall be used for averaging purposes.

Example: Sample results are 14 µg/L, 12 µg/L, and two samples which were non-detect at a MAL of 10 µg/L; a value of 5 µg/L would be used for the “non-detects” for averaging purposes resulting in an average concentration of $(14 + 12 + 5 + 5)/4 = 9$ µg/L.
 - For any non-detectable result in which the level of detection was as sensitive as or more sensitive than the specified MAL and all sample results for that parameter were non-detect, the average shall be reported as less than the level of detection.

Example: All sample results are non-detect at a MAL of 10 µg/L; the average is reported as < 10 µg/L.
 - For any non-detectable result in which the level of detection was **not** as sensitive as the specified MAL, a value equivalent to the level of detection shall be used for averaging and reporting purposes.

Example: The specified MAL is 10 µg/L and the sample results are 26 µg/L, 22 µg/L, and two samples which were non-detect at an achieved level of detection of 20 µg/L; a value of 20 µg/L would be used for the “non-detects” for averaging purposes resulting in an average concentration of $(26 + 22 + 20 + 20)/4 = 22$ µg/L.
- If any of the analyses reported in this application are performed by a contract laboratory or a consulting firm, provide the name, address, and telephone number for each laboratory/firm. Also specify which pollutants were analyzed by which laboratory/firm.
- If this application is for a new discharge, results from similar facilities, treatability studies, design information, or literature sources may be submitted when real effluent analytical data is not available. The basis of the “results” submitted should be explained.

- For facilities which have an intermittent discharge from final retention impoundments when the impoundments reach holding capacity and a discharge is not foreseen in the near future, samples of the effluent currently stored in the impoundment may be used to satisfy the analytical requirements.
- For each table indicate the sample type, either composite (C) or grab (G), by checking the appropriate letter designation. Also, provide the date and time the sample was collected.
- Grab samples must be used for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, *E. coli*, and Enterococci. For all other pollutants, 24-hour composite samples must be used.

3. SPECIFIC TESTING REQUIREMENTS

Following is a list of conditions that determine when a particular table is required to be completed and when it is not required. Please note that the term “complete table required” means that all pollutants listed on that table are required to be tested if the table is required. The term “partial table required” means that only certain pollutants from the table (as determined by the instructions) will be required to be tested if the table is required.

TABLE 1

Completion of Table 1 **is required** for all external outfalls that discharge any wastewater other than 1) stormwater runoff only, or other than 2) stormwater commingled with any non-stormwater wastestreams (see General Definitions, page 8). Completion of Table 1 is not required for internal outfalls. Report values in milligrams per liter (mg/L) unless other units are indicated.

TABLE 2

Completion of Table 2 **is required** for all external outfalls that discharge any wastewater other than 1) stormwater runoff only, or other than 2) stormwater commingled with any non-stormwater wastestreams (see General Definitions, page 8). Completion of Table 2 is not required for internal outfalls. Report values in micrograms per liter ($\mu\text{g/L}$) unless other units are indicated. Note that it is quite common for laboratories to report metal concentrations in mg/L.

TABLE 3

Completion of Table 3 **is required** for all external outfalls that discharge process wastewater. A partial table is required for all external outfalls with non-process wastewater discharges. Completion of Table 3 is not required for internal outfalls. Report values in $\mu\text{g/L}$ unless other units are indicated.

Table 3 contains a list of organic compounds included in the Texas Surface Water Quality Standards *at 30 TAC §307.6*.

For each external outfall that contains **process** wastewater, provide the results of an analysis of all pollutants.

For each external outfall with discharges of **non-process** wastewater (including noncontact cooling water), provide analysis only for those pollutants that are used at the facility as a feedstock, intermediate, product, by-product, co-product, maintenance chemical or that could in any way contribute to contamination in the wastewater streams.

If **stormwater runoff** is commingled with non-process wastewater prior to discharge via an external outfall, provide analysis only for those pollutants which may be present as a result of exposure to precipitation or runoff. Please respond with “N/A” for each individual pollutant that is not analyzed under these conditions.

Note: Cyanide must be tested for total cyanide or available cyanide, whichever is appropriate.

TABLE 4

Partial completion of Table 4 (only those pollutants that are required by the conditions specified) is required for each external outfall. Completion of Table 4 is not required for internal outfalls.

Table 4 contains testing requirements for the compound tributyltin and for the indicator bacteria Enterococci and *E. coli*. Not all applicants are required to test for tributyltin, Enterococci, or *E. coli*. Testing is required only under the conditions specified below.

a. Tributyltin

Testing is required for 1) industrial/commercial facilities which directly dispose of wastewater from the types of operations listed below or 2) domestic facilities which receive wastewater from the types of industrial/commercial operations listed below. If any of the conditions below apply to your facility, check **yes**. Otherwise, check **no**.

- Manufacturers and formulators of tributyltin or related compounds, including, but not limited to, SIC Code 2879
- Painting of ships, boats and marine structures, including, but not limited to, SIC Code 1721
- Ship and boat building and repairing, including, but not limited to, SIC Codes 3731, 3732 and 3441
- Ship and boat cleaning, salvage, wrecking and scaling, including, but not limited to, SIC Codes 4499 and 7699
- Operation and maintenance of marine cargo handling facilities and marinas, including, but not limited to, SIC Codes 4491 and 4493
- Facilities engaged in wood preserving, including, but not limited to, SIC Code 2491
- Any other industrial/commercial facility for which tributyltin is known to be present, or for which there is any reason to believe that tributyltin may be present in the effluent

If **yes**, indicate with a check mark in the spaces provided which types of operations apply and provide the appropriate testing results in Table 4. Report an average and maximum value if more than one analytical result is available.

If **no**, testing for tributyltin is not required.

b. Enterococci

Effluent testing is required for each existing or proposed outfall discharging **directly** into saltwater receiving waters (see definition of **saltwater** for further guidance) that either 1) contains domestic wastewater or 2) is expected to contain Enterococci based on processes at the facility. Answer either **yes** or **no** as to whether these conditions apply to your facility. If **yes for either or both questions**, provide the appropriate testing results in the table provided. Report an average (geometric mean) and maximum value if more than one analytical result is available. If no, no testing is required.

c. E. Coli

Effluent testing is required for each existing or proposed outfall discharging directly into freshwater receiving waters that either 1) contains domestic wastewater or 2) is expected to contain *E. coli* based on processes at the facility. Answer either **yes** or **no** as to whether these conditions apply to your facility. If **yes for either or both questions**, provide the appropriate testing results in the table provided. Report an average (geometric mean) and maximum value if more than one analytical result is available. If no, no testing is required.

TABLE 5

Completion of Table 5 is required for all external outfalls which discharge process wastewater and other wastewaters which may contain pesticides or herbicides from a facility that manufactures or formulates pesticides or herbicides. Completion of Table 5 is not required for internal outfalls.

Table 5 contains a list of pesticide compounds included in the *Texas Surface Water Quality Standards at 30 TAC §307.6*. Table 5 must be completed if the facility manufactures or formulates pesticides or herbicides. Testing is required for each existing or proposed outfall discharging wastewater that contains process wastewater or may contain pesticides or herbicides. If these conditions apply to your facility, check **yes**. Otherwise, check **no**.

If **yes**, provide the appropriate testing results in the table provided. Report an average and maximum value if more than one analytical result is available.

If **no**, testing is not required for Table 5.

TABLE 6

Completion of Table 6 is required for all external outfalls. Completion of Table 6 is not required for internal outfalls.

Review Table 6 and mark the appropriate column with an “X” based on whether you believe a specific constituent to be present or absent in your discharge. Base your determination on your knowledge of raw materials, maintenance chemicals, intermediates, and products handled at your facility or on previous analyses of your wastewater. Also, base your decisions on materials which may be exposed to precipitation or stormwater runoff, if stormwater runoff contributions are commingled with other wastestreams. You must provide the results of at least one analysis for each constituent believed present. Report an average and maximum value if more than one analytical result is available.

TABLE 7

A response is required for all permit applications.

Table 7 is a list of **primary** industrial categories with a breakdown of Gas Chromatography/ Mass Spectrometry (GC/MS) testing requirements for priority pollutants. Categories are defined in *40 CFR Parts 400 - 471*. Review all of the categories and indicate with a check mark any category that applies to your facility. If testing is required, indicate with a check mark in the box provided that the testing results for the appropriate parameters in Tables 8, 9, 10, and 11 are provided with the application. If none of these categories apply to your facility, indicate by checking “N/A.” If “N/A” is the appropriate response, no testing is required.

TABLES 8, 9, 10, and 11

Completion of Tables 8, 9, 10, and 11 is required for each external outfall as specified in Table 7. Completion of Tables 8, 9, 10, and 11 is not required for internal outfalls.

Table 8 contains a list of priority pollutants that are volatile compounds. Table 9 contains a list of priority pollutants that are acid compounds. Table 10 contains a list of priority pollutants that are base/neutral compounds. Table 11 contains a list of priority pollutants that are pesticides. If your facility is a **primary industry** as shown in Table 7 and process wastewater is discharged, you must analyze for those GC/MS fractions as shown in Table 7.

If your facility is **not** a primary industry, and if you believe that a specific constituent (except for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4,6 dinitrophenol) is present in an amount greater than 10 parts per billion (ppb), you must provide the results of at least one analysis.

If your facility is **not** a primary industry, and if you believe that acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4,6 dinitrophenol is present in an amount greater than 100 ppb, you must provide results for these chemicals.

Base your determination on your knowledge of raw materials, maintenance chemicals, intermediates, and products handled at your facility or analysis of your wastewater. Report an average and a maximum value if more than one analytical result is available.

TABLE 12

Partial completion of Table 12 (only those pollutants that are required by the conditions specified) is required for each external outfall. Completion of Table 12 is not required for internal outfalls.

Under certain conditions, the applicant may be responsible for providing analyses of the effluent from its process wastewater outfalls for Dioxin/Furan compounds. Please review the specified conditions and proceed as instructed. The applicant is required to report that 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) may be discharged if the applicant 1) knows or has reason to believe that TCDD or any congeners of TCDD will or may be present in the effluent or 2) uses or manufactures one of the compounds listed below.

a. Review the following list of compounds and answer either **yes** or **no** whether any of these compounds are manufactured or used in a process at the facility.

- 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CASRN 93-76-5
- 2-(2,4,5-trichlorophenoxy)propanoic acid (Silvex, 2,4,5-TP) CASRN 93-72-1
- 2-(2,4,5-trichlorophenoxy)ethyl 2,2-dichloropropionate (Erbon) CASRN 136-25-4
- o,o-dimethyl o-(2,4,5-trichlorophenyl)phosphorothioate (Ronnel) CASRN 299-84-3
- 2,4,5-trichlorophenol (TCP) CASRN 95-95-4
- hexachlorophene (HCP) CASRN 70-30-4

If **yes**, indicate with a check mark in the space provided which compound(s) apply and provide a brief description of the conditions of its presence at the facility.

b. Answer either **yes** or **no** as to whether you know or have any reason to believe that TCDD or any congeners of TCDD may be present in your effluent.

If **yes**, provide a brief description of the conditions for its presence in the space provided.

c. If you responded **yes** to either Item a **or** b, complete one analysis of a composite sample of each process wastewater outfall for Dioxin/Furan compounds. An additional sample of sludge from the wastewater treatment system must also be analyzed. The samples shall be analyzed and reported for congeners of chlorinated dibenzo-p-dioxins and dibenzofurans and also reported as toxicity equivalents (TEQs) based on the relative toxic equivalence factors provided in *Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and Dibenzofurans (CDDs and CDFs) and 1989 Update*, EPA/625/3-89/016, March 1989. **Provide the data from the results in Table 12.**

Table 12 is provided to report the concentrations and the equivalents of the congeners in units of parts per quadrillion (ppq) for wastewater and parts per trillion (ppt) for sludge. The analyses should be made using EPA Method 1613B or an equivalent method if approved by the TCEQ. An example of a completed Table 12 for wastewater is shown below:

Example of Dioxin/Furan Analysis

Compound	Toxicity Equivalent Factors	Concentration (ppq)	Toxicity Equivalent (ppq)
2,3,7,8-TCDD	1	13	13
1,2,3,7,8-PeCDD	0.5	22	11
2,3,7,8-HxCDDs	0.1	17	1.7
1,2,3,4,6,7,8 HpCDD	0.01	110	1.1
2,3,7,8-TCDF	0.1	20	2.0
1,2,3,7,8-PeCDF	0.05	100	5.0
2,3,4,7,8-PeCDF	0.5	120	60
2,3,7,8-HxCDFs	0.1	100	10
2,3,4,7,8 HpCDFs	0.01	150	1.5
OCDD	0.0003	100	0.03
OCDF	0.0003	120	0.036
PCB 77	0.0001	100	0.01
PCB 81	0.0003	150	0.045
PCB 126	0.1	20	2.0
PCB 169	0.03	150	4.5
Total			111.921

Test methods used must be sensitive enough to quantify the constituents at the minimum analytical level (MAL) specified.

TABLE 13

Partial completion of Table 13 (only those pollutants that are required by the conditions specified) is required for each external outfall. Completion of Table 13 is not required for internal outfalls.

The table below (“Additional Toxic Pollutants and Hazardous Substances”) lists toxic pollutants and hazardous substances that are required to be identified by the applicant if expected to be present in any wastewater discharged or disposed of via the permit. Please review the lists of substances in the table below and answer **yes** or **no** to the following questions:

- a. Do you believe any of these toxic pollutants or hazardous substances to be present in the discharge?
- b. Do you believe any pollutants listed in Item 1.d on page 1 of the Technical Report to be present in the discharge and that have not been analytically quantified elsewhere in this application?

If **yes** to either question, Table 13 must be completed for pollutants identified above and for pollutants related to materials handled on-site (raw materials, intermediate products, products, etc., as listed in Item 1.d on page 1 of the Technical Report), that are believed to be present in a wastewater discharge. For analytical results that are non-detect, report the analytical values as less than the detection level (example: a result that is non-detect with a detection level of 50 µg/L should be reported as “< 50 µg/L”).

Additional Toxic Pollutants and Hazardous Substances

Toxic Pollutants

Asbestos

Hazardous Substances

Acetaldehyde	Dinitrobenzene	Phenolsulfonate
Allyl alcohol	Diquat	Phosgene
Allyl chloride	Disulfoton	Propargite
Amyl acetate	Diuron	Propylene oxide
Aniline	Epichlorohydrin	Pyrethrins
Benzonitrile	Ethion	Quinoline
Benzyl chloride	Ethylene diamine	Resorcinol
Butyl acetate	Formaldehyde	Strontium
Butylamine	Furfural	Strychnine
Carbofuran	Isoprene	Styrene
Carbon disulfide	Isopropanolamine	2,4,5-T
Coumaphos	Kepone	TDE (Tetrachlorodiphenylethane)
Cresol	Mercaptodimethur	Trichlorfon
Crotonaldehyde	Methyl mercaptan	Triethylamine
Cyclohexane	Methyl methacrylate	Trimethylamine
Dicamba	Mevinphos	Uranium
Dichlobenil	Mexacarbate	Vanadium
Dichlone	Monoethylamine	Vinyl acetate
2,2-Dichloropropionic acid	Monomethylamine	Xylene
Dichlorvos	Naled	Xylenol
Diethylamine	Naphthenic acid	Zirconium
Dimethylamine	Nitrotoluene	

Minimum Analytical Levels and Suggested Methods for Application Screening

POLLUTANT	CASRN*	MAL (µg/L)	Suggested Method
Acenaphthene	83-32-9	10	625
Acenaphthylene	208-96-8	10	625
Acetaldehyde	75-07-0	50	1667
Acrolein	107-02-8	50	624
Acrylonitrile	107-13-1	50	624, 1624B
Aldrin	309-00-2	0.01	608
Allyl alcohol	107-18-6	50	608
Allyl chloride	107-05-1	10	1624
Aluminum, total	7429-90-5	2.5	200.8
Amyl acetate	628-63-7	5	1666
Aniline	62-53-3	10	625
Anthracene	120-12-7	10	625
Antimony, total	7440-36-0	5	200.8

POLLUTANT	CASRN*	MAL (µg/L)	Suggested Method
Arsenic, total	7440-38-2	0.5	200.8
Asbestos	1332-21-4	—	100.1 and 100.2
Barium, total	7440-39-3	3	200.8
Benzene	71-43-2	10	624
Benzidine	92-87-5	50	625
Benzo(a)anthracene	56-55-3	5	625
Benzo(a)pyrene	50-32-8	5	625
3,4-Benzofluoranthene [Benzo(b)fluoranthene]	205-99-2	10	625
Benzo(g,h,i)perylene	191-24-2	20	625
Benzo(k)fluoranthene	207-08-9	5	625
Benzonitrile	100-47-0	1 mg/L	ASTM D3371
Beryllium, total	7440-41-7	0.5	200.8
Bis(2-chloroethoxy)methane	111-91-1	10	625
Bis(2-chloroethyl)ether	111-44-4	10	625
Bis(2-chloroisopropyl)ether	108-60-1	10	625
Bis(chloromethyl)ether	542-88-1	**	**
Bis(2-ethylhexyl)phthalate	117-81-7	10	625
Boron, total	7440-42-8	20	200.7
Bromide	7726-95-6	400	300.0, Rev. 2.1 300.1, Rev.1.0
Bromodichloromethane [Dichlorobromomethane]	75-27-4	10	624
Bromoform	75-25-2	10	624
4-Bromophenyl phenyl ether	101-55-3	10	625
Butyl acetate [Tribromomethane]	540-88-5	5	1666
Butylbenzyl phthalate	85-68-7	10	625
Cadmium, total	7440-43-9	1	200.8
Carbaryl	63-25-2	5	632
Carbofuran	1563-66-2	3	632
Carbon disulfide	75-15-0	10	1624
Carbon tetrachloride	56-23-5	2	624
Chlordane	57-74-9	0.2	608
Chlorobenzene	108-90-7	10	624
Chlorodibromomethane	124-48-1	10	624
Chloroethane	75-00-3	50	624
2-Chloroethylvinyl ether	110-75-8	10	624
Chloroform [Trichloromethane]	67-66-3	10	624
p-Chloro-m-cresol	59-50-7	10	625
2-Chloronaphthalene	91-58-7	10	625

POLLUTANT	CASRN*	MAL (µg/L)	Suggested Method
2-Chlorophenol	95-57-8	10	625
4-Chlorophenyl phenyl ether	7005-72-3	10	625
Chlorpyrifos	2921-88-2	0.05	1657
Chromium, total	7440-47-3	3	200.8
Chromium, hexavalent	18540-29-9	3	218.6, rev. 3.3
Chromium, trivalent	16065-83-1	***	***
Chrysene	218-01-9	5	625
Cobalt, total	7440-48-4	0.3	200.8
Copper, total	7440-50-8	2	200.8
Coumaphos	56-72-4	0.025	1657
Cresols (all isomers)	1319-77-3	10	625
m-Cresol [3-Methylphenol]	108-39-4	10	625
o-Cresol [2-Methylphenol]	95-48-7	10	625
p-Cresol [4-Methylphenol]	106-44-5	10	625
Crotonaldehyde	4170-30-3	10	1624
Cyanide, total	57-12-5	10	335.4, 4500-CN D, or 4500-CN E
Cyanide, available	57-12-5	10	4500-CN G
		2	OIA-1677
Cyclohexane	110-82-7	5	1666
4,4'-DDD	72-54-8	0.1	608
4,4'-DDE	72-55-9	0.1	608
4,4'-DDT	50-29-3	0.02	608
2,4-D	94-75-7	0.7	615 or SM6640B
Danitol [Fenpropathrin]	39515-41-8	†	†
Demeton	8065-48-3	0.20	1657
Diazinon	333-41-5	0.5	1657
		0.1	614
Dibenzo(a,h)anthracene	53-70-3	5	625
1,2-Dibromoethane	106-93-4	10	1624
Dicamba	1918-00-9	0.110	1658
Dichlone	117-80-6	—	1656
m-Dichlorobenzene [1,3-Dichlorobenzene]	541-73-1	10	624
o-Dichlorobenzene [1,2-Dichlorobenzene]	95-50-1	10	624
p-Dichlorobenzene [1,4-Dichlorobenzene]	106-46-7	10	624
3,3'-Dichlorobenzidine	91-94-1	5	625
1,1-Dichloroethane	75-34-3	10	624
1,2-Dichloroethane	107-06-2	10	624
1,1-Dichloroethene [1,1-Dichloroethylene]	75-35-4	10	624

POLLUTANT	CASRN*	MAL (µg/L)	Suggested Method
Dichloromethane [Methylene chloride]	75-09-2	20	624
2,4-Dichlorophenol	120-83-2	10	625
1,2-Dichloropropane	78-87-5	10	624
1,3-Dichloropropene [1,3-Dichloropropylene]	542-75-6	10	624
2,2-Dichloropropionic acid [Dalapon]	75-99-0	2	615
Dichlorvos	62-73-7	0.004	1657
Dicofol [Kelthane]	115-32-2	1	ASTM D5812-96(02)
Dieldrin	60-57-1	0.02	608
Diethyl amine	109-89-7	50 mg/L	1671
Diethyl phthalate	84-66-2	10	625
Dimethyl amine	124-40-3	50 mg/L	1671
2,4-Dimethylphenol	105-67-9	10	625
Dimethyl phthalate	131-11-3	10	625
Di-n-butyl phthalate	84-74-2	10	625
Dinitrobenzene	25154-54-5	10	1625
4,6-Dinitro-o-cresol	534-52-1	50	625
2,4-Dinitrophenol	51-28-5	50	625
2,4-Dinitrotoluene	121-14-2	10	625
2,6-Dinitrotoluene	606-20-2	10	625
Di-n-Octyl phthalate	117-84-0	10	625
Dioxins/Furans (TCDD Equivalentents)	(see below)	(see below)	(see below)
2,3,7,8-TCDD	1746-01-6	10 ppq	1613B
1,2,3,7,8-PeCDD	40321-76-4	50 ppq	1613B
2,3,7,8-HxCDDs	(see below)	(see below)	(see below)
1,2,3,4,7,8-HxCDD	39227-28-6	50 ppq	1613B
1,2,3,6,7,8-HxCDD	57653-85-7	50 ppq	1613B
1,2,3,7,8,9-HxCDD	19408-74-3	50 ppq	1613B
1,2,3,4,6,7,8 HpCDD	35822-46-9	50 ppq	1613B
OCDD	3268-87-9	100 ppq	1613B
2,3,7,8-TCDF	51207-31-9	10 ppq	1613B
1,2,3,7,8-PeCDF	57117-41-6	50 ppq	1613B
2,3,4,7,8-PeCDF	57117-31-4	50 ppq	1613B
2,3,7,8-HxCDFs	(see below)	(see below)	(see below)
1,2,3,4,7,8-HxCDF	70648-26-9	50 ppq	1613B
1,2,3,6,7,8-HxCDF	57117-44-9	50 ppq	1613B
1,2,3,7,8,9-HxCDF	72918-21-9	50 ppq	1613B
2,3,4,6,7,8-HxCDF	60851-34-5	50 ppq	1613B
2,3,4,7,8-HpCDFs	(see below)	(see below)	(see below)

POLLUTANT	CASRN*	MAL (µg/L)	Suggested Method
1,2,3,4,6,7,8-HpCDF	67562-39-4	50 ppq	1613B
1,2,3,4,7,8,9-HpCDF	55673-89-7	50 ppq	1613B
OCDF	39001-02-0	100 ppq	1613B
1,2-Diphenylhydrazine (as Azobenzene)	122-66-7	20	1625
Diquat	2764-72-9	1.5	549, 549.1
Disulfoton	298-04-4	0.032	1657
Diuron	330-54-1	0.090	632
Endosulfan I (alpha)	959-98-8	0.01	608
Endosulfan II (beta)	33213-65-9	0.02	608
Endosulfan sulfate	1031-07-8	0.1	608
Endrin	72-20-8	0.02	608
Endrin aldehyde	7421-93-4	0.1	608
Epichlorohydrin	106-89-8	1 mg/L	ASTM D-3695
Ethion	563-12-2	0.02	1657
Ethylbenzene	100-41-4	10	624
Fluoranthene	206-44-0	10	625
Fluorene	86-73-7	10	625
Fluoride	16984-48-8	500	300.0, 300.1
Formaldehyde	50-00-0	50	1667
Furfural	98-01-1	50 mg/L	1667
Guthion [Azinphos methyl]	86-50-0	0.1	1657
Heptachlor	76-44-8	0.01	608
Heptachlor epoxide	1024-57-3	0.01	608
Hexachlorobenzene	118-74-1	5	625
Hexachlorobutadiene	87-68-3	10	625
Hexachlorocyclohexane (alpha)	319-84-6	0.05	608
Hexachlorocyclohexane (beta)	319-85-7	0.05	608
Hexachlorocyclohexane (gamma) [Lindane]	58-89-9	0.05	608
Hexachlorocyclohexane (delta)	319-86-8	0.05	608
Hexachlorocyclopentadiene	77-47-4	10	625 or 1625B
Hexachloroethane	67-72-1	20	625
Hexachlorophene	70-30-4	10	604.1
Indeno(1,2,3-cd)pyrene	193-39-5	5	625
Iron, total	7439-89-6	7	200.7
Isophorone	78-59-1	10	625
Kepone	143-50-0	0.3	1656
Lead, total	7439-92-1	0.5	200.8
Magnesium, total	7439-95-4	20	200.7

POLLUTANT	CASRN*	MAL (µg/L)	Suggested Method
Malathion	121-75-5	0.1	1657 or SM6630C
Manganese, total	7439-96-5	0.5	200.8
Mercaptodimethur [Methiocarb]	2032-65-7	0.06	632
Mercury, total	7439-97-6	0.005	245.7, Rev. 2.0
		0.0005	1631E
Methoxychlor	72-43-5	2.0	617 or SM6630B and C
Methyl bromide [Bromomethane]	74-83-9	50	624
Methyl chloride [Chloromethane]	74-87-3	50	624
Methyl ethyl ketone	78-93-3	50	624
Methyl methacrylate	80-62-6	10	1624
Mevinphos	7786-34-7	0.2	1657
Mexacarbate	315-18-4	1.5	632
Mirex	2385-85-5	0.02	SM6630B and C
Molybdenum, total	7439-98-7	1	200.8
Monomethylamine	74-89-5	50 mg/L	1667
Naled	300-76-5	0.05	1657
Naphthalene	91-20-3	10	625
Nickel, total	7440-02-0	2	200.8
Nitrate-nitrogen	14797-55-8	100	300.0, Rev. 2.1
			300.1, Rev. 1.0
Nitrobenzene	98-95-3	10	625
2-Nitrophenol	88-75-5	20	625
4-Nitrophenol	100-02-7	50	625
N-Nitrosodiethylamine	55-18-5	20	625
N-Nitrosodimethylamine	62-75-9	50	625 or 1625B
N-Nitroso-di-n-butylamine	924-16-3	20	625
N-Nitrosodi-n-propylamine	621-64-7	20	625 or 1625B
N-Nitrosodiphenylamine	86-30-6	20	625 or 1625B
Nonylphenol	25154-52-3	333	1625
Para-Nonylphenol	84852-15-3	333	1625
Parathion (ethyl)	56-38-2	0.1	1657 or SM6630C
Pentachlorobenzene	608-93-5	20	625
Pentachlorophenol	87-86-5	5	625
Phenanthrene	85-01-8	10	625
Phenol, total	108-95-2	10	625
Polychlorinated Biphenyls (PCBs)	1336-36-3	(see below)	(see below)
PCB 77	32598-13-3	0.0005	1668B ††
PCB 81	70362-50-4	0.0005	1668B ††
PCB 126	57465-28-8	0.0005	1668B ††

POLLUTANT	CASRN*	MAL (µg/L)	Suggested Method
PCB 169	32774-16-6	0.0005	1668B ^{††}
PCB 1016	12674-11-2	0.2	608
PCB 1221	11104-28-2	0.2	608
PCB 1232	11141-16-5	0.2	608
PCB 1242	53469-21-9	0.2	608
PCB 1248	12672-29-6	0.2	608
PCB 1254	11097-69-1	0.2	608
PCB 1260	11096-82-5	0.2	608
Propargite	2312-35-8	0.02	GCMS
Propylene oxide	75-56-9	25	624 Heated Purge
Pyrene	129-00-0	10	625
Pyrethrin I	121-21-1	3.1	1660
Pyrethrin II	121-29-9	3.3	1660
Pyridine	110-86-1	20	625
Quinoline	91-22-5	1 mg/L	ASTM D-4763
Resorcinol	108-46-3	100	1625
Selenium, total	7782-49-2	5	200.8
Silver, total	7440-22-4	0.5	200.8
Strontium	7440-24-6	1.0	200.7
Strychnine	57-24-9	40	1625
Styrene	100-42-5	10	1625
1,2,4,5-Tetrachlorobenzene	95-94-3	20	1625
1,1,2,2-Tetrachloroethane	79-34-5	10	624
Tetrachloroethene [Tetrachloroethylene]	127-18-4	10	624
Thallium, total	7440-28-0	0.5	200.8
Tin, total	7440-31-5	5	200.7, 200.9
Titanium, total	7440-32-6	30	283.2
Toluene	108-88-3	10	624
Toxaphene	8001-35-2	0.3	608
2,4,5-TP [Silvex]	93-72-1	0.3	SM6640B
1,2-Trans-Dichloroethylene [1,2-Trans-Dichloroethene]	156-60-5	10	624
Tributyltin	688-73-3	0.01	TCEQ 1001
1,2,4-Trichlorobenzene	120-82-1	10	625
1,1,1-Trichloroethane	71-55-6	10	624
1,1,2-Trichloroethane	79-00-5	10	624
Trichloroethene [Trichloroethylene]	79-01-6	10	624
Trichlorfon	52-68-6	0.45	1657
2,4,5-Trichlorophenol	95-95-4	50	1625

POLLUTANT	CASRN*	MAL (µg/L)	Suggested Method
2,4,6-Trichlorophenol	88-06-2	10	625
Triethylamine	121-44-8	50 mg/L	1667
TTHM (Total Trihalomethanes)	(see below)	(see below)	(see below)
Bromodichloromethane	75-27-4	10	624
Dibromochloromethane	124-48-1	10	624
Tribromomethane (Bromoform)	75-25-2	10	624
Trichloromethane (Chloroform)	67-66-3	10	624
Trimethylamine	75-50-3	—	1666
Uranium, total	7440-61-1	0.5	200.8
Vanadium, total	7440-62-2	5	200.8
Vinyl acetate	108-05-4	50	1624
Vinyl chloride	75-01-4	10	624
Xylenes, total	1330-20-7	10	624
Xylenol	1300-71-6	30	1624C
Zinc, total	7440-66-6	5.0	200.8
Zirconium	7440-67-7	100	1620

— MAL not yet developed.

* Chemical Abstracts Service Registry Number

** Hydrolyzes in water. No analysis required at this time.

*** Trivalent Chromium (Cr) determined by subtracting Hexavalent Cr from Total Cr.

† EPA procedure not approved. The TCEQ will not require applicants to analyze at this time.

†† Until Method 1668B or equivalent method to measure PCB congeners is approved in 40 CFR Part 136, compliance with PCB criteria is determined using Arochlor data or any alternate method listed in a TCEQ-approved Quality Assurance Plan.

INSTRUCTIONS FOR INDUSTRIAL WORKSHEET 3.0

LAND APPLICATION OF EFFLUENT

Worksheet 3.0 **is required** for all renewal, amendment, and new applications for a permit to dispose of wastewater by land application.

1. TYPE OF DISPOSAL SYSTEM

Indicate by checking the type of existing/proposed system utilized for land disposal of treated effluent. If the method utilized is not listed, check "Other" and describe in detail the existing/proposed disposal system.

2. LAND APPLICATION AREA

Fill in each box with the appropriate information. Provide the amount of effluent for irrigation/land disposal in gallons per day. Provide the total number of acres irrigated. Describe the land use (e.g., golf course, landscape, pastureland, agricultural land) and the type of warm and cool season crops (e.g., bermudagrass, ryegrass, alfalfa, cotton, native vegetation). Also indicate if the irrigation/land disposal site has or will have public access. Public access is not limited to the general public. For example, controls need to be in place at a golf course so that irrigation does not occur while people are playing golf.

3. ANNUAL CROPPING PLAN

Submit an annual cropping plan that includes, but is not limited to, the following items:

- All types of crops and acreage irrigated for each crop, including warm and cool season crops
- A breakdown of the acreage and the percent of the total acreage for each crop grown on the disposal areas
- Growing seasons for each crop including months the field is left fallow (no crops)
- Harvesting method and number of harvests per year for each crop
- The minimum and maximum harvest height of the crop (e.g. mowing height for grasses)
- Anticipated or actual crop yields in the appropriate units for each crop for each disposal site
- Nitrogen requirements for each crop in lbs/acre/year
- Additional fertilizer requirements for each crop, proposed additional fertilizer applications for each crop, and methods of fertilizer application for each crop, based on annual soil sampling and analysis
- Supplemental watering requirements for each crop
- Salt tolerances of each crop in mmhos/cm
- If the proposed crop is existing native vegetation that will not be harvested, include a justification that the non-removal of crops will not lead to a buildup in nutrients

Provide the attachment number in the space provided.

4. STORMWATER MANAGEMENT

Answer either **yes** or **no** as to whether stormwater runoff is a component of the effluent disposed of via land application.

If **yes**, complete the table with the appropriate information requested. The information required for calculating the anticipated volume of stormwater runoff includes: 1) the area in acres from which stormwater is collected and routed to the disposal site; 2) the soil type designation for the soils that make up the majority of the area from which stormwater runoff is collected; and 3) the cover type of the areas from which stormwater runoff is collected (i.e. grazed pasture, meadow, row crop land, concrete slab, etc.). If there is more than one cover type, provide a breakdown of the percent of the total drained area for each cover type listed.

If **no**, provide a description of tailwater controls and stormwater run-on controls used for the disposal area in the space provided.

5. WELL AND MAP INFORMATION

Indicate the exact boundaries of the land application operation on the USGS topographic map (7.5-minute scale) of the area. Indicate on the USGS topographic map (7.5-minute scale) all land that is to be a part of the disposal operation in addition to the following:

- on-site buildings;
- waste disposal or treatment facilities;
- effluent storage and tail water control facilities;
- buffer zones; and
- all surface waters in the state on and within 500 feet of the property.

Indicate on the USGS topographic map all water wells located within a 1/2-mile radius of disposal site or property boundaries. Indicate on the USGS topographic map all springs and seeps onsite and located within 500 feet of the property boundaries. Provide a scale drawing to show details of the above items.

Note: Copies of the original USGS quadrangle maps with the appropriate information may suffice provided that they are color copies of original quality and scale and all the features of the original map and the information required by this item are legible and can be clearly deciphered.

Fill in the table with all of the information for all of the water wells located on or within 500 feet of the disposal site or property boundaries. Each well should be given a unique ID that can be cross referenced from the map to the table. Fill in the well use (private, public, livestock, etc.); state whether the well is producing (**yes** or **no**); whether the wells is open, cased, capped, or plugged; and the proposed best management practice for that well. Submit copies of State Water Well Reports (driller's logs, completion data) and data on depths to groundwater for water wells on or within 500 feet of the property line. Visit the [Texas Water Development Board \(TWDB\) Water Information Integration and Dissemination \(WIID\)](http://wiid.twdb.state.tx.us/) website at <http://wiid.twdb.state.tx.us/>. This website stores water well and groundwater information from TWDB, Texas Department of Licensing and Registration, and TCEQ records files.

Indicate by checking **yes** or **no** whether groundwater monitoring wells or lysimeters are planned around the land application site. If **yes**, then a map identifying the proposed location of the monitoring wells or lysimeters should be submitted, along with the proposed depth of the wells or lysimeters, proposed sampling schedule, and proposed monitoring parameters.

6. SOIL MAP AND SOIL INFORMATION

Provide a soils map depicting the location of the crops currently being grown. These locations should be identified by field and crop on the soils map. Soil evaluations for subsurface area drip dispersal systems will be provided with all the information required in 30 TAC §222.73. See Instructions for Worksheet 3.3, Section 3, Required Plans.

- Accurately locate the area to be used for land application on a U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey Map. Updated soil information may be obtained from the NRCS website at <http://www.nrcs.usda.gov/wps/portal/nrcs/site/tx/home/> or from the NRCS Web Soil Survey at <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. The map should accurately indicate the location of the crops being grown with the locations identified by fields and crops. Include engineering properties (no. 200 sieve, liquid limit, plasticity), soil permeability for each texture class, and seasonal high water table.
- Provide a breakdown of each soil type for the irrigated areas and indicate the percentage of the total irrigated area for each soil type.
- Provide analyses of the soil in the land application area for the following constituents:
 - pH [2:1 (volume/volume) water/soil mixture];
 - electrical conductivity [2:1 (volume/volume) water/soil mixture];
 - sodium adsorption ratio (SAR-not to exceed 10) from a water saturated paste and its constituent parameters (water-soluble Na, Ca and Mg reported in mg/L);
 - total Kjeldahl nitrogen (TKN);
 - total nitrogen (organic-nitrogen + nitrate-nitrogen + ammonium-nitrogen);
 - nitrate-nitrogen (from a 1 N KCl soil extract);
 - potassium;
 - phosphorus;
 - calcium;
 - magnesium;
 - sulfur; and
 - sodium.

Analyze the nutrient parameters on a plant-available basis. Analyze phosphorus according to the Mehlich III procedure with inductively coupled plasma; potassium, calcium, magnesium, sodium, and sulfur may also be analyzed in the Mehlich III soil extract. Report plant-available phosphorus, potassium, calcium, magnesium, sodium and sulfur on a dry-weight basis in mg/kg. Report electrical conductivity in mmho/cm [same as deciSiemens/meter (dS/m)]. Report pH in standard units. When reporting the results, include all information concerning fertilizer recommendations. Provide a copy of this plan to the analytical laboratory prior to sample analysis.

Composite or benchmark sampling techniques should be used when sampling the soils of the wastewater application area. Individual soil types, as defined by the USDA Natural Resources Conservation Service Soil Survey, should be sampled individually at zones 0-6, 6-18, and 18-30 inches. Each composite sample shall represent no more than 80 acres, with no less than 15 subsamples representing each composite sample. Each benchmark sample shall represent no more than 80 acres with at least 7 subsamples for each benchmark composite sample. Subsamples shall be composited by individual site, zone, and soil type for analysis and reporting.

7. LABORATORY ACCREDITATION CERTIFICATION

Effective July 1, 2008, all laboratory tests performed must meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification* with the following general exemptions:

- a. The laboratory is an in-house laboratory and is:
 1. periodically inspected by the TCEQ; or
 1. located in another state and is accredited or inspected by that state; or
 2. performing work for another company with a unit located in the same site; or
 3. performing pro bono work for a governmental agency or charitable organization.
- b. The laboratory is accredited under federal law.
- c. The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.
- d. The laboratory supplies data for which the TCEQ does not offer accreditation.

The applicant should review *30 TAC Chapter 25* for specific requirements. The certification statement must be signed and submitted with every application. See page 34 of these Instructions for a list of designated representatives who may sign the certification.

8. EFFLUENT MONITORING DATA

Completion of Table 14 is required for all renewal and amendment applications. The top table includes parameters that are most frequently regulated in TLAPs. The bottom table can be used for additional parameters that are not specifically listed in the top table. Indicate by a check mark whether the samples are composites or grabs. Provide the monitoring data for the previous two years (for a minimum of 24 months) for **all parameters regulated in the current permit**. Provide the daily average data if the permit includes a daily average limit. If the permit includes only a single grab limit, provide the maximum single grab value for the month. This information is not required for a new permit application unless the facility's permit expired and operation continued.

Provide an attachment explain any persistent excursions and discuss any corrective actions for the parameter(s) shown in Table 14. Provide the attachment number in the space provided.

9. POLLUTANT ANALYSIS

Completion of Tables 15 and 16 is required for all permit applications for the authorization of land application of effluent. For pollutants not currently regulated in your permit, provide at least four separate analytical results obtained from four grab or composite samples collected at a frequency of once per week for a period of four weeks from the wastewater stream unless otherwise specified in the application or approved by the TCEQ. Indicate by a check mark whether the samples are composites or grabs. Prior approval to submit less than four samples should be obtained from the TCEQ prior to application submittal. Complete the tables as outlined in the General Testing Requirements for Worksheet 2.0 (see instructions, pages 54-56)

INSTRUCTIONS FOR INDUSTRIAL WORKSHEET 3.1 SURFACE LAND APPLICATION AND EVAPORATION

Worksheet 3.1 **is required** for all renewal, amendment, and new applications for a permit to dispose of wastewater by surface land application.

Complete the applicable section and provide water balance and storage calculations, as needed.

Recommended Data Sources: Data for net evaporation values may be obtained from the Texas Water Development Board's Evaporation/Precipitation Data for Texas website at <https://www.twdb.state.tx.us/surfacewater/conditions/evaporation/index.asp>. Data for evapotranspiration values may be obtained from the following documents: Bulletin 6019 - "Consumptive Use of Water by Major Crops in Texas," Texas Water Development Board, November 1960, or John Borelli, Clifford B. Fedler and James M. Gregory "Mean Crop Consumptive Use and Free-Water Evaporation for Texas," Texas Water Development Board, February 1, 1998. Please provide all the appropriate documentation if data utilized in the water balance/storage calculations are from sources other than these.

1. SURFACE SPRAY (IRRIGATION)

Provide the following information, as applicable for the method of disposal being utilized, regarding irrigation operations:

- acres irrigated;
- design application rate in acre-feet/area/year;
- design application frequency in hours per day and days per week;
- design total nitrogen loading rate in pounds nitrogen/acre/ year;
- average and maximum slope of the irrigation site;
- irrigation efficiency (Provide an estimate. A value of 85% will be used unless a more specific value is provided.)
- effluent conductivity in mmhos/cm;
- soil conductivity in mmhos/cm; and
- curve number.

Describe the application method and equipment (e.g., row irrigation, spray irrigation using a center pivot sprinkler system, etc.) in the space provided.

Provide a separate engineering report of water balance and storage volume calculation using *30 TAC §309.20, Subchapter C, Land Disposal of Sewage Effluent* as guidance. Provide a nitrogen balance for the crop system. Provide a reference to the attachment with this information in the space provide. **An example of a water balance and storage calculation is provided in Appendix 6 of these instructions.**

Irrigation must be limited to prevent excessive nitrogen application. The annual liquid loading must not exceed that which would introduce more nitrogen than is annually required by the crop plus 20% volatilization. Values for crop nitrogen requirements must be justified in the design report. The application rate must be calculated by the formula $L = N/2.7C$, where L is the annual liquid loading in acre-feet, C is the effluent nitrogen concentration in mg/L, and N is the annual crop requirement of nitrogen plus 20% volatilization in pounds per acre per year.

2. EVAPORATION PONDS

For evaporation ponds, provide a separate engineering report of evaporation calculations for average long-term conditions and worst-case conditions (i.e., maximum rainfall and minimum evaporation from the past 25 years of climatological data), and provide the attachment number in the space provided.. The calculations will be used to evaluate the suitability of the disposal volume of the evaporation pond(s). It is necessary to determine the maximum feasible long-term disposal volume under average conditions to prevent effluent accumulation as well as to determine the adequacy of the system under extreme conditions of maximum rainfall and minimum evaporation.

See Appendix 7 for an example of evaluating the storage volume of an evaporation pond or ponds.

3. EVAPOTRANSPIRATION BEDS

Provide the requested information on the evapotranspiration beds. Describe any lining to protect groundwater. Include a certification by a licensed Texas professional engineer that the liner meets TCEQ requirements. Provide a separate engineering report of water balance and storage volume calculations. Provide the attachment number in the space provided.

4. OVERLAND FLOW

For overland flow, describe the method of application and design requirements according to *30 TAC §217.212, Overland Flow Process*.

5. EDWARDS AQUIFER RECHARGE AREA

Answer either **yes** or **no** as to whether the waste disposal activities are subject to 30 TAC Chapter 213, Edwards Aquifer Rules. If **yes**, provide a report that describes the surface geologic units present in the proposed land application site and identifies the location and extent of any significant recharge areas in the land application site. Provide the attachment number in the space provided.

INSTRUCTIONS FOR INDUSTRIAL WORKSHEET 3.2 SUBSURFACE IRRIGATION SYSTEMS (NON-DRIP)

Worksheet 3.2 is required for all renewal, amendment, and new applications for a permit to dispose of wastewater by subsurface land application.

1. SUBSURFACE APPLICATION

For subsurface soil absorption that does not meet the definition of a subsurface area drip dispersal system provided in *30 TAC Chapter 222*, check the type of system being used/proposed. Provide all the requested information that is specific to the type of system used/proposed. Provide a separate engineering report of the water balance and storage calculations. The requirements of *30 TAC §309.20, Subchapter C, Land Disposal of Sewage Effluent* may be referenced for guidance.

Note: For all proposed and existing subsurface disposal systems, the Class V injection Well Inventory/Authorization Form (Worksheet 9.0) must be submitted in accordance with *40 CFR §144.1(g)(iv)*. See the instructions for Worksheet 9.0 on page 101 for further guidance.

2. EDWARDS AQUIFER RECHARGE AREA

- a. Indicate by checking **yes** or **no** whether the subsurface system is located on the Edwards aquifer recharge zone as designated in *30 TAC Chapter 213, Edwards Aquifer Rules*. The official [Edwards Aquifer boundaries](http://www.tceq.texas.gov/field/eapp/viewer.html) can be viewed on the TCEQ website at <http://www.tceq.texas.gov/field/eapp/viewer.html>.
- b. Indicate by checking **yes** or **no** whether the subsurface system is located on the Edwards aquifer transition zone as designated in *30 TAC Chapter 213, Edwards Aquifer Rules*. If the subsurface system is located on the Edwards aquifer recharge zone or the Edwards aquifer transition zone, then the system may be prohibited by *30 TAC Section 213.8*. Call the Wastewater Permitting Section to determine if the proposed activity is affected by this rule.

INSTRUCTIONS FOR INDUSTRIAL WORKSHEET 3.3 SUBSURFACE AREA DRIP DISPERSAL SYSTEMS

Worksheet 3.3 is required for all renewal, amendment, and new applications for a permit to dispose of wastewater using a subsurface area drip dispersal system.

If the proposed system meets the definition of a subsurface drip dispersal system as defined in 30 TAC Chapter 222, Subsurface Area Drip Dispersal System, complete this worksheet.

Indicate by checkmark that the Class V Injection Well Inventory/Authorization Form (Worksheet 9.0) for this type of disposal system has been submitted to the TCEQ UIC Permits Team as directed.

1. ADMINISTRATIVE INFORMATION

TCEQ is required to prepare a compliance history for the owner of the wastewater treatment facility, the owner of the land where the wastewater treatment facility is located, the owner of the subsurface area drip dispersal system, and the owner of the land where the subsurface area drip dispersal system is located.

- a. Identify the business entities that are related to the owner of the treatment facility. The business entities would share the same owner(s) or partial owner(s); or the same member(s) of a partnership; or each business entity that is managed by the owner of the treatment facility.
- b. Indicate by checking **yes** or **no** whether the owner of the land where the treatment facility is located is the same as the owner of the treatment facility.

If **no**, identify the business entities that are related to the owner of the land where the treatment facility is located. The business entities would share the same owner(s) or partial owner(s); or the same member(s) of a partnership; or each business entity that is managed by the owner of the land where the treatment facility is located.

- c. Identify the owner of the subsurface area drip dispersal system.
- d. Indicate by checking **yes** or **no** whether the owner of the subsurface area drip dispersal system is the same as the owner of the treatment facility.

If **no**, identify the business entities that are related to the owner of the subsurface area drip dispersal system (Item 1.c). The business entities would share the same owner(s) or partial owner(s); or the same member(s) of a partnership; or each business entity that is managed by the owner of the subsurface area drip dispersal system (Item 1.c).

- e. Identify the owner of the land where the subsurface area drip dispersal system is located.
- f. Indicate by checking **yes** or **no** whether the owner of the land where the subsurface area drip dispersal is located is the same as the owner of the treatment facility.

If **no**, identify the business entities that are related to the owner of the land where the subsurface area drip dispersal system is located (Item 1.e). The business entities would share the same owner(s) or partial owner(s); or the same member(s) of a partnership; or each business entity that is managed by the owner of the land where the subsurface dispersal system is located (Item 1.e).

2. SUBSURFACE AREA DRIP DISPERSAL SYSTEM

Describe the subsurface area drip dispersal system that is being proposed or used at this facility to include, at a minimum, the following information:

- remote control capability of the automated drip dispersal system;
- description of the filters prior to entering the dispersal system;
- distance between drip lines;
- distance between emitters in a drip line;
- rating of each emitter in gallons per hour (gal/hr);
- flushing capability of the dispersal system;
- placement of drip lines [surface or below ground level (depth)];
- number of dosings or cycles per day;
- duration of each dosing;
- time elapsed between the end of one dosing and the beginning of the next dosing;
- number of dispersal zones; and
- days per week that irrigation is proposed.

For the information regarding irrigation operations, provide the following information:

- acres irrigated;
- infiltration rate of the soils;
- the average and maximum slope of the irrigation site;
- storage volume;
- major soil series;
- depth to groundwater; and
- the effluent conductivity in dS/m (deciSiemen per meter, which is the same as mmhos/cm);

Note: For all proposed and existing subsurface area drip disposal systems, the Class V injection Well Inventory/Authorization Form (Worksheet 9.0) must be submitted in accordance with *40 CFR §144.1(g)(iv)*. See the instructions for Worksheet 9.0 on page 101 for further guidance.

3. REQUIRED PLANS

- a. For new facilities or facilities proposing to expand a subsurface area drip dispersal system, attach a Recharge Feature Plan with all information required in 30 TAC §222.79.
- b. For new facilities or facilities proposing to expand a subsurface area drip dispersal system, attach a soil evaluation with all information required in 30 TAC §222.73. The soil evaluation shall contain, at a minimum, the following information:
 - at least one profile hole per soil type and its description;
 - total depth of the profile hole;
 - primary rooting depth (depth where most plant roots are concentrated);
 - secondary rooting depth (base of primary rooting depth to the depth where plant roots are no longer discernible);
 - description of each soil horizon to include description of its depth, texture, structure, color, presence of mottling and percent coarse fragments;
 - boundary descriptions;
 - restrictive horizons;
 - potential water bearing zones; and
 - active water bearing zones.

Soil evaluations are to be performed by a licensed Texas professional geoscientist or engineer qualified in the subject.

- c. For new facilities or facilities proposing to expand a subsurface area drip dispersal system, attach a Site Preparation Plan with all information required in 30 TAC §222.75. This plan will list the soil limitations of the affected area and describe how each limitation will not restrict the intended use of the affected area. This plan must include the following information, if applicable:
 - a site plan to minimize rainfall run-on and maximize rainfall runoff from the dispersal zones;
 - design criteria to compensate for any restrictive horizon within the soil column;
 - soil importation with descriptions of the chemical and physical characteristics of the proposed import material;
 - and any planned removal of existing vegetation and large stones from the terrain surface to 12 inches below the proposed placement of the drip lines.
- d. For new facilities or facilities proposing to expand a subsurface area drip dispersal system, attach the soil sampling and testing with all information required in 30 TAC §222.157.

4. FLOOD AND RUN-ON PROTECTION

- a. Indicate by checking **yes** or **no** whether the subsurface area drip dispersal system is within the 100-year frequency flood level. If **yes**, list the source of data used to make your determination. If the site is within the 100-year frequency flood level, provide a description of how the site will be protected from inundation.
- b. Indicate by checking **yes** or **no** whether the subsurface area drip dispersal system is within a designated floodway. New or expanding subsurface area drip dispersal systems are not permitted in a designated floodway. If **yes**, provide the source of data used to determine the floodway.

5. SURFACE WATERS IN THE STATE

- a. Provide a buffer map which shows the appropriate buffers on surface waters in the state, water wells, and springs/seeps. Provide the attachment number in the space provided.
- b. Indicate by checking **yes** or **no** if you plan on requesting a buffer variance from water wells or waters in the state. If **yes**, attach the additional information required in 30 TAC §222.81(c). Provide the attachment number in the space provided.

6. EDWARDS AQUIFER RECHARGE AREA

- a. Indicate by checking **yes** or **no** whether the subsurface area drip dispersal system is located on the Edwards Aquifer Recharge Zone as designated in 30 TAC Chapter 213, Edwards Aquifer Rules. The official Edwards Aquifer boundaries can be viewed on the [Edwards Aquifer Map Viewer](http://www.tceq.texas.gov/field/eapp/viewer.html) on the TCEQ web site at <http://www.tceq.texas.gov/field/eapp/viewer.html>.
- b. Indicate by checking **yes** or **no** whether the subsurface area drip dispersal system is located on the Edwards aquifer transition zone as designated in 30 TAC Chapter 213, Edwards Aquifer Rules.

If the subsurface area drip dispersal system is located on the Edwards aquifer recharge zone or the Edwards aquifer transition zone, then the system may be prohibited by 30 TAC §213.8. Call the Wastewater Permitting Section to determine if the proposed activity is affected by this rule.

INSTRUCTIONS FOR INDUSTRIAL WORKSHEET 4.0 RECEIVING WATERS

Worksheet 4.0 **is required** for all applicants submitting a renewal, amendment, or new application for a TPDES permit.

Worksheet 4.0 **is not required** for applications for a permit to dispose of all wastewater by land disposal.

All applicants must submit USGS quadrangle maps showing the location of the facility and the discharge point(s) or the land treatment/land application area, as appropriate. If this is an application for a discharge permit, USGS quadrangle maps must be submitted that depict the discharge route for three miles from the point of discharge or until a classified segment is reached as defined in *30 TAC Chapter 307, Appendix C, Texas Surface Water Quality Standards*, whichever is first. Use highlighter (not black marker) to show the discharge route. The map(s) submitted as part of the Administrative Report 1.0 may be used for this worksheet. Copies of the original USGS quadrangle maps with the appropriate information may suffice provided that they are color copies of original quality and scale and all the features of the original map and the information provided are legible and can be clearly deciphered. The permittee should retain a copy of the information for reference in subsequent applications.

If the facility has, or is proposing, multiple points of discharge (outfalls), and the outfalls do not enter the same receiving water, attach additional sheets for each outfall. The outfalls that flow into each receiving water should be listed.

1. DOMESTIC DRINKING WATER SUPPLY

Answer **yes** or **no** as to whether a surface water intake for domestic drinking water supply is located within 5 miles downstream of the existing/proposed outfall(s). If **yes**, identify and label any surface water intake for domestic drinking water supply located within five miles downstream from the point/proposed point of discharge. Identify the owner, and accurately locate and label the intake point for the drinking water supply on the USGS 7.5-minute topographic map.

2. DISCHARGE INTO TIDALLY INFLUENCED WATERS

Items **b.** and **c.** are **yes/no** questions. The information is specific to each outfall/point of discharge. If the discharge is to tidally influenced waters, indicate the width of the receiving water at the outfall. If oyster reefs or sea grasses are located in the vicinity of the discharge, provide the distance and direction from the outfall.

3. CLASSIFIED SEGMENT

Indicate if the discharge is directly into (or within 300 feet of) a classified segment as defined in Appendix C of the Texas Surface Water Quality Standards (30 TAC §307.10). The Water Quality Standards Team of the Water Quality Assessment Section can be contacted to determine if the receiving water is a classified segment.

If **yes**, stop here. You do not need to complete Items 4 and 5. It is not necessary to complete Worksheet 2.1 - Stream Physical Characteristics Worksheet.

If **no**, and the discharge goes into a watercourse such as a creek, ditch, or series of tributaries prior to flowing into a classified segment, then complete Items 4 and 5.

4. DESCRIPTION OF IMMEDIATE RECEIVING WATERS

Provide the name of the immediate receiving waters in the space provided. If unnamed, enter the designation which best describes the immediate receiving water body (e.g. unnamed tributary, unnamed ditch, flood control ditch, etc.).

- a. These items refer to the **immediate** receiving water (at the point the treated effluent is discharged). Check the item which best describes the first receiving water into which the discharge will flow after it leaves the outfall.

If the immediate receiving water is a lake, TCEQ permits typically require the point of discharge to the main body of the lake to be at a point not less than 10 feet below the surface (at normal elevation) and not less than 50 feet from the shoreline.

- b. If a man-made channel, ditch, or stream was checked in Item 4.a, answer Item 4.b. Check only one of the characteristics that best describes and characterizes the area upstream of the discharge point for existing dischargers. For a new permit application, check only one of the characteristics that best describes and characterizes the area downstream of the proposed discharge. Check the method used to determine the characteristic for describing the area upstream or downstream.
- c. List the names of all perennial streams that join the receiving water (discharge route) within three miles downstream of the existing or proposed point of discharge.
- d. Answer **yes** or **no** to whether the receiving water characteristics change within three miles downstream of the point of discharge. If **yes**, provide a discussion of how the characteristics change.
- e. Provide general observations of the water body during normal dry weather conditions.

5. GENERAL CHARACTERISTICS OF WATER BODY

- a. Check all of the activities that influence the area upstream of the existing or proposed point of discharge. These items refer to the **immediate** receiving water (e.g., a drainage ditch, a stream, a lake, a bay, etc.). If **other** is checked, explain what the influence is in the space provided.
- b. Check all of the activities that are known or observed to occur on the water body receiving the discharge, both upstream and down. If the water body has a use that is not listed, check "other" and describe the use in the space provided.
- c. Check the description that best describes the aesthetics of the receiving water and surrounding area.

INSTRUCTIONS FOR INDUSTRIAL WORKSHEET 4.1 STREAM PHYSICAL CHARACTERISTICS

Worksheet 4.1 **is required** for the following types of permit applications.

- New permit applications
- All EPA-designated majors
- Amendment applications requesting to add a new outfall

Worksheet 4.1 **is not required** for TPDES permit applications applying for individual permit coverage for discharges of stormwater runoff only.

Worksheet 4.1 **is required** for the following types of streams as identified in Worksheet 4.0, Item 4.b.

- Perennial
- Intermittent with persistent (perennial) pools

Worksheet 4.1 **is not required** if the discharge is:

- directly to a classified segment as defined in Appendix C of the Texas Surface Water Quality Standards (30 TAC §307.10)
- directly to an intermittent stream

Note: Even if the information required in this section has been provided in a previous application, please resubmit the information.

Questions on conducting a stream assessment or completing this worksheet should be directed to the Water Quality Standards Implementation Team of the Water Quality Assessment Section.

Provide the date and time the data was collected for the worksheet. Provide the stream name. If the stream is unnamed, enter “unnamed tributary of <downstream creek>” or “unnamed ditch”. If the stream is a ditch controlled by a flood control district and has a designation, enter that designation. Provide the general location where the data was collected. For example, “100 meters upstream to 0.5 mile downstream of the discharge point,” “upstream of Highway 345 road crossing.” **Conduct the physical assessment downstream of a proposed outfall and upstream of an existing outfall.**

1. DATA COLLECTION

Item 1 is divided into two portions. The upper portion of Item 1 is for general information and observations made over the entire reach, while the lower or boxed portions are for measurements and observations made at specific transect locations.

Transect measurements are usually made beginning at the point of discharge (outfall) and continuing downstream. Once these are completed, the general observations are made over the reach while returning to the point of discharge.

General observations: Observe or measure stream widths at a minimum of four and a maximum of ten equally spaced locations over a 0.5-mile reach. The number of transects depends upon width variability. At each point where width measurements are made, also measure the water depth at four to ten points across the transect. Include transects within each habitat type (pool, riffle, run, or glide) if they exist. If pools are present, include measurements across the deepest area to determine the maximum pool depth within the reach. Show the locations of the transects on the USGS map and the proposed point of discharge.

Characterize each transect site as riffle, run, glide or pool. For a definition of each, see the General Definitions section of these Instructions.

After finishing the transect measurements, complete the general observation portion of the worksheet. Count the number of stream bends and determine their definition (well, moderate, poor - see General Definitions section of these Instructions). Count the number of riffles and estimate the magnitude of flow fluctuations. Look for evidence of debris in bank trees or its position on stream banks (upper, middle, lower). Another indication of flow fluctuations is how well stream flow covers the channel. If water has receded from banks exposing bottom substrates, fluctuations may be severe. The best source of evidence is historical USGS stream flow records, if available. Indicate observed channel obstructions (fences, log jams, culverts, low water bridges, beaver dams, etc.) and channel modifications (channelized, cleared, leveed, concrete lined, rip-rapping, etc.).

2. SUMMARIZE MEASUREMENTS

Calculate the stream bed slope over the entire reach assessed. This information can be determined from USGS maps by measuring the drop in elevation over the reach assessed and dividing by the total length of the reach assessed (feet/foot).

From the USGS or county map, approximated the drainage area above the most downstream transect.

Provide the length in feet of the stream reach assessed.

Enter the total number of transects made across the stream.

Enter the average stream width in feet by averaging all transect stream widths.

Enter the average stream depth in feet by averaging all transect stream depths recorded.

Measure the stream velocity in cubic feet per second at an appropriate point in the reach assessed. This should be done when the transects are made. Include the type of flow meter used, or the type of method, such as floating chip times over a fixed distance, etc. **Note: It is very important to identify the flow measurement method.**

Provide the flow fluctuations over the reach. See general observations made in Item 1.

Enter the number of riffles in the reach assessed.

INSTRUCTIONS FOR INDUSTRIAL WORKSHEET 5.0 SEWAGE SLUDGE MANAGEMENT AND DISPOSAL

Worksheet 5.0 **is required** for all TPDES permit applications that meet the conditions as outlined in Technical Report 1.0, Item 7.

1. SEWAGE SLUDGE SOLIDS MANAGEMENT PLAN

Answer either **yes** or **no** to Items **a** and **b** to determine whether a solids management plan is required with the application.

If **yes** to Item **a** **or** **b**, provide a solids management plan and include the attachment number in the space provided. The Lake Houston Watershed is defined in *30 TAC §311.31* as the entire drainage area of Lake Houston, with the exception of that portion of the drainage basin of the West Fork of the San Jacinto River that lies upstream of the Lake Conroe Dam. The Lake Houston Watershed includes all permit applications for facilities that discharge to Segment Numbers 1002, 1003, 1004, 1008, 1009, 1010, 1011, and 1015. An example of a solids management plan is provided in Appendix 4 of these Instructions.

The solids management plan should include the following:

- the dimensions (length × width × height) and capacities (in gallons or cubic feet) of all sewage sludge handling and treatment units and processes;
- calculations showing the amount of solids generated at design flow and at 75 percent, 50 percent and 25 percent of design flow;
- operating range for mixed liquor suspended solids (MLSS) in the treatment process based on the projected actual and design flow expected at the facility;
- a description of the procedure and method of solids removal from both the wastewater and sludge treatment processes;
- quantity of solids to be removed from the process and schedule for removal of solids designed to maintain an appropriate solids inventory;
- identification and ownership of the ultimate disposal site and a system of documenting the amount of solids disposed of in dry weight form; and
- if the treatment system uses facultative lagoons, provide calculations describing the design life of the sludge holding volume in the ponds. Provide the location and depth of any monitoring wells located in the area of, and adjacent to, the facultative lagoons. Describe how the sludge will ultimately be disposed of upon reaching the design life of the facultative lagoons and other ponds, if utilized.

2. SEWAGE SLUDGE MANAGEMENT AND DISPOSAL

- a. Check all of the options that are currently utilized by the applicant to dispose of sewage sludge from this facility.
- b. Provide detailed information for each site utilized. The site information must include the name of the site, the site's Registration/Permit Number, and the county in which the disposal site(s) is located.
- c. Provide the method used to haul the sludge to the disposal site. The hauler's Registration Number must also be provided, if applicable. Check whether the sludge is hauled in liquid, semi-liquid, semi-solid, or solid form. If the sewage sludge is land applied, check whether it is used for land reclamation or soil conditioning. If sewage sludge is transported to another wastewater treatment plant for further treatment, provide a written statement or a copy of contractual agreements confirming that the wastewater treatment plant identified above will accept and be responsible for the sludge from the plant for the life of the permit (at least five years), and include the attachment number in the space provided. If such a statement or contact is not provided, authorization for such an activity cannot be included in a permit.
- d. Based on the disposal method for sewage sludge authorized in the existing permit or requested in the application, you may be required to submit the *Sewage Sludge Technical Report* (form TCEQ-10056) as an attachment to the application. If the current permit contains authorization **for sludge land application, composting, marketing and distribution, incineration, or sludge lagoons**, the applicable sections of the *Sewage Sludge Technical Report* must be submitted in order for this activity to be renewed in the reissued permit. Failure to provide this information will delay processing of the application.

3. PERMIT AUTHORIZATION FOR SEWAGE SLUDGE DISPOSAL

Answer either **yes** or **no** to the series of questions. If any of the questions are answered **yes**, the *Sewage Sludge Technical Report* (form TCEQ-10056) must be submitted as part of the permit application and the attachment number included in the space provided. Failure to submit the *Sewage Sludge Technical Report* will result in delays in processing the application.

Adding new authorization for beneficial land application, surface disposal, or incineration of sewage sludge to a permit requires a major amendment. Authorization for composting of sewage sludge requires a major amendment to the permit if the composting operation has the potential to cause a degradation of water quality or the addition of treatment units will encroach upon the buffer zone. Prior to submitting an application, contact the Wastewater Permitting Section for a determination of whether a major amendment is required.

If you are requesting to continue the current authorization in your existing permit for any of the following, you must provide the information required in the *Sewage Sludge Technical Report*: **1) authorization to beneficially land apply sewage sludge at this site or a site under your direct control; 2) new authorization to beneficially land apply sewage sludge at this site or a site under your direct control; 3) authorization to market and distribute sewage sludge at this facility or a facility under your direct control; 4) authorization to compost sewage sludge; or 5) authorization to surface dispose sewage sludge at this site or site under your direct control.**

INSTRUCTIONS FOR INDUSTRIAL WORKSHEET 6.0

INDUSTRIAL WASTE CONTRIBUTION

Worksheet 6.0 **is required** for all Publicly Owned Treatment Works (POTWs).

Worksheet 6.0 **is not required** for privately-owned facilities.

For additional explanation of the terms used in Worksheet 6.0 and its instructions, please refer to the General Definitions on pages 4-12 and the Definitions Relating to Pretreatment on pages 13-14 of these Instructions.

1. ALL POTWS

- a. Provide the number of each of the listed types of industrial users (IUs) that discharge to your POTW. Provide the total daily average flow of wastewater (in gallons per day) discharged to the POTW from each type of industrial user. The wastewater flow discharged from each IU should include process and non-process wastewater. The definition of each type of use can be found in the Definitions Relating to Pretreatment on pages 13-14 of these Instructions.
- b. Answer **yes** or **no** as to whether the POTW has experienced treatment plant interference in the past three years. The definition of interference can be found in the Definitions Relating to Pretreatment on pages 13-14 of these Instructions. If **yes**, use the space provided to list the date(s), the duration, a description of the interference, and probable cause(s) and possible source(s) of each interference event, including the name(s) of the IU(s) that may have caused the interference event. Submit a separate attachment if necessary, and provide the attachment number in the space provided.
- c. Answer **yes** or **no** as to whether the POTW has experienced treatment plant pass through in the past three years. The definition of pass through can be found in the Definition Related to Pretreatment on pages 13-14 of these Instructions. If **yes**, use the space provided to list the date(s), the duration, description(s) of pollutants passing through the treatment plant, probable cause(s), and possible source(s) of each pass through event, including the name(s) of the IU(s) that may have caused the pass through event. Submit a separate attachment if necessary and provide the attachment number in the space provided.
- d. Answer **yes** or **no** as to whether the POTW has an approved pretreatment program or is developing an approved pretreatment program. If **yes**, answer all questions in Item 2, but skip Item 3. If **no**, skip Item 2 and answer all questions in Item 3 for each significant industrial user (SIU) and categorical industrial user (CIU).

2. POTWS WITH APPROVED PROGRAMS OR THOSE REQUIRED TO DEVELOP A PROGRAM

- a. Answer **yes** or **no** as to whether there have been any substantial modifications to the POTW's approved pretreatment program that have not been submitted to the Approval Authority (TCEQ) for approval according to *40 CFR §403.18*. If **yes**, identify on a separate attachment all substantial modifications that have not been submitted to the Approval Authority (TCEQ), including the purpose of the modification. Provide a reference to the attachment that includes the above information in the space provided.
- b. Answer **yes** or **no** as to whether there have been any nonsubstantial modifications to the POTW's approved pretreatment program that have not been submitted to the Approval Authority (TCEQ). If **yes**, identify on a separate attachment all nonsubstantial modifications that have not been submitted to the Approval Authority (TCEQ), including the purpose of the modification. Provide a reference to the attachment that includes the above information in the space provided.

- c. List any and all parameters measured above the minimum analytical level (MAL) in your POTW's effluent monitoring during the past three years according to the requirements in the pretreatment section of your TPDES permit. If retests were done following the above testing for any parameters identified in your POTW's effluent above the MAL, identify all retest parameters, concentrations, MALs, and dates. Attach additional sheets as necessary.
- d. Answer **yes** or **no** as to whether any SIU, CIU, or other IU has caused or contributed to any other problem(s) (excluding interference or pass through). If **yes**, provide information concerning any problems the treatment works have experienced that are attributable to discharges from SIUs, CIU, or other IUs. Problems may include corrosion in the collection system or other similar events. Include the name(s) of the SIU(s)/CIU(s)/other IU(s) that may have caused or contributed to the problem(s).

3. SIGNIFICANT INDUSTRIAL USER AND CATEGORICAL INDUSTRIAL USER INFORMATION

POTWs that **do not** have an approved pretreatment program **are required** to provide the information in Item 3.

POTWs that have an approved pretreatment program do not need to complete Item 3 **unless** this is a new wastewater treatment plant or SIUs have commenced discharge to an existing plant where none have been discharging previously.

- a. Provide the name, address, and requested information for each SIU and CIU, as defined in *40 CFR Chapter 403*, discharging to your POTW. Submit additional pages as necessary.
- b. Describe (rather than simply listing) the actual process(es), operations, and activities at the SIU/CIU that affect or contribute to the discharge from the SIU/CIU. For example, in describing a metal finishing operation, include such information as how the product is cleaned prior to finishing, what types of plating baths are in operation (e.g., nickel, chromium), how paint is applied, and how the product is polished. Attach additional sheets and process flow diagrams if necessary.
- c. List principal products that the SIU/CIU generates or the services that it performs, the raw materials and the rate at which those raw materials are used to manufacture the products.
- d. Flow rate information.

Provide the average daily volume, in gallons per day, of process wastewater and non-process wastewater that the SIU/CIU discharges into the collection system. [Note: Process wastewater means any water which, during manufacturing or processing, comes in direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.]

Specify whether discharges are continuous, batch, or intermittent.

- If continuous, specify the daily duration of the discharge (e.g., 10,000 gallons per day over an eight-hour time period, five days per week).
 - If batch or intermittent discharge, specify the basis for calculating the average daily flow (e.g., frequency, volume per batch, and duration). For example, the IU batch average daily discharge is 40,000 gallons per day (i.e., 10 batches per one eight-hour shift per day at 400 gallons per batch, or the IU discharges 500 gallons per minute for eight-hours per day).
- e. Indicate whether the SIU/CIU is subject to technically based local limits (TBLLs). Technically based local limits are enforceable local requirements developed by the POTW to address federal standards as well as state and local regulations and requirements.

Indicate whether the SIU is subject to categorical pretreatment standards. Categorical pretreatment standards are national technology-based standards developed by the EPA, setting industry-specific effluent limits. These standards are implemented by *40 CFR Parts 403-471*. If the SIU is subject to categorical pretreatment standards, provide the category and subcategory or subcategories.

- f. Provide information concerning any problem(s) the POTW has experienced that are attributable to discharges from the SIU(s)/CIU(s). Problems may include upsets, interferences or pass through at the plant, odors, corrosion or blockages in the collection system, or other similar events. Include the name(s) of the SIU(s)/CIU(s) that may have caused or contributed to the problem.

INSTRUCTIONS FOR INDUSTRIAL WORKSHEET 7.0 STORMWATER RUNOFF

Worksheet 7.0 **is required** for all TPDES permit applications for individual permit coverage for discharges of stormwater runoff.

Discharges of stormwater associated with industrial activities, as defined in 40 CFR §122.26 (b)(14)(i-xi), must be authorized under a TPDES permit. Authorization may be obtained by either applying for coverage under a general TPDES permit (sometimes referred to as the Multi-Sector General Permit, or MSGP) or under an individual TPDES permit.

1. APPLICABILITY

Answer either **yes** or **no** regarding whether discharges from any of the proposed or existing outfalls consist either 1) solely of stormwater runoff or 2) solely of stormwater runoff and one or more of the non-stormwater wastestreams listed below. These are wastestreams that are listed in the MSGP (TXR050000), Part II, Section A, Item 6.

- discharges from emergency firefighting activities and uncontaminated fire hydrant flushings (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);
- potable water sources (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);
- lawn watering and similar irrigation drainage, provided that all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
- water from the routine external washing of buildings, conducted without the use of detergents or other chemicals;
- water from the routine washing of pavement conducted without the use of detergents or other chemicals and where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed);
- uncontaminated air conditioner condensate, compressor condensate, and steam condensate, and condensate from the outside storage of refrigerated gases or liquids;
- water from foundation or footing drains where flows are not contaminated with pollutants (e.g., process materials, solvents, and other pollutants);
- uncontaminated water used for dust suppression;
- springs and other uncontaminated groundwater;
- incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but excluding intentional discharges from the cooling tower (e.g., “piped” cooling tower blowdown or drains); and
- other discharges described in Part V of TXR050000 that are subject to effluent guidelines and effluent limitations.

If **yes**, proceed as directed. If **no**, stop here.

2. STORMWATER OUTFALL COVERAGE

List each stormwater runoff outfall and indicate whether authorization for discharge is covered under the MSGP (TPDES general permit) or if authorization is covered under an individual TPDES permit. If all existing or proposed stormwater outfalls are covered under the MSGP, **no further information is required**. If you have indicated that you are seeking authorization under an individual permit, proceed as directed.

The following information is required for each outfall that discharges stormwater and for which you are seeking individual permit authorization under this application.

3. SITE MAP

Provide a site map or maps (drawn to scale) of the entire facility that includes the following information:

- the location of each stormwater outfall to be covered by the permit;
- an outline of the drainage area that is within the facility's boundary and that contributes stormwater to each outfall to be covered by the permit;
- connections or discharge points to municipal separate storm sewer systems;
- locations of all structures (e.g. buildings, garages, storage tanks);
- structural control devices that are designed to reduce pollution in stormwater runoff;
- process wastewater treatment units (including ponds);
- bag house and other air treatment units exposed to precipitation or runoff;
- landfills, scrapyards, and surface water bodies (including wetlands);
- vehicle and equipment maintenance areas;
- physical features of the site that may influence stormwater runoff or contribute a dry weather flow;
- locations where spills or leaks of reportable quantity (as defined in 30 TAC §327.4) have occurred during the three years before this application was submitted to obtain coverage under an individual permit; and
- processing areas, storage areas, material loading/unloading areas, and other locations where significant materials are exposed to precipitation or runoff.

Indicate by a check mark that all of the above information was provided on a facility site map(s). The site map must clearly show the flow of stormwater runoff from each of these locations so that the final outfall where the discharge leaves the facility's boundary is apparent. A series of maps must be developed where the amount of information would cause a single map to be difficult to read and interpret.

4. FACILITY/SITE INFORMATION

- a. Provide the area of impervious surface and the total area drained by each outfall that discharges stormwater for which you are seeking individual authorization under this permit application. Include the units used.
- b. Provide the following local area rainfall information and the source of the information: 1) the wettest month of the year (e.g., January, February, etc.); 2) the average total rainfall in inches in the wettest month of the year; 3) and the 25-year, 24-hour rainfall amount in inches.
- c. Provide an inventory, or list, of materials currently handled at the facility that may be exposed to precipitation in the space provided.

- d. Provide narrative descriptions of the industrial processes and activities involving the materials in the above-listed inventory that occur outdoors or in some manner that may result in exposure of the materials to precipitation or runoff. The description should include, for example, the following types of areas and reference the locations where these activities occur so that the locations are apparent when referencing the required site map.
- loading and unloading areas (including areas where chemicals and other materials are transferred)
 - outdoor storage areas
 - outdoor processing areas
 - dust producing activities
 - onsite waste disposal areas
 - vehicle/equipment maintenance, cleaning, and fueling areas
 - liquid storage tank areas
 - railroad sidings, tracks, and rail cars
- e. Provide a description of any best management practices and controls that you are using to prevent or effectively reduce pollution in stormwater discharges from the facility in the space provided.

5. POLLUTANT ANALYSIS

If you have not already done so, be sure to sign the laboratory certification statement on the first page of Worksheet 2.0 (page 18 of the Technical Report).

Tables 17 and 18 must be completed for each outfall that discharges stormwater runoff associated with industrial activities (discharges may also include any of the non-stormwater discharges from the list in Section 1 of this worksheet) that is not authorized by the MSGP. The discharge must be sampled and analyzed for all of the specified pollutants at least once by either 1) a grab sample during the first 30 minutes or 2) a flow-weighted composite sample if equipment is available for compositing by flow.

- a. **Table 17:** Include results for all pollutants listed in the table.
- b. **Table 18:** Include results for pollutants as specified below. **Do not include pollutants listed previously in Table 17.**
1. Include each pollutant that is limited in an EPA categorical effluent guideline to which the facility is subject (*40 CFR Parts 400 - 471*) except those for which the monitoring frequency is less than once per month.
 2. Include each pollutant that is limited for process wastewater in an existing TCEQ, NPDES, or TPDES permit for the facility except those for which the monitoring frequency is less than once per month.
 3. Include each pollutant from **Worksheet 2.0, Tables 3, 4, and 5** that is used at the facility as a feedstock, intermediate, product, co-product, by-product, or maintenance chemical or that could in any way contribute to contamination of stormwater runoff.

4. Include each pollutant from **Worksheet 2.0, Tables 6, 8, 9, 10, 11, 12, and 13** (Instructions, pages 56-61) that you know or have reason to believe is present in outfalls containing only stormwater runoff.
- c. For pollutants listed from **Table 6**, either report quantitative data from the analysis of a grab sample or a flow-weighted composite sample or briefly describe the reasons the pollutant is expected to be discharged.
- d. For pollutants listed from **Tables 8, 9, 10, and 11** (except for: acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4,6 dinitrophenol) that are expected to be discharged in concentrations of **10 ppb or greater**, you must submit quantitative data from the analysis of at least one grab sample or one flow-weighted composite sample.
- e. For acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4,6 dinitrophenol, you must submit quantitative data if any of these four pollutants is expected to be discharged in concentrations of 100 ppb or greater.
- f. For every pollutant listed from **Tables 8, 9, 10, and 11** expected to be discharged in concentrations **greater than 10 ppb** (or 100 ppb for the four pollutants listed above) you must either submit quantitative data or briefly describe the reasons the pollutant is expected to be discharged.
- g. For pollutants listed from **Table 13** (Instructions, pages 60-61), explain why the pollutant is believed to be present and report any analytical data that you have. No additional analysis is required.
- h. Review the following table to find the SIC codes or codes that applies to each outfall discharging stormwater. If your facility is subject to any of the following SIC Codes, you must include the required analyses in Table 18.

Table 4: SIC Codes

SIC Code or Major Group	Industrial Activity Description	Required Analyses
24xx (except 2434)	Lumber and wood products (except wood kitchen cabinets)	n/a
26xx (except 265x, 267x)	Paper and allied products (except paperboard containers and products)	Chemical oxygen demand
28xx (except 283x, 285x)	Chemicals and allied products (except drugs and paints)	Phosphorous Nitrate-nitrite Iron Aluminum
29xx	Petroleum refining industries	n/a
311x	Leather tanning and finishing	n/a
32xx (except 323x), 33xx	Stone/clay/glass and concrete products (except glass products made of purchased glass); Primary metal industries	Aluminum Iron
3441, 373x	Fabricated structural metals; Ship and boat building and repairing	n/a
10xx	Metal mining	Nitrate-nitrite Turbidity Hardness (as CaCO ₃) Antimony
12xx	Coal mining	Aluminum Iron

SIC Code or Major Group	Industrial Activity Description	Required Analyses
13xx	Oil and gas extraction	n/a
14xx	Nonmetallic minerals	Nitrate-nitrite
HZ	Hazardous waste treatment, storage, or disposal facilities	Aluminum Magnesium Cyanide
LF	Landfills, land application sites, or open dumps that receive or have received industrial waste	Iron
5015	Motor vehicles parts, used	Aluminum Iron
5093	Scrap and waste materials	Aluminum Iron
SE	Steam electric power generating facilities, including coal handling sites	Iron
40xx, 41xx, 42xx (except 4221-4225), 43xx, 5171	Certain transportation facilities	n/a
44xx	Water transportation	Aluminum Iron
45xx	Transportation by air	BOD5 Ammonia
TW; 20xx-23xx, 2434, 25xx, 265x, 267x, 27xx, 283x, 285x, 30xx, 31xx (except 311x), 323x, 35xx, 36xx, 37xx (except 373x), 38xx, 39xx, 4221-4225	Treatment works treating domestic sewage or other sewage sludge or wastewater treatment device or system, related to municipal or domestic sewage; certain light industry	n/a
34xx (except 3441)	Fabricated metal products (except fabricated structural metal)	Iron Aluminum Nitrate-nitrite

6. STORM EVENT DATA

Please provide the following data in the spaces provided for the storm event(s) which resulted in the maximum values for the analytical data submitted:

- Date of storm event
- Duration of storm event (minutes)
- Total rainfall during storm event (inches)
- Number of hours between beginning of storm measured and end of previous measurable rain event
- Maximum flow rate during rain event (gallons/minute)
- Total stormwater flow from rain event (gallons)
- Description of the method of flow measurement or estimate.

INSTRUCTIONS FOR INDUSTRIAL WORKSHEET 8.0 AQUACULTURE

Worksheet 8.0 **is required** for all TPDES permit applications for individual permit coverage for discharges of aquaculture wastewater.

Discharges of wastewater associated with aquaculture activities, as defined by *40 CFR §122.24*, must be authorized under a TPDES permit. Authorizations may be obtained by either applying for coverage under the Aquaculture General Permit (TPDES Permit TXG130000) or under an individual TPDES permit. Pursuant to Senate Bill 873, the TCEQ shall consider sensitive habitat guidelines in evaluating applications for all new and expanding facilities located within the coastal zone. The TCEQ will only consider items required in the Site Assessment report which are within the scope of its regulatory authority under the TPDES program.

1. FACILITY/SITE INFORMATION

a. Provide the information requested regarding production ponds, raceways, and fabricated tanks.

Production ponds: Production ponds include all outdoor ponds which are used to raise fish or other aquatic species. In the first column, provide the number of production ponds for each dimension. In the second column, provide the pond dimensions in feet. In the third column, calculate the surface area for a single pond (in acres). Calculate the total surface area of the production ponds.

Raceways: In the first column, provide the number of raceways. In the second column, provide the raceway dimensions in feet.

Fabricated tanks: In the first column, provide the number of species tanks. In the second column, provide the diameter of the species tank in feet.

Example: A facility has four ponds with dimensions of 300 feet wide and 600 feet long; two ponds with dimensions of 100 feet wide and 225 feet long; two raceways that are 4 feet by 50 feet; four raceways that are 4 feet by 60 feet; three tanks 10 feet tall with a 10 ft. diameter; and one tank 8 feet tall with a 12 ft. diameter. Completed tables appear as follows:

Table 5: Production Pond Descriptions - Example

Number of Ponds	Dimensions (include units)	Area of Each Pond (include units)	Number of Ponds × Area of Ponds (include units)
4	300'×600'	4.1 acres	16.4
2	100'×225'	0.5 acre	1.0
Total surface area of all ponds:			17.4

Table 6: Raceway Descriptions - Example

Number of Raceways	Dimensions (include units)
2	4'×50'
4	4'×60'

Table 7: Fabricated Tank Descriptions - Example

Number of Tanks	Dimensions (include units)
3	10'×10' diameter
1	8'×12' diameter

- b. Answer either **yes** or **no** as to whether the facility has developed a Texas Parks and Wildlife Department (TPWD)-approved emergency plan.
- c. Answer either **yes** or **no** as to whether the facility has an aquatic plant transplant authorization. If **yes**, provide a copy of the authorization letter and include the attachment number in the space provided.
- d. Indicate the number of aquaculture facilities within a 25-mile radius of your facility.

2. SPECIES IDENTIFICATION

Complete the table provided identifying:

- Each species being raised
- The supplier of the stock
- The water body of origin of the stock, and original supplier, if known
- The status of disease testing and results of the stock
- If applicable, note any authorizations that you have for the stock, such as stocking authorization or exotic species permit, and attach copies of current authorizations and permits.

Table 8: Species Identification

Species	Source of Stock	Origin of Stock	Disease Status	Authorizations
Exotic species example: <i>P. vannamei</i> Pacific white shrimp	Harlingen Shrimp Farm	Pacific Ocean - Oceanic Institute – Hawaii	Provide copy of letter from TVMDL	Provide copy of Exotic Species Permit No. 0000
Native species example: <i>Ictalurus punctatus</i> Channel catfish	Delta Farms	Pearl River	N/A – no information	N/A – no information
Native species example: <i>Sciaenops ocellatus</i> Red drum	Red Fish Unlimited	Matagorda Bay	N/A – no information	Provide copy of Stocking Authorization letter

3. STOCK MANAGEMENT PLAN

Provide a detailed narrative of the maintenance and harvesting procedures at the facility in the space provided. The stock management plan shall include the following information for each species:

- Total harvest weight in pounds. This is the live weight prior to processing from the last year of production. For a new facility you may estimate the production weight based upon stocking rates, feed rates, management practices, or production from similar facilities.
- Density of the stock in lbs/acre or in number/acre
- Sizes upon stocking and subsequent life stages of the stock while maintained at the facility
- Composition of the feed and feed management
- Method of harvesting (e.g., seining)

- Stocking dates and production months prior to harvest
- Months in which harvest occurs
- Medications and or supplements. Attach manufacturer's product label or material safety data sheet (MSDS) for each drug, medication, or chemical utilized.
- Disease monitoring procedures
- Frequency and duration of medical treatments

4. WATER TREATMENT AND DISCHARGE DESCRIPTION

Provide a detailed description of the discharge practices and water treatment process during a typical wastewater discharge schedule for a full year of production. Provide an attachment if necessary and include the attachment number in the space provided. The water treatment and discharge description shall include:

- Water exchange process and percentages of the water exchanged
- Characterizations of variations in the quality and quantity of the discharge throughout the growing season
- Annual average, daily average, and daily maximum flow volumes
- Estimated number of days of discharge per year and months or seasons in which discharge occurs
- Cleaning and disinfection process of containment structures. Identify chemicals utilized such as chlorine solutions and detergents. Attach manufacturer's product label or MSDS for each chemical utilized.
- Water treatment and maintenance chemicals. Identify chemicals utilized such as fertilizers, flocculants, and algicides. Attach manufacturer's product label or MSDS for each chemical utilized.
- Frequency and duration of water treatments
- Descriptions of each wastewater treatment unit and process

5. SOLID WASTE MANAGEMENT

Provide a detailed description of the facility's solid waste disposal practices in the space provided. Provide an attachment if necessary and include the attachment number in the space provided. The solid waste management description shall include the following information.

- Identification of sources of solid wastes such as uneaten food and plant and animal waste
- Disposal of dead animals
- Sludge removal practices

6. SITE ASSESSMENT REPORT AND SENSITIVE HABITAT REQUIREMENTS

Note: Only applicable to new and expanding commercial shrimp facilities located within the coastal zone

In accordance with recent legislation, new and expanding shrimp facilities in the coastal zone are required to complete a site assessment report to identify sensitive aquatic habitats within the coastal zone. Provide the Site Assessment Report, if required, and include the attachment number in the space provided. The Site Assessment Report must include the following site-specific information:

a. Facility Location

- Identify the facility location, intake structures, and outfalls on the appropriate USGS 7.5' topographical map in the "Oil Spill Prevention and Response Atlas".
- Provide the priority designation for the area(s) identified in the "Data Supplement" and "Data Supplement Addendum" accompanying the map.
- Provide a description of the organisms and habitat for the area(s) identified in the "Data Supplement Addendum" accompanying the map.

b. **Flushing Rate** - Describe local circulation patterns, tidal height fluctuations, prevailing wind direction and velocity, and prevailing current direction and velocity in the vicinity of the discharge and the mixing zone.

c. **Reefs** - Describe the proximity and size of nearby reefs, whether natural or artificially constructed. Identify known or expected uses of the reefs, such as those used for the commercial harvest of oysters or recreational fishing.

d. **Endangered or Threatened Species** - Provide information about the documented presence of endangered or threatened species or species of concern within the vicinity of the facility and discharge. Identify any preferred habitats of threatened or endangered species or species of concern in relation to the facility, the discharge location, and intake structures.

e. **Spawning** - Provide available information about spawning of fish, shellfish and marine organisms in the vicinity of the discharge location and intake structures.

f. **Nesting** - Identify colonial nesting water birds, and other birds, mammals, reptiles, or amphibians that are recreationally, ecologically, or economically important, which nest in the vicinity of the facility and intake and discharge locations.

g. **Bird Roosts** - Identify colonial water bird roosts in the vicinity of the facility and intake and discharge locations.

h. **Recreational Use** - Identify the known or expected contact and noncontact recreational uses of coastal habitat in the vicinity of the facility.

i. **Nursery Habitat** - Identify known nursery habitat for juvenile aquatic organisms in the vicinity of the discharge and the mixing zone. Determine whether seagrasses are present within 2500 feet of the discharge point. If they are present, estimate the density, for example "scattered plants," "scattered small patches (<2-5 m² per patch)," "semi-continuous (open areas are common)," or "continuous." Identify any intertidal marshes in the vicinity.

j. **Discharge Characterization** - Provide the following information regarding the wastes and potential impacts of the facility upon the coastal environment:

- **Oxygen Demand** - Identify expected sources, such as feces, uneaten food, and algae, and concentrations of oxygen-demanding wastes within the effluent. Describe how oxygen-demanding waste concentrations will vary with time and identify factors that may influence these variations.
- **Salinity** - Describe expected salinities of the discharge and receiving waters. Characterize any differences between them and describe how those differences may change with time.
- **Solids** - Describe control of solids control activities during facility construction, operation, and maintenance to ensure minimal solids movement into the coastal environment. Solids control activities must be adequate to ensure that solids will not be released into the environment during construction operations and that discharge ditches will not be subject to erosion during wastewater discharge activities.
- **Disease** - Describe anticipated and known pathogens which could infect the facility. Determine whether or not the same pathogens may infect native populations. Describe how the facility monitors and controls pathogens. Describe how pathogen controls may affect the adjacent coastal ecosystem.
- **Exotic species** - Provide information regarding non-native species expected to be cultured, likelihood of survival following escape, and potential impact of escaped species upon the coastal ecosystem. Potential impacts may include out-competing native species for food and habitat, hybridization with native species, disease transfer, and destruction of habitat.
- **Nutrients** - Identify expected sources and concentrations of nutrients, particularly nitrogen and phosphorus, within the effluent. Describe how nutrient concentrations will vary with time and identify factors that may influence these variations.
- **Noise** - Describe equipment and activities which will be expected to generate noise, noise levels expected, how noise levels will vary with time of day and season, and what actions the facility will take to minimize noise impacts on the coastal ecosystem.
- **Shoreline modifications** - Describe how facility modifications and construction activities will impact the coastal environment.
- **Impingement and entrainment of native species** - Describe the type(s) of intake structure, water intake processes, and techniques utilized to ensure minimal entrainment and impingement of recreationally, ecologically, or economically important species.
- **Cumulative waste/loading impacts** - Identify possible cumulative impacts resulting from the combined effects of the proposed facility with impacts resulting from nearby activities and wastewater discharges.
- **Mitigation** - Describe how the facility proposes to mitigate impacts to the coastal environment due to facility operations and construction activities.

7. RESOURCES

The “[Oil Spill Prevention and Response Atlas](#)” can be viewed online on the Texas General Land Office (GLO) website at <http://www.glo.texas.gov/what-we-do/caring-for-the-coast/oil-spills/toolkit/index.html> or by contacting the GLO or the Texas Parks and Wildlife Department (TPWD).

TEXAS PARKS AND WILDLIFE DEPARTMENT

Resource Protection Division

Lower Coast Regional Office

Smiley Nava, Manager

TAMU-Corpus Christi Natural Resources Center,
Suite 2501
6300 Ocean Drive
Corpus Christi, TX 78412
Phone: 361-825-3242

Upper Coast Regional Office

Woody Woodrow, Manager

1502 Pine Drive (FM 517)
Dickinson, TX 77539
Phone: 281-534-0131

Coastal Fisheries Division

Galveston Bay Ecosystem Office

Rebecca Hensley, Program Leader

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Dickinson, TX 77539
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Lake Sabine Ecosystem Office

Jerry Mambretti, Program Leader

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Matagorda Bay Ecosystem Office

Bill Balboa, Program Leader

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Phone: 361-972-6253

San Antonio Bay Ecosystem Office

Norman Boyd, Program Leader

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Upper Laguna Madre Ecosystem Office

Kyle Spiller, Program Leader

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Lower Laguna Madre Ecosystem Office

Randy Blankinship, Program Leader

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Phone: 956-350-4490

Aransas Bay Ecosystem Office

Karen Meador, Program Leader

702 Navigation Circle
Rockport, TX 78382
Phone: 361-729-2328

Corpus Christi Bay Ecosystem Office

Paul Choucair, Program Leader

702 Navigation Circle
Rockport, TX 78382
Phone: 361-729-2328

Wildlife Division

Wildlife – Region 4

David Mabie

715 S. Highway 35
Rockport, Texas 78382
Phone: 361-790-0308

Wildlife Diversity Program – endangered and threatened species and species of concern

Paul Robertson

3000 S. IH-35,
Suite 100
Austin, Texas 78704
Phone: 512-912-7044

TEXAS GENERAL LAND OFFICE

Oil Spill Prevention and Response Atlas - Information

Dr. Buzz Martin

1700 N. Congress Avenue,
Room 340
Austin, Texas 78701-1495
Phone: 512-475-4622

Oil Spill Prevention and Response Atlas - Ordering

Stephanie Crenshaw

1700 N. Congress Avenue,
Room 340
Austin, Texas 78701-1495
Phone: 512-463-6556

INSTRUCTIONS FOR INDUSTRIAL WORKSHEET 9.0 CLASS V INJECTION WELL

Worksheet 9.0 **is required** for all amendment, new, and renewal applications that dispose of treated effluent via subsurface disposal.

Submit an original and one copy of the inventory/authorization form to:

UIC Permits Team, MC-233
Radioactive Materials Division
P.O. Box 13087
Austin, Texas 78711-3087.

As stated in *30 TAC §331.21*, “All geoscientific information submitted to the agency under this chapter shall be prepared by, or under the supervision of, a licensed professional geoscientist or a licensed professional engineer and shall be signed, sealed, and dated by the licensed professional geoscientist or licensed professional engineer in accordance with the Texas Geoscience Practice Act and the Texas Engineering Practice Act.” Any application submitted shall be signed, sealed, and dated on the cover letter. In addition to the inventory/authorization form, the TCEQ requires that a Core Data Form (Form 10400) be submitted with all incoming applications. For more information regarding the Core Data Form, located on the TCEQ website at http://www.tceq.texas.gov/permitting/central_registry/guidance.html, call (512) 239-5175 or go to the TCEQ Web site.

If you are applying for two or more Class V injection wells that are of similar construction at the same facility you may use one form.

If you are applying for Class V injection wells of different construction or at different facilities, use one form per construction type and facility.

Use the Class V injection well designation key provided at the end of the worksheet to determine the type of injection well for which the application is being submitted and indicate this on the top of the application form (Reg No. 5____).

Complete **Section I for all notifications and Sections II through V as appropriate.**

PLEASE READ

The purpose of this form is to serve as the means for the Class V injection well owner or operator to provide notice to the Underground Injection Control (UIC) Program of intent to construct, operate, and/or convert a well in accordance with the inventory and approval requirements of *30 TAC §331.10*. No Class V injection well may be constructed, operated, and/or converted without prior approval from the Executive Director.

INSTRUCTIONS FOR INDUSTRIAL WORKSHEET 10.0 QUARRIES IN THE JOHN GRAVES SCENIC RIVERWAY

Worksheet 10.0 **is required** for municipal solid waste or mining facilities that are located within a Water Quality Protection Area in the John Graves Scenic Riverway and that are applying for an individual TPDES permit or TLAP.

30 TAC Chapter 311, Subchapter H establishes requirements for quarries located within a water quality protection area in the John Graves Scenic Riverway. The subchapter also requires municipal solid waste and other mining facilities to maintain on-site documentation of exclusion from the requirements of *30 TAC Chapter 311, Subchapter H*.

Definitions of “John Graves Scenic Riverway,” “quarry,” and “water quality protection area” are found in *30 TAC §311.71* as follows:

John Graves Scenic Riverway – That portion of the Brazos River Basin and its contributing watershed, located downstream of the Morris Shepard Dam on the Possum Kingdom Reservoir in Palo Pinto County, Texas, and extending to the county line between Parker and Hood Counties, Texas. [30 TAC §311.71(5)]

Quarry – The site from which aggregates for commercial sale are being, or have been, removed or extracted from the earth to form a pit, including the entire excavation, stripped areas, haulage ramps, and the immediately adjacent land on which the plant processing the raw material is located. The term does not include any land owned or leased by the responsible party not being currently used in the production of aggregates for commercial sale or an excavation to mine clay or shale for use in manufacturing structural clay products. [30 TAC §311.71(12)]

Water quality protection area – The Brazos River and its contributing watershed within Palo Pinto and Parker Counties, Texas, downstream from the Morris Shepard Dam, and extending to the county line between Parker and Hood Counties, Texas. [30 TAC §311.71(20)]

Thoroughly review 30 TAC §§311.71 - 311.82 prior to completing any portion of this worksheet.

1. EXCLUSIONS:

Indicate by checking **yes** or **no** whether this facility is subject to any of the exclusions listed at *30 TAC §311.72(b)*. These exclusions apply to:

- a. the construction or operation of a municipal solid waste facility regardless of whether the facility includes a pit or quarry that is associated with past quarrying;
- b. a quarry, or associated processing plant, that since on or before January 1, 1994, has been in regular operation without cessation of operation for more than 30 consecutive days and under the same ownership (including the construction or modification of associated equipment at such a quarry or associated processing plant);
- c. any activity, facility, or operation regulated under Natural Resources Code, Texas Surface Coal Mining and Reclamation Act, Chapter 134 (coal mining); or
- d. quarries mining clay and shale for use in manufacturing structural clay products.

If **no** to all of these questions, continue to Item 2.

If **yes** to any of these questions, you **are not required** to complete the remainder of this worksheet. You **are required** to maintain documentation on-site at the facility demonstrating these exclusions. Acceptable forms of documentation are outlined in *30 TAC §311.72(c)* as follows:

- Documentation demonstrating ownership including, but not limited to: 1) deeds, 2) property tax receipts, 3) leases, or 4) insurance records.
- Documentation demonstrating continuous operation without cessation of operation for more than 30 consecutive days beginning on or before January 1, 1994, including, but not limited to: 1) production records, 2) sales receipts, 3) payroll records, 4) sales tax records, 5) income tax records, or 6) financial statements/reports.
- Documentation demonstrating the construction or operation of a municipal solid waste facility; any activity, facility, or operation regulated under Natural Resources Code, *Texas Surface Coal Mining and Reclamation Act, Chapter 134*; or quarries mining clay and shale for use in manufacturing structural clay products including, but not limited to, any permit issued by the TCEQ, Railroad Commission of Texas, or EPA.

2. LOCATION OF THE QUARRY

Indicate by a checkmark the distance between the quarry and the nearest navigable water body. The definition of “navigable” is found in *30 TAC §311.71(7)* as follows:

Navigable – Designated by the USGS as perennial on the most recent topographic maps(s) published by the USGS, at a scale of 1:24,000.

Definitions for [topographic map symbols](http://pubs.usgs.gov/gip/TopographicMapSymbols/topomapsymbols.pdf) can be accessed on the USGS web site at <http://pubs.usgs.gov/gip/TopographicMapSymbols/topomapsymbols.pdf>.

The distance between the navigable water body and the quarry is measured from the gradient boundary of the water body to the perimeter of the quarry. The quarry may fall within multiple applicability zones.

Operation of a quarry within 200 feet of a navigable water body is prohibited by 30 TAC §311.73(a). You will not be issued a permit that authorizes operation within this area.

3. ADDITIONAL APPLICATION REQUIREMENTS

Review the table to determine which additional application requirements must be submitted according to the location of the quarry. Indicate with a checkmark those items submitted as attachments to the permit application. Some or all of the following attachments will be required: Restoration Plan, Financial Assurance for Restoration, Technical Demonstration, Reclamation Plan, and Financial Assurance for Reclamation.

a. Restoration Plan

The Restoration Plan is a proposed plan of action that explains how the responsible party will restore the receiving waters to background conditions in the event of an unauthorized discharge that affects those receiving waters.

Complete the table provided, indicating that the Restoration Plan addresses the items required by *30 TAC §311.76*.

b. Financial Assurance for Restoration

Indicate the amount of financial assurance provided and the financial assurance mechanism used. The amount of financial assurance required is determined by the cost estimate provided as required with the Restoration Plan at *30 TAC §311.76(a)(8)*.

c. Technical Demonstration

Complete the table provided, indicating that the Technical Demonstration addresses the items required by *30 TAC §311.77*.

d. Reclamation Plan

Complete the table provided, indicating that the Reclamation Plan addresses the items required by *30 TAC §311.78*.

e. Financial Assurance for Reclamation

Indicate the amount of financial assurance provided and the financial assurance mechanism used. The amount of financial assurance required is determined by the cost estimate provided as required with the Reclamation Plan at *30 TAC §311.78(a)(2)*.

INSTRUCTIONS FOR INDUSTRIAL WORKSHEET 11.0 COOLING WATER INTAKE STRUCTURES

1. GENERAL COOLING WATER INTAKE INFORMATION

The purpose of this Section is to determine whether regulations under *40 CFR Part 125, Subparts I and J*, are applicable to the TPDES permit or permit renewal being applied for.

PLEASE NOTE: A final determination of the applicability of regulations in *40 CFR Part 125, Subpart I or J*, is contingent upon a complete review of the TPDES application by the TCEQ and the EPA. You may be required to submit additional information if it is later determined that regulations in *40 CFR Part 125, Subpart I or J*, are applicable to the facility.

- a. Indicate by checking **yes** or **no** whether the facility that is applying for a new, amended, or renewed TPDES permit owns and operates a cooling water intake structure.

If **yes**, identify the owner and operator of the cooling water intake structure in the blanks provided.

1. Indicate by checking **yes** or **no** whether the owner and operator of the cooling water intake structure is applying for this TPDES permit.
2. Indicate by checking **yes** or **no** whether the owner and operator of the cooling water intake structure(s) provide potable water to residential populations.

If **yes** to **both** Item a.1 and Item a.2, stop here.

If **no** to **either** Item a.1 or Item a.2, continue with Worksheet 11.0.

- b. Indicate by checking **yes** or **no** whether the facility has at least one cooling water intake structure that uses $\geq 25\%$ of the total water withdrawn for cooling purposes on an average monthly basis.

If **yes**, continue with Worksheet 11.0. If **no**, stop here.

- c. Indicate by checking **yes** or **no** whether the facility has a design intake flow of ≥ 2 MGD.

If **yes**, continue with Worksheet 11.0. If **no**, stop here.

2. PHASE I FACILITIES

Completion of Section 2 **is required** for facilities that meet the definition of a new facility as defined at *40 CFR §125.83*.

a. Application Requirements

Submit the following required information as an attachment to the TPDES permit application. Provide the attachment number in the space provided. The separate attachments must be clearly cross-referenced; failure to do so may result in significant delays in processing the application.

1. Source water physical data
2. Cooling water intake structure data
3. Source water baseline biological characterization data

b. Compliance Track Selection

Please review *40 CFR §125.84* to select a compliance track for the facility. Indicate with a checkmark the compliance track selected for this facility. This selection will have an impact on requirements in the final permit, and will also determine what type of compliance information will need to be submitted in Item 2.c. of this worksheet.

Although there are only two true options, either Track I or Track II, the version of Track I will be dependent upon the actual flow (on an average monthly basis) through the cooling water intake structure. Facilities that withdraw >2 MGD but <10 MGD will not be required to provide compliance information on flow reduction.

c. Phase I Compliance Information (see *40 CFR §125.84*)

NOTE: Complete the appropriate table according to the selection made in Item 2.a.

Indicate with a checkmark in the **yes** column that the following required information has been submitted with the application, and identify the attachment number in the adjacent box. The compliance information you submit must match the compliance track selected in Item 2.b., otherwise, the application will be considered incomplete until the appropriate documentation has been received by the TCEQ.

Track I

- Flow reduction information
(not required for facilities withdrawing >2 MGD but <10 MGD)
- Velocity information
- Source water body flow information
- Design and construction technology plan*

Track II

- Source water body flow information
- Source water biological study
- Evaluation of potential cooling water intake structure effects
- Verification monitoring plan

*The design and construction technology plan is required ONLY where:

There are threatened and endangered or otherwise protected federal, state, or tribal species, or critical habitat for these species, within the hydraulic influence of the cooling water intake structure; or

Based on information submitted by any fishery management agency or agencies, or relevant information, there are migratory, sport, or commercial species of impingement concern that pass through the hydraulic zone of influence of the cooling water intake structure; or

It is determined, based on information submitted by any fishery management agency or agencies, or other relevant information, that the proposed facility, after meeting the technology-based performance requirements in *40 CFR §125.84(b)(1), (2), and (3)*, would still contribute unacceptable stress to the protected species, critical habit of any species of concern.

3. PHASE II FACILITIES

Based on pending revisions to 40 CFR Part 125, Subpart J, completion of Section 3 will be required for all facilities that meet the definition of an existing facility as defined at 40 CFR § 125.93 upon the effective date of a revised 40 CFR Part 125, Subpart J; however, Section 3 may be completed at any time.

a. Waiver Request

Indicate by checking **yes** or **no** if the facility wishes to request a waiver of application requirements under *40 CFR §122.21(r)*. If yes, provide the supporting documentation requested by the application. Indicate the attachment number in the space provided.

Upon reviewing the supporting documentation, the TCEQ may waive some or all of the application requirements in *40 CFR §122.21(r)*. If it is determined that certain requirements in *40 CFR §122.21(r)* must be submitted, the TCEQ may (1) request the required information be submitted with the application or (2) establish an alternate schedule for submission of information required in accordance with *40 CFR §125.95*.

b. Alternate Submittal Schedule

Indicate by checking **yes** or **no** if the facility is to request an alternate submittal schedule for information required under *40 CFR §122.21(r)*. The alternate submittal schedule will only be granted for those facilities that:

1. Demonstrate that the facility could not develop the required information by the application date for submission; and
2. Have an effective TPDES permit that will expire prior to or on the date that falls 45 months after the effective date of the final 316(b) rules.

If yes, provide the supplemental documentation requested in the application, and include the attachment number in the space provided. Facilities that have an effective TPDES permit that expires after the date that falls 45 months after the effective date of the final 316(b) rules must submit all information required, as applicable, to the intake structure(s) under *40 CFR §122.21(r)* when applying for a subsequent permit.

c. Application Requirements

Submit the listed information, as applicable to the intake structure, as an attachment to the TPDES permit application, and indicate the attachment number in the space provided. Refer to the specified portion(s) of *40 CFR §122.21* to determine which information is required.

APPENDIX 1 – COMMON PROCESSES AND PROCESS MODIFICATIONS

Conventional plug flow activated sludge - Settled wastewater and recycled activated sludge enter the head end of the aeration tank and are mixed by diffused air or mechanical aeration. Air application is generally uniform throughout tank length. During the aeration period, adsorption, flocculation, and oxidation of organic matter occur. Activated-sludge solids are separated in a secondary settling tank.

Complete-mix activated sludge – The complete-mix process is an application of the flow regime of a continuous-flow stirred-tank reactor. Settled wastewater and recycled activated sludge are introduced typically at several points in the aeration tank. The organic load on the aeration tank and the oxygen demand are uniform throughout the tank length.

Denitrification - Denitrification is the process of converting nitrate nitrogen into nitrogen gas, usually accomplished in the effluent from an activated sludge nitrification process.

Tapered aeration activated sludge - Tapered aeration is a modification of the conventional plug-flow process. Varying aeration rates are applied over the tank length depending on the oxygen demand. Greater amounts of air are supplied to the head of the aeration tank, and the amounts diminish as the mixed liquor approaches the effluent end. Tapered aeration is usually achieved by using different spacing of the air diffusers over the tank length.

Step-feed activated sludge - Step-feed aeration is a modification of the conventional plug-flow process in which the settled wastewater is introduced at several points in the aeration tank to equalize the F/M ratio, thus lowering peak oxygen demand. Generally three or more parallel channels are used. Flexibility of operation is one of the important features of this process.

Modified aeration activated sludge - Modified aeration is similar to the conventional plug-flow process except that shorter aeration times and higher F/M ratios are used. BOD removal efficiency is lower than other activated sludge processes.

Contact stabilization activated sludge - Contact stabilization uses two separate tanks or compartments for the treatment of wastewater and stabilization of activated sludge. Stabilized activated sludge is mixed with influent wastewater in a contact tank. Return sludge is aerated separately in a reaeration tank to stabilize the organic matter.

Extended aeration activated sludge- Extended aeration process is similar to the conventional plug flow process except that it operates in the endogenous respiration phase of the growth curve, which requires a low organic loading and long aeration time. This process is used extensively for prefabricated package facilities for small communities and in oxidation ditch (continuous loop reactor) facilities.

High-rate aeration activated sludge- High-rate aeration is a process modification in which high mixed liquor suspended solids (MLSS) concentrations are combined with high volumetric loadings. This combination allows high F/M ratios and long mean cell-residence times with relatively short hydraulic detention times. Adequate mixing is very important.

Kraus process - Kraus process is a variation of the step aeration process used to treat wastewater with low nitrogen levels. Digester supernatant is added as a nutrient source to a portion of the return sludge in a separate aeration tank designed to nitrify. The resulting mixed liquor is then added to the main plug-flow aeration system.

High-purity oxygen - High-purity oxygen is used instead of air in the activated-sludge process. Oxygen is diffused into covered aeration tanks and is recirculated. A portion of the gas is wasted to reduce the concentration of carbon dioxide. pH adjustment may also be required. The amount of oxygen added is about four times greater than the amount that can be added by conventional aeration systems.

Membrane Bioreactor Systems - Membrane bioreactors combine suspended growth activated sludge treatment with membrane filtration systems, typically in a common basin. High levels of treatment can be achieved without the need for final clarification and effluent filtration.

Nitrification - Nitrification is the biological oxidation of ammonia into nitrites and then nitrates by microorganisms in the activated sludge treatment process.

Nutrient Removal - Nutrient removal generally refers to the removal of nitrogen and/or phosphorus from wastewater. Biological processes, membrane filtration, sand filtration, or a combination of these processes may be used for nutrient removal.

Oxidation ditch - An oxidation ditch consists of a ring or oval shaped continuous loop activated sludge reactor and is equipped with mechanical aeration devices. Screened wastewater enters the ditch, is aerated, and circulates at a velocity of 0.8 to 1.2 ft/s (0.24 to 0.37 m/s). Oxidation ditches typically operate in the extended aeration mode with long detention and solids retention times.

Sequencing batch reactor – A sequencing batch reactor (SBR) is a fill and draw activated sludge treatment system that is identical to conventional activated sludge systems, except that the processes are carried out sequentially in the same tank. An SBR system has the following five steps that are carried out in sequence: fill, react, settle, draw, and idle. Mixed liquor remains in the reactor during all cycles, thereby eliminating the need for separate secondary sedimentation tanks and return activated sludge pumps.

APPENDIX 2 – COMMON TREATMENT UNITS

LIQUID TREATMENT PROCESSES

Primary Treatment

- 01 Pumping raw wastewater
- 02 Preliminary treatment – bar screen
- 03 Preliminary treatment – grit re-moval
- 04 Preliminary treatment - commi-nutors
- 05 Preliminary treatment - others
- B1 Imhoff tank
- 06 Scum removal
- 07 Flow equalization basins
- 08 Preaeration
- 09 Primary sedimentation
- D2 Septic tank
- A5 Facultative lagoon

Secondary Treatment

- 10Trickling filter – rock media
- 11 Trickling filter – plastic media
- 12 Trickling filter – redwood slats
- 13 Trickling filter – other media
- 14 Activate sludge – conventional
- 15 Activate sludge – complete mix
- 16 Activate sludge – contact stabilization
- 17 Activated sludge – extended aeration
- 18 Pure oxygen activate sludge
- 19 Bio-Disc (rotating biological filter)
- 20 Oxidation ditch
- 21 Clarification using tube settlers
- 22 Secondary clarification
- B6 Constructed wetlands
- E5 Natural treatment
- E6 Overland flow

Advanced Treatment - Biological

- 23 Biological nitrification – separate stage
- 24 Biological nitrification - combined
- 25 Biological denitrification
- 26 Post aeration (reaeration)

Advanced Treatment – Physical/Chemical

- 27 Microstrainers – primary
- 28 Microstrainers – secondary
- D1 Dunbar Beds
- 29 Sand filters
- 30 Mix media filters (sand and coal)
- 31 Other filtrations
- B2 Bubble diffuser (compressor)
- 32 Activated carbon – granular
- B3 Mechanical surface aerator
- 33 Activated carbon-powered
- 34 Two stage lime treatment of raw wastewater
- 35 Two stage tertiary lime treatment
- 36 Single stage lime treatment of raw wastewater
- 37 Single state tertiary lime treatment
- 38 Recarbonation
- 39 Neutralization
- 40 Alum addition to primary
- 41 Alum addition to secondary
- 42 Alum addition to separate state tertiary
- 43 Ferri-chloride addition to primary
- 44 Ferri-chloride addition to secondary
- 45 Ferri-chloride addition to separate stage tertiary
- 46 Other chemical additions
- 47 Ion exchange
- 48 Breakpoint chlorination
- 49 Ammonia stripping
- 50 Dechlorination

Disinfection

- 51 Chlorination for disinfection
- 52 Ozonation for disinfection
- 53 Other disinfection
- D3 Ultra violet light

Other Treatment

- 57 Stabilization lagoons
- 58 Aerated lagoons
- 59 Outfall pumping
- 60 Outfall diffuser
- 61 Effluent to other plants
- 62 Effluent outfall
- 63 Other treatment
- 64 Evapo-transpiration beds
- 64 Recalcination

Disposal Method

- A7 Irrigation – public access
- A8 Irrigation – agricultural
- B4 Evapo-transpiration beds
- B6 Constructed wetlands
- C1 Irrigation – pastureland
- D4 Pressure dosing system
- D5 Percolation system
- D8 Other reuse method
- E1 Evaporation/plays
- E2 Discharge only
- E3 Discharge and (use other #)
- E4 Injection well(s)

SLUDGE TREATMENT PROCESSES

- 65 Aerobic digestion – air
- 66 Aerobic digestion – oxygen
- 67 Composting
- 68 Anaerobic digestion
- 69 Sludge lagoons
- 70 Heat treatment – dryer
- 71 Chlorine oxidation of sludge
- 72 Lime stabilization
- 73 Wet air oxidation
- 74 Dewatering – sludge drying beds, sand
- F2 Dewatering – sludge drying bed vacuum assted
- 75 Dewatering – mechanical-vacuum filter
- 76 Dewatering – mechanical – centrifuge
- 77 Dewatering – mechanical – filter press
- 78 Dewatering – others
- 79 Gravity thickening
- 80 Air flotation thickening
- D6 Sludge holding tank

Incineration

- 81 Incineration – multiple hearth
- 82 Incineration – fluidized beds
- 83 Incineration – rotary kiln
- 84 Incineration –others
- 85 Pyrolysis
- 86 Co-incineration with solid waste
- 87 Co-pyrolysis with solid waste
- 88 Co-incineration - others

SLUDGE DISPOSAL METHOD

- 89 Co-disposal landfill
- D7 Sludge – only monofill
- 90 Land application (permitted)
- 91 Commercial land application (register)
- 92 Trenching
- B5 Transport to another WWTP
- F3 Transport to Regional compost facility
- 94 Other sludge handling
- 95 Digest gas utilization facilities
- E7 Commercial land application (permit)
- F4 Dedicated land disposal
- F5 Marketing and distribution composted
- F6 Marketing and distribution non-composted

MISCELLANEOUS

- 96 Control/lab/maintenance buildings
- 97 Fully automated using digital control computer (computer)
- 98 Fully automated using analog control
- 99 Semi-automated plant
- A1 Manually operated and controlled plant
- A2 Package plant
- A3 Semi-package plant
- A4 Custom built plant
- A7 Irrigation – public access
- A8 Irrigation – agriculture
- A9 Effluent storage lagoons (irrigation)
- C1 Irrigation – pastureland
- D8 Other reuse method
- D9 Emergency holding lagoons
- E1 Evaporation or playa
- E8 Monitoring wells
- E9 Biomonitoring
- F7 Stormwater (SSO)
- F8 Unconventional

APPENDIX 3 – EXAMPLE – FLOW DIAGRAM

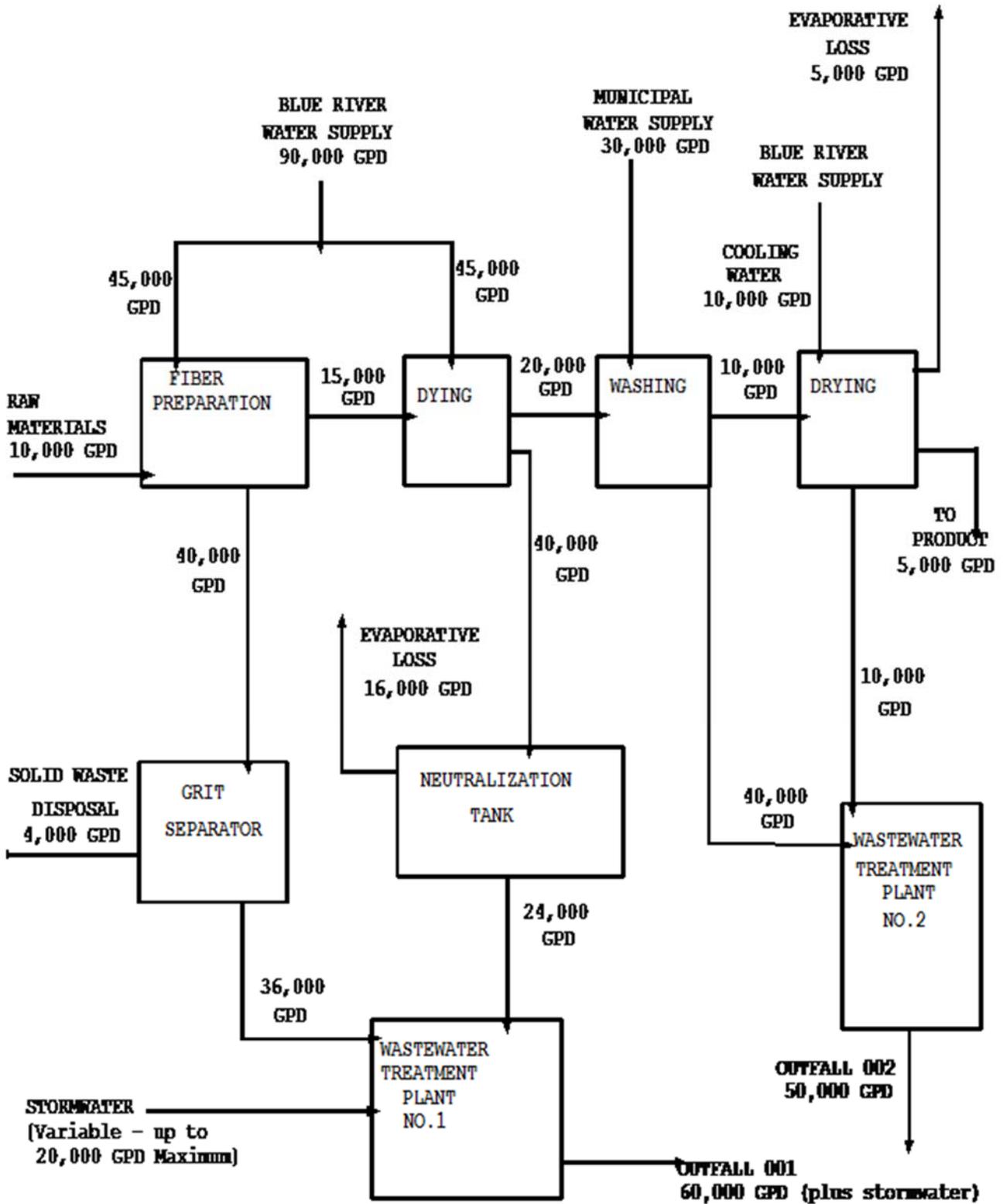


Figure 1: Example - Flow Diagram

APPENDIX 4 – EXAMPLE – SLUDGE MANAGEMENT CALCULATIONS

Influent Design Flow = 0.225 MGD

Influent BOD Concentration = 250 mg/L

Aerobic Digester Volume: 71,950 gallons

Aeration Basin MLSS: 2,000 to 3,000 mg/L

Table 9: Sludge Production

Solids Generated	100% flow	75% flow	50% flow	25% flow
Pounds Influent BOD ₅	469	352	235	117
Pounds of digested dry sludge produced*	164	123	82	41
Pounds of wet sludge produced	8,210	6,157	4,105	2,052
Gallons of wet sludge produced	984	738	492	246

***Assuming 0.35 pounds of digested dry sludge produced per pound of influent BOD₅ at average temperatures and 2.0% solids concentration in the digester.**

Sludge will be wasted from the RAS flow stream to the aerobic digester. Sludge solids will be stabilized in the digester; supernatant will be decanted from the digester and returned to the facility headworks for treatment.

Table 10: Sludge Removal Schedule

Removal Schedule (days)	100% flow	75% flow	50% flow	25% flow
Days between Sludge Removal	7	10	14	30

Liquid digested sludge will be removed from the digester for disposal on a regular basis as required. The calculated mean cell residence time (MCRT) for the digester storage volume of 71,950 gal will be approximately 73 days at 100% capacity and annual average digested sludge production of 164 ppd. The digested sludge will be transported by registered hauler, ABC Haulers, Registration # 1234 to XYZ Landfill, Permit No. 9876 in Hays County.

APPENDIX 5 – EXAMPLES – ADJACENT AND DOWNSTREAM LANDOWNERS

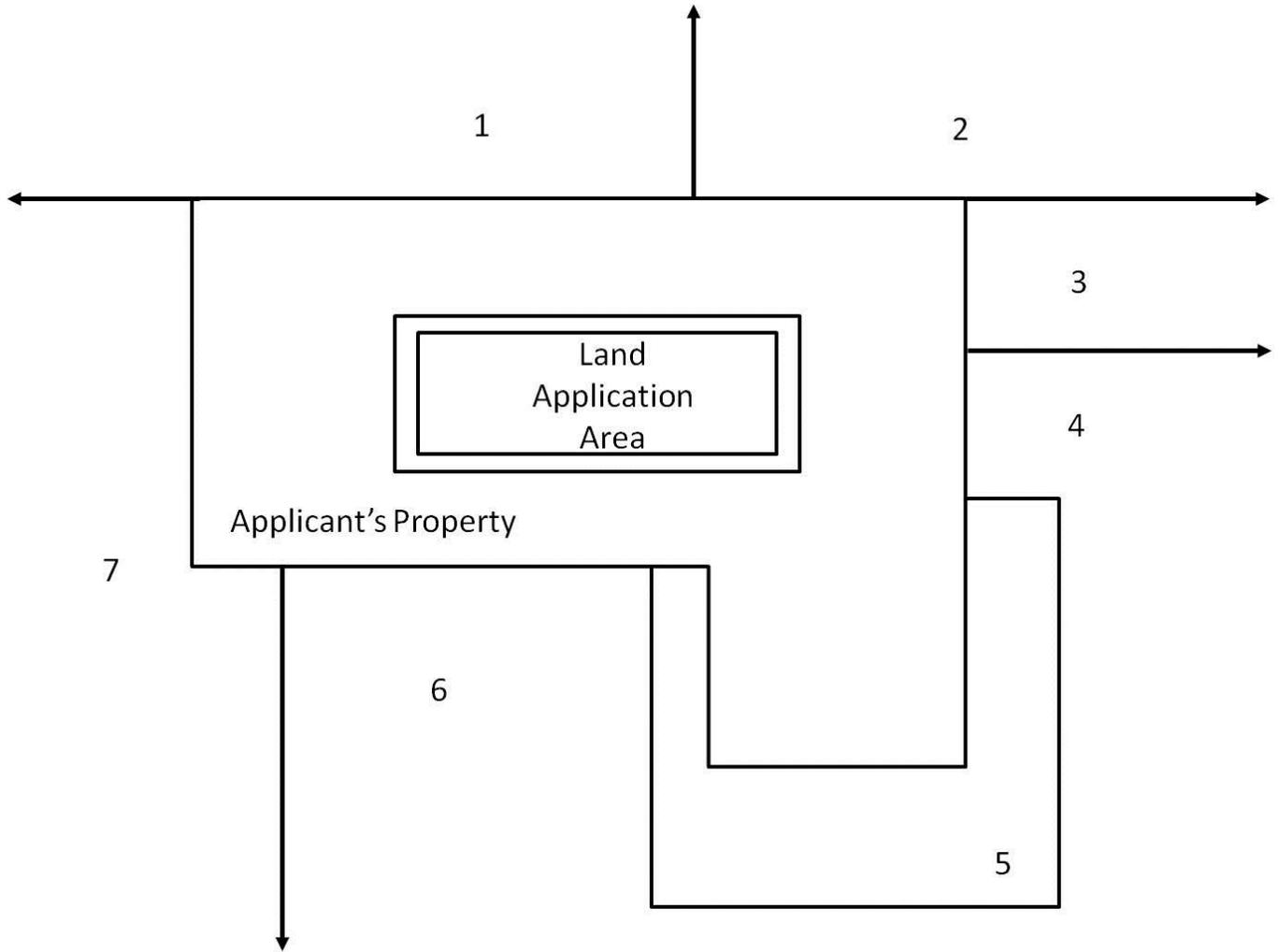


Figure 2: EXAMPLE 5A – For applications proposing land application of effluent

EXAMPLE 5(b) – Adjacent and Downstream Landowners

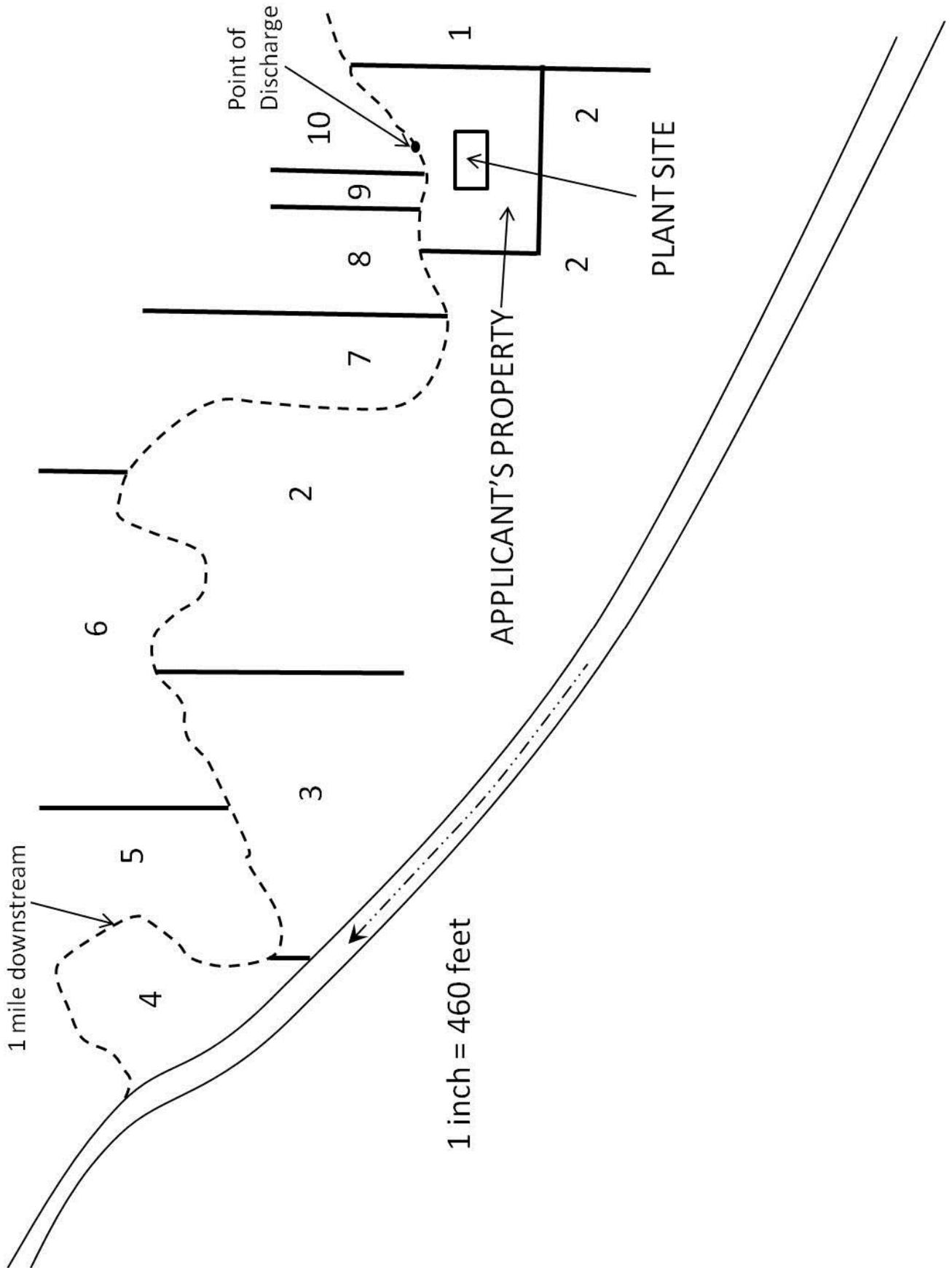


Figure 3: EXAMPLE 5B – For applications proposing land application of effluent

APPENDIX 6 – EXAMPLE – WATER BALANCE AND STORAGE CALCULATIONS

This example includes the two tables that are used to calculate the monthly water balance for a land application permit. It also includes explanation of how the values in the two tables are derived. For this example, assume that the applicant requested a permitted daily average effluent flow of 38,000 gallons per day (gpd), proposed a storage pond with a surface area of 5.5 acres, and proposed to irrigate 58 acres. This value converts to the annual amount of effluent available for land application as follows:

$$\text{Annual effluent available} = (38,000 \text{ gpd}) \times (365 \text{ days/year}) \times (12 \text{ inches/foot}) \times (1 \text{ acre}/43,560 \text{ ft}^2) \times (1 \text{ ft}^3/7.48 \text{ gallons}) / (58 \text{ acres})$$

$$\text{Annual effluent available} = 8.81 \text{ inches/year}$$

The monthly effluent available is then calculated by dividing the annual effluent available by 12:

$$\text{Monthly effluent available} = 0.73 \text{ inches/month}$$

The monthly effluent available will be used in the water balance and storage calculations.

EXPLANATION OF TABLE 1

Explanation of Table 1

Column	Parameter	Explanation
1	Month	Water balance and storage calculations are performed for each month. In this example, the month of January is used.
2	Average Rainfall (inches)	Long-term monthly average rainfall is developed from precipitation data available from the Texas Water Development Board (TWDB) web site. Use data from all years that have both precipitation and evaporation data. The variable "I" is used to represent average rainfall in inches. For this example, the January average rainfall = 2.39 inches.
3	Average Runoff (inches)	Average runoff (represented by the variable "Q") is calculated using the following method, which is found in <i>Soil Conservation Service Technical Note No. 210-18-TX5</i> : $Q = (I - 0.2S)^2 / (I + 0.8S)$ $S = (1000/N) - 10$ where: I = average rainfall (from Column 2) S = potential maximum retention after runoff begins N = curve number (use 78 for this example) Therefore, $S = (1000/78) - 10 = 2.82$ inches The January average runoff is calculated to be: $Q = [2.39 - 0.2(2.82)]^2 / [2.39 + 0.8(2.82)] = 0.72 \text{ inches}$
4	Average Rainfall Infiltration (inches)	Average rainfall infiltration (represented by the variable "R") is calculated as the difference between the average rainfall and the average runoff. January average rainfall infiltration: $R = 2.39 \text{ inches} - 0.72 \text{ inches} = 1.67 \text{ inches}$
5	Evapo-transpiration (inches)	Evapotranspiration (represented by the variable "E") data is obtained from the Texas Board of Water Engineers, Bulletin 6019: <i>Consumptive Use of Water by Major Crops in Texas</i> , Table 5. Note: for Coastal Bermuda Grass, apply 90% of the listed values for alfalfa as noted on the table. January evapotranspiration: $E = (0.9) \times (1.0 \text{ inch}) = 0.90 \text{ inch}$

Column	Parameter	Explanation
6	Required Leaching (inches)	<p>Required leaching (represented by the variable “L”) is calculated to avoid salinity buildup in soil. The following equation from 30 TAC §309.20, Table 1.</p> $L = [C_e / (C_l - C_e)] \times (E - R),$ <p>where: C_e = electrical conductivity of effluent (provided by applicant) C_l = maximum allowable conductivity of soil solution obtained from 30 TAC §309.20, Table 3.</p> <p>If $(E - R)$ is less than zero (<0), then $L = 0$</p> <p>For this example, assume the applicant provided an effluent electrical conductivity (C_e) of 5.4 mmhos/cm and that the maximum allowable conductivity of the soil solution is 12.0 mmhos/cm.</p> <p>Required leaching for January: $L = [(5.4 \text{ mmhos/cm}) / (12.0 \text{ mmhos/cm} - 5.4 \text{ mmhos/cm})] \times (0.9 \text{ inch} - 1.67 \text{ inches}) = -0.63 \text{ inches}$ But since $(E - R) < 0$, $L = 0$.</p>
7	Total Water Need (inches)	<p>The total water need is obtained by adding the evapotranspiration (Column 5) and the required leaching (Column 6).</p> <p>January total water need = $0.90 \text{ inch} + 0.0 \text{ inches} = 0.90 \text{ inch}$</p>
8	Effluent Needed in Root Zone (inches)	<p>The amount of effluent needed in the root zone is obtained by subtracting the average rainfall infiltration (Column 4) from the total water need (Column 7). If the value is less than zero, then a value of zero is used.</p> <p>January: $0.90 \text{ inch} - 1.67 \text{ inches} = -0.77 \text{ inch}$ but $-0.77 < 0$, therefore the amount of effluent needed in the root zone = 0.0 inches</p>
9	Net Evaporation from Reservoir (feet)	<p>Long-term monthly average net evaporation is developed from evaporation and precipitation data available from the TWDB web site. Use data from all years that have both precipitation and evaporation data.</p> <p>For this example, assume the January average net evaporation = 0.05 feet.</p>
10	Evaporation from Reservoir Surface (inches)	<p>Evaporation from the reservoir surface is calculated by multiplying the net evaporation from reservoir (Column 9) by the ratio of the surface area of the ponds to the irrigation surface area.</p> <p>January: $= (0.05 \text{ feet}) \times (12 \text{ inches/foot}) \times (5.5 \text{ acres} / 58 \text{ acres})$ $= 0.06 \text{ inch}$</p>
11	Effluent to be Land Applied (inches)	<p>The amount of effluent to be applied to land is obtained by dividing the effluent needed in root zone (Column 8) by the irrigation efficiency, K. The value of K is normally assumed to be 85%, or 0.85.</p> <p>January: $0.0 \text{ inches} / 0.85 = 0.0 \text{ inches}$</p>
12	Consumption from Reservoir (inches)	<p>The consumption from reservoir is obtained by adding the evaporation from reservoir surface (Column 10) and the effluent to be applied to the land (Column 11). This is the maximum hydraulic application rate that can be applied over the irrigated area.</p> <p>January: $0.06 \text{ inch} + 0 \text{ inches} = 0.06 \text{ inch}$</p>

EXPLANATION OF TABLE 2

Explanation of Table 2

Column	Parameter	Explanation
13	Month	Water balance and storage calculations are performed for each month. In this example, the month of January is used.
14	Mean Rainfall Distribution (%)	The long-term mean rainfall distribution is developed from precipitation data available from the TWDB web site. Use data from all years that have both precipitation and evaporation data. January mean rainfall percentage = 6.4%.
15	Maximum Rainfall (inches)	Maximum rainfall for each month is calculated by multiplying the mean rainfall distribution (Column 14) by the maximum annual rainfall that occurred in the last 25 years. For this example, assume that the maximum annual rainfall was 51.9 inches. January: (51.9 inches) × (0.064) = 3.32 inches
16	Maximum Runoff (inches)	The maximum runoff is calculated using the maximum rainfall values (Column 15) and the same method used in Column 3: $Q = (I - 0.2S)^2 / (I + 0.8S)$ $S = (1000/N) - 10$ where: I = maximum rainfall (from Column 15) S = potential maximum retention after runoff begins N = curve number For this example, assume that the appropriate curve number is 78. The value for S is calculated as follows: $S = (1000/78) - 10 = 2.82$ inches The January maximum runoff is calculated to be: $Q = [3.32 - 0.2(2.82)]^2 / [3.32 + 0.8(2.82)]$ $Q = 1.36$ inches
17	Maximum Rainfall Infiltration (inches)	The maximum rainfall infiltration is obtained by subtracting the maximum runoff (Column 16) from the maximum rainfall (Column 15). The January maximum rainfall infiltration is calculated to be: 3.32 inches - 1.36 inches = 1.96 inches
18	Total Available Water (inches)	The total available water is obtained by adding the amount of effluent received monthly for application or storage (see discussion at the beginning of this example) and the maximum rainfall infiltration (Column 17). January: 0.73 inch + 1.96 inches = 2.69 inches
19	Mean Net Evaporation Distribution (%)	The long-term mean net evaporation distribution is developed from evaporation and precipitation data available from the TWDB web site. Use data from all years that have both precipitation and evaporation data. For this example, the January mean net evaporation percentage = 5.23%.
20	Minimum Net Evaporation Reservoir Surface (inches)	Minimum net evaporation from the reservoir surface for each month is calculated by multiplying the mean net evaporation distribution (Column 19) by the minimum annual net evaporation that occurred in the last 25 years and then by the ratio of the surface area of the ponds to the irrigation surface area. For this example, assume that the minimum annual net evaporation was 2.01 feet. The minimum net evaporation from the reservoir surface for January is: (2.01 feet) × (12 inches/foot) × (0.0523) × (5.5 acres/58 acres) = 0.12 inch

Column	Parameter	Explanation
21	Storage (inches)	<p>The storage needed for each month is obtained as described in 30 TAC §309.20, Table 2.</p> <p>Storage = (Monthly effluent available - Column 20) – [(Column 7 - Column 17)/K]</p> <p>If [(Column 7 - Column 17)/K] < 0, it is entered as zero, and</p> <p>Storage = (Monthly effluent available - Column 20)</p> <p>January storage = (0.73 inch - 0.12 inch) – [(0.9 inch - 1.96 inches)/0.85]</p> <p style="padding-left: 40px;">= 0.61 inch - 0 inches</p> <p style="padding-left: 40px;">= 0.61 inch</p>
22	Accumulated Storage (inches)	<p>To allow for the worst-case condition, accumulated storage is obtained by adding the values obtained in Column 21, beginning with the first consecutive month of positive values. In this case, the summation starts in November. The maximum accumulated storage requirement occurs in February.</p> <p>Accumulated storage = 0.58 inch (Nov) + 0.61 inch (Dec) + 0.61 inch (Jan) + 0.58 inch (Feb) = 2.38 inches</p>

The total storage required is then calculated as follows:

Total storage required = accumulated storage (inches) × irrigated area (acres) × (1 foot/12 inches)

For this example, then

Total storage required = 2.38 inches × 58 acres × (1 foot/12 inches) = 11.5 acre-feet

TABLE 1**Monthly water balance (Table 1)**

1	2	3	4	5	6	7	8	9	10	11	12
Month	Avg Rain-fall (in.)	Avg Runoff (in.)	Avg Rainfall Infiltration (in.)	Evapo-transpiration (in.)	Required Leaching (in.)	Total Water Need (in.)	Effluent Needed in Root Zone (in.)	Net Evapo-ration from Reservoir (ft.)	Evapo-ration from Reservoir Surface (in.)	Effluent to be Land Applied (in.)	Consump-tion from Reservoir (in.)
JAN	2.39	0.72	1.67	0.90	0.00	0.90	0.00	0.05	0.06	0.00	0.06
FEB	2.80	0.99	1.81	1.30	0.00	1.30	0.00	0.03	0.03	0.00	0.03
MAR	2.95	1.09	1.86	3.00	0.94	3.94	2.08	0.13	0.15	2.45	2.60
APR	4.04	1.92	2.12	3.50	1.13	4.63	2.51	0.10	0.11	2.95	3.06
MAY	5.10	2.80	2.30	6.50	3.43	9.93	7.63	0.14	0.16	8.98	9.14
JUN	3.04	1.16	1.88	6.70	3.94	10.64	8.76	0.34	0.39	10.30	10.69
JUL	2.24	0.62	1.62	7.40	4.73	12.13	10.52	0.56	0.64	12.37	13.01
AUG	2.21	0.61	1.60	5.10	2.86	7.96	6.36	0.58	0.66	7.48	8.14
SEP	2.97	1.11	1.86	5.30	2.81	8.11	6.25	0.37	0.42	7.35	7.77
OCT	3.43	1.44	1.99	4.20	1.81	6.01	4.03	0.27	0.31	4.74	5.05
NOV	2.97	1.11	1.86	1.70	0.00	1.70	0.00	0.14	0.16	0.00	0.16
DEC	3.31	1.35	1.96	0.72	0.00	0.72	0.00	0.07	0.08	0.00	0.08
TOTAL	37.45	14.92	22.53	46.32	21.66	67.98	48.13	2.79	3.17	56.62	59.79

(1) Completed in accordance with Table 1 of 30 TAC §309.20.

TABLE 2

Monthly water balance (1)

Monthly Water Balance (Table 2)

13	14	15	16	17	18	19	20	21	22
Month	Mean Rainfall Distribution (%)	Maximum Rainfall (in.)	Maximum Runoff (in.)	Maximum Rainfall Infiltration (in.)	Total Water Available (in.)	Mean Net Evaporation Distribution (%)	Minimum Net Evaporation Reservoir Surface (in.)	Storage (in.)	Accumulated Storage (in.)
JAN	6.40	3.32	1.36	1.96	2.69	5.23	0.12	0.61	1.81
FEB	7.50	3.89	1.80	2.09	2.82	6.67	0.15	0.58	2.39
MAR	7.90	4.10	1.97	2.16	2.86	11.31	0.26	-1.65	0.74
APR	10.80	5.61	3.23	2.37	3.10	13.51	0.31	-2.23	0.00
MAY	13.60	7.06	4.53	2.53	3.26	12.65	0.29	-8.27	0.00
JUN	8.10	4.20	2.05	2.15	2.88	11.81	0.27	-9.52	0.00
JUL	6.00	3.11	1.21	1.90	2.63	8.76	0.20	-11.50	0.00
AUG	5.90	3.06	1.17	1.89	2.62	6.21	0.14	-6.55	0.00
SEP	7.90	4.10	1.97	2.13	2.86	4.88	0.11	-6.41	0.00
OCT	9.20	4.77	2.52	2.25	2.98	6.96	0.16	-3.85	0.00
NOV	7.90	4.10	1.97	2.13	2.86	6.66	0.15	0.58	0.58
DEC	8.80	4.57	2.35	2.22	2.95	5.35	0.12	0.61	1.19
TOTAL	100.0	51.90	26.1	25.8	34.5	100.00	2.29		Max = 2.39(2)

(1) Completed in accordance with Table 2 of 30 TAC §309.20.

(2) Storage volume requirement = 2.39 inches

$$= (2.39 \text{ inches}) \times (58 \text{ acres}) \times (1 \text{ foot}/12 \text{ inches})$$

$$= 11.5 \text{ acre-feet}$$

APPENDIX 7 – EXAMPLE – STORAGE CALCULATION FOR EVAPORATION PONDS WITHOUT IRRIGATION

The procedures used to determine appropriate design for irrigation systems at domestic wastewater treatment plants are found in *30 TAC Chapter 309, Subchapter C*. Appropriate evaporation pond sizing is determined based upon these procedures using best professional judgment (BPJ). These procedures consist of two evaluations: critical condition evaluation and average condition evaluation.

The **critical condition evaluation** is designed to evaluate the storage capacity of the pond(s) under a “worst-case scenario.” The worst-case scenario is defined as the 25-year lowest net evaporation assuming daily flow to the pond at the permitted rate. The pond’s storage capacity is considered adequate when the Total Storage Necessary is less than or equal to the Pond Storage Volume (the pond could contain all wastewater discharged when evaporation is lowest).

The **average conditions evaluation** is designed to ensure that the pond(s) have enough surface area to evaporate all the flow to the pond(s) under average rainfall conditions. The pond is considered adequately sized when the Total Storage Necessary is less than or equal to zero. If this value is greater than zero, the pond’s surface must be increased or the effluent flow reduced to ensure that no accumulation occurs during average conditions.

This example includes the two evaluations that are used to calculate the monthly storage calculations for an evaporation-only permit. It also includes explanation of how the values in the two tables are derived. For this example, assume that the applicant requested a permit with the following specifications:

- Effluent Flow = 0.00089 MGD
- Pond Surface Area = 0.26 acres
- Pond Storage Volume = 0.93 acre-feet

CRITICAL CONDITION EVALUATION

Table 11: Critical Condition Evaluation

Month	# of Days	Flow to Ponds (acre-feet)	Evaporation Rate (feet)	Evaporation from Ponds (acre-feet)	Storage Requirements (acre-feet)
January	31	0.084658	0.086	0.022	0.062
February	28	0.076465	0.102	0.026	0.050
March	31	0.084658	0.189	0.049	0.035
April	30	0.081927	0.233	0.061	0.021
May	31	0.084658	0.181	0.047	0.038
June	30	0.081927	0.269	0.070	0.012
July	31	0.084658	0.330	0.086	-0.001
August	31	0.084658	0.281	0.073	0.012
September	30	0.081927	0.167	0.044	0.038
October	31	0.084658	0.150	0.039	0.046
November	30	0.081927	0.125	0.032	0.049
December	31	0.084658	0.087	0.023	0.062

Total Storage = 0.425

The values in the table above are derived as follows:

$$\text{Flow to Ponds} = (\text{Effluent Flow}) \times (\# \text{ of Days}) \times (3.0684)$$

$$\text{Evaporation Rate} = 25\text{-year lowest net evaporation distributed by month}^*$$

$$\text{Evaporation from Ponds} = (\text{Pond Surface Area}) \times (\text{Evaporation Rate})$$

$$\text{Storage Requirements} = (\text{Flow to Ponds}) - (\text{Evaporation from Ponds})$$

$$\text{Total Storage Necessary} = \text{SUM} (\text{Storage Requirements})$$

The Total Storage Necessary is less than the pond storage available; therefore, the evaporation pond size is adequate under critical conditions.

AVERAGE CONDITION EVALUATION

Table 12: Average Condition Evaluation

Month	# of Days	Flow to Ponds (acre-feet)	Evaporation Rate (feet)	Evaporation from Ponds (acre-feet)	Storage Requirements (acre-feet)
January	31	0.084658	0.200	0.052	0.033
February	28	0.076465	0.208	0.054	0.022
March	31	0.084658	0.346	0.090	-0.005
April	30	0.081927	0.462	0.120	-0.038
May	31	0.084658	0.417	0.108	-0.024
June	30	0.081927	0.545	0.142	-0.060
July	31	0.084658	0.642	0.167	-0.082
August	31	0.084658	0.522	0.136	-0.051
September	30	0.081927	0.352	0.091	-0.009
October	31	0.084658	0.352	0.091	-0.007
November	30	0.081927	0.271	0.070	0.011
December	31	0.084658	0.212	0.055	0.029
Total Storage =					-0.180

The values in the table above are derived as follows:

$$\text{Flow to Ponds} = (\text{Effluent Flow}) \times (\# \text{ of Days}) \times (3.0684)$$

$$\text{Evaporation Rate} = 25\text{-year average monthly net evaporation}^*$$

$$\text{Evaporation from Ponds} = (\text{Pond Surface Area}) \times (\text{Evaporation Rate})$$

$$\text{Storage Requirements} = (\text{Flow to Ponds}) - (\text{Evaporation from Ponds})$$

$$\text{Total Storage Necessary} = \text{SUM} (\text{Storage Requirements})$$

The Total Storage Necessary is less than zero; therefore, the evaporation pond size is adequate under average conditions.

Conclusion: The existing pond size is adequate under both critical and average conditions.

* Net evaporation values can be developed from [precipitation and evaporation data](http://www.twdb.texas.gov/surfacewater/conditions/evaporation/index.asp) available from the Texas Water Development Board web site at <http://www.twdb.texas.gov/surfacewater/conditions/evaporation/index.asp>.