

modified or revoked and reissued to conform to the toxic effluent standard or prohibition. The permittee shall comply with effluent standards or prohibitions established under CWA § 307(a) for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Permit Transfer

- a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified in writing of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.
- b. A permit may be transferred only according to the provisions of 30 TAC § 305.64 (relating to Transfer of Permits) and 30 TAC § 50.133 (relating to Executive Director Action on Application or WQMP update).

6. Relationship to Hazardous Waste Activities

This permit does not authorize any activity of hazardous waste storage, processing, or disposal that requires a permit or other authorization pursuant to the Texas Health and Safety Code.

7. Relationship to Water Rights

Disposal of treated effluent by any means other than discharge directly to water in the state must be specifically authorized in this permit and may require a permit pursuant to TWC Chapter 11.

8. Property Rights

A permit does not convey any property rights of any sort, or any exclusive privilege.

9. Permit Enforceability

The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

10. Relationship to Permit Application

The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit shall control.

11. Notice of Bankruptcy.

- a. Each permittee shall notify the Executive Director, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of Title 11 Bankruptcy) of the United States Code (11 USC) by or against:

- i. the permittee;
 - ii. an entity (as that term is defined in 11 USC, § 101(14)) controlling the permittee or listing the permit or permittee as property of the estate; or
 - iii. an affiliate (as that term is defined in 11 USC, § 101(2)) of the permittee.
- b. This notification must indicate:
- i. the name of the permittee and the permit number(s);
 - ii. the bankruptcy court in which the petition for bankruptcy was filed; and
 - iii. the date of filing of the petition.

OPERATIONAL REQUIREMENTS

1. The permittee shall at all times ensure that the facility and all of its systems of collection, treatment, and disposal are properly operated and maintained. This includes, but is not limited to, the regular, periodic examination of wastewater solids within the treatment plant by the operator in order to maintain an appropriate quantity and quality of solids inventory as described in the various operator training manuals and according to accepted industry standards for process control. Process control, maintenance, and operations records shall be retained at the facility site, or shall be readily available for review by a TCEQ representative, for a period of three years.
2. Upon request by the Executive Director, the permittee shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall comply with all applicable provisions of 30 TAC Chapter 312 concerning sewage sludge use and disposal and 30 TAC §§ 319.21 - 319.29 concerning the discharge of certain hazardous metals.
3. Domestic wastewater treatment facilities shall comply with the following provisions:
 - a. The permittee shall notify the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, in writing, of any facility expansion at least 90 days prior to conducting such activity.
 - b. The permittee shall submit a closure plan for review and approval to the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, for any closure activity at least 90 days prior to conducting such activity. Closure is the act of permanently taking a waste management unit or treatment facility out of service and includes the permanent removal from service of any pit, tank, pond, lagoon, surface impoundment and/or other treatment unit regulated by this permit.
4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, and/or retention of inadequately treated wastewater.

5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.
6. The permittee shall remit an annual water quality fee to the Commission as required by 30 TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under TWC § 7.302(b)(6).
7. Documentation

For all written notifications to the Commission required of the permittee by this permit, the permittee shall keep and make available a copy of each such notification under the same conditions as self-monitoring data are required to be kept and made available. Except for information required for TPDES permit applications, effluent data, including effluent data in permits, draft permits and permit applications, and other information specified as not confidential in 30 TAC §§ 1.5(d), any information submitted pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted in the manner prescribed in the application form or by stamping the words confidential business information on each page containing such information. If no claim is made at the time of submission, information may be made available to the public without further notice. If the Commission or Executive Director agrees with the designation of confidentiality, the TCEQ will not provide the information for public inspection unless required by the Texas Attorney General or a court pursuant to an open records request. If the Executive Director does not agree with the designation of confidentiality, the person submitting the information will be notified.

8. Facilities that generate domestic wastewater shall comply with the following provisions; domestic wastewater treatment facilities at permitted industrial sites are excluded.
 - a. Whenever flow measurements for any domestic sewage treatment facility reach 75% of the permitted daily average or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion and/or upgrading of the domestic wastewater treatment and/or collection facilities. Whenever the flow reaches 90% of the permitted daily average or annual average flow for three consecutive months, the permittee shall obtain necessary authorization from the Commission to commence construction of the necessary additional treatment and/or collection facilities. In the case of a domestic wastewater treatment facility which reaches 75% of the permitted daily average or annual average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee shall submit an engineering report supporting this claim to the Executive Director of the Commission.

If in the judgment of the Executive Director the population to be served will not cause permit noncompliance, then the requirement of this section may be waived. To be effective, any waiver must be in writing and signed by the Director of the Enforcement Division (MC 149) of the Commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

- b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.
 - c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment, and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.
- 9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.
 - 10. For Publicly Owned Treatment Works (POTWs), the 30-day average (or monthly average) percent removal for BOD and TSS shall not be less than 85%, unless otherwise authorized by this permit.
 - 11. Facilities that generate industrial solid waste as defined in 30 TAC § 335.1 shall comply with these provisions:
 - a. Any solid waste, as defined in 30 TAC § 335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.
 - b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.
 - c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC § 335.8(b)(1), to the Environmental Cleanup Section (MC 127) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.

- d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Registration, Review, and Reporting Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC § 335.5.
- e. The term "industrial solid waste management unit" means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.
- f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC § 335 and must include the following, as it pertains to wastewater treatment and discharge:
 - i. Volume of waste and date(s) generated from treatment process;
 - ii. Volume of waste disposed of on-site or shipped off-site;
 - iii. Date(s) of disposal;
 - iv. Identity of hauler or transporter;
 - v. Location of disposal site; and
 - vi. Method of final disposal.

The above records shall be maintained on a monthly basis. The records shall be retained at the facility site, or shall be readily available for review by authorized representatives of the TCEQ for at least five years.

- 12. For industrial facilities to which the requirements of 30 TAC § 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with THSC § 361.

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SLUDGE PROVISIONS

The permittee is authorized to dispose of sludge only at a Texas Commission on Environmental Quality (TCEQ) authorized land application site or co-disposal landfill. **The disposal of sludge by land application on property owned, leased or under the direct control of the permittee is a violation of the permit unless the site is authorized with the TCEQ. This provision does not authorize Distribution and Marketing of sludge. This provision does not authorize land application of Class A Sludge. This provision does not authorize the permittee to land apply sludge on property owned, leased or under the direct control of the permittee.**

SECTION I. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE LAND APPLICATION**A. General Requirements**

1. The permittee shall handle and dispose of sewage sludge in accordance with 30 TAC § 312 and all other applicable state and federal regulations in a manner that protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present in the sludge.
2. In all cases, if the person (permit holder) who prepares the sewage sludge supplies the sewage sludge to another person for land application use or to the owner or lease holder of the land, the permit holder shall provide necessary information to the parties who receive the sludge to assure compliance with these regulations.
3. The permittee shall give 180 days prior notice to the Executive Director in care of the Wastewater Permitting Section (MC 148) of the Water Quality Division of any change planned in the sewage sludge disposal practice.

B. Testing Requirements

1. Sewage sludge shall be tested once during the term of this permit in accordance with the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I [Toxicity Characteristic Leaching Procedure (TCLP)] or other method that receives the prior approval of the TCEQ for the contaminants listed in 40 CFR Part 261.24, Table 1. Sewage sludge failing this test shall be managed according to RCRA standards for generators of hazardous waste, and the waste's disposition must be in accordance with all applicable requirements for hazardous waste processing, storage, or disposal. Following failure of any TCLP test, the management or disposal of sewage sludge at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Remediation Support Division and the Regional Director (MC Region 12) within seven (7) days after failing the TCLP Test.

The report shall contain test results, certification that unauthorized waste management has stopped and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Registration, Review, and Reporting Division (MC 129), Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. This annual report shall be submitted to the TCEQ Regional Office (MC Region 12) and the Water Quality Compliance Monitoring Team (MC 224) of the Enforcement Division by September 30 of each year.

2. Sewage sludge shall not be applied to the land if the concentration of the pollutants exceeds the pollutant concentration criteria in Table 1. The frequency of testing for pollutants in Table 1 is found in Section I.C.

TABLE 1

<u>Pollutant</u>	<u>Ceiling Concentration</u> <u>(Milligrams per kilogram)*</u>
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
PCBs	49
Selenium	100
Zinc	7500

* Dry weight basis

3. Pathogen Control

All sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by one of the following methods to ensure that the sludge meets either the Class A or Class B pathogen requirements.

- a. Six alternatives are available to demonstrate compliance with Class A sewage sludge. The first 4 options require either the density of fecal coliform in the sewage sludge be less than 1000 Most Probable Number (MPN) per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. Below are the additional requirements necessary to meet the definition of a Class A sludge.

Alternative 1 - The temperature of the sewage sludge that is used or disposed shall be maintained at or above a specific value for a period of time. See 30 TAC § 312.82(a)(2)(A) for specific information.

Alternative 2 - The pH of the sewage sludge that is used or disposed shall be raised to above 12 std. units and shall remain above 12 std. units for 72 hours.

The temperature of the sewage sludge shall be above 52° Celsius for 12 hours or longer during the period that the pH of the sewage sludge is above 12 std. units.

At the end of the 72-hour period during which the pH of the sewage sludge is above 12 std. units, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50%.

Alternative 3 - The sewage sludge shall be analyzed for enteric viruses prior to pathogen treatment. The limit for enteric viruses is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC § 312.82(a)(2)(C)(i-iii) for specific information. The sewage sludge shall be analyzed for viable helminth ova prior to pathogen treatment. The limit for viable helminth ova is less than one per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC § 312.82(a)(2)(C)(iv-vi) for specific information.

Alternative 4 - The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. The density of viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

Alternative 5 (PFRP) - Sewage sludge that is used or disposed of shall be treated in one of the processes to Further Reduce Pathogens (PFRP) described in 40 CFR Part 503, Appendix B. PFRP include composting, heat drying, heat treatment, and thermophilic aerobic digestion.

Alternative 6 (PFRP Equivalent) - Sewage sludge that is used or disposed of shall be treated in a process that has been approved by the U.S. Environmental Protection Agency as being equivalent to those in Alternative 5.

- b. Three alternatives are available to demonstrate compliance with Class B criteria for sewage sludge.

Alternative 1

- i. A minimum of seven random samples of the sewage sludge shall be collected within 48 hours of the time the sewage sludge is used or disposed of during each monitoring episode for the sewage sludge.
- ii. The geometric mean of the density of fecal coliform in the samples collected shall be less than either 2,000,000 MPN per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis).

Alternative 2 - Sewage sludge that is used or disposed of shall be treated in one of the Processes to Significantly Reduce Pathogens (PSRP) described in 40 CFR Part 503, Appendix B, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;
- ii. An independent Texas Licensed Professional Engineer must make a certification to the generator of a sewage sludge that the wastewater treatment facility generating the sewage sludge is designed to achieve one of the PSRP at the permitted design loading of the facility. The certification need only be repeated if the design loading of the facility is increased. The certification shall include a statement indicating the design meets all the applicable standards specified in Appendix B of 40 CFR Part 503;
- iii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established U.S. Environmental Protection Agency final guidance;
- iv. All certification records and operational records describing how the requirements of this paragraph were met shall be kept by the generator for a minimum of three years and be available for inspection by commission staff for review; and
- v. If the sewage sludge is generated from a mixture of sources, resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product shall meet one of the PSRP, and shall meet the certification, operation, and record keeping requirements of this paragraph.

Alternative 3 - Sewage sludge shall be treated in an equivalent process that has been approved by the U.S. Environmental Protection Agency, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;
- ii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established U.S. Environmental Protection Agency final guidance;
- iii. All certification records and operational records describing how the requirements of this paragraph were met shall be kept by the generator for a minimum of three years and be available for inspection by commission staff for review;

- iv. The Executive Director will accept from the U.S. Environmental Protection Agency a finding of equivalency to the defined PSRP; and
- v. If the sewage sludge is generated from a mixture of sources resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product shall meet one of the Processes to Significantly Reduce Pathogens, and shall meet the certification, operation, and record keeping requirements of this paragraph.

In addition, the following site restrictions must be met if Class B sludge is land applied:

- i. Food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of sewage sludge.
 - ii. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for 4 months or longer prior to incorporation into the soil.
 - iii. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 months prior to incorporation into the soil.
 - iv. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge.
 - v. Animals shall not be allowed to graze on the land for 30 days after application of sewage sludge.
 - vi. Turf grown on land where sewage sludge is applied shall not be harvested for 1 year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn.
 - vii. Public access to land with a high potential for public exposure shall be restricted for 1 year after application of sewage sludge.
 - viii. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge.
 - ix. Land application of sludge shall be in accordance with the buffer zone requirements found in 30 TAC § 312.44.
4. Vector Attraction Reduction Requirements

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by one of the following Alternatives 1 through 10 for vector attraction reduction.

- Alternative 1 - The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38%.
- Alternative 2 - If Alternative 1 cannot be met for an anaerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30° and 37° Celsius. Volatile solids must be reduced by less than 17% to demonstrate compliance.
- Alternative 3 - If Alternative 1 cannot be met for an aerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge with percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20° Celsius. Volatile solids must be reduced by less than 15% to demonstrate compliance.
- Alternative 4 - The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20° Celsius.
- Alternative 5 - Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40° Celsius and the average temperature of the sewage sludge shall be higher than 45° Celsius.
- Alternative 6 - The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours at the time the sewage sludge is prepared for sale or given away in a bag or other container.
- Alternative 7 - The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75% based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.
- Alternative 8 - The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90% based on the moisture content and total solids prior to mixing with other materials at the time the sludge is used. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.
- Alternative 9 -
- i. Sewage sludge shall be injected below the surface of the land.
 - ii. No significant amount of the sewage sludge shall be present on

the land surface within one hour after the sewage sludge is injected.

- iii. When sewage sludge that is injected below the surface of the land is Class A with respect to pathogens, the sewage sludge shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.

Alternative 10-

- i. Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land.
- ii. When sewage sludge that is incorporated into the soil is Class A with respect to pathogens, the sewage sludge shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process.

C. Monitoring Requirements

Toxicity Characteristic Leaching Procedure (TCLP) Test - once during the term of this permit

PCBs - once during the term of this permit

All metal constituents and fecal coliform or *Salmonella* sp. bacteria shall be monitored at the appropriate frequency shown below, pursuant to 30 TAC § 312.46(a)(1):

<u>Amount of sewage sludge (*) metric tons per 365-day period</u>	<u>Monitoring Frequency</u>
0 to less than 290	Once/Year
290 to less than 1,500	Once/Quarter
1,500 to less than 15,000	Once/Two Months
15,000 or greater	Once/Month

(*) *The amount of bulk sewage sludge applied to the land (dry wt. basis).*

Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 30 TAC § 312.7

SECTION II. REQUIREMENTS SPECIFIC TO BULK SEWAGE SLUDGE FOR APPLICATION TO THE LAND MEETING CLASS A or B PATHOGEN REDUCTION AND THE CUMULATIVE LOADING RATES IN TABLE 2, OR CLASS B PATHOGEN REDUCTION AND THE POLLUTANT CONCENTRATIONS IN TABLE 3

For those permittees meeting Class A or B pathogen reduction requirements and that meet the cumulative loading rates in Table 2 below, or the Class B pathogen reduction requirements and contain concentrations of pollutants below listed in Table 3, the following conditions apply:

A. Pollutant Limits

Table 2

<u>Pollutant</u>	Cumulative Pollutant Loading Rate (pounds per acre)*
Arsenic	36
Cadmium	35
Chromium	2677
Copper	1339
Lead	268
Mercury	15
Molybdenum	Report Only
Nickel	375
Selenium	89
Zinc	2500

Table 3

<u>Pollutant</u>	Monthly Average Concentration (milligrams per kilogram)*
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	Report Only
Nickel	420
Selenium	36
Zinc	2800

*Dry weight basis

B. Pathogen Control

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, a reclamation site, shall be treated by either Class A or Class B pathogen reduction requirements as defined above in Section I.B.3.

C. Management Practices

1. Bulk sewage sludge shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow-covered so that the bulk sewage sludge enters a wetland or other waters in the State.
2. Bulk sewage sludge not meeting Class A requirements shall be land applied in a manner which complies with the Management Requirements in accordance with 30 TAC § 312.44.
3. Bulk sewage sludge shall be applied at or below the agronomic rate of the cover crop.
4. An information sheet shall be provided to the person who receives bulk sewage sludge sold or given away. The information sheet shall contain the following information:
 - a. The name and address of the person who prepared the sewage sludge that is sold or given away in a bag or other container for application to the land.
 - b. A statement that application of the sewage sludge to the land is prohibited except in accordance with the instruction on the label or information sheet.
 - c. The annual whole sludge application rate for the sewage sludge application rate for the sewage sludge that does not cause any of the cumulative pollutant loading rates in Table 2 above to be exceeded, unless the pollutant concentrations in Table 3 found in Section II above are met.

D. Notification Requirements

1. If bulk sewage sludge is applied to land in a State other than Texas, written notice shall be provided prior to the initial land application to the permitting authority for the State in which the bulk sewage sludge is proposed to be applied. The notice shall include:
 - a. The location, by street address, and specific latitude and longitude, of each land application site.
 - b. The approximate time period bulk sewage sludge will be applied to the site.
 - c. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) for the person who will apply the bulk sewage sludge.
2. The permittee shall give 180 days prior notice to the Executive Director in care of the Wastewater Permitting Section (MC 148) of the Water Quality Division of any change planned in the sewage sludge disposal practice.

E. Record keeping Requirements

The sludge documents will be retained at the facility site and/or shall be readily available for review by a TCEQ representative. The person who prepares bulk sewage sludge or a sewage sludge material shall develop the following information and shall retain the information at the facility site and/or shall be readily available for review by a TCEQ representative for a

period of five years. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC § 312.47 for persons who land apply.

1. The concentration (mg/kg) in the sludge of each pollutant listed in Table 3 above and the applicable pollutant concentration criteria (mg/kg), or the applicable cumulative pollutant loading rate and the applicable cumulative pollutant loading rate limit (lbs/ac) listed in Table 2 above.
2. A description of how the pathogen reduction requirements are met (including site restrictions for Class B sludge, if applicable).
3. A description of how the vector attraction reduction requirements are met.
4. A description of how the management practices listed above in Section II.C are being met.
5. The following certification statement:

"I certify, under penalty of law, that the applicable pathogen requirements in 30 TAC § 312.82(a) or (b) and the vector attraction reduction requirements in 30 TAC § 312.83(b) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices have been met. I am aware that there are significant penalties for false certification including fine and imprisonment."

6. The recommended agronomic loading rate from the references listed in Section II.C.3. above, as well as the actual agronomic loading rate shall be retained. The person who applies bulk sewage sludge or a sewage sludge material shall develop the following information and shall retain the information at the facility site and/or shall be readily available for review by a TCEQ representative indefinitely. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC § 312.47 for persons who land apply:
 - a. A certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 30 TAC § 312.47(a)(4)(A)(ii) or 30 TAC § 312.47(a)(5)(A)(ii), as applicable, and to the permittee's specific sludge treatment activities.
 - b. The location, by street address, and specific latitude and longitude, of each site on which sludge is applied.
 - c. The number of acres in each site on which bulk sludge is applied.
 - d. The date and time sludge is applied to each site.
 - e. The cumulative amount of each pollutant in pounds/acre listed in Table 2 applied to each site.
 - f. The total amount of sludge applied to each site in dry tons.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

F. Reporting Requirements

The permittee shall report annually to the TCEQ Regional Office (MC Region 12) and Water Quality Compliance Monitoring Team (MC 224) of the Enforcement Division, by September 30 of each year the following information:

1. Results of tests performed for pollutants found in either Table 2 or 3 as appropriate for the permittee's land application practices.
2. The frequency of monitoring listed in Section I.C. that applies to the permittee.
3. Toxicity Characteristic Leaching Procedure (TCLP) results.
4. Identity of hauler(s) and TCEQ transporter number.
5. PCB concentration in sludge in mg/kg.
6. Date(s) of disposal.
7. Owner of disposal site(s).
8. Texas Commission on Environmental Quality registration number, if applicable.
9. Amount of sludge disposal dry weight (lbs/acre) at each disposal site.
10. The concentration (mg/kg) in the sludge of each pollutant listed in Table 1 (defined as a monthly average) as well as the applicable pollutant concentration criteria (mg/kg) listed in Table 3 above, or the applicable pollutant loading rate limit (lbs/acre) listed in Table 2 above if it exceeds 90% of the limit.
11. Level of pathogen reduction achieved (Class A or Class B).
12. Alternative used as listed in Section I.B.3.(a. or b.). Alternatives describe how the pathogen reduction requirements are met. If Class B sludge, include information on how site restrictions were met.
13. Vector attraction reduction alternative used as listed in Section I.B.4.
14. Annual sludge production in dry tons/year.
15. Amount of sludge land applied in dry tons/year.
16. The certification statement listed in either 30 TAC § 312.47(a)(4)(A)(ii) or 30 TAC § 312.47(a)(5)(A)(ii) as applicable to the permittee's sludge treatment activities, shall be attached to the annual reporting form.
17. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2, the permittee shall report the following information as an attachment to the annual reporting form.

- a. The location, by street address, and specific latitude and longitude.
- b. The number of acres in each site on which bulk sewage sludge is applied.
- c. The date and time bulk sewage sludge is applied to each site.
- d. The cumulative amount of each pollutant (i.e., pounds/acre) listed in Table 2 in the bulk sewage sludge applied to each site.
- e. The amount of sewage sludge (i.e., dry tons) applied to each site.

The above records shall be maintained on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

**SECTION III. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE
DISPOSED IN A MUNICIPAL SOLID WASTE LANDFILL**

- A. The permittee shall handle and dispose of sewage sludge in accordance with 30 TAC § 330 and all other applicable state and federal regulations to protect public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present. The permittee shall ensure that the sewage sludge meets the requirements in 30 TAC § 330 concerning the quality of the sludge disposed in a municipal solid waste landfill.
- B. If the permittee generates sewage sludge and supplies that sewage sludge to the owner or operator of a municipal solid waste landfill (MSWLF) for disposal, the permittee shall provide to the owner or operator of the MSWLF appropriate information needed to be in compliance with the provisions of this permit.
- C. The permittee shall give 180 days prior notice to the Executive Director in care of the Wastewater Permitting Section (MC 148) of the Water Quality Division of any change planned in the sewage sludge disposal practice.
- D. Sewage sludge shall be tested once during the term of this permit in accordance with the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I (Toxicity Characteristic Leaching Procedure) or other method, which receives the prior approval of the TCEQ for contaminants listed in Table 1 of 40 CFR § 261.24. Sewage sludge failing this test shall be managed according to RCRA standards for generators of hazardous waste, and the waste's disposition must be in accordance with all applicable requirements for hazardous waste processing, storage, or disposal.

Following failure of any TCLP test, the management or disposal of sewage sludge at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Remediation Support Division and the Regional Director (MC Region 12) of the appropriate TCEQ field office within 7 days after failing the TCLP Test.

The report shall contain test results, certification that unauthorized waste management has stopped and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Registration, Review, and Reporting Division (MC 129), Texas Commission on Environmental Quality, P. O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. This annual report shall be submitted to the TCEQ Regional Office (MC Region 12) and the Water Quality Compliance Monitoring Team (MC 224) of the Enforcement Division by September 30 of each year.

- E. Sewage sludge shall be tested as needed, in accordance with the requirements of 30 TAC Chapter 330.
- F. Record keeping Requirements

The permittee shall develop the following information and shall retain the information for five years.

1. The description (including procedures followed and the results) of all liquid Paint Filter Tests performed.
2. The description (including procedures followed and results) of all TCLP tests performed.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

G. Reporting Requirements

The permittee shall report annually to the TCEQ Regional Office (MC Region 12) and Water Quality Compliance Monitoring Team (MC 224) of the Enforcement Division by September 30 of each year the following information:

1. Toxicity Characteristic Leaching Procedure (TCLP) results.
2. Annual sludge production in dry tons/year.
3. Amount of sludge disposed in a municipal solid waste landfill in dry tons/year.
4. Amount of sludge transported interstate in dry tons/year.
5. A certification that the sewage sludge meets the requirements of 30 TAC § 330 concerning the quality of the sludge disposed in a municipal solid waste landfill.
6. Identity of hauler(s) and transporter registration number.
7. Owner of disposal site(s).
8. Location of disposal site(s).
9. Date(s) of disposal.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

OTHER REQUIREMENTS

1. The permittee shall employ or contract with one or more licensed wastewater treatment facility operators or wastewater system operations companies holding a valid license or registration according to the requirements of 30 TAC Chapter 30, Occupational Licenses and Registrations and in particular 30 TAC Chapter 30, Subchapter J, Wastewater Operators and Operations Companies.

This Category C facility must be operated by a chief operator or an operator holding a Category C license or higher. The facility must be operated a minimum of five days per week by the licensed chief operator or an operator holding the required level of license or higher. The licensed chief operator or operator holding the required level of license or higher must be available by telephone or pager seven days per week. Where shift operation of the wastewater treatment facility is necessary, each shift which does not have the on-site supervision of the licensed chief operator must be supervised by an operator in charge who is licensed not less than one level below the category for the facility.

2. The facility is not located in the Coastal Management Program boundary.
3. The permittee is hereby placed on notice that this permit may be reviewed by the TCEQ after the completion of any new intensive water quality survey on Segment No. 1108 of the San Jacinto – Brazos Coastal Basin and any subsequent updating of the water quality model for Segment No. 1108, in order to determine if the limitations and conditions contained herein are consistent with any such revised model. The permit may be amended, pursuant to 30 TAC § 305.62, as a result of such review. The permittee is also hereby placed on notice that effluent limits may be made more stringent at renewal based on, for example, any change to modeling protocol approved in the TCEQ Continuing Planning Process.
4. The permittee shall comply with the requirements of 30 TAC § 309.13 (a) through (d). In addition, by ownership of the required buffer zone area, the permittee shall comply with the requirements of 30 TAC § 309.13(e).
5. The permittee shall provide facilities for the protection of its wastewater treatment facilities from a 100-year flood.
6. A certified operator shall inspect the facility daily and maintain at the plant site a record of these inspections. These records shall be available at the plant site for inspection by authorized representatives of the commission for at least three years.

During this daily inspection the proper operation and maintenance of activated sludge plant shall be checked to ensure compliance with the effluent limits.

7. In accordance with 30 TAC §319.9, a permittee that has at least twelve months of uninterrupted compliance with its bacteria limit may notify the commission in writing of its compliance and request a less frequent measurement schedule. To request a less frequent schedule, the permittee shall submit a written request to the TCEQ Wastewater Permitting Section (MC 148) for each phase that includes a different monitoring frequency. The request must contain all of the reported bacteria values (Daily Avg. and Daily Max/Single Grab) for the twelve consecutive months immediately prior to the request. If the Executive Director finds that a less frequent measurement schedule is protective of human health and the environment, the permittee will be given a less frequent measurement schedule. For this

permit, 1/month will be reduced to 1/quarter. **A violation of any bacteria limit by a facility that has been granted a less frequent measurement schedule will require the permittee to return to the standard frequency schedule**, and the permittee may not apply for another reduction in measurement frequency for at least 24 months from the date of the last violation. The Executive Director may establish a more frequent measurement schedule if necessary to protect human health or the environment.

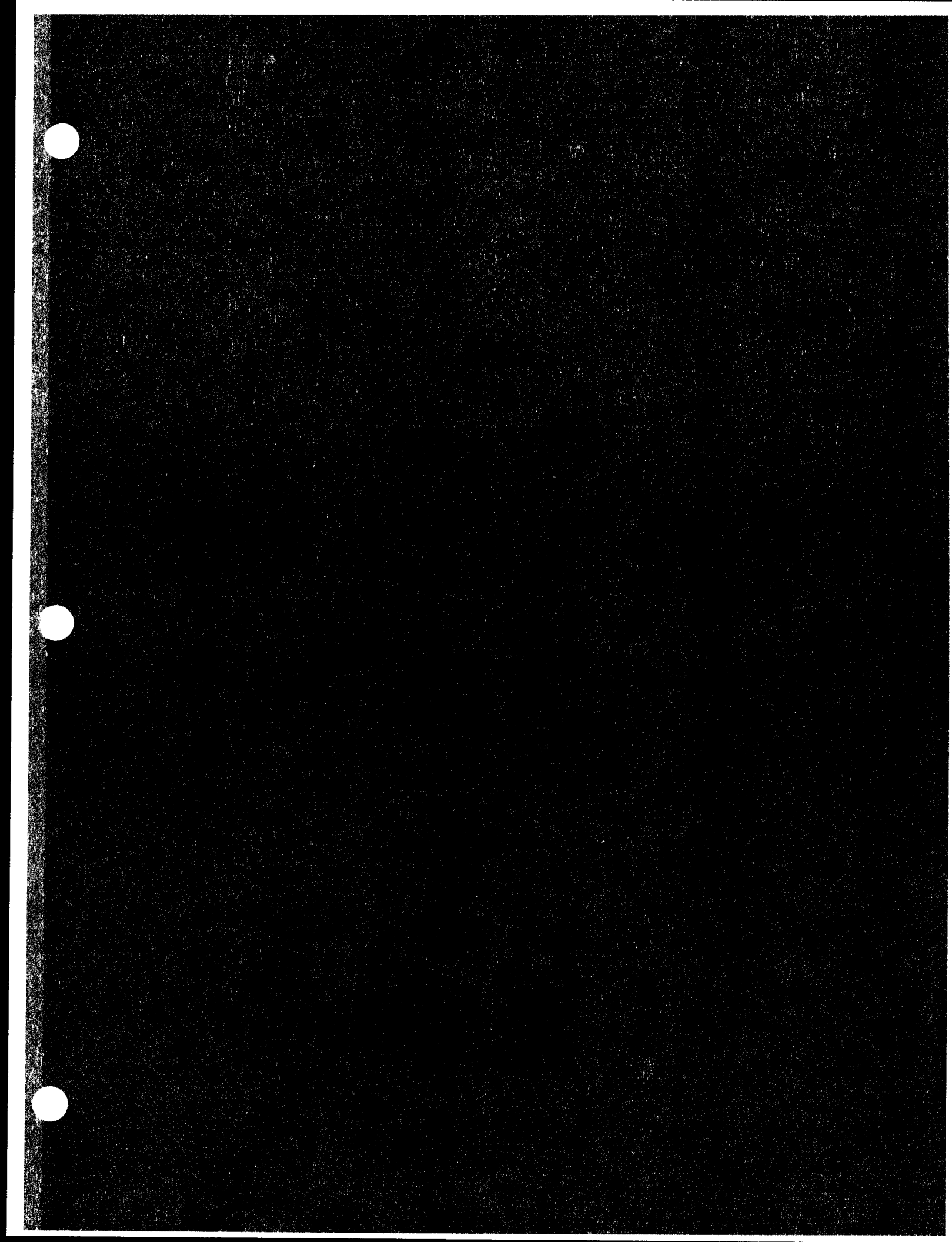
8. Prior to construction of the Interim II and Final phase treatment facilities, the permittee shall submit to the TCEQ Wastewater Permitting Section (MC 148) a summary submittal letter in accordance with the requirements in 30 TAC Section 217.6(c). If requested by the Wastewater Permitting Section, the permittee shall submit plans, specifications and a final engineering design report which comply with 30 TAC Chapter 217, Design Criteria for Wastewater Treatment Systems. The permittee shall clearly show how the treatment system will meet the final permitted effluent limitations required on Page 2a and 2b of the permit.
9. The permittee shall notify the TCEQ Regional Office (MC Region 12) and the Applications Review and Processing Team (MC 148) of the Water Quality Division, in writing at least forty-five (45) days prior to the completion of the Interim II and Final phase treatment facilities on Notification of Completion Form 20007.

CONTRIBUTING INDUSTRIES AND PRETREATMENT REQUIREMENTS

1. The following pollutants may not be introduced into the treatment facility:
 - a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit (60 degrees Celsius) using the test methods specified in 40 CFR § 261.21;
 - b. Pollutants which will cause corrosive structural damage to the POTW, but in no case shall there be discharges with pH lower than 5.0 standard units, unless the works are specifically designed to accommodate such discharges;
 - c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, resulting in Interference;
 - d. Any pollutant, including oxygen demanding pollutants (e.g., BOD), released in a discharge at a flow rate and/or pollutant concentration which will cause Interference with the POTW;
 - e. Heat in amounts which will inhibit biological activity in the POTW resulting in Interference but in no case shall there be heat in such quantities that the temperature at the POTW treatment plant exceeds 104 degrees Fahrenheit (40 degrees Celsius) unless the Executive Director, upon request of the POTW, approves alternate temperature limits;
 - f. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause Interference or Pass Through;
 - g. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and
 - h. Any trucked or hauled pollutants, except at discharge points designated by the POTW.
2. The permittee shall require any indirect discharger to the treatment works to comply with the reporting requirements of Sections 204(b), 307, and 308 of the Clean Water Act, including any requirements established under 40 CFR Part 403[rev. *Federal Register/ Vol. 70/ No. 198/ Friday, October 14, 2005/ Rules and Regulations, pages 60134-60798*].
3. The permittee shall provide adequate notification to the Executive Director care of the Wastewater Permitting Section (MC 148) of the Water Quality Division within 30 days subsequent to the permittee's knowledge of either of the following:
 - a. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 and 306 of the Clean Water Act if it were directly discharging those pollutants; and
 - b. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.

Any notice shall include information on the quality and quantity of effluent to be introduced into the treatment works, and any anticipated impact of the change on the quality or quantity of effluent to be discharged from the POTW.

Revised July 2007



PROPOSED BRAZORIA COUNTY MUNICIPAL UTILITY DISTRICT NO. 22
CREATION REPORT

III. PROPOSED DEVELOPMENT

A. Land Use Plan

The proposed land plan for the 327.38 acres within the District as depicted in Exhibit 5 consists of single family residential, commercial sites, recreation/open space, a water plant site, and a wastewater treatment plant site. The District will obtain water supply and wastewater treatment from facilities located within Proposed Brazoria County Municipal Utility District No. 21. The District's water and wastewater treatment facilities will be jointly owned with Proposed Brazoria County Municipal Utility District No. 21.

The District's proposed land use and estimated population are provided in Table 1. Based on the proposed land use plan, the District will have a projected population of 2,324 persons, or 858 equivalent single family connections (ESFC's). The District will have an average density of approximately 3.5 units per gross acre.

B. Utility Availability

The development planned in the District is contingent upon the availability of adequate water, wastewater, and drainage facilities which are not currently available from the City of Pearland or other sources. Therefore, the District will construct, own, and operate its own water supply and distribution, wastewater collection, and drainage facilities as necessary to promote the development within the District. The District will obtain water supply and wastewater treatment from Proposed Brazoria County Municipal Utility District No. 21. The construction of these facilities will occur in phases to serve areas of development as they occur. The funding of the phased improvements will be accomplished by a series of separate bond issues. Preliminary layouts of the District's water, wastewater, and storm drainage systems are illustrated in Exhibits 6, 7, and 8.

C. Water System

All water supply and distribution system improvements to serve the District will be designed in accordance with criteria established by the Texas Natural Resource Conservation Commission, the Texas Department of Health, Brazoria County, and the City of Pearland. The design of the system will be such that the mains are capable of handling the peak demand (greater of peak hourly demand or peak daily demand plus fire flow) while maintaining acceptable pressures throughout the distribution system. Design standards will incorporate the following water usages:

Population Equivalent	3.5 persons/ESFC
Average Daily Consumption	130 gpcd
Average Daily Demand (ADD)	455 gallons/ESFC
Peak Daily Demand (PDD)	2.4 X ADD

PROPOSED BRAZORIA COUNTY MUNICIPAL UTILITY DISTRICT NO. 22
CREATION REPORT

Peak Hourly Demand (PHD) 1.85 X PDD

The water supply components within Proposed Brazoria County Municipal Utility District No. 21 will be sized according to the following criteria as outlined by the Texas Natural Resource Conservation Commission:

Well Capacity	#ESFC X 0.6 gpm
Ground Storage Capacity	< 2500 ESFC - 200 gal/ESFC
Booster Pumps	2.0 gpm/ESFC or 1000 gpm + PHD (with largest pump out of service)
Pressure Maintenance (Hydropneumatic Tanks)	< 2500 ESFC - 20 gal/ESFC up to 30,000 gal
Total Storage	> = 200 gal/ESFC
Second Water Supply Source at 250 ESFC	0.35 gpm/ESFC

The water distribution system will be designed to maintain normal minimum working pressure of 35 psi within all portions of the distribution system and to maintain a minimum pressure of 20 psi within all portions of the distribution system during periods of peak demand and fire flow.

1. Water Supply

The District will pay its pro-rata share of the costs to construct, operate and maintain the ultimate water supply facilities. These ultimate facilities will serve all land within the District and Proposed Brazoria County Municipal Utility District No. 21.

The ultimate water supply system is summarized as follows:

- a. Water Well No. 1 - 900 gpm
- b. Water Well No. 2 at 250 connections - 900 gpm (Second Source at .35 gpm/ESFC)
- c. Hydropneumatic Tanks - 2 @ 15,000 gallons each
- d. Booster Pumps - 2 @ 1,375 gpm each, 2 @ 2,750 gpm each
- e. Ground Storage Tanks - 2 @ 250,000 gallons each
- f. Elevated Storage - 300,000 gallons
- g. Emergency Power Generator
- h. Control Building

The initial phase of the water plant within Brazoria County Municipal Utility District No. 21 will include construction of Water Well No. 1, a 15,000 gallon hydropneumatic tank, combined booster pump capacity of 2,750 gpm (1,375 gpm firm capacity), a 250,000 gallon ground storage tank, and a control building. This initial phase will serve up to 685 ESFC's assuming Water Well No. 2 is constructed and the emergency power generator is added upon

PROPOSED BRAZORIA COUNTY MUNICIPAL UTILITY DISTRICT NO. 22
CREATION REPORT

reaching 250 ESFC's. The ultimate facilities, as currently planned, will serve up to 2,750 ESFC's. The location of the water plant can be seen in Exhibit 9.

2. Water Distribution

Water will be distributed within the District by internal facilities constructed, maintained, and owned by the District. This water distribution system will consist of a looped network of approximately 40,240 linear feet of 4-inch through 12-inch water lines along with all related appurtenances as shown in Exhibit 6. Isolation valves and flushing valves will be provided at intervals required by the Texas Natural Resource Conservation Commission.

D. Wastewater System

All wastewater collection and treatment facilities to serve the District will be designed in accordance with criteria established by the Texas Natural Resource Conservation Commission, the Texas Department of Health, Brazoria County, and the City of Pearland.

The wastewater collection system will be sized to accommodate four times the average daily flows of 315 gpd/ESFC. The minimum design velocity for gravity lines will be 2 feet per second. Manhole spacing shall be a maximum 400 feet and at all changes in grade, size or flow direction.

The treatment facilities that will be jointly owned with Proposed Brazoria County Municipal Utility District No. 21 will be designed to fully treat average daily flows of 315 gpd/ESFC and accommodate a peak hydraulic loading of four times the average daily flow. Effluent quality will conform with the requirements of the Texas Natural Resource Conservation Commission and permit currently being applied for to discharge into the West Fork of Chocolate Bayou. The proposed permit parameters are as follows:

5 day Biological Oxygen Demand (BOD5)	10 mg/l
Total Suspended Solids	15 mg/l
Ammonia Nitrogen	4 mg/l
Chlorine Residual	1 mg/l
Dissolved Oxygen	4 mg/l

1. Wastewater Treatment

The District will pay its pro-rata share of the costs to operate and maintain the ultimate wastewater treatment facilities. These ultimate facilities will serve all land within the District and Proposed Brazoria County Municipal Utility District No. 21.

**PROPOSED BRAZORIA COUNTY MUNICIPAL UTILITY DISTRICT NO. 22
CREATION REPORT**

The initial phase of the wastewater treatment plant will include construction of 126,000 gallons per day of capacity for all components. This initial phase will serve up to 400 ESFC's. The ultimate facilities would include expansion of all components to a total capacity of 870,000 gallons per day. The ultimate facilities, as currently planned, will serve up to 2,750 ESFC's. The location of the wastewater treatment plant can be seen in Exhibit 9.

2. Wastewater Collection

The wastewater generated by the development within the District will be conveyed to the wastewater treatment plant by a combination of gravity trunk sewers, lift stations, and force mains (refer to Exhibit 7 for a preliminary layout of the entire wastewater system). This wastewater collection system will consist of approximately 29,820 linear feet of gravity lines ranging in size from 8-inch to 10-inch, 2,000 LF of 6-inch force main.

E. Storm Drainage System

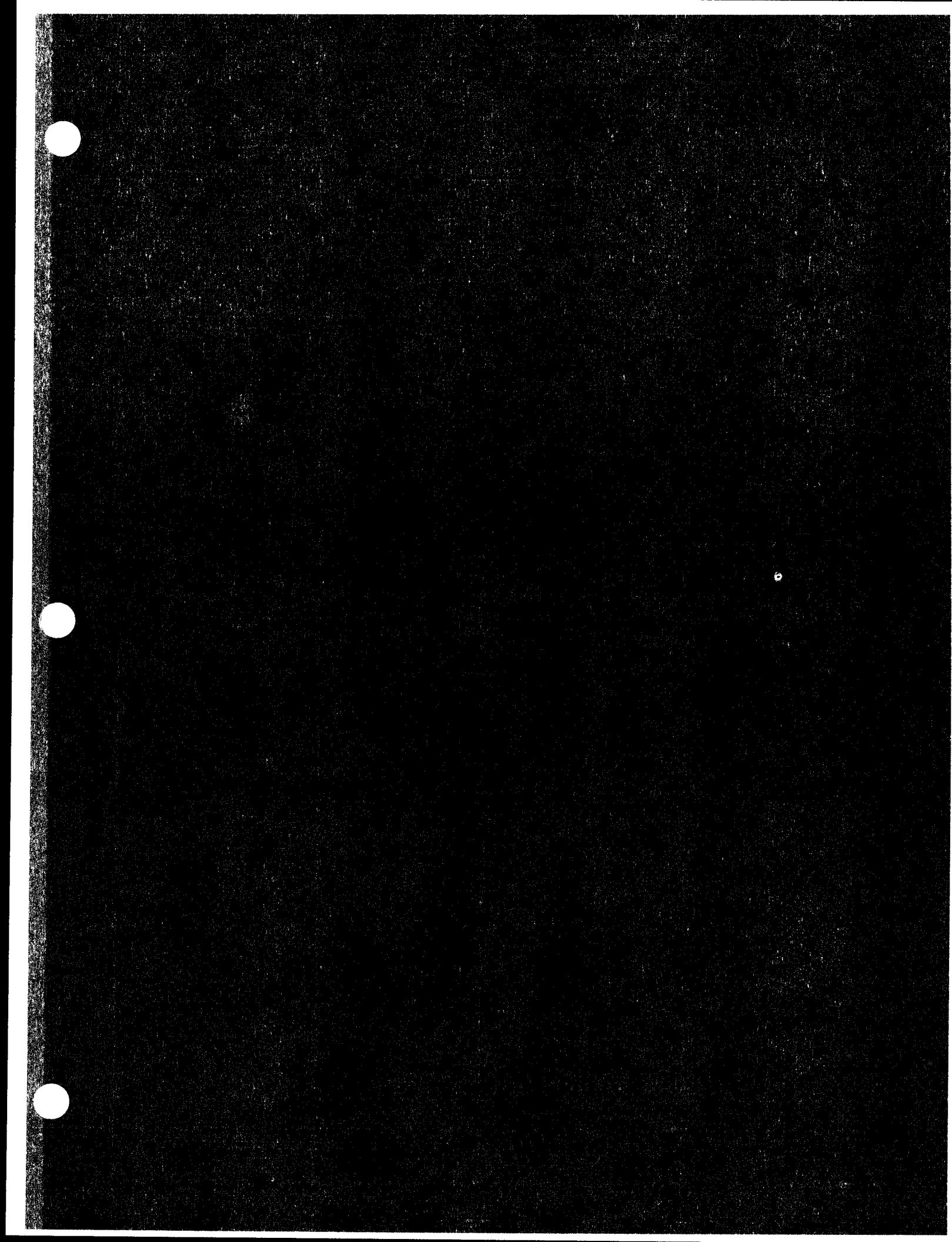
All storm drainage improvements will be designed in accordance with the criteria established by the City of Pearland and Brazoria County Drainage District No. 4. The storm drainage collection system will be sized to carry the runoff from a 3 year return frequency storm, at a minimum velocity of 3 feet per second

1. Storm Drainage Collection

The District's storm drainage collection system will consist of curbs and gutters with inlets and approximately 27,910 linear feet of reinforced concrete storm sewers ranging in size from 24 inches to 84 inches in diameter and four detention/amenity ponds. This storm drainage collection system will serve the entire District drainage area and will convey flows to the proposed drainage channels (refer to Exhibit 8 for a preliminary layout of the entire storm drainage system).

2. Detention

The District's stormwater detention system will consist of a combination of detention ponds with amenity lake pools and in-line detention within the channels. Brazoria County Drainage District No. 4 and the City of Pearland criteria requires that proposed development provide enough detention storage on-site to maintain post development peak discharges at or below the predevelopment peak discharges for the 10-year and the 100-year storm events. The detention ponds and channels shown in Exhibit 8 will provide sufficient detention to meet the regulatory requirement.



Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Zak Covar, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 5, 2014

Jeffery J. Ebersole
LJA Engineering, Inc.
2929 Briarpark Dr. Suite 600
Houston, Texas 77042-3703

Re: Brazoria County MUD No. 22
Laurel Heights at Savannah Sections 1, 2, & 3
Permit No. WQ0014222-001
WWPR Log No. 0114/061
CN600736367, RN102923653
Brazoria County

Dear Mr. Ebersole:

We have received the project summary transmittal letter dated January 17, 2014.

The rules which regulate the design, installation and testing of domestic wastewater projects are found in 30 TAC, Chapter 217, of the Texas Commission on Environmental Quality (TCEQ) rules titled, Design Criteria for Wastewater Systems.

Section 217.6(d), relating to case-by-case reviews, states in part that upon submittal of a summary transmittal letter, the executive director may approve of the project without reviewing a complete set of plans and specifications.

Under the authority of §217.6(e) a technical review of complete plans and specifications is not required. **However, the project proposed in the summary transmittal letter is approved for construction. Please note, that this conditional approval does not relieve the applicant of any responsibilities to obtain all other necessary permits or authorizations, such as wastewater treatment permit or other authorization as required by Chapter 26 of the Texas Water Code.** Below are provisions of the Chapter 217 regulations, which must be met as a condition of approval. These items are provided as a reminder. If you have already met these requirements, please disregard this additional notice.

1. You must keep certain materials on file for the life of the project and provide them to TCEQ upon request. These materials include an engineering report, test results, a summary transmittal letter, and the final version of the project plans and specifications. These materials shall be prepared and sealed by a Professional Engineer licensed in the State of Texas and must show substantial compliance with Chapter 217. All plans and specifications must conform to any waste discharge requirements authorized in a permit by the TCEQ. Certain specific items which shall be addressed in the engineering report are discussed in §217.6(c). Additionally, the engineering report

Jeffery J. Ebersole
Page 2
February 5, 2014

must include all constants, graphs, equations, and calculations needed to show substantial compliance with Chapter 217. The items which shall be included in the summary transmittal letter are addressed in §217.6(c)(1)-(10).

1. Any deviations from Chapter 217 shall be disclosed in the summary transmittal letter and the technical justifications for those deviations shall be provided in the engineering report. Any deviations from Chapter 217 shall be based on the best professional judgement of the licensed professional engineer sealing the materials and the engineer's judgement that the design would not result in a threat to public health or the environment.
2. Any variance from a Chapter 217 requirement disclosed in your summary transmittal letter is approved. If in the future, additional variances from the Chapter 217 requirements are desired for the project, each variance must be requested in writing by the design engineer. Then, the TCEQ will consider granting a written approval to the variance from the rules for the specific project and the specific circumstances.
3. Within 60 days of the completion of construction, an appointed engineer shall notify both the Wastewater Permits Section of the TCEQ and the appropriate Region Office of the date of completion. The engineer shall also provide written certification that all construction, materials, and equipment were substantially in accordance with the approved project, the rules of the TCEQ, and any change orders filed with the TCEQ. All notifications, certifications, and change orders must include the signed and dated seal of a Professional Engineer licensed in the State of Texas.

This approval does not mean that future projects will be approved without a complete plans and specifications review. The TCEQ will provide a notification of intent to review whenever a project is to undergo a complete plans and specifications review. Please be reminded of §217.5 of the rules which states, "Approval given by the executive director...shall not relieve the sewerage system owner or the design engineer of any liabilities or responsibilities with respect to the proper design, construction, or authorized operation of the project in accordance with applicable commission rules."

If you have any questions or if we can be of any further assistance, please call me at (512) 239-4552.

Sincerely,



Louis C. Herrin, III, P.E.
Wastewater Permits Section (MC 148)
Water Quality Division
Texas Commission on Environmental Quality

LCH/yds

cc: TCEQ, Region 12 Office

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Zak Covar, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 14, 2014

Mr. Jeffrey J. Ebersole, P.E.
LJA Engineering, Inc.
2929 Briarpark Drive, Suite 600
Houston, Texas 77042

Re: Brazoria County Municipal Utility District No 22 - Public Water System ID No. 6001111
Proposed Distribution System to Serve Laurel Heights at Savannah Sections 1, 2, and 3
Engineer Contact Telephone: (713) 953-5111
Plan Review Log No.P-03282014-156
Brazoria County, Texas

Dear Mr. Ebersole:

On March 28, 2014, the Texas Commission on Environmental Quality (TCEQ) received planning material with your letter dated March 24, 2014 for the proposed distribution system to serve Laurel Heights at Savannah Sections 1, 2 and 3. Based on our review, we are **unable to approve** the proposed project at this time.

Please provide additional information showing how Title 30 Texas Administration Code (TAC) Chapter 290 - Rules and Regulations for Public Water Systems will be met:

1. Please provide the letters of coordination/rejection with the water Certificate of Convenience and Necessity (CCN) holders within 0.5 miles of this proposed project in accordance with 30 TAC Section 290.39(c), namely the City of Pearland and Brazoria County Municipal Utility District (MUD) No. 21.
2. If this proposed water distribution system meets the definition of a retail public utility as per 30 TAC Section 291.3(40) under Subchapter A: General Provisions of 30 TAC Chapter 291 - Utility Regulations, it will be necessary to obtain a CCN in accordance with 30 TAC Section 291.101, 102 and 103 as this utility will have more than 15 potential service connections.
3. Please provide a potable water purchase contract between Brazoria County MUD No 21 and Brazoria County MUD No. 22, or in its absence, a memorandum or letter of understanding between Brazoria County MUD No 21 and Brazoria County MUD No. 22 in accordance with 30 TAC Section 290.45(f).

Mr. Jeffrey J. Ebersole, P.E.

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May 13, 2014

4. All newly installed pipes including water mains and service lines and related products must conform to American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standard 61 and **must be certified** by an organization accredited by ANSI in accordance with 30 TAC Section 290.44(a)(1).
5. All plastic pipes including the water mains and service lines in the public water system must also bear the NSF Seal of Approval (NSF-pw) and have an American Society of Testing Materials (ASTM) design pressure rating of at least 150 pounds per square inch (psi) or a standard dimension ratio of 26 or less per 30 TAC Section 290.44(a)(2).
6. The system must be designed to maintain a minimum pressure of 35 psi at all points within the distribution network at flow rates of at least 1.5 gallons per minute (gpm) per connection. When the system is intended to provide firefighting capability, it must also be designed to maintain a minimum pressure of 20 psi under combined fire and drinking water flow conditions per 30 TAC Section 290.44(d). It is recommended that water system modeling be conducted to verify if the proposed water system will meet the requirements stated above.
7. Plan Sheet 15 of 32 shows that the water service lines connected with the 8-inch waterline on Applewood Crest Lane for Lots No. 8 and 9 and Lots No. 10 and 11 of Phase II will be installed right through Sewer Manholes No. S361 and S-361A. **Please revise** the design per 30 TAC Section 290.44(e)(1).
8. Plan Sheet 17 of 32 shows that the water service line connected with the 8-inch waterline on Sunset Park Lane for Lots No. 2 and 3 of Phase II seems less than nine (9) feet away from Manhole No. S-372. **Please verify** the separation distance and revise the design as needed in accordance with 30 TAC Section 290.44(e)(1).
9. Plan Sheet 23 of 32 shows that the water service line connected with the 8-inch waterline on Enchanted Springs Drive for Lots No. 6 and 7 of Phase III seems less than nine (9) feet away from Manhole No. S-381. **Please verify** the separation distance and revise the design as needed in accordance with 30 TAC Section 290.44(e)(1).
10. The installations of water service lines must comply with 30 TAC Section 290.44(e) if the water service lines cross over sewer mains. The installation of water mains must also comply with this code if the water mains cross over the sewer service lines. **Please note this criterion** in the technical specifications and/or the notes of the engineering drawings.

Mr. Jeffrey J. Ebersole, P.E.

Page 3

May 13, 2014

11. It is recommended that the construction details of waterlines including water service lines cross sewer mains and/or laterals (sewer service lines) be included in the engineering drawings.
12. The hydrostatic leakage rate for polyvinyl chloride (PVC) pipe or ductile iron (DI) water main and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-605 for PVC pipes or AWWA C-600 for DI pipes as required in 30 TAC Section 290.44(a)(5). Please ensure that the formula for this calculation is correct and the most current formula is in use; $Q = LD(P)^{1/2}/148,000$, where Q is the quantity of makeup water in gallons per hour, L is the length of pipe section being tested in feet, D is the nominal diameter of the pipe in inches, and P is the average test pressure during the hydrostatic test in pounds per square inch (psi). **Please include** the updated formula in the specifications.
13. Air release devices shall be installed in the distribution system at all points where topography or other factors may create air locks in the lines. Air release devices shall be installed in such a manner as to preclude the possibility of submergence or possible entrance of contaminants. In this respect, all openings to the atmosphere shall be covered with 16-mesh or finer, corrosion-resistant screening material or an acceptable equivalent as required by 30 TAC Section 290.44(d)(1).
14. The pipes and pipe fittings that contain more than 8.0 percent lead or solders and flux that contain more 0.2 percent lead are prohibited. Please be aware that beginning January 2014, changes to the Safe Drinking Water Act will further reduce the maximum allowable lead content of pipes, pipe fittings, plumb fittings, and fixtures to 0.25 percent as required by 30 TAC Section 290.44(b). Projects constructed on or after January 2014 must comply with the maximum allowable lead content of 0.25 percent.

The submittal consisted of 32 sheets of engineering drawings and technical specifications.

It is noted that Brazoria County MUD No. 21 water plant will provide potable water supply to the proposed water distribution system that will be operated by Brazoria County MUD No. 22. Brazoria County MUD No. 21 currently serves 1,496 connections with a total production capacity of 1,550 gpm, a total ground storage capacity of 500,000 gallons, a total pressure tank capacity of 30,000 gallon, and a total service capacity of 3,000 gpm. This proposed project will add 127 connections.

Mr. Jeffrey J. Ebersole, P.E.

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The proposed project consists of:

- Approximately 1,315 linear feet (lf) of 4-inch American Water Works Association (AWWA) Standard C900, Dimension Ratio (DR) 18 class 150 polyvinyl chloride (PVC) waterlines;
- Approximately 5,483 lf of 8-inch AWWA Standard C900, DR 18 class 150 PVC waterlines;
- Approximately 770 lf of 12-inch AWWA Standard C900, DR 18 class 150 PVC waterlines; and
- Various fittings, valves, and other related appurtenances.

The proposed project is located north of County Road (CR) 58 (Post Road), approximately 0.95 miles east of the intersection of CR 58 and Old Airline Road (CR 48), in Pearland, Texas.

Brazoria County MUD No 21 will provide water treatment for the system.

We will retain these documents for **90 calendar days** from the date of this letter. Revisions or additional information must be submitted to the TCEQ (Utilities Technical Review Team, MC-159) within that time or the entire package must be resubmitted for review.

Please refer to the Utilities Technical Review Team's Log No. P-03282014-156 in all correspondence for this project. This will help complete our review and prevent it from being considered a new project.

Please complete a copy of the most current Public Water System Plan Review Submittal form for any future submittal to TCEQ. Every blank on the form must be completed to minimize any delays in the review of your project. The document is available on our website at the address shown below.

<http://www.tceq.texas.gov/utilities/planrev.html>

For future reference, you can review part of the Utilities Technical Review Team's database to see if we have received your project. This is available on the TCEQ's homepage on the Internet at the following address:

<http://www.tceq.texas.gov/utilities/planrev.html#status>

You can download most of the construction checklists and the latest revision of 30 TAC Chapter 290 - Rules and Regulations for Public Water Systems from this site.

Mr. Jeffrey J. Ebersole, P.E.

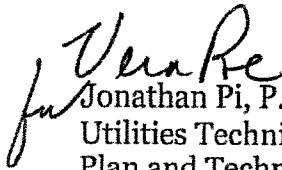
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May 13, 2014

If you have any questions regarding this letter or need further assistance, please contact Mr. Jonathan Pi at 512-239-6968 or by email at "jonathan.pi@tceq.texas.gov" or by correspondence at the following address:

Utilities Technical Review Team, MC-159
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Sincerely,



Jonathan Pi, P.E.

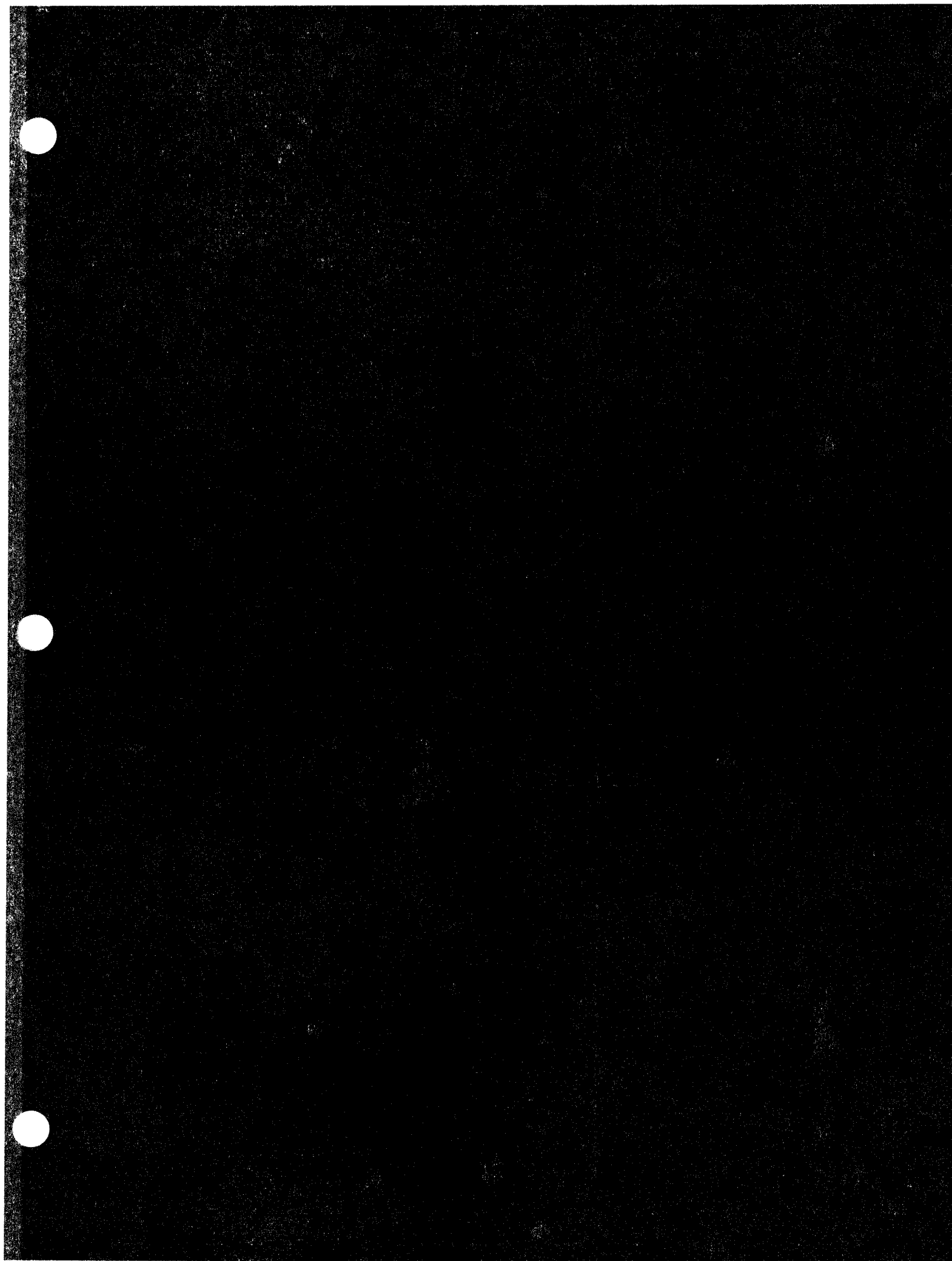
Utilities Technical Review Team,
Plan and Technical Review Section
Water Supply Division
Texas Commission on Environmental Quality



Ada Lichaa, P.G., Manager
Plan and Technical Review Section
Water Supply Division
Texas Commission on Environmental Quality

vp/jjc/jp/av

cc: Brazoria County MUD No. 22 Same c/o Allen Boone Humphries Robinson, LLP.,
Attn: Ms. Staci Posten, President, 3200 Southwest Freeway, Suite 2600,
Houston, TX 77027-7597



P.

JOINT FACILITIES/COST SHARING AGREEMENT

This Joint Facilities/Cost Sharing Agreement (the "Agreement") is entered into this 15 day of March, 2010, by **Brazoria County Municipal Utility District No. 21**, a conservation and reclamation district and a political subdivision of the State of Texas, organized as a municipal utility district under the provisions of Article XVI, Section 59, Texas Constitution ("No. 21") and **Brazoria County Municipal Utility District No. 22**, a conservation and reclamation district and a political subdivision of the State of Texas, organized as a municipal utility district under the provisions of Article XVI, Section 59, Texas Constitution ("No. 22").

RECITALS

No. 21 and No. 22 (collectively, the "Districts" and, individually, a "District") are located adjacent to one another and wish to cooperate in the financing and operation of joint water supply facilities, sewage treatment plant facilities, drainage facilities and a fire station to serve the areas within both Districts.

Development within No. 21 commenced prior to development within No. 22. To provide water supply for the developing areas within No. 21 and No. 22, No. 21 entered into various leases and contracts for the construction and installation of water supply and treatment facilities on an approximate 2.186-acre site and 1.837-acre site. All of the water supply facilities, which are currently designed to serve approximately 1,500 equivalent single family connections ("ESFCs"), that have been constructed and are owned by No. 21 are shown on **Exhibit A** attached hereto (the "Water Supply Facilities").

To provide wastewater treatment capacity for the developing areas within No. 21 and No. 22, No. 21 entered into various leases and contracts for the construction and installation of wastewater treatment facilities on an approximate 5 acre site. All of the wastewater treatment facilities, which are currently designed to serve approximately 1,116 equivalent single family connections ("ESFCs") based on a flow rating of 224 gallons per day that have been constructed and are owned by No. 21 are shown on **Exhibit B** attached hereto. The Districts acknowledge that an expansion of wastewater treatment facilities will be necessary in the near future as shown on Exhibit B attached hereto ("Phase 3 Expansion"). The completed wastewater treatment facilities and the Phase 3 Expansion shall be considered the "Sewer Plant" under this Agreement.

The Districts anticipate the need for expansions of the Water Supply Facilities and the Sewer Plant in the future when development within both Districts warrants.

To provide for drainage and detention capacity for the developing areas within No. 21 and No. 22, Savannah Development Ltd. (the "Developer") has constructed a 4.767 acre detention pond (the "Detention Pond") located at the northeast corner of

intersection of CR 58 and 80-foot HL&P easement within the boundaries of No. 22. Currently the Detention Pond provides detention only for Savannah Lakes Elementary, the proposed fire station, and adjacent roadway. No. 21 provides out of district water and sewer services to Savannah Lakes Elementary at an increased rate and, in consideration for the same, No. 21 wishes to operate and maintain the Detention pond as provided in this Agreement.

The Districts also wish to share in the construction costs of a fire station to serve the residents within both Districts.

The Districts now wish to enter into this Agreement to set forth the general terms and conditions for the Districts' joint operation and use of the above-mentioned shared facilities. The Districts have each determined that entering into this Agreement is in the best interests of each District and that each District is authorized to enter into this Agreement by the Constitution and laws of the State of Texas.

AGREEMENT

NOW THEREFORE, in consideration of the mutual promises, obligations, and benefits herein set forth, the Districts contract and agree as follows:

ARTICLE I. RECITALS, DEFINITIONS AND EXHIBITS

Section 1.01 Recitals Confirmed. The matters set forth above in the recitals of this Agreement are found to be true and correct.

Section 1.02 Definitions and Exhibits. In addition to the terms defined elsewhere in this Agreement, and unless the context requires otherwise, the following terms and phrases used in this Agreement shall have meanings as follows:

"Active Connection" means, when it is connected to a water supply system, a structure designed for residential or non-residential use to which there is Water provided during any portion of a calendar month. A single structure designed for residential use by a single family shall be deemed to be one (1) Active Connection. A duplex consisting of a single structure designed for residential use by two (2) families shall be deemed to be two (2) Active Connections. An apartment building or other structure of one or more units each designed for residential use by a single family shall be deemed to be one (1) Active Connection for each unit. For non-residential structures, each 12,000 gallons of water provided to such structure during any portion of a calendar month shall be deemed to be one (1) Active Connection.

"City" means the City of Pearland, Texas.

"Commission" means the Texas Commission on Environmental Quality or any successor agency exercising supervisory jurisdiction over water conservation and reclamation districts such as the Districts.

"ESFC" means an equivalent single family connection, which for purposes of design of a Facility is based on 315 gpd/ ESFC for wastewater and 420 gpd/ ESFC for water, and for purposes of Operating Costs is based upon usage of 455 gpd/ ESFC of potable water.

"Engineer" means Brown & Gay Engineers, Inc., or its successor duly engaged by No. 21 to provide consulting engineering services.

"Facility" or "Facilities" means the Sewer Plant, the Water Supply Facilities, the Detention Pond, or any of them.

"Fire Agreement" means that certain Fire Protection/EMS Agreement, dated September 19, 2002, between the Districts, the City and the Pearland Volunteer Fire Department relating to the construction of a fire station within the Districts, and the provision of fire services to the Districts.

"Fire Station" means the fire/EMS station described in the Fire Agreement.

"Operation and Maintenance Expenses" means all costs and expenses reasonably incurred in or allocable to the operation and maintenance of the Water Supply Facilities and the Sewer Plant or any of them, including, without limitation, lease costs; contractual payments for the services of a utility operator and/or an independent contractor performing maintenance or repair functions on the Water Supply Facilities and the Sewer Plant; supervision; chemicals; the purchase and carrying of stores; power; material and supplies; permit fees, including costs of renewals of the permits; legal fees; auditing; engineering fees; testing; insurance; costs of billing the Districts; repairs and replacements of damaged or worn-out parts; administrative fines or penalties imposed regarding the operation of the Water Supply Facilities and the Sewer Plant; all other items and expenses of a like nature which may be reasonably required for the efficient maintenance and operation of the Water Supply Facilities and the Sewer Plant in proper operation to render adequate services and to comply fully with all Regulatory Requirements.

"Pro Rata Share" means, for purposes of calculating the reimbursement due to No. 21 from each of No. 22's bond issues, the share of No. 22 according to the number of ESFCs to be served by each Facility as determined by the number of ESFCs to be served by the facilities included in such bond issue, rounded up to reach 100% of the cost, calculated as a percentage of the total number of ESFCs to be served by such Facility. For example, if No. 22 includes funds for water, sewer and drainage projects in its first bond issue to serve 100 ESFCs, No. 21 shall also be required to include funds for its Pro

Rata Share of the Facilities based on 100 ESFCs in that bond issue. The ultimate Pro Rata Shares for each Facility are set forth in EXHIBIT C, as may be amended from time to time. "Pro Rata Share" means, for purpose of calculating maintenance and operating expense or future expansion allocations, the share of each District according to the proposed ESFCs to be served by each Facility, which each District to the Engineer and on which the Engineer based design plans and specification, rounded up to reach 100% of the cost, calculated as a percentage of the total number of ESFCs to be served by such Facility.

"Regulatory Requirements" means the requirements and provisions of any state or federal law, and any permits, rules, orders, or regulations issued or adopted from time to time by any regulatory authority, state, federal or other, having jurisdiction concerning water quality standards or otherwise having jurisdiction over the Facilities, or any of them.

"Sanitary Sewer Collection System" means the sanitary sewer collection system now owned or to be constructed or acquired by each District, including, but not limited to, the sanitary sewers (but excluding storm sewers), manholes, intercepting sewers, pumping works, lift stations, force mains, and all other works and equipment used for the collection and transportation of wastewater.

"Service Area" means that territory or area which at the time of execution of this Agreement is included within the boundaries of the Districts. The Service Area may be modified in accordance with the provisions of this Agreement.

"Sewer Plant Costs" means all payments made by (or to be made by) or on behalf of No. 21 pursuant to the Sewer Plant Lease Agreement, as amended from time to time, or any future lease agreement providing for an expansion of the Sewer Plant, prior to the Sewer Payment Commencement Date, including all lease payments, early purchase payments, land and easement costs, and engineering costs and fees.

"Water Distribution System" means the water system now owned or to be constructed or acquired by each District to serve its customers, including, but not limited to, water lines, valves, meters, and vaults.

"Water Supply Facilities Costs" means all payments made (or to be made) by or on behalf of No. 21 prior to the Water Payment Commencement Date pursuant to the Water Plant Facilities Lease Agreement, or any subsequent lease purchase agreement, including all lease payments, the early payment of principal and the purchase price of the Water Supply Facilities, plugging expenses, land and easement costs, and engineering costs and fees.

The exhibits attached hereto and incorporated herein by reference are as follows:

Exhibit A: Description of Water Supply Facilities

Exhibit B: Description of Sewer Plant

Exhibit C: Pro Rata Shares

ARTICLE II. WATER SUPPLY FACILITIES

Section 2.01 Ownership of Facilities. No. 21 agrees to acquire, construct, improve, enlarge, extend, repair, own, operate, and maintain the Water Supply Facilities in accordance with all Regulatory Requirements so that the Water Supply Facilities will meet the water supply and distribution needs of the Districts. The Districts acknowledge and agree that No. 21 owns legal title to the Water Supply Facilities and the Sewer Plant for the benefit of both Districts; provided, however, that each District owns capacity and has an equitable interest in the Water Supply Facilities and the Sewer Plant according to their Pro Rata Shares, subject to the terms and conditions provided in this Agreement.

Section 2.02 Reimbursement for Facilities. Beginning with No. 22's first bond issue, No. 22 shall reimburse No. 21 for No. 22's Pro Rata Share of the Water Supply Facilities Costs incurred by No. 21, based on the number of ESFCs to be included in such bond issue and according to the following formula: Water Supply Facilities Costs Payment = No. 22's Pro Rata Share times the Water Supply Facilities Costs incurred prior to the Water Payment Commencement Date. Beginning with No. 22's first bond issue, No. 22 shall also pay No. 21 interest on said amount at the rate of the net effective interest rate on No. 22's bond issue, such interest to accrue from the dates of payment by No. 21 (or the Developer on behalf of No. 21).

Section 2.03 Future Expansion. Upon the reimbursement from No. 22 to No. 21 for No. 22's ultimate Pro Rata Share of the Water Supply Facilities Cost (the "Water Payment Commencement Date"), No. 22 and No. 21 shall share the costs (including construction, engineering, and legal costs) associated with future expansions or capital improvements to the Water Supply Facilities based on their Pro Rata Shares. No. 21 shall provide No. 22 with at least 30 days notice of its intent to commence construction of an expansion (and, to the extent practicable, 60 days notice for capital improvements) of the facilities. During such notice period, No. 22 shall have an opportunity to submit written comments to No. 21 regarding the expansion or capital improvement project and No. 21 shall reasonably consider any such comments. After such notice period has expired and No. 21 has given reasonable consideration to any No. 22 comments, No. 21 may proceed with the project and No. 22 shall be responsible to pay to No. 21 its Pro Rata Share of all payments and charges incurred by No. 21. No. 22 shall make such payments to No. 21 on a prompt basis, but in no event later than the applicable due dates of No. 21's payments to its consultants and/or contractors, such that No. 21 is not required to advance No. 22's share.

The Districts agree that neither District shall allow the connection of an additional Active Connection within its boundaries that would result in water supply demand beyond the capacity of such District's Pro Rata Share of the Water Supply Facilities at that time.

ARTICLE III. SEWER PLANT

Section 3.01 Ownership of Facilities. No. 21 also agrees to acquire, construct, improve, enlarge, extend, repair, own, operate, and maintain the Sewer Plant in accordance with all Regulatory Requirements so that the Sewer Plant will meet the wastewater treatment needs of the Districts. The Districts acknowledge and agree that No. 21 owns legal title to the Sewer Plant, including the completed facilities for the Phase 3 Expansion, for the benefit of both Districts; provided, however, that each District owns capacity and has an equitable interest in the Sewer Plant according to their Pro Rata Shares, subject to the terms and conditions provided in this Agreement.

Section 3.02 Reimbursement for Facilities. Beginning with No. 22's first bond issue, No. 22 shall reimburse No. 21 for No. 22's Pro Rata Share of the Sewer Plant Costs incurred by No. 21, based on the number of ESFCs to be included in such bond issue and according to the following formula: Sewer Plant Costs Payment = No. 22's Pro Rata Share times the Sewer Plant Costs. Beginning with No. 22's first bond issue, No. 22 shall also pay No. 21 interest on said amount at the rate of the net effective interest rate on No. 22's first bond issue, such interest to accrue from the dates of payment by No. 21 (or the Developer on behalf of No. 21).

Section 3.03 Future Expansion. Upon the reimbursement from No. 22 to No. 21 for No. 22's ultimate Pro Rata Share of the Sewer Plant Cost (the "Sewer Payment Commencement Date"), No. 22 and No. 21 shall share the costs (including construction, engineering, and legal costs) associated with future expansions or capital improvements, not including the Phase 3 Expansion, to the Sewer Plant based on their Pro Rata Shares. No. 21 shall provide No. 22 with at least 30 days notice of its intent to commence construction of an expansion (and, to the extent practicable, 60 days written notice for capital improvements) of the facilities. During such notice period, No. 22 shall have an opportunity to submit written comments to No. 21 regarding the expansion or capital improvement project and No. 21 shall reasonably consider any such comments. After such notice period has expired and No. 21 has given reasonable consideration to any No. 22 comments, No. 21 may proceed with the project and No. 22 shall be responsible to pay to No. 21 its Pro Rata Share of all payments and charges incurred by No. 21. No. 22 shall make such payments to No. 21 on a prompt basis, but in no event later than the applicable due dates of No. 21's payments to its consultants and/or contractors, such that No. 21 is not required to advance No. 22's share.

The Districts agree that neither District shall allow the connection of an additional Active Connection within its boundaries that would result in wastewater

treatment demand beyond the capacity owned by such District in the Sewer Plant at that time.

ARTICLE IV. OPERATION AND MAINTENANCE OF FACILITIES

Section 4.01 Operation. No. 21 shall operate the Water Supply Facilities and the Sewer Plant (or cause them to be operated) in accordance with accepted practices for the operation of similar type and size facilities. No. 21 shall use reasonable diligence and care to continually hold itself ready, willing, and able to render water supply, wastewater treatment, and detention/drainage services as provided in this Agreement. No. 21 is expressly authorized to enter into operating agreements with any person or entity to operate the Facilities. Such person or entity shall be licensed and qualified under the rules and regulations of the Commission to operate such facilities of a type and size similar to the Facilities. As between the Districts and subject to the terms hereof, No. 21 shall be solely responsible for operation of the Facilities to render water supply and wastewater treatment services to the Districts pursuant to this Agreement, and, as between the Districts, No. 21 shall be an independent contractor in the operation of the Facilities. The Districts recognize that the obligations of No. 21 to operate the Facilities as provided in this Agreement are subject to all present and future permits, rules, regulations or regulatory requirements issued or adopted from time to time by any regulatory authority having jurisdiction, and the Districts agree to cooperate to make such applications and to take such action as may be desirable to obtain compliance therewith. Notwithstanding any provision of this Agreement, neither No. 21 nor No. 22 shall have any obligation to share any costs or responsibilities for a District's facilities or property that are not the subject of this Agreement (including, without limitation, water, sewer, detention/drainage facilities or lines that do not in any manner serve both Districts).

Section 4.02 Operation of the Detention Pond. No. 22 has constructed the Detention Pond through the use of funds advanced by the Developer on behalf of No. 21 and No. 22, the costs of which are referred to herein as the "Detention Pond Costs." No. 22 will reimburse the Developer for No. 22's share of the Detention Pond Costs, as provided in the applicable developer financing agreement between No. 22 and the Developer and as approved by the Commission. In consideration for No. 21's receipt of payment for the out of district water and sewer service provided by No. 21 to Savannah Lakes Elementary located within No. 22, No. 21 agrees to be responsible for all costs related to operation and maintenance of the Detention Pond; provided, however, that upon establishment of the first Active Connection to No. 22's Water Distribution System, No. 21 shall transfer water and sewer service for Savannah Lakes Elementary to No. 22 and No. 22 shall thereafter be responsible in full for all costs associated with the operation and maintenance of the Detention Pond. No. 21 agrees to operate, repair, and maintain the Detention Pond located in accordance with all Regulatory Requirements, subject to the terms and conditions of this Agreement. No. 21, at its option, may allow a

community association that covers some or all of the Districts to maintain some or all of the Detention Pond.

To the extent that any other drainage channel or detention pond, which has been or shall in the future be constructed, provides detention and drainage capacity to developing areas within both No. 21 and 22, all costs related to the operation and maintenance of such facility shall be considered Operation and Maintenance Expenses under this Agreement; provided, however, that the cost-sharing shall be allocated according to the area of land being served by such facility relative to the other party and not according to Active Connections.

Section 4.03 Agreement to Pay Operation and Maintenance Expenses. In consideration of the mutual benefits to be derived from the operation and maintenance of the Facilities, the Districts agree that each shall pay, at the time and in the manner set forth in this Agreement, their respective shares of Operation and Maintenance Expenses.

Section 4.04 Allocation of Operation and Maintenance Expenses. Except as specifically set forth herein, upon the connection of the first Active Connection to No. 22's Water Distribution System and continuing thereafter, No. 22 shall pay No. 21 its proportionate share of all payments that are due or incurred by No. 21 for Operation and Maintenance Expenses. No. 21 shall allocate Operation and Maintenance Expenses between the Districts for payment as follows: each District shall pay a fraction of the monthly Operation and Maintenance Expenses, the numerator of which fraction will be the total number of Active Connections within such District's boundaries for the calendar month and the denominator of which fraction will be the total number of Active Connections within the Service Area for the same calendar month.

Section 4.05 Billing. Each month, No. 21 shall provide written invoices to each District for its share of the Operation and Maintenance Expenses during the preceding month. The monthly bill to each District shall include a breakdown of Operation and Maintenance Expenses by category and a breakdown of the allocation of the Operation and Maintenance Expenses between the Districts. No. 21 will bill itself for its share of Operation and Maintenance Expenses, as set forth in this Section, calculated in the same manner as for No. 22.

Section 4.06 Payment. Invoices shall be due and payable upon the earlier of: (i) thirty (30) calendar days after receipt by a District's bookkeeper, or (ii) thirty calendar (30) days after deposit into the U.S. mail, properly stamped and addressed to the District. No. 22 shall provide all No. 22 data and records to No. 21 necessary to enable No. 21 to timely prepare and send the invoices to No. 22 that are required from No. 21 by this Agreement. The Districts shall make all payments when due to No. 21 in U.S. currency that at the time of payment is legal tender for the payment of public and private debts and shall make payment at the office of the bookkeeper for No. 21 or at

such other place as No. 21 may from time to time designate by sixty (60) days prior written notice.

Section 4.07 Delinquency in Payment. No. 21 may require the Districts to pay interest on past due bills to No. 21 at the rate of ten percent (10%) per annum, together with reasonable attorney's fees incurred in the collection thereof. If a District fails to pay any bills on or before their due date, No. 21 may give notice of such delinquent bills to such District in writing, and if all bills due and unpaid are not paid within thirty (30) days after deposit of such notice in the U. S. mail, properly stamped and addressed to such District, then No. 21 shall be authorized to institute legal proceedings for the collection thereof and to pursue any other available legal remedy which may be appropriate until all bills have been paid in full.

ARTICLE V. QUALITY OF WASTE

Section 5.01 Regulation of Waste. In order to permit the proper treatment and disposal of each District's waste, to protect the public health, to permit cooperation with other entities for the protection of the physical, chemical, and bacteriological quality of public waters and water courses, and to protect the properties of the Sewer Plant, the Districts agree that the quality and strength of all waste collected by the Sanitary Sewer Collection System of each District and discharged into the Sewer Plant must be regulated. Each District covenants and agrees that it will adopt and enforce rules and regulations in compliance with all Regulatory Requirements and as designated by No. 21 from time to time to ensure:

- (1) that only waste amenable to biological treatment shall be discharged to the Sewer Plant;
- (2) that connections to its Sanitary Sewer Collection System will only discharge waste amenable to biological treatment;
- (3) that drains within the District shall be installed or connected in such manner that rainwater and other surface waters are not permitted to enter the District's Sanitary Sewer Collection System; and
- (4) that adequate safeguards will be taken to prevent any abnormal seepage or infiltration or discharge of any solid matter into the District's Sanitary Sewer Collection System.

Section 5.02 Regulation of Industrial Waste. The effects of certain types of waste upon treatment processes at wastewater treatment facilities require that careful and special consideration be given to each non-residential connection. Accordingly, the Districts agree to regulate the discharge of waste from industrial connections into their respective Sanitary Sewer Collection Systems, and in turn into the Sewer Plant, including requirements for pretreatment before discharge into their respective Sanitary

Sewer Collection Systems if necessary to meet the quality requirements for waste admissible to the Sewer Plant, and the Districts will only authorize the discharge of waste from an industrial connection into their respective Sanitary Sewer Collection Systems subject to the filing by an applicant industry of a statement containing all information required by the District to evaluate the quality of the waste anticipated from the industrial connection to determine the necessity of pretreatment and, if pretreatment is required, to determine the type of pretreatment required.

Section 5.03 Amount and Rate of Flow. Each District agrees that it will not allow the discharge of waste from its Sanitary Sewer Collection System into the Sewer Plant in any amount in excess of such District's share of capacity and at any rate that will not permit the adequate treatment and disposal of the District's waste at the Sewer Plant in full compliance with all Regulatory Requirements. Any District shall have the right at its expense to install flow meters to monitor the amount of waste being discharged by the other District into the Sewer Plant.

Section 5.04 Enforcement. The Districts shall be entitled to collect samples of waste at or near the point(s) of entry of each District and at the points of discharge of any waste into a District's Sanitary Sewer Collection System and shall be entitled to cause the same to be analyzed by American Public Health Association standard methods or other appropriate methods to determine if such waste meets the requirements of this Agreement. If analysis discloses that the waste does not comply with this Agreement, it will be the obligation of the District from which the non-complying waste was taken to require the originator of such waste to cease discharging such waste into its Sanitary Sewer Collection System or to pre-treat such waste. Any costs to repair damage to the Sewer Plant treatment processes or fines and penalties associated with violations of the permit or Regulatory Requirements due to a District's failure to regulate its waste shall not be considered Operation and Maintenance expenses rather, such District shall be solely responsible for payment of such fines, penalties, costs associated with repairing the Sewer Plant treatment process, and other resultant costs.

ARTICLE VI. FIRE STATION

Section 6.01 Fire Station Agreement. The Districts agreed to finance the construction of the Fire Station to serve the Districts pursuant to the Fire Agreement. Under the Fire Agreement, the Districts agreed to fund up to \$600,000 (adjusted for inflation as provided in the Fire Agreement) of the costs of the Fire Station (the "Fire Station Cost"). The Fire Agreement further provides that the Districts may consent to contribute additional amounts toward the Fire Station Cost at their own discretion. Since the initial approval of the Fire Agreement, the Districts have agreed to contribute a maximum total of \$1,000,000 toward the Fire Station Cost. The Fire Agreement provides that the Fire Station is to be constructed by the City when the number of single

family homes in the Districts equals 900, and the City is ready to commence construction of the Fire Station.

Section 6.02 Funding of the Fire Station. No. 21 has reached 900 homes, while No. 22 is undeveloped; as a result, No. 22 will not receive any benefit from the Fire Station until development in No. 22 has occurred. Therefore, No. 21 shall fund, either directly or through advances by a developer within No. 21, the entirety of the \$1,000,000 Fire Station Cost, subject to the obligation of No. 22 to reimburse No. 21 for its share of the costs of the Fire Station.

Section 6.03 Reimbursement by No. 22. To the extent it is financially feasible, as determined by No. 22's financial advisor and the rules of the Commission, No. 22 will include its share of the Fire Station Cost in its first bond application. If the Fire Station Cost is not included in the first bond application, such amounts will be included in its second bond application. Upon approval by the Commission, No. 22 will reimburse No. 21 for its share of the Fire Station costs within 60 days of receipt of bond proceeds therefor.

Section 6.04 Allocation of Fire Station Costs. Initially, the costs of the Fire Station shall be divided equally between the Districts, such that No. 22 shall reimburse No. 21 \$500,000 (adjusted for inflation) from No. 22's first bond issue after the No. 22 reaches 200 single family homes. Upon completion of development within both Districts, the Fire Station costs shall be allocated based on each District's percentage of the total number of single family homes in both Districts. Within 90 days of the computation of such percentage and notification of the allocation of costs by either District, the District that is re-allocated a lesser share of the Fire Station costs shall remit to the other District the amount owed to the other District according to the re-allocation.

ARTICLE VII. MISCELLANEOUS

Section 7.01 Covenant to Maintain Sufficient Income. Each District recognizes its duty to, and covenants and agrees that at all times it will, establish and maintain, and from time to time adjust, the rates, fees, and charges for its services to its customers, to the end that the gross revenues and funds received from such rates, fees, and charges and any other lawfully available funds will be sufficient at all times to pay the District's share of the Operation and Maintenance Expenses as set forth in this Agreement.

Section 7.02 Term. Unless terminated by mutual agreement of the Districts, this Agreement shall continue in force and effect for a period of forty (40) years from its date.

Section 7.03 Approval or Consent. Whenever this Agreement requires or permits approval or consent to be hereafter given by any District, the Districts agree that such approval or consent shall not be unreasonably withheld.

Section 7.04 Force Majeure. In the event any District is rendered unable, wholly or in part, by force majeure to carry out any of its obligations under this Agreement, except the obligation to pay amounts owed or required to be paid pursuant to the terms of this Agreement, then the obligations of such District, to the extent affected by such force majeure and to the extent that due diligence is being used to resume performance at the earliest practicable time, shall be suspended during the continuance of any inability so caused to the extent provided but for no longer period. As soon as reasonably possible after the occurrence of the force majeure relied upon, the District whose contractual obligations are affected thereby shall give notice and full particulars of such force majeure to the other District. Such cause, as far as possible, shall be remedied with all reasonable diligence. The term "force majeure," as used herein, shall include without limitation of the generality thereof, acts of God, strikes, lockouts, or other industrial disturbances, acts of the public enemy, orders of any kind of the government of the United States or the State of Texas or any civil or military authority, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, hurricanes, storms, floods, washouts, drought, arrests, restraint of government and people, civil disturbances, explosions, breakage or accidents to machinery, pipelines or canals, partial or entire failure of water supply or wastewater treatment resulting in an inability of No. 21 to provide services from the Water Supply Facilities or Sewer Plant, or any other incapacities of any District, whether similar to those enumerated or otherwise, which are not within the control of the District claiming such inability, which such District could not have avoided by the exercise of due diligence and care

Section 7.05 Regulatory Agencies. This Agreement is subject to all rules, regulations and laws which may be applicable of the United States, the State of Texas, and any regulatory agency having jurisdiction.

Section 7.06 No Additional Waiver Implied. No waiver or waivers of any breach or default (or any breaches or defaults) by any District hereto of any term, covenant, condition, or liability hereunder, or the performance by any District of any duty or obligation hereunder, shall be deemed or construed to be a waiver of subsequent breaches or defaults of any kind, under any circumstances.

Section 7.07 Insurance. No. 21 shall keep insured such parts of the Facilities as are customarily insured by municipal utility districts in Texas operating like properties in similar locations under the same circumstances with a responsible insurance company or companies against losses, and to the extent insurance is customarily carried by such municipal utility districts, including boiler and machinery coverage. In the event of No. 21's failure to obtain and maintain such insurance, No. 22 shall have the right but not the obligation to purchase such required insurance and thereafter receive credit for any premiums so paid against bills for Operation and Maintenance Expenses received from No. 21.

Section 7.08 Addresses and Notice. Any notice provided or permitted to be given under this Agreement must be in writing and may be served by (a) depositing same in the U.S. mail, addressed to the District to be notified, postage prepaid and registered or certified with return receipt requested; (b) by delivering the same in person to such District; or (c) by sending same by telefacsimile. Notice given by mail shall be effective three (3) days after deposit in the U.S. mail and notice delivered in person or sent by telefacsimile shall be effective upon receipt. For the purpose of notice, addresses and facsimile numbers of the Districts shall, until changed as hereinafter provided, be as follows:

If to No. 21 to:

Brazoria County Municipal Utility District No. 21
c/o Allen Boone Humphries Robinson LLP
Attn: Nancy Carter
3200 Southwest Freeway, Suite 2600
Houston, Texas 77027
Facsimile: 713-860-6604

If to No. 22, to:

Brazoria County Municipal Utility District No. 22
c/o Allen Boone Humphries Robinson LLP
Attn: Jim Boone
3200 Southwest Freeway, Suite 2600
Houston, Texas 77027
Facsimile: 713-860-6604

Either District may designate another address or facsimile number for all purposes of this Agreement by giving the other District not less than fifteen (15) days advance written notice of such change.

Section 7.09 Assignability. This Agreement shall bind and benefit the Districts hereto and their successors but shall not otherwise be assignable, in whole or in part, by either District except by supplementary written agreement between the Districts.

Section 7.10 Modification. This Agreement shall be subject to change or modification only with the written mutual consent of the Districts.

Section 7.11 Districts in Interest. This Agreement shall be for the sole and exclusive benefit of the Districts, their legal successors, and shall not be construed to confer any rights upon any third District. Nothing herein shall be construed to confer standing to sue upon any District who did not otherwise have such standing and it is expressly agreed that nothing herein shall be construed to create any duty or obligation on the part of one District to the customers of another.