TCEQ REGULATORY GUIDANCE
Environmental Assistance Division
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Managing Small Domestic Wastewater Systems: Part E, Resources

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Introduction

This publication is Part E of a five-part series *Managing Small Domestic Wastewater Systems* (TCEQ publication series RG-530) and lists resources that may help you as you create and carry out your asset-management plan and conduct everyday operations at your utility.

To view or download the complete *Managing Small Domestic Wastewater Systems* series (RG-530), go to <www.tceq.texas.gov/goto/rg-530>. If you do not have Internet access, call the SBLGA's hotline number 800-447-2827 for a paper copy.

Note: This publication is not a substitute for the actual rules. To obtain the most current, official copy of state rules, contact the Secretary of State's office at 512-463-5561. The rules are also available online at <texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=2&ti=30>.

Resources: I need assistance with …

Conducting Utility-Board and Council Meetings

- Call the Open Government Hotline, 877-673-6839, and request the publication *The 2008 Open Meetings Act Made Easy.*
- Order the *Open Meetings Handbook*, an in-depth publication about the *Act* and its interpretation, by calling 512-936-1730. It is also available in a downloadable PDF format on the Attorney General's website at <www.texasattorneygeneral.gov>.

Reporting and Record Keeping

Refer to the table on record keeping in Part D: *Compliance,* for an outline of the records and reports your utility must prepare. Requirements for record keeping and reporting also appear in your permit. You must follow your permit.

NetDMR Reporting

NetDMR is a web-based tool that allows TPDES permittees to electronically sign and submit their discharge monitoring reports (DMRs). NetDMR is designed to make reporting easier; improve data quality; provide a cost savings; and expand the ability of both states and the U.S. Environmental

Protection Agency in targeting their limited resources to meet environmental goals.

To view the TCEQ's NetDMR Reporting Guide go to: <https://www.tceq.texas.gov/downloads/permitting/netdmr/reportinghelp.pdf >.

Beginning on page 43 of the guide, you can find help with:

- DMR reporting defintions
- calculations and reporting
- daily operations logs
- reporting concentrations
- reporting loadings
- flow-weighted averages
- flow
- calculating the geometric mean of fecal coliform bacteria (*E. coli* or *Enterococci*)
- annual reporting on sewage sludge
- completing sewage-sludge DMRs
- common sludge calculations

Wastewater Disinfection

RG-515, *Troubleshooting Bacteria Levels at Wastewater Treatment Plants*, contains information and tools to help wastewater-system operators and utility managers minimize bacteria in effluent. It appears at: <https://www.tceq.texas.gov/downloads/assistance/publications/rg-515.pdf>.

Nutrient-Removal Technologies

The U.S. EPA discusses nutrient-removal technologies including:

- nitrification and denitrification
- denitrification filters
- oxidation ditch processes
- fixed-film processes
- sequencing batch reactors

You can find this information in Volumes 1 and 2 of *Municipal Nutrient Removal Technologies* at <nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P100GE8B.TXT>. To open both volumes, select "Get This One!" then click "PDF" from the drop-down menu. This is a large document and may take a few minutes to open.

Using Engineering Services

There are many times you may require engineering services:

- If you are receiving funding from a state or federal program, contact the funding authority for its specific requirements before hiring an engineer.
- Contact other domestic wastewater systems in your area and ask them which engineering company they use and if they are satisfied with its work.
- Look in the phone book or search online for civil engineers who have experience with domestic wastewater systems in your area.
- Contact a registered professional engineer listed on the State Board of Registration for Professional Engineers' website at <www.tbpe.state.tx.us/>.
- Look for a firm experienced with the TCEQ's design criteria for domestic wastewater systems in Title 30, Texas Administrative Code, Chapter 217.
- Call the TCEQ's Water Quality Division, Wastewater Permitting, at 512-239-4671 with questions on review of plans and specifications for wastewater systems.

Funding

The Clean Water State Revolving Fund provides low-cost financial assistance for planning, design, and construction of wastewater infrastructure. It offers loans at below-market interest and loan forgiveness. For more about who can borrow, the types of projects funds may be used for, and special requirements, go to <www.twdb.texas.gov/financial/programs/CWSRF/>.

The Economically Distressed Areas Program provides grants or a combination grant and loan for water and wastewater services in economically distressed areas where services do not exist, or existing systems do not meet state standards.

The Texas Water Development Board offers attractive-interest-rate loans with long-term finance options. Its Rural Water Assistance Fund <www.twdb.texas.gov/financial/programs/RWAF/> provides small rural water utilities with low-cost financing for water and wastewater construction projects. Both the TWDB and the Texas Water Infrastructure Coordination Committee offer other funding options for water and wastewater systems. More information appears below under "Other State Agencies."

For more information on funding options, refer to the TCEQ's guide *Resources for Texas Water and Wastewater Utilities* (RG-220) at <www.tceq.texas.gov/goto/rg-220>.

Operator Licensing

- Find out how to become a licensed wastewater operator at <www.tceq.texas.gov/licensing/licenses/wwlic>.
- See what applicants for wastewater operator licenses need to know at <www.tceq.texas.gov/licensing/licenses/wastewaterntk.html>
- Check how many credit hours you currently have on file at <www2.tceq.texas.gov/lic_dpa/>.
- Renew your license using the Renew an Occupational License or Registration webpage at <www.tceq.texas.gov/licensing/renewal-online-folder/Renewal>.
- Renew your license on paper by contacting the TCEQ Licensing Section at <LICENSES@tceq.texas.gov> or 512-239-0170 to request a hard copy of the renewal application.
- Find approved wastewater-operator courses and training providers at <www.tceq.texas.gov/licensing/training/AllTrainingProviders>.

Domestic Wastewater Permitting

For help obtaining a new domestic wastewater permit or to renew, modify, or amend your existing permit, go to: <www.tceq.texas.gov/goto/dom-ww-permits>.

Management Training

Running a wastewater-treatment system requires a varied skill set. Utility managers, including city-council members, mayors, public works directors, and board members, can benefit from training to learn how to manage a utility. Use Table 1 to find training specific to utility operations, finances, and management.

Technical Assistance

Wastewater and public water systems can receive free technical assistance by a professional contractor through our financial, managerial, and technical program. For more information on the program, and to view some of the services offered, go to <www.tceq.texas.gov/drinkingwater/fmt>.

MANAGING SMALL DOMESTIC WASTEWATER SYSTEMS: RESOURCES

Table 1. Management Training

This list is intended to help managers of water and wastewater treatment systems, including city-council members, mayors, public-works directors, and board members, find training specific to running a utility. *Training and contact information in this table is subject to change and may not be available every year.*

Program	Provider	URL	Phone	Comments
American Management Association	AMA	www.amanet.org/training/live-online-seminars.aspx	877-566-9441	Online communication, management, business, and financial-planning courses
American Water Works Association	AWWA	www.awwa.org	800-926-7337	Public Officials Program at AWWA's Annual Conference and Exhibition. It educates water and sewer wastewater-board commissioners, mayors, council members. Includes: • introduction to water and sewer operating environments • plan and fund your capital infrastructure • water and sewer infrastructure, O&M
American Water Works Association	AWWA	www.awwa.org/conferences-education/conferences.aspx	512-238-9292	Basic Water Utility Management Institute courses for new managers: • environmental issues • infrastructure • operations and maintenance • utility sustainability • public involvement and affairs • security and emergency preparedness • stakeholder communication • succession planning

Program	Provider	URL	Phone	Comments
American Water Works Association and Water Environment Federation	AWWA, WEF	www.awwa.org www.wef.org/	800-666-0206; 877-WEF-4REG	Annual AWWA-WEF Utility Management Conference; topics include: • business-practice optimization • benchmark data and analysis • customer service • employee development • finance, accounting, rates • leadership and management development • legal, regulatory, political issues
Communities… Unlimited - RCAP	CU RCAP	www.communitiesU.org	Harold Hunter 903-261-9161 Mark Pearson 512-284-3000	Training for managers, board members, decision makers, and utility personnel
Environmental Protection Agency	EPA	water.epa.gov/learn/training/dwatraining/calendar.cfm	800-887-6063	Webinar: Asset Management 101 for Systems (check the Drinking Water Academy training calendar)
Public Utilities Commission (PUC)	PUC	www.puc.texas.gov/	888-782-8477 512-936-7120	• rate or tariff changes • CCN-related applications • sale, transfer, and merger applications
Rural Community Assistance Partnership	RCAP	rcap.org/training-events/	800-321-7227	Technical, managerial, financial training for board members, utility personnel, and elected officials

Program	Provider	URL	Phone	Comments
Texas Engineering Extension Service	TEEX	www.teex.org	800-723-3811	Technical assistance for small water and wastewater systems: • on-site assessment of system needs and recommendations on best practices • mock inspection • training for managers and leaders • troubleshooting water-quality, treatment, capacity, and treatment-process issues • assistance via phone
Texas Engineering Extension Service	TEEX	www.teex.org/Pages/infrastructure-and-safety.aspx	979-458-9188	Training for managers of water and wastewater utilities: • management functions • reporting and regulations • interacting with governing bodies • planning for growth, budget, finance • using engineers • safety, security, emergency response
Texas Rural Water Association	TRWA	trwa.org/	512-472-8591	On-site training and technical assistance: • water and wastewater treatment, distribution, and storage • management and operations • rate calculations and budget management

Program	Provider	URL	Phone	Comments
Texas Rural Water Association	TRWA	www.trwa.org/?182	512-472-8591	TRWA conference schedule
Texas Rural Water Association	TRWA	www.trwa.org/?62	512-472-8591	Courses about the Public Funds Investment Act
Texas Rural Water Association	TRWA	www.trwa.org/?61	512-472-8591	Water University: utility-management certification • rates, finances, accounting • capacity • water operations
Texas Rural Water Association and TCEQ	TRWA, TCEQ	www.tceq.texas.gov/drinkingwater/fmt	512-239-4691	Financial, managerial, and technical assistance to help public water and wastewater systems comply with regulations

Helpful Contacts

Use this list to contact personnel at the Texas Commission on Environmental Quality and to identify utility trade associations and other state agencies. The list is not all-inclusive.

TCEQ Contacts

TCEQ Central-Office Contacts

Small Business and Local Government Assistance	800-447-2827
Wastewater Permitting Section	512-239-4671

TCEQ Regional Offices

Region 1 Amarillo	806-353-9251
Region 2 Lubbock	806-796-7092
Region 3 Abilene	325-698-9674
Region 4 Dallas–Fort Worth	817-588-5800
Region 5 Tyler	903-535-5100
Region 6 El Paso	915-834-4949
Region 7 Midland	432-570-1359
Region 8 San Angelo	325-655-9479
Region 9 Waco	254-751-0335
Region 10 Beaumont	409-898-3838
Region 11 Austin	512-339-2929
Region 12 Houston	713-767-3500
Region 13 San Antonio	210-490-3096
Region 14 Corpus Christi	361-825-3100
Region 15 Harlingen	956-425-6010
Region 16 Laredo	956-791-6611

Other State Agencies

Texas Department of Agriculture 512-463-7476

A state agency that offers state and federal loans and grants for qualifying utilities.

Texas Water Development Board 512-463-7847

The state agency charged with administration of cost-effective financing programs for water and wastewater-related infrastructure, state water planning, data collection and dissemination, and technical assistance. You

can find more information about the Clean Water State Revolving Fund on its Web page <www.twdb.texas.gov/financial/programs/cwsrf>.

Texas Water Infrastructure Coordination Committee

512-463-7870

TWICC is a committee of local, state, and federal agencies that collaborate to identify issues with water and wastewater infrastructure and compliance, and to seek affordable, sustainable, and innovative funding strategies for the protection of public health and the efficient use of government resources in Texas. TWICC may be able to assist with funding. You can complete a profile form online at <www.twicc.org>.

Trade Associations and Nonprofit Organizations

American Water Works Association 512-238-9292

AWWA promotes management and treatment of water through training, professional development, educational publications, consumer education, and efforts to influence policy. AWWA's Texas Section—or community group—stays current and active on local issues. More information is available at <www.tawwa.org>.

Communities...Unlimited 903-261-9161or 512-284-3000

A nonprofit corporation providing on-site technical assistance, training, and financial assistance for small towns and rural communities (with populations less than 10,000) with water-supply and waste-disposal problems or needs. For more information on the Water/Wastewater Program, visit the Web page <www.communitiesu.org/index.php/How-We-Help/water-wastewater-programs.html>.

Independent Water and Sewer Companies of Texas

512-346-4011

A nonprofit educational trade association of privately owned water and sewer utilities in Texas. Membership information, news, and meeting dates are available at <https://iwscot.square.site/>.

Texas Public Works Association 214-444-9596

A nonprofit educational and professional association of public agencies, private companies, and individuals dedicated to high-quality public works. Resources and information are available at <www.tpwa.org>.

Texas Rural Water Association 512-472-8591

A statewide nonprofit educational and trade association dedicated to the improvement of water quality and supply. Information available at <www.trwa.org>.

Texas Water Utilities Association 888-367-8982

An organization providing training programs, technical publications, and mutual problem-solving opportunities to water utilities. Membership, training, and online classes available at <www.twua.org>.

Texas Water Quality Association 361-573-6707

A trade association for water-quality professionals and suppliers for the water-treatment industry. Information about meetings, training, event registration, suppliers, and more is available at <twqa.org>.

Water Environment Association of Texas 512-693-0060

A nonprofit technical and educational organization helping to innovate, design, and implement wastewater technologies and water programs: <www.weat.org>.

Useful Tools

Appendix A. Treatment Assessment Tool

This tool will help you paint a picture of your plant's treatment performance over time. Using this chart will help you identify trends, such as permit exceedances, changes in the influent, or seasonal variations that may involve making changes to the collection or treatment system for ensuring efficient wastewater treatment and permit compliance.

Technologies: Pros and Cons

Table 2, Aquatic Treatment Technologies, and Table 3, Mechanical Treatment Technologies, list several treatment technologies and the pros and cons associated with each type of system.

Managing Small Domestic Wastewater Systems: Resources

APPENDIX A. TREATMENT ASSESSMENT TOOL

You submit DMRs each month to report effluent sample results and flow. To paint a picture of your plant's treatment performance over time, use this chart to track monthly data. You should be able to identify trends, such as permit exceedances, changes in the influent (inflow or infiltration), or seasonal variations that may involve making changes to the collection or treatment system for ensuring efficient wastewater treatment.

For information on microbiological and chemical testing for troubleshooting lagoons go to: <www.lagoonsonline.com/trouble-shooting-wastewater-lagoons.htm>.

Month	E* Flow MGD	E pH High	E pH Low	E DO mg/L	E BOD_5 mg/L	E TSS mg/L	E Cl_2 mg/L	E NH_3 mg/L	E E. coli CFU/100 mL	I†‡ Flow MGD	I BOD_5	I TSS	I (other)	I (other)
Jan														
Feb														
Mar														
Apr														
May														
Jun														
Jul														
Aug														
Sep														
Oct														
Nov														
Dec														
Permit Limits														

* E in the table header row = Effluent.
† I in the table header row = Influent.
‡ Use the influent sections of the chart to track additional information about the wastewater coming into the plant. You may be able to identify problems such as excessive inflow and infiltration, which may be the cause of permit exceedances.

Table 2. Aquatic Treatment Technologies: Pros and Cons

Aquatic Systems	Pros	Cons
Stabilization Lagoons	• low capital cost • low operation and maintenance costs • low technical manpower requirement	• require a large area of land • may produce undesirable odors
Aerated Lagoons	• require relatively little land • produce few undesirable odors	• require mechanical devices to aerate basins • produce effluents with high suspended solids

Table 3. Mechanical Treatment Technologies: Pros and Cons

Mechanical Systems	Pros	Cons
Filtration Systems	• minimal land requirements; can be used for household-scale treatment • relatively low cost • easy to operate	• require mechanical devices
Vertical Biological Reactors	• highly efficient treatment method • require little land • applicable to small communities for local-scale treatment and to big cities for regional-scale treatment	• high cost • complex technology • require skilled manpower for operation and maintenance • need spare-parts inventory • high energy requirement
Activated Sludge	• highly efficient treatment method • requires little land area • applicable to small communities for local-scale treatment and to big cities for regional-scale treatment	• high cost • requires sludge disposal area (sludge is usually spread on land) • requires technically skilled manpower for operation and maintenance

For More Information

For confidential assistance with environmental compliance, contact the Small Business and Local Government Assistance Hotline at 800-447-2827, or visit <www.TexasEnviroHelp.org>.