

APPENDIX G
TWDB CWSRF Tier II GUIDANCE

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TEXAS WATER DEVELOPMENT BOARD

Financial Assistance Application Procedures (WRD-006)

A complete application consists of: (1) general, legal, and fiscal information (outlined below); (2) an engineering feasibility report; (3) an environmental assessment; and (4) a water conservation and emergency water demand management plan (required for financial assistance of more than \$500,000). Assistance with item one and guidelines for items two through four are available on request (call 512/463-7853). All applications should be sent to the following address:

**Texas Water Development Board
Development Fund Manager's Office
P.O. Box 13231
1700 N. Congress Avenue
Austin, Texas 78711-3231
(78701 for courier deliveries)**

Initially, an original and ten (10) copies of a document containing the following general, legal, and fiscal materials (except as otherwise indicated) should be submitted to the Texas Water Development Board. Two (2) additional unbound double-sided copies (no staples or permanent binding) will be requested following staff review and comment.

GENERAL INFORMATION:

1. Legal name of applicant(s) and each participating political subdivision and authority of law under which created and authority under which debt is being issued;
2. Name, title, address, phone, and fax numbers and e-mail address (if available) of official representative(s);
3. Names and titles of principal officers;
4. Name, address, phone, and fax numbers, e-mail address (if available) and contact person of: (a) project engineer; (b) bond counsel; (c) legal counsel [if other than bond counsel]; (d) financial advisor; and (e) any other consultant representing the applicant before the Board;
5. Brief comprehensive description of the project;
6. For each participating political subdivision (including federal or state agencies), provide breakdown of ownership interest, allocation of project costs including financing sources and current project status; and
7. Engineer's most current itemized project cost estimate (include *all* costs, specifically construction, engineering services, legal and fiscal costs, and funding sources in a Sources and Uses Statement format).

FISCAL INFORMATION:

1. Full legal name and a description of the *security* for the proposed debt issue(s);
2. All bonds are book-entry only, include Depository Trust Company language;
3. Disclose all issues that may affect the project or the applicant's ability to issue and/or repay debt;
4. Circumstances surrounding prior default(s) on any debt;
5. Total outstanding debt. Segregate by type (G.O. or Revenue) and present a consolidated schedule for each, showing total annual requirements;
6. Direct and overlapping tax rate table;
7. PROFORMA:
 - a. If system revenues are anticipated to be used to repay the proposed debt, a proforma detailing projected gross revenues, operating and maintenance expenditures, net revenues available for debt service showing coverage of current and proposed debt paid from revenues and a clear statement of the revenue pledge being offered; and

- b. If taxes are anticipated to be used to repay the proposed debt, a proforma indicating the tax rate necessary to repay current and proposed debt paid from taxes. List the assumed collection rate and tax base used to prepare the schedule;
8. List of top ten (10) customers of the water and wastewater system;
9. Five-year comparative system operating statement, including audited prior years and unaudited year-to-date, with number of customers for each year;
10. Schedule of current water and sewer rates (include any additional service charges) and proposed rates needed to finance the project; average monthly residential water and wastewater usage, and corresponding average residential monthly bill;
11. Preceding five-year historical data regarding assessed valuation taxes including net ad valorem taxes levied and corresponding tax rate (detailing debt service and general purposes), and tax collection rate;
12. Current top ten (10) taxpayers showing percentage of ownership to total assessed valuation; also, state if any are in bankruptcy and explain anticipated prospective impacts;
13. Maximum tax permitted by law per \$100 of property value;
14. One (1) copy of an annual audit including management letter for latest preceding fiscal year prepared by a C.P.A. or firm of accountants.
15. State if bond insurance will be purchased for the loan and if it will be financed with loan proceeds;
16. State if planning to use pre-design funding option; (If planning to use the pre-design funding option, see sequence of submittals on back of this page);
17. State if planning to use any other credit enhancement (i.e., surety bonds), the authority for its use, and which firm or company will be used; and
18. Current outstanding bond ratings.

Legal information

1. One (1) certified original and three (3) copies of a resolution/ordinance requesting financial assistance and identifying the amount of requested assistance, designating the authorized representative to act on behalf of the governing body, and authorizing the representative to execute the application, appear before the board on behalf of the applicant, and submit such other documentation as may be required by the executive administrator or the board.
2. One (1) certified original and three (3) copies of an affidavit executed by the official representative stating that for a political subdivision, the decision to request financial assistance from the board was made in a public meeting held in accordance with the Open Meetings Act (Government Code, §551.001, et seq.), the information submitted in the application is true and correct according to best knowledge and belief of the representative, the applicant has no litigation or other proceedings pending or threatened against the applicant that would materially adversely affect the financial condition of the applicant or the ability of the applicant to issue debt, and the applicant will comply with all applicable federal laws, rules, and regulations as well as the laws of this state and the rules and regulations of the board.
3. Three (3) copies of the following executed documents: (a) any option, sales, or lease agreement(s) necessary for the project; (b) any actual or proposed service contracts for water supply or sewer service indicating adequate supply or capacity for the life of the proposed loan; and (c) any actual or proposed contracts between the applicant and any other entity which will generate revenues pledged to the repayment of the proposed debt;
4. Three (3) copies of all executed contracts for consultant services included in the total project cost;
5. For a proposed revenue issue secured by a subordinate lien, or to be issued on parity, two (2) copies of the resolution/ordinance issuing the prior lien or parity debt.
6. Status of Certificate of Convenience and Necessity or documentation of its area of designated service;
7. A citation to the specific legal authority in the Texas Constitution and statutes pursuant to which the applicant is authorized to provide the service for which the applicant is receiving financial assistance.

In addition to the above materials, the following items should be provided in your initial submittal of an Economically Distressed Areas Program application: (Not eligible for pre-design funding option).

1. A current Capital Improvements Plan, which addresses at least five (5) years of the applicant's future infrastructure construction needs;
2. The applicant's latest rate study for its utility system; if economically distressed area is outside the boundaries of the applicant, provide cost of service calculation for the economically distressed area;
3. Information addressing the availability of grants through the county, TDHCA, USDA and any other agency providing grants for water and wastewater projects (include the monies that have been received for the previous two years and any future uses and needs for the next two years);
4. Information addressing whether the applicant will need to utilize the Colonia Plumbing Loan Program for hookup costs;
5. Describe procedures for collecting monthly customer bills (include procedures for collection of delinquent accounts);
6. If applicant's service area is located within a retail public utility or a public utility that has a certificate of convenience and necessity under Chapter 13 of the Water Code, include an affidavit signed by the chief executive officer of the utility which shall state that the utility does not object to the construction and operation of the services and facilities in its service area;
7. If an applicant is a district or nonprofit water supply corporation, the applicant must include with the application a resolution/ordinance of the appropriate governing body indicating that the appropriate county and/or municipalities have given their consent;
8. To obtain a grant that exceeds 50 percent of the total Board financial assistance plus interest, an applicant must contact their regional office of the Texas Department of Health to request a finding that a "nuisance dangerous to the public health and safety exists resulting from water supply and sanitation problems in the area to be served by the proposed project"; and
9. If financing is for wastewater project, copy of the resolution/ordinance establishing a mandatory hookup policy.
10. Status of authorized agent designation process with TNRCC.
11. Three plats most recently approved by the applicant (if a municipality) and/or the county.
12. Describe policies and procedures for enforcing the Model Subdivision Rules, including: a description of the staff and resources dedicated to monitoring and enforcement, and the methodology used to identify potential violators; recent cases where violation have been identified and the outcomes of such cases; and the permitting procedures and other controls in place to ensure that developers and residents comply with applicable requirements for safe and sanitary water and wastewater services.

NOTE: Other information reasonably necessary for an adequate understanding of the project may be required by staff.

SEQUENCE OF REQUIRED SUBMITTALS IF USING THE PRE-DESIGN FUNDING OPTION; PRIOR TO A LOAN COMMITMENT.

1. Complete general, legal, and fiscal information described above (same as required by present rules);
2. A preliminary engineering feasibility report including a description of the problem and/or need, a description of the proposed project, alternatives considered, population and flow projections, a proposed work plan and schedule, area maps, and estimated project costs;
3. If the loan is for more than \$500,000, provide a draft Water Conservation Plan;
4. A discussion of known permitting, social, or environmental issues that may become involved in the evaluation of project alternatives and in the implementation of the proposed project;
5. Contracts for engineering services; and
6. Additional information as may be required by the Executive Administrator.

Our Internet address is: www.twdb.state.tx.us

Water Conservation Plan Guidance Checklist (WRD-022)

This guidance checklist applies to all Texas Water Development Board (TWDB) Financial Assistance Programs specified in its rules under Texas Administrative Code 31, Chapters 355, 363, 371, 375, 382, and 384. **The TWDB will accept Water Conservation Plans determined by the Texas Commission on Environmental Quality (TCEQ) to satisfy the requirements of 30 TAC Chapter 288.**

Note: Inquire with Conservation Division if this requirement has been met.

Basically, *the water conservation plan* is a strategy or combination of strategies for reducing the consumption of water, reducing the loss or waste of water, improving or maintaining the efficiency in the use of water, or increasing recycling and reuse of water. It contains best management practices measures to try to meet the targets and goals identified in the plan. *The Drought Contingency (Emergency Demand Management) Plan* is a strategy or combination of strategies for responding to temporary and potentially recurring water supply shortages and other supply emergencies.

THE WATER CONSERVATION PLAN REQUIREMENTS:

- A. _____** An evaluation of the Applicant's water and wastewater system and customer use characteristics to identify water conservation opportunities and potential targets and goals. Completion of the *Water Conservation Utility Profile, WRD-264*, as part of the evaluation is required. Attach it to the Plan.
- B. _____** **Beginning May 1, 2005, your plan should include 5-year and 10 –year targets & goals.** Target and goals should be specific and quantified for municipal use **expressed in gallons per capita per day (gpcd) as well as goals for water loss programs (unaccounted-for water).** Consider state and regional targets and goals, local climate, demographics, and the utility profile. Consider the anticipated savings that can be achieved by utilizing the appropriate Best Management Practices and other conservation techniques.
- C. _____** A schedule for implementing the plan to achieve the applicant's targets and goals.
- D. _____** A method for tracking the implementation and effectiveness of the plan. The method should track annual water use and provide information sufficient to evaluate the implementation conservation measures. The plan should measure progress annually, and, at a minimum, evaluate the progress towards meeting the targets and goals every five years
- E. _____** A master meter to measure and account for the amount of water diverted from the source of supply.
- F. _____** A program of universal metering of both customer and public uses of water, for meter testing, repair and for periodic replacement.
- G. _____** Measures to determine and control unaccounted-for uses of water. (for example, periodic visual inspections along distribution lines; annual or monthly audit of the water system to determine illegal connections, abandoned services, etc.)
- H. _____** A continuous program of leak detection, repair, and water loss accounting for the water transmission, delivery, and distribution system in order to control unaccounted-for uses of water.
- I. _____** A program of continuing education and information regarding water conservation. This should include providing water conservation information directly to each residential, industrial and commercial customer annually, and providing water conservation literature to new customers when they apply for service.

J. _____ A water rate structure which is not “promotional,” i.e., a rate structure which is cost-based and which does not encourage the excessive use of water.

K. _____ A means of implementation and enforcement which shall be evidenced by adoption of the plan:

1. a copy of the ordinance, resolution, or tariff indicating official adoption of the water conservation plan by the applicant and
2. a description of the authority by which the applicant will implement and enforce the conservation plan.

L. _____ If the Applicant will utilize the project financed by the TWDB to furnish water or wastewater services to another supplying entity that in turn will furnish the water or wastewater services to the ultimate consumer, the requirements for the water conservation plan also pertain to these supplier entities. These requirements may be met either through contractual agreements between the parties providing for establishment of a water conservation plan, which shall be included in the contract at the earliest of the original execution, renewal or substantial amendment of that contract, or by other appropriate measures.

M. _____ Documentation that the regional water planning group for the service area of the applicant have been notified of the applicant’s water conservation plan.

Note: The water conservation plan may also include other conservation method or technique that the applicant deems appropriate.

N. The Drought Contingency Plan shall include:

(Inquire with Conservation Division if an entity has a drought contingency plan on file with the TCEQ)

1. _____ **Trigger conditions.** Describe information to be monitored. For example, reservoir levels, daily water demand, water production or distribution system limitations. Supply source contamination and system outage or equipment failure should be considered too. Determine specific quantified targets of water use reduction.
 2. _____ **Demand management measures.** Refers to actions that will be implemented by the utility during each stage of the plan when predetermined triggering criteria are met. **Drought plans must include quantified and specific targets for water use reductions to be achieved during periods of water shortage and drought.** Supply management measures typically can be taken by the utility to better manage available water supply, as well as the use of backup or alternative water sources. The demand management measures should curtail nonessential water uses, for example, outdoor water use.
 3. _____ **Initiation and termination procedures.** The drought plan must include specific procedures to be followed for the initiation or termination of each drought response stage, including procedures for notification of the public.
 4. _____ **Variations and enforcement.** The plans should specify procedures for considering (approving and denying) variations to the plan. Equally as important is the inclusion of provisions for enforcement of any mandatory water use restrictions, including specification of penalties for violations of such restrictions.
 5. _____ **Measures to inform and educate the public.** Involving the public in the preparation of the drought contingency plan provides an important means for educating the public about the need for the plan and its content.
- 0.** _____ **Adopt the plan.** No plan is complete without formal adoption by the governing body of the entity. For a municipal water system, adoption would be by the city council as an ordinance, or a resolution by an

entity's board of directors.

P. ____ Reporting Requirement: Identify who will be responsible for preparing the annual report. Loan/Grant Recipients must maintain an approved water conservation program in effect until all financial obligations to the state have been discharged and shall **report annually** to the executive administrator of the TWDB on the implementation and status of required water conservation programs **for at least three years** after the date of loan/grant closing. If the executive administrator determines that the water conservation program is not in compliance with the approved water conservation plan, the political subdivisions shall continue to supply annual reports beyond the three years until the executive administrator determines that deficiencies in the plan have been resolved. The content and format for the annual reporting is included in the form: *Water Conservation Program Annual Report, WRD-265*.

Assistance. For information and assistance contact:

Adolph L. Stichelbault (adolph.stichelbault@twdb.state.tx.us)
Texas Water Development Board
PO Box 13231
Austin, Texas 78711-3231
512-936-2391

<http://www.twdb.state.tx.us/assistance/conservation/Municipal/Plans/CPlans.asp>

Guidelines for the Preparation of SRF/WQEL Engineering Feasibility Report (ED-002)

These guidelines are developed consistent with **31 TAC 363.13, 363.222, and 375.36** of the Texas Water Development Board's (*TWDB*) Rules and apply to all wastewater related projects seeking financial assistance from the Board. Applicable Texas Commission on Environmental Quality, (TCEQ) formerly the Texas Natural Resource Conservation Commission Rules pertaining to wastewater collection, treatment, and disposal include the following.

TCEQ Rules:

- ◆ 30 TAC Chapter 285 - On-Site Wastewater Treatment
- ◆ 30 TAC Chapter 308 – Criteria and Standards for the National Pollutant Discharge Elimination System
- ◆ 30 TAC Chapter 309 - Subchapter A- Domestic Wastewater Effluent Limitation and Plant Siting
Subchapter B - Location Standards
Subchapter C - Land Disposal of Sewage Effluent
- ◆ TAC Chapter 312 - Sludge Use, Disposal and Transportation
- ◆ 30 TAC Chapter 317 - Design Criteria for Sewerage Systems
- ◆ 30 TAC Chapter 332 - Composting

To obtain information on ordering these or any other Rules, you may either contact the appropriate agency directly, or contact:

*Texas Water Development Board
P. O. Box 13231, Capitol Station
Austin, Texas 78711-3231*

Use of the attached format will assist applicants to address all relevant issues concerning the planning of all projects in the planning period. The outline for the Engineering Feasibility Report is based on the preliminary engineering report rules of the Texas Commission on Environmental Quality (*TCEQ*) [**30 TAC 317.1(b)**], in addition to rules of the Texas Water Development Board (*TWDB*) (**31 TAC 363.13, 363.222, and 375.36**). However, TWDB approval does not negate the need for permits which are required by the TCEQ, or any other agencies.

The Engineering Feasibility Report should form the conceptual basis for the collection, treatment, and/or disposal system proposed. This document shall bear the signed and dated seal of the registered professional engineer responsible for the design.

For all projects, a draft Engineering Feasibility Report proposing processes, methods or procedures is encouraged to be submitted as early in the planning stage as practical. Early coordination of the essential planning information, design data, population projections, and any other requirements among the design engineer, TWDB, and TCEQ is desirable to eliminate delays in planning and to avoid the possibility of having to revise the final plans and specifications.

Please submit four (4) copies of the Engineering Feasibility Report.

I. General Description

A. Identify entities to be served and current and future population (31 TAC 363.13).

1. List the project's sponsoring political subdivision, address, telephone number and legal owner.
2. List the consulting engineer's name, address, and telephone number.
3. Identify the program(s) from which financial assistance is sought.
4. Provide a map designating the geographic limits of the planning area.
5. Provide a complete statement explaining the wastewater problems and needs within the planning area, including the following:
 - a. the domestic population of the area to be served (present through 20-year projection) and the design population of the project. We recommend that you plan for the 20-year needs and build for at least the 10-year needs or greater.
 - b. a discussion of any operational problems, at the wastewater treatment plant or within the sewer system,
 - c. a discussion of any applicable EPA or TCEQ enforcement actions,
6. Provide a brief description of the project with maps showing the area to be served, general location of proposed improvements, water and wastewater treatment plant sites, existing and proposed streets, parks, drainage ditches, creeks, streams, and water mains. The drainage area should be clearly defined by contour map at intervals of not more than ten (10) feet. The maps and plans shall be reproduced on paper not larger than 24 inches by 36 inches in size; however, where variations are necessary, all sheets shall be uniform in size. The project description should also include an explanation of any proposed phasing of construction.
7. Provide the following water related information:
 - a. sources, ownership, and adequacy of water supply for the planning period, and
 - b. Status of the Water Conservation and Drought Contingency plan (required for projects \$500,000 and over).

II. Engineering

A. Provide a description of the alternatives considered and reasons for the selection of the project proposed. In addition, provide sufficient information to evaluate the engineering feasibility (31 TAC 363.13).

1. The selection of a system must be fully described and the reasons for the selection clearly outlined. The selection process should include evaluation of appropriate technologies and full consideration of their costs for the specific project and the environmental compatibility of the project (*see Guidelines for Preparation of Environmental Assessments, Section II, ED-001, or Instructions for preparing an Environmental Information Document SRF-099*). Examples of alternatives to be considered could be those involving innovative and non-conventional methods of treatment such as rock reed, root zone, ponding, irrigation and other technologies. Also, the alternatives could be those involving the reduction of infiltration and inflow (*I/I*), modifying existing operation and maintenance (*O & M*) practices, phasing of the project, on-site systems, cluster systems, or various collection system routing alternatives. TWDB has information available for reference to some innovative technologies. If alternatives for reusing effluent have been evaluated in compliance with TCEQ rules, include a description of the alternatives considered.

2. A suggested method of outlining alternative project costs is the Present Worth Method. Present worth is the sum which, if invested now at a given interest rate, would provide exactly the funds required to pay all present and future costs. Total project cost, used to compare alternatives, is the sum of the initial capital cost, plus the present worth of operation, maintenance, and repair (OM&R) costs, minus the present worth of the salvage value at the end of the 20-year planning period.
- B.** Proposed collection system. The following information shall be provided in the preliminary engineering report if applicable to the project:
1. present area served and future areas to be served,
 2. terrain data in sufficient detail to establish general topographical features of present and future areas to be served,
 3. lift stations existing and/or proposed,
 4. effect of proposed system expansion on existing system capacity, and
 5. amount of infiltration/inflow existing and anticipated, and how it is to be addressed in the collection system design.
- C.** On-site Systems
For on-site systems, demonstrate compliance with On-Site Wastewater Treatment Standards (**30 TAC 285**).
- D.** Proposed treatment plant. The following information is required in a preliminary engineering report.
1. Quantity and quality of existing sewage influent and changes in the characteristics anticipated in the future. If adequate records are not available, analyses shall be made for the existing conditions and such information included in the report.
 2. Provide the names of industries contributing any significant wastes, types of industry (standard industry codes), volume of wastes, characteristics and strength of wastes, population equivalent, and other pertinent information. It should be emphasized that if significant amounts of wastes other than normal domestic sewage are to be treated at the wastewater treatment plant, sufficient data on such wastes must be presented to allow an evaluation of the effect on the treatment process. This would include but not be limited to heavy metals and toxic materials such as polychlorinated biphenyls, organic chemicals, and pesticides.
 3. Design flow rates (wet weather maximum 30-day average flow and 2-hour peak flow). Design flow is defined as the wet weather maximum 30-day average flow. Peak flow is defined as the maximum flow sustained for a 2-hour period to be encountered under any operational conditions, including times of high rainfall (generally the 2-year, 24-hour storm is assumed) and prolonged periods of wet weather. Peak flow factors generally range from 3:1 to 5:1 although other peaking factors may be warranted.
- If the wet weather maximum 30-day average flow rate exceeds 125 gpcd, or bypasses and/or overflows occur, consideration should be given to examining the collection system for areas where infiltration/inflow can be controlled.
- It is important to verify the accuracy of flow and rainfall records used to make flow determinations. If the flow measuring device appears to be inaccurate or contributing flows exceed the above referenced amount, further guidance from the TWDB staff should be requested before proceeding.

Therefore, when determining design and peak flow rates, consideration should be given to parameters such as:

- a. domestic base flow,
 - b. industrial flow,
 - c. infiltration based on flow data from a 7-14 day average dry weather high groundwater period,
 - d. inflow based on flow data resulting from a 2-year 24-hour storm for the area,
 - e. infiltration and inflow reduction not exceeding 50 percent resulting from proposed line repairs, and
 - f. proposed flow reduction measures projected from the existing or proposed water conservation plan.
4. Type of treatment plant proposed and effluent quality expected. The information should include basis of design, flow, organic loading, infiltration allowance, and treatment efficiencies.
- a. Describe the existing permit and parameters, and
 - b. Discuss the proposed permit status and parameters.
5. Type of units proposed and their capacities, considering the Design Criteria for Sewerage Systems (**30 TAC 317**). The information should include detention times, surface loadings, weir loadings, flow diagram, and other pertinent information regarding the design of the plant, including sludge processing units required for the selected ultimate sludge disposal.
6. Treatment plant site information and the siting analysis. The location of the plant, the area included in the plant site, dedicated buffer zone, and a description of the surrounding area including a map or a sketch of the area. Particular reference should be made as to the plant's proximity to present and future housing developments, industrial sites, prevailing winds, highways and/or public thoroughfares, water plants, water supply wells, parks, schools, recreational areas, and shopping centers. If the effluent is to be discharged to the waters of the State, the immediate receiving stream, canal, major water course, etc., shall be designated. The siting analysis shall include:
- a. Flood hazard analysis. Provide the one hundred year flood plain elevation. Proposed treatment units which are to be located within the one hundred year flood plain will require protective measures satisfactory to the TCEQ (*such as levees or elevation of the treatment units*).
 - b. Buffer zone analysis. Demonstrate that the location of each proposed treatment unit is consistent with the buffer zone criteria specified in **30 TAC Chapter 309** of this title (*relating to Treatment Plant Siting*).
 - c. The preliminary engineering report should include the technical information described in **30 TAC 317.10** (*relating to Appendix B- Overland Flow Process*) for all overland flow projects.
- E. Sludge management. The preliminary engineering report shall include a discussion of the method of sludge disposal to be utilized. The report shall assess the following factors:

1. estimated quantity of sludge that must be handled which includes future sludge loads based on flow projections,
 2. quality and sludge treatment requirements for ultimate disposal,
 3. sludge storage requirements for each alternative considering normal operating requirements and contingencies,
 4. transportation of sludge,
 5. land use and land availability,
 6. reliability of the various alternatives, contingencies and mitigation plans to ensure reliable capacity and operational flexibility,
 7. other applicable information conforming with **30 TAC 317.14; 30 TAC 309, Subchapter D; 30 TAC 312; and 30 TAC 330** such as pathogen reduction level, proximity to airports, and groundwater contamination potential, and
 8. status of any permits or authorization required for ultimate disposal of sludge.
- F. Control of bypassing. Units or equipment which are needed to provide standby capability, provide flexibility of operation, or prevent discharges of partially treated or untreated wastewater during construction are eligible for TWDB funding. Provide a description of such units or equipment and include the costs in the cost estimate.

III. Cost of the Project (31 TAC 363.13)

1. Provide the total cost for each project or project phase in the following format:

	COST OF PROPOSED PROJECT AND SOURCES OF FUNDS		
	TWDB Funds	Other Funds	Total Funds
Construction Cost			
STP	\$	\$	\$
I/I Rehabilitation			
Major Sewer Rehabilitation			
Interceptors			
Collection System			
Subtotal Construction Cost	\$	\$	\$
Basic Engineering Fees			
Eng'r. Feasibility Report	\$	\$	\$
Design Phase Eng'r.			
Construction Phase Eng'r.			
Subtotal Basic Fees	\$	\$	\$
Special Engineering Fees			
Environmental Assessment	\$	\$	\$

Inspection	_____	_____	_____
Surveying	_____	_____	_____
Testing	_____	_____	_____
Geotechnical	_____	_____	_____
O & M Manual	_____	_____	_____
Water Conservation Plan	_____	_____	_____
Other (SSES, Permits, etc.); describe	_____	_____	_____
Subtotal Special Fees	\$ _____	\$ _____	\$ _____
Financial Advisor	\$ _____	\$ _____	\$ _____
Bond Counsel	\$ _____	\$ _____	\$ _____
Bond Insurance	\$ _____	\$ _____	\$ _____
Easements (Ineligible)	\$ _____	\$ _____	\$ _____
Land (Ineligible)*	\$ _____	\$ _____	\$ _____
Other (Admin., Bond Issuance Costs, etc.); describe	\$ _____	\$ _____	\$ _____
Recommend Contingency (20% of construction)	\$ _____	\$ _____	\$ _____
Total Project Cost**	\$ _____	\$ _____	\$ _____

* Land is not eligible for SRF funds unless it is an integral part of the treatment process.

** Round up to the nearest \$5,000 by adjusting contingency.

2. Provide a project schedule outlining projected target dates including, but not limited to, the following:
 - a. submit application for a Board loan commitment,
 - b. submit plans and specifications for TCEQ and TWDB approval,
 - c. advertise for bids on contract(s),
 - d. open bids and contingently execute contract(s), and
 - e. include time, as necessary, for unforeseen delays to obtain easements for land, buffer zones, or right-of-way easements.

3. Provide an estimate of the total cost of the project per connection, including debt retirement and operation and maintenance costs. Include a comparison of existing costs per connection to the projected cost per connection.

IV. Environmental Assessment

If the Environmental Assessment is to be included within the Engineering Feasibility Report, provide the information required in the *Guidelines for the Preparation of Environmental Assessments (ED-1)*.

References:

Rules as listed on page 1 of this outline

Guidelines for the Preparation of Environmental Assessments (ED-1)

Informational sheets outlining various innovative technologies

DMA Resolution Example (WRD-210)

RESOLUTION

WHEREAS, the _____ (City/District)
has the authority to design, construct, operate, and maintain wastewater collection and treatment facilities; to raise revenues and assess appropriate charges to assure that each participating party pays its appropriate share of sewerage system costs; to accept or refuse to accept any wastes from any participating party; to accept and utilize grants or other funds from any source for wastewater management purposes; and, to carry out appropriate portions of an areawide water quality management plan;

NOW, THEREFORE BE IT RESOLVED by the _____ (City Council / Governing Body)
of the _____ (City / District);

That the _____ (City / District) seeks designation as a management agency for wastewater collection and treatment within its _____ (city limits / district boundaries / facilities planning area), in accordance with the requirements of Section 208 of the Federal Water Pollution Control Act, as amended.

Date

(Mayor / Authorized Agent)

(Councilman / Board Member)

ATTEST:

(Secretary)

(Attach a 8 1/2" x 11" map of the planning area or city limits for which designation is requested.)

Guidelines for the Preparation of Environmental Assessments

These guidelines are developed consistent with §363.14, §363.223, and §375.35 of the Texas Water Development Board's Rules and apply to all flood control, water supply, and wastewater projects *except for those funded by the Colonias Wastewater Treatment Assistance Program (CWTAP) or Clean Water State Revolving Fund Tier III or Drinking Water State Revolving Fund (SRF)* projects. Separate guidance is available for applicants for those funds. Applicants for Municipal Solid Waste Facilities funding will need to follow the requirements of the Texas Commission on Environmental Quality (TCEQ), which are currently codified in 30 TAC 330.

Use of the attached information should help the applicant address all relevant issues and to provide a common point of reference for any comments or questions. Descriptions or responses should be concise but complete, providing sufficient information to allow someone unfamiliar with the project or the project area to understand both the purpose of the project and its potential impacts, as several agencies other than the *Board* will review the document. Since a wide range of projects may be funded by the *Board*, considerable latitude and responsibility are given the applicant in providing an assessment of the scope consistent with the scope of the project and the environment in which it is proposed to be built.

Maps are called for at several points in the assessment and most of the review agencies, including the TWDB, prefer that they be at the scale of the appropriate 7.5' U.S.G.S. Quadrangle (*a clear xerox or blue-line copy is fine*) or better. When another format is used, sufficient information should be provided to allow all project elements to be easily plotted on a quadrangle. Clear, well prepared maps may often reduce the amount of written description needed.

Although the assessment may be included within the engineering reports or application, the need for review and consultation by other agencies may make it simpler to circulate the assessment separately. In such cases, the applicant should be sure that the document can stand alone and does not refer to other, unattached essential information.

The review agencies will generally provide comments within 30 to 60 days following receipt of the maps or assessment and additional time will be involved if further investigations, permits or easements become necessary. The applicant should allow time in the project planning phase for this review process, as well as for the need to incorporate any modifications that may result. If adequate time has been allowed for review and no comments have been made by an agency, then please include a copy of the request for comments in the assessment.

Applicants are encouraged to submit two draft documents to the TWDB for review prior to beginning consultation with review agencies. Draft and final assessments as well as any questions regarding the preparation of the Environmental Assessment or the review process may be addressed to:

Environmental Reviewer
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711-3231
(512) 463-7853

SECTION I. GENERAL INFORMATION.

This Section may be omitted if the Environmental Assessment is included within the engineering report.

- (1) Project name.
- (2) Applicant(s) name, address, contact, and telephone number.
- (3) Consultant(s) name, address, contact, and telephone number.
- (4) Name of the program(s) from which financial assistance is sought.
- (5) **A brief, complete explanation of the purpose and need for the proposed project.** Include a map or maps showing the planning area, all project elements and any additional areas that will be affected by the project, such as borrow pits. This should be of the scale of a 7.5' U.S.G.S. Topographic Quadrangle or better and clear xerox or blueline copies of such are fine. If a quadrangle cannot be used, insure enough detail is provided to allow the information to be transferred to one.
- (6) **A complete, concise description of the proposed project and its costs.** Employ commonly used terminology to describe the project (e.g., The project is to expand the wastewater treatment facility to a capacity of 1.0 mgd average daily flow with permit limitations of...) and insure that any permit limitations or similar criteria pertinent to the project are addressed.

SECTION II. DESCRIPTION.

Provide information outlined below.

- (1) **A description of the social and natural environment of the entire area which would be affected directly or indirectly by the proposed project, as the area exists prior to the project, including, but not limited to:**
 - (A) **Geological elements (topography, geology, faults, soils, caves).** The description should emphasize those elements that most affect or will be affected by the project (*e.g., the wastewater collection line is to provide service to an area of failing septic tanks. The drain fields are located in dense clay soils of depths between 6 and 12 inches overlying limestones of the Edwards Formation*).
 - (B) **Hydrological elements (surface water bodies, ground water resources, aquifer recharge zones).** Provide a complete and clear description of any and all water resources that will be affected by the proposed project with emphasis on elements such as water quality and availability.
 - (C) **Floodplains and wetlands.** Provide a map or maps showing the relationship of all project elements and areas to be affected to floodplains and wetlands. The

floodplain maps should be based upon those prepared by the Federal Emergency Management Agency and are available from the municipal or county floodplain coordinator. Wetland maps are also available from the Texas Natural Resources Information System listed in Section V below. Note that *playas* are often regarded as both floodplains and wetlands. See Section IV regarding consultation with the U.S. Army Corps of Engineers.

- (D) **Climatic elements (precipitation, prevailing winds, air quality).** Detail should vary according to the type of project proposed. A flood control project should include a description of the 100-year flood event, while prevailing wind direction is important to a wastewater treatment or solid waste project.
- (E) **Biological elements (major plant and animal communities, protected species, critical habitats, natural areas, parks, forests, wildlife refuges).** See Section IV regarding consultation with the Texas Parks and Wildlife Department and the U.S. Fish and Wildlife Service. Describe the major plant and animal communities of the planning area, provide site-specific descriptions of proposed construction areas with emphasis on existing vegetation. Identify any threatened or endangered species that are known to or may occur in the area and provide a map or maps of any potential habitat or natural areas. (For information on threatened and endangered species, see Section V.) Provide a similar map if any state or federal parks, forest, wildlife refuges, wild or scenic rivers, or similar preserves, may be affected.
- (F) **Historical or archeological resources.** See Section IV regarding consultation with the archeological staff of the TWDB. As soon as possible during the development of the project, provide the staff maps showing the location of all proposed project elements or the alternative locations. If funds or federal permits (*e.g., Corps 404, TCEQ/EPA NPDES*) are involved, which will indicate whether state or federal cultural resources management requirements must be met.
- (G) **Social and economic conditions (population, financial conditions, community needs).** Insure that the project is consistent with the approved population projections of the State Water Quality Management Plan or the TWDB State Water Plan, as appropriate. Describe any financial or community conditions that will affect the project.
- (H) **Land use, land use planning and controls.** Describe the land use pattern of the planning area, focusing on land use in areas to be affected by the project. Also describe any local or county ordinances (*e.g., subdivision ordinances, zoning ordinances, National Flood Insurance Program ordinances, dune protection ordinances*) that will or may affect the project and demonstrate that the project is consistent with their requirements. If construction is proposed within a flood plain, be sure and coordinate with the local NFIP administrator and provide copies of any comments.
- (I) **Other programs and projects (highway, water supply, and water quality projects, regional and local planning).** Describe how other projects may affect

the one proposed, particularly as may apply to the location of project elements or the timing of construction.

- (J) **Site Assessment.** An initial site assessment conforming to ASTM Standard E 1527-97 should be performed to assess the potential for hazardous materials contamination on any property being acquired or constructed upon as a part of the project. As a minimum, document existing and prior uses of the site and conduct a survey for unusual soil discoloration, vegetation anomalies, and odors from the property and adjacent properties. Conduct more detailed assessment if the initial assessment indicates potential for hazardous material contamination.
- (2) **A description of the alternatives considered during the development of the proposed project and an explanation of the evaluation of alternatives and how monetary and environmental factors were considered in the selection of the proposed project.** Briefly describe the alternatives considered during the development of the project and, when alternative locations were considered, include maps of these locations. Describe how the factors in (1) above have affected the alternative selection process, with particular emphasis on location of project elements in response to the identification of potential environmental impacts.
- (3) **A description and evaluation of potential direct, indirect, and secondary impacts which may result from the proposed project upon the social, economic and environmental resources of the affected area of the project, and an explanation of how each potentially adverse impact can be avoided, reduced to an acceptable level, or mitigated by structural and non-structural measures.** In addition to the description and evaluation of direct impacts, provide a thorough description of the indirect or secondary impacts (i.e., those not directly related to project construction) over the life of the project and the measures to be taken to avoid, reduce, or mitigate the impacts. Particular emphasis should be placed on those impacts and mitigative measures identified through the consultation outlined in (5) and Section IV, below.
- (4) **An identification of beneficiaries and non-beneficiaries of the proposed project and an assessment of the public acceptability of the project, its costs, and its potential environmental impacts.** Include a summary of any public participation, such as meetings or hearings regarding the project, any issues raised, and how those issues have been addressed. Describe any changes to or imposition of any rates, bills, user fees, taxes etc. that may result from the project.
- (5) **A summary of comments obtained from and required documentation of coordination with appropriate agencies** (e.g., *Corps of Engineers, Texas Parks and Wildlife Department, Texas Commission on Environmental Quality*) **and the affected public**, an explanation of the methods used to obtain this input, and a discussion of how specific concerns were considered in the evaluation of alternatives and the planning of the proposed project. See Section IV below.
- (6) **A description of the potential adverse impacts which cannot be avoided should the project be implemented.** Virtually any construction project will entail some adverse impacts, however minor. Clearly identify these impacts and provide a realistic

description of them so that any mitigative measures that may be required can be developed.

- (7) **A description of the future of the environment without the proposed project.** Remember that the impact of a project may extend beyond the construction areas (*e.g., not constructing a water supply project may have no direct effect on the natural environment, but may have a profound effect on the community it is to serve*).
- (8) **A description of the extent to which the project may involve tradeoffs between short term environmental losses and long term gains or vice versa.** Present a balanced appraisal of the beneficial and adverse impacts of the project as a result of both its construction and operation.

SECTION III. PUBLIC PARTICIPATION

Public participation is required in several instances for projects developed under these guidelines by the Chapter 363 administrative rules to inform the public of potential social, economic, or environmental impacts. Where there is a known potential for public controversy, the Executive Administrator may require consultation with the public which may take the form of surveys, providing notices and written information to the public, conducting meetings and hearings to inform the public, or a combination of these methods. Projects may also have additional financial assistance from TWDB programs with more stringent public participation requirements, such as the Economically Distressed Areas Program or the State Revolving Fund loan programs (Chapters 355, 371, and 375). Additional public participation may be required by local ordinance or as a part of other state or federal financial assistance or permitting programs.

The following guidelines apply to applicants to the Economically Distressed Areas Program (EDAP):

Specific Economically Distressed Area Program public consultation requirements are contained in §355.73 (a) (5) but may be expanded by the scope of work contained in the Phase I contract between the applicant and the board. Some of the information required in the Environmental Assessment may be addressed as part of Section II. (5) above. A purpose of the consultation with the residents is to document whether the individuals support the project and will consent to utilize the facilities. Another purpose of the consultation is to involve the residents in the evaluation of alternatives and selection of solutions. Documentation of the support and of the general participation should be in the form of public meetings transcripts or house-to-house survey results. To obtain affirmative evidence of interest and support requires that the residents first be informed of the problems and the costs and benefits of the potential solutions. This information should be conveyed to the economically distressed area residents prior to asking for a show of support for the project.

The following guidelines apply to applicants of the Clean Water SRF Tier II Program:

- (1) Prior to submitting the final Environmental Assessment, the applicant is required to make available a copy(s) of the assessment for public review in the community to be served by the project for a period of no less than 30 days. The applicant must publish a notice of the availability of the Environmental Assessment in a newspaper of general circulation in the community to be served by the project.

- (A) This notice must specify:
 - (i) The location(s) where the Environmental Assessment will be available For public review and the dates and times when it will be available and;
 - (ii) An address to which the public may send written comments.
 - (B) The Environmental Assessment submitted to the board must contain:
 - (i) A copy of the advertisement and an affidavit of its publication and;
 - (ii) Copies of all written comments received and an explanation of how those comments were addressed.
- (2) If the executive administrator of the TWDB determines that a project is controversial, the applicant will be required to conduct a public hearing to receive public comments regarding the project. The applicant will be required to publish a notice of the hearing in a newspaper of general circulation in the community to be served by the project at least thirty (30) days prior to the hearing. **If the applicant anticipates that the project will be considered controversial, it may proceed with conducting a public hearing without waiting on a ruling with from the executive administrator. In such a case, the advertisement for the hearing can run concurrently with the time that the documents are available for public review in accordance with item (i) above.**
- (A) This notice must provide:
 - (i) A description of the project and its costs and the location, date, and time of the hearing;
 - (ii) The location(s), date(s) and time(s) where the assessment will be available for review prior to the hearing and;
 - (iii) An address where written comments by the public may be sent.
 - (B) The final environmental assessment submitted to the board must contain:
 - (i) A copy of the advertisement and an affidavit of its publication;
 - (ii) A verbatim transcript of the public hearing and;
 - (iii) Copies of all written comments received and an explanation of how all written or oral comments were addressed.

SECTION IV. CONSULTATION

Although the Texas Water Development Board may commit funds, it cannot deliver them until all appropriate permits, concurrences, or comments are obtained from state and federal agencies that have jurisdiction. Many of these are related to the environment and the information

provided in the Assessment will facilitate review by other agencies and will be of use in preparing any permit applications.

Consultation is best accomplished by sending the appropriate agencies the draft Environmental Assessment and/or maps, as described below, accompanied by a request for their review and comment. Depending upon the agency, responses will be made within 30 to 60 days and may require further investigation, consultation, permits, easements, or modifications to the design of the proposed project.

Please note that when a federal permit is necessary, even at the level of a "nationwide" Corps of Engineers 404 permit, it will usually stipulate that the requirements of other federal laws respecting the environment must be met as a condition of the permit. This can affect the consultation process, require further time, and may modify the project. Therefore, it is prudent to begin consultation early-on in the planning process.

Responsibility for consultation rests with the applicant. If there are any doubts as to the need to contact an agency, then the agency should be contacted, since the decision to comment, permit, or grant easement resides with the regulatory agency.

The Environmental Assessment will not be considered complete without copies of the appropriate review comments or permits from the following agencies and the resolution Of any issues raised by those agencies. The following list should not be considered complete as it does not include regional agencies or local governments that may have jurisdiction.

TEXAS PARKS AND WILDLIFE DEPARTMENT

The Texas Parks & Wildlife Department (TPWD) will review the proposed project for potential impacts to fish and wildlife, threatened and endangered species and other related activities within their purview. The TPWD may recommend that the area be inspected by a specialist in one of the biological sciences to determine if there are potential impacts and what measures are available to avoid those impacts. A similar recommendation may also result from consultation with the U.S. Fish and Wildlife Service (see below) and in such cases the applicant should insure that federal standards would be met when reporting the results of the inspection. Contact the TPWD (512-389-4638) for assistance in locating qualified biologists.

A copy of the draft Environmental Assessment, incorporating a copy of the Biological and Conservation Data System correspondence, any needed biological assessment, and a description of any measures that will be taken to reduce or mitigate any identified impacts should be sent to:

Wildlife Habitat Assessment Branch, Wildlife Division
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

Note: See Section V – Sources of Information for instructions on obtaining threatened and endangered species information that is to be included in the Assessment.

U.S. FISH AND WILDLIFE SERVICE

The U.S. Fish and Wildlife Service (FWS) is responsible for determining if proposed projects may affect federally-listed threatened or endangered species or their habitat. As with TPWD, the FWS may require that a biological assessment be performed and may issue permits or require that the project incorporate mitigative measures. Consultation with TPWD, as described above, can aid in the early identification of such species--they are usually denoted on the list provided in the initial consultation--but does not substitute for consultation with FWS when federally-listed species may be present.

The FWS field office boundaries and addresses are shown on the attached map and copies of the draft Environmental Assessment and maps must be provided to them. These offices can also offer guidance regarding biological assessment standards and any further consultation or permits that may be necessary.

TEXAS ANTIQUITIES COMMITTEE AND TEXAS HISTORICAL COMMISSION

The Texas Antiquities Committee and the Texas Historical Commission review projects for potential impacts to historic and prehistoric sites. The TWDB has an archeological staff that will conduct the initial review of all projects, coordinate review with these agencies, and, when necessary, conduct required field surveys of most projects. As soon as possible during the development of the project, provide maps showing the location of all proposed project elements or the alternative locations to the staff. Insofar as can be determined at that time, indicate if federal funds or federal permits (*e.g., Corps 404, TCEQ/EPA NPDES*) will be required as this will indicate whether state or federal requirements must be met during the consultation.

If further investigations are required or problems are encountered, the archeological staff of the TWDB can provide assistance in locating qualified consulting archeologists and resolving any related issues that may arise. A list of archeological consultants, compiled by the Council of Texas Archeologists, is also available from the Office of the State Archeologist at 512/463-6090.

U.S. ARMY CORPS OF ENGINEERS

The Corps of Engineers is responsible for permitting projects affecting wetlands (*Section 404*) and navigable waterways (*Section 10*), as well as for insuring compatibility with other projects. Because of the association with water, they are often required of TWDB-assisted projects and vary widely in scope. When required, they may include measures ranging from further investigations to the preparation of an Environmental Impact Statement and often involve consultation with other federal agencies as a condition of the permit.

Copies of the draft Environmental Assessment, with maps, should be provided to the appropriate Corps district office. The district boundaries and mailing addresses are shown on the attached map.

OTHER PERMITTING AND CONSULTATION

The following is a partial list of those state and federal agencies which, depending upon the type of project and/or its location, may comment on the project, issue a permit or provide easements. Any of these agencies may require changes in the project design or stipulate measures to be

taken to protect the environment. Again, if there are doubts about the need to contact an agency, then the applicant should pursue the consultation.

TEXAS COMMISSION on ENVIRONMENTAL QUALITY (TCEQ)

The TCEQ permits a variety of actions other than those commonly associated with water projects, such as waste discharge, water supply, municipal solid waste, and on-site systems. The following address applies to the agency as a whole, specific request should be further addressed to the appropriate section or unit.

The Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Physical Address:

TCEQ, Contact Name, Building Letter, 12100 Park 35 Circle, Austin, TX 78753

Use for express carrier deliveries (U.S. Post Office Express Mail, FedEx, UPS, etc.).

- Please call your TCEQ contact to determine the exact building location before sending to the physical address

Projects involving the disposal of municipal or industrial wastewater, and the disposal of sludge. There is a fee and a hearing may be required. Contact:

Office of Permitting, Remediation and Registration
Water Quality Division
512/239-4671

Projects involving the construction of reservoirs, the transfer of the use of such water from one purpose to another, such as agricultural use to municipal use, or the transfer of water between river or coastal basins. There are exemptions depending upon the capacity of the reservoir or the use of such water and a hearing may be required. Contact:

Office of Permitting, Remediation and Registration
Water Supply Division
512/239-4691

Projects involving construction in or modifications to floodplains and stream channels. Referred to as a "levee" permit, it encompasses a wide range of other activities that may affect flooding or streams. There are exemptions when the local government is a participant in the National Flood Insurance Program. Contact:

Office of Permitting, Remediation and Registration
Water Supply Division
512/239-4691

Projects involving consistency with the Water Quality Management Plan (208 Plan) regarding populations. Contact:

Office of Permitting, Remediation and Registration
Water Quality Division
512/239-4671

TEXAS PARKS AND WILDLIFE DEPARTMENT

Projects involving the removal or disturbance of sand, shell, gravel or marl from stream beds or coastal waters owned by the State. Obtaining this permit involves a public hearing.

Texas Parks and Wildlife Department
Legal and Permits Division
4200 Smith School Road
Austin, Texas 78744
512/389-4724

TEXAS GENERAL LAND OFFICE

Projects needing right-of-way for construction or alteration of state lands, including any coastal area that is tidally influenced, such as bays and estuaries; and those upland areas owned by the State of Texas, such as university and public school lands. A fee is required. For assistance contact:

Texas General Land Office
1700 North Congress Avenue
Austin, Texas 78701
512/463-5001

INTERNATIONAL BOUNDARY AND WATER COMMISSION

Projects on lands within the floodplain or adjacent to the channel of the Rio Grande River. This may involve a permit, easement, or both. Contact:

International Boundary and Water Commission
The Commons, Building C, Suite 310
4171 North Mesa Blvd.
El Paso, Texas 79902
915/832-4100

BUREAU OF RECLAMATION

Projects affecting irrigation systems, drainage systems or water projects owned or operated by the Bureau of Reclamation. This may involve a permit, easement, or both. Contact:

Texas Representative
Bureau of Reclamation
P.O. Box 1946
Austin, Texas 78767
512/916-5641

SECTION V. SOURCES OF INFORMATION

The following is provided to assist the applicant in obtaining the information contained in the Environmental Assessment in addition to that obtained through the consultation process. It is by no means complete, but does address some of the less obvious or overlooked sources. There may be a fee for some of the information.

QUADRANGLE AND WETLAND MAPS:

Texas Natural Resources Information System (TNRIS)
P.O. Box 13231, Capitol Station
Austin, Texas 78711-3231
512/463-8337

FLOODPLAIN MAPS:

The local (municipal and county) National Flood Insurance Program coordinator or the Federal Emergency Management Agency toll free number--1-800/333-1363.

STATE WATER QUALITY MANAGEMENT PLAN INFORMATION:

Watershed Management Team
Linda Brookins
Texas Commission on Environmental Quality
512/239-4625

WATER USE AND POPULATION INFORMATION:

Office of Planning, Projections
Texas Water Development Board
512/936-0829

THREATENED AND ENDANGERED SPECIES

Early in the planning process, a map of the project site, consisting of appropriate U.S.G.S. 7.5' topographic map, accompanied by a request for recommendations for potential impacts to threatened and endangered species, should be sent to the following address:

Texas Parks and Wildlife Department
Biological and Conservation Data System
Resource Protection System
3000 I-35, Suite 320
Austin, Texas 78704

For site-specific review and recommendations, request a Rare Resources Review form.

SOILS INFORMATION AND OFTEN OTHER BASIC ENVIRONMENTAL INFORMATION:

County Soil Survey
County Soil Conservation Service office
Texas Agricultural Extension Service (County Agent)
U.S. Forest Service offices
Local Junior Colleges

TEXAS COMMISSION on ENVIRONMENTAL QUALITY PUBLICATIONS:

Library
Texas Commission on Environmental Quality
512/239-0020

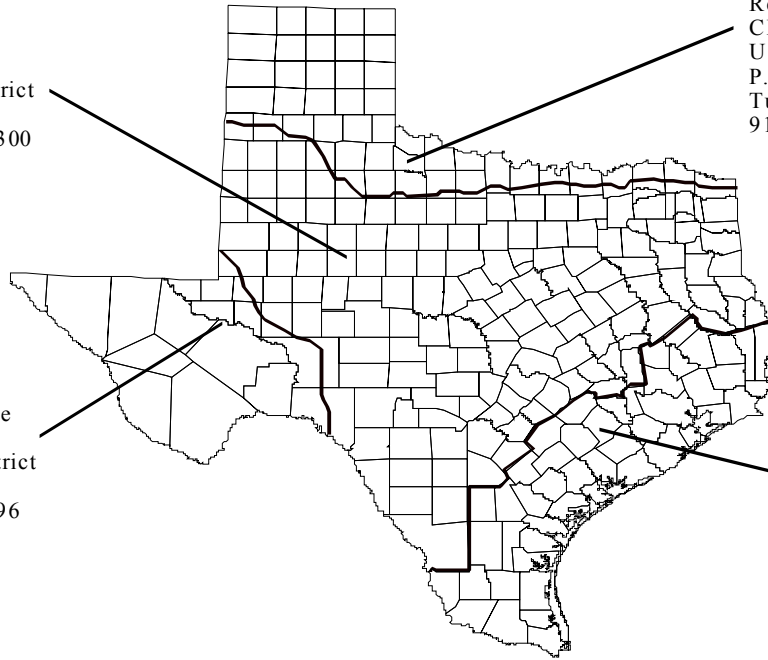
U.S. Army Corps of Engineers District Offices

Regulatory Branch
CESWF-OD-R
U.S. Army Engineer District
P.O. Box 17300
Fort Worth, TX 76102-0300
817/334-2300

Regulatory Branch
CESWT-OD-R
U.S. Army Engineer District
P.O. Box 61
Tulsa, OK 74102-0061
918/669-7401

El Paso Regulatory Office
CESWA-CO-R-EP
U.S. Army Engineer District
P.O. Box 6096
Fort Bliss, TX 79906-0096
915/568-1359

Regulatory Branch
CESWG-CO-RE
U.S. Army Engineer District
P.O. Box 1229
Galveston, TX 77550
409/766-3938



Boundaries are approximate.

If there is doubt, contact the presumed local office before mailing the documents.

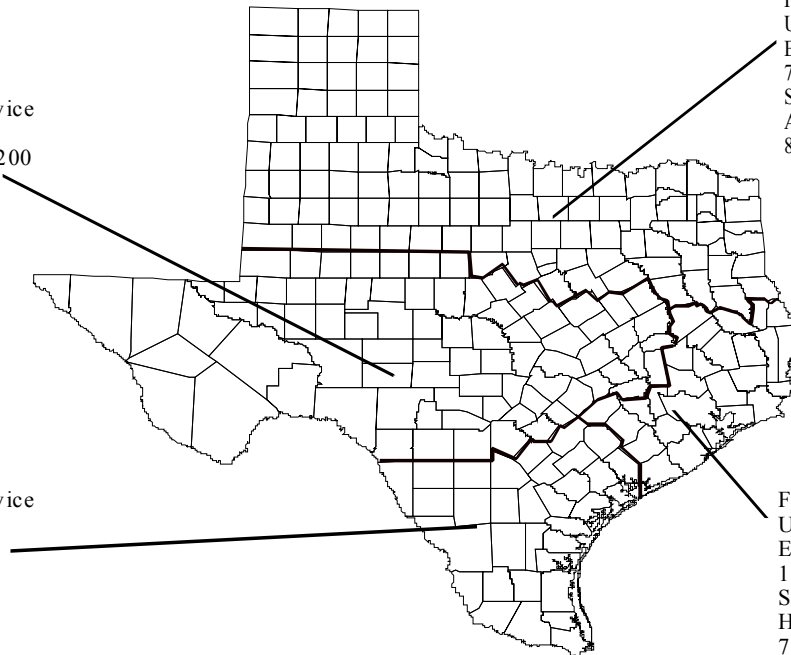
U.S. Fish and Wildlife Service Field Offices

Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services
10711 Burnet Road, Suite 200
Hartland Bank Building
Austin, TX 78758
512/490-0057

Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services
711 Stadium Drive East
Suite 252
Arlington, TX 76011
817/277-1357

Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services
c/o Corpus Christi State
University
Campus Box 338
6300 Ocean Drive
Corpus Christi, TX 78412
512/888-3340

Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services
17629 El Camino Real
Suite 211
Houston, TX 77058
713/286-8282



Boundaries follow county lines.

Final Engineering Design Report Checklist (WRD-024)

General

The Design Criteria for Sewerage Systems, Chapter 317, section 317.1(c) requires that a final engineering design report be submitted with the plans and specifications. This report should describe the plant in detail and provide calculations or descriptions for all items covered by the design criteria. The design criteria and Texas Commission on Environmental Quality, TCEQ (formerly the Texas Natural Resource Conservation Commission or TNRCC) discharge permit should be consulted for further details on what type of information is needed. Information presented previously in the preliminary engineering report or responses to comment letters can be copied and included in the final engineering report if it covers the same items mentioned below. The report should be bound and sealed by a professional engineer registered in Texas.

Wastewater Treatment Plants

The following items should be included in the Final Engineering Design Report. Contact the TWDB project reviewer for more information on unconventional designs. More detailed checklists of items reviewed by the TWDB engineers can be provided if requested (see list of publications in "Additional Resources" section)

A. General Information.

- ___ 1. Copy of new permit or draft permit and status.
- ___ 2. Flows, capacities, and loading rates for the plant: average, maximum 30-day average, and peak flows.
- ___ 3. Siting of the plant: provide a scale drawing showing the buffer zone boundaries as required by section 309.13 .
- ___ 4. Hydraulic profile through the plant, including sludge processing, and flow diagram.
- ___ 5. Safety features included such as stairways, railing, lighting, insulation mats, and walkway mats.
- ___ 6. Any other information as required by 30 TAC 317.1

B. Lift Stations

(including external and internal plant wastewater and return pumping).

- ___ 1. Description of pump types, capacities, lift station structure, force main type and diameter.
- ___ 2. Describe the operating characteristics of the stations at minimum, maximum, and design flows (both present and future);
- ___ 3. Explain safety considerations, such as ventilation, entrances, working areas, and prevention of explosions

___ 4. Discuss means of preventing overflow of raw sewage, emergency power provisions of section 317.3 of the design criteria, including ventilation and alarms.

Note: Emergency power provisions should be addressed. Records of outages from the utilities providing power should be obtained and presented, along with a discussion of what alternatives are being considered for back-up during emergencies.

___ 5. Provide pump and system curves showing the operating point of all pumps in the lift station. Provide pump curves from the manufacturer and include information on pump efficiency at the operating point.

___ 6. Discuss provisions of section 317.2(d)(2-4) on requirements for force mains, such as:

- ___ a. Force main velocities
- ___ b. Provision of air relief valves and cleanouts
- ___ c. Pipe pressure rating
- ___ d. Leakage testing

___ 7. Any other information as required by 30 TAC 317.3

C. Preliminary Treatment

___ Describe preliminary treatment units and how they meet the requirements of section 317. 4(b) for bar screens, grit removal, fine screens, and disposal of screenings and grit.

D. Sludge Disposal

A sludge mass balance and sludge flow diagram is not required but is very useful in demonstrating that sludge generation and treatment has been adequately accounted for.

___ 1. Calculate anticipated sludge generation.

___ 2. Description of sludge handling and disposal, including storage of sludge while awaiting transport, and location of final sludge disposal site.

E. Closure of Existing Plant (if applicable)

___ Discuss the closure of the existing plant, including removal and disposal of sludge.

F. Mechanical Conventional Aeration Plant:

___ 1. **Aeration Unit** -Complete description and calculations showing how the aeration units, blowers, compressors, and piping will meet the provisions of section 317.4(g) with regards to:

- ___ a. Number of basins
- ___ b. Basin design and freeboard requirements
- ___ c. Organic loading
- ___ d. Detention time
- ___ e. Mixing requirements
- ___ f. Return sludge flow
- ___ g. Ability of system to remove ammonia nitrogen, if applicable
- ___ h. Oxygen requirements and capabilities of aeration equipment

Note: If there is any deviation from the transfer efficiencies allowed in the regulations for aeration devices, manufacturer's test data should be presented showing the actual efficiency of the aerators.

____ 2. **Clarifiers.** Explain how clarifier design will meet the requirements of section 317. 4(d) of the design criteria with regards to:

- ____ a. Surface loading
- ____ b. Solids loading
- ____ c. Detention time
- ____ d. Weir loading
- ____ e. Inlet velocity
- ____ f. Scum removal

____ 3. **Aerobic Digesters.** Description of the aerobic digester operation, as outlined in section 317.5(b), including:

- ____ a. Solids loading
- ____ b. Aeration provided
- ____ c. Sludge thickening capabilities
- ____ d. Sludge retention time

Note: 503 regulations should also be addressed if the digesters will meet the requirements for sludge processing under these rules.

____ 4. **Chlorination.** Description of chlorination equipment provided, including items required in section 317.6(b) of the design criteria such as:

- ____ a. Number of units and capacity
- ____ b. Type of control
- ____ c. Safety equipment provided
- ____ d. Housing design, including heating

G. Non-mechanical Pond System:

____ 1. **Lagoons.** Complete description and calculations showing how the proposed system will meet the size requirements and other provisions of:

- ____ a. The final discharge permit.
- ____ b. The requirements of section 317.4(j), Wastewater Stabilization Ponds, and 317.4(k), Facultative Lagoons.

Note: The discharge permit takes precedence over the rules if there is a conflict).

____ c. Some important items on Lagoons to include in the report:

- ____ (1) BOD Loading (lb./day)
- ____ (2) Volumetric loading (lb. BOD/1000 cu. ft.)
- ____ (3) Detention time
- ____ (4) How requirements for pond liner materials and embankment walls will be met.

____ 2. **Irrigation System.**

- ____ a. Provide maps showing all properties to be used in the irrigation scheme.
- ____ b. Provide final water balance calculations and application rates for the system and describe how it will meet provisions of:
 - ____ (1) The final discharge permit.
 - ____ (2) Section 309.20 of Subchapter C (Land Disposal of Sewage Effluent) .
- ____ c. Describe and provide calculations for the sizing of irrigation equipment provided, such as pumps, piping, and nozzles, and demonstrate that the equipment is capable of providing the application rates specified in the permit.
- ____ d. Describe and provide calculations for sizing of tail water return structures, if required.

Wastewater Collection Systems

The following items should be included in the Final Engineering Design Report. Contact the TWDB project reviewer for more information on unconventional designs.

A. Pump Station Renovations

____ Describe proposed improvements to the lift stations.

____ Provide the information and calculations described in "Lift Stations" above, where applicable.

B. Sewer Line and Appurtenances

____ 1. Provide calculations showing that the proposed sewer lines will be able to take the design peak flow.

____ 2. Show that the sewer line and manholes meet the requirements of section 317.2 (Sewage Collection Systems).

____ 3. minimum and maximum grades proposed for each size and type of pipe;

____ 4. capability of existing trunk and interceptor sewers and lift stations to handle the peak flow under anticipated conditions and capability of existing treatment facilities to receive and adequately treat the anticipated peak flows;

____ 5. type of pipe proposed and its anticipated performance under the conditions imposed by the particular wastewater quality and loading conditions;

____ 6. the manhole spacing proposed;

____ 7. areas not served by the present proposed project, and the projected means of providing service to these areas, including special provisions incorporated in the present plans for future expansion;

____ 8. amount of infiltration/inflow existing and anticipated, its hydraulic effect on the proposed and existing system, and an abatement plan if applicable, including a:

____ a. description of infiltration allowances and test procedures in the specifications governing design of new sanitary sewer lines; and

____ b. description of control program to reduce infiltration/inflow occurring in the existing sewer system;

____ 9. soil conditions, such as quicksand, that will not support collection system development, and measures to be taken to overcome the anticipated difficulties.

Cost Estimates

____ If the design has changed significantly from the Engineering Feasibility Report, a revised cost estimate should be submitted to TWDB project reviewer.

Guidelines for Inspector Qualifications (ED-005)

GENERAL:

The qualifications and organization of the inspection team provided by the owner or consultant are vital to the success of the construction project.

Competent and adequate inspection is in the best interest of the owner to ensure that construction is in accordance with the contract documents as well as to avoid disputes over payments to the contractor. Good documentation and communication will also aid in prevention and resolution of contractor claims.

TIME:

The amount of time and number of inspectors required on a project depends on the scope of work, number of contracts and the pace of construction. Consideration should be given to the number and nature of contracts that will be active at the same time. An inspector should observe all significant construction events.

QUALIFICATIONS:

As a minimum, inspectors should possess experience and knowledge comparable to the size, scope and complexity of the project they will be assigned to inspect. In general, inspectors should also have a thorough understanding of soils, concrete, survey, pipe laying, testing, mechanical and electrical. For relatively large or complex projects (e.g. treatment plants greater than \$5-\$10 million) it may be beneficial to have a resident engineer assigned to the project.

RESPONSIBILITIES:

The inspector, resident engineer or resident project representative's duties, responsibilities and limitations should be included in the contract documents.

TWDB GUIDANCE:

The Board's Inspection and Field Support Section staff will be glad to discuss the inspection effort required or the inspector's qualifications for each contract.

Inspector's Daily Report (WRD-019)

The Inspector's report should include the items mentioned below for each contract associated with the project. Many of the items can be included in a checklist or fill-in-the-blank type form. The primary purpose of the log is to have an accurate, detailed daily report of the day's activities. If more than one inspector is on site, each should make and sign an entry concerning their observations.

Each day's entry should include:

- 1) Conditions - Weather: temperature, moisture, site conditions, etc.
- 2) Personnel - Number of inspectors, number of workers, type of trades, list of subcontractors and number of hours worked by inspectors and workers.
- 3) Equipment - Number and type.
- 5) Activities - General description and location of work accomplished each day of the week.
- 6) Quantities - Length and size of the pipe laid, amount and type of embedment and select backfill material used, concrete, etc.
- 7) Materials - a list of all materials received for that day and whether checked and acceptable and where stored.
- 8) Difficulties - Any problems encountered due to unusual or differing site conditions, equipment or techniques. Notations may be used in case of change order for time extension.
- 9) Deficiencies - List of all deficiencies including construction, safety, labor, etc. for that day and if possible the resolution or proposed resolution to these problems. If resolution is not made immediately, it should be included on a future daily report when it is made with reference to the day it was encountered.
- 10) Disputes - Between contractor, engineer, owner, etc. and outcome of same.
- 11) Contractor's Comments - As to whether they agree with the engineer or inspector's comments.
- 12) Instructions - Record of any verbal instruction from the engineer to the inspector or inspector to the contractor.
- 13) Visitors - List of all visitors to job site.
- 14) Dated and signed - Diary should also contain the number of days used in the contract.

The daily reports should be checked, as a minimum, at each TWDB scheduled inspection. When checked during unscheduled inspections, it can be a useful tool to keep current of the construction progress and problems. If these reports appear insufficient, the inspector will be informed of what further information is needed.

Project Files and Construction Records (WRD-017)

1. Index
2. General Correspondence
3. Loan Assistance Documents and Assurances
4. TWDB Approved Plans & Specifications
5. Engineering contracts (design, construction management, project certification)
6. Project Certification (workplan, schedule, monthly report, capability report)
7. Discharge Permit & Self - Reporting Data
8. Land, Right-of-Way, Easements, Permits
9. Planning Documents (Engineering reports, I/I, EA, EID)
10. Sewer Use Ordinance, User Charge Ordinance
11. Plan of Operation
12. Operation & Maintenance Manual
13. Property Management System (inventory of capital equipment over \$200)
14. Force Account Records (time sheets, direct purchases invoices, equipment use logs)
15. TWDB Outlay Reports
16. Fiscal Records & Account Ledgers
17. Engineering & Test Lab Invoices (itemized)
18. TWDB Inspection Reports

A separate set of the files below should be kept on each contract, e.g. 20-a, 20-b, etc.

19. Shop Drawings, Parts Manuals, Equipment Brochures
20. Daily Inspection Reports & Inspector Logs
21. Construction Schedules & Related Correspondence
22. Monthly Construction Estimate & Material Invoices
23. Certified Payrolls, Labor Interviews (including subcontracts)
24. Contract Files (contract, bonds, work order, current certificate of insurance)
25. Change Orders (request for changes with cost & pricing analysis, approval & eligibility by TWDB, executed change orders)
26. Concrete Test Results (batch design, compressive strength)
27. Soil Test Results (curves & densities)
28. Collection System Test Results (I/E, deflection, pressure)
29. Miscellaneous Test Results (paint, equipment and other)
30. Equipment & Material Certifications
31. As-Built Drawings
32. Start-Up Activities, Operator Training
33. Certificates of Completion/Acceptance
34. Warranty Information

O&M Manual Recommendations (ED-006)

The Operation and Maintenance (O&M) Manual for Wastewater Treatment Facilities should, as a minimum, include the following:

1. A table of contents showing the page number for each section.
2. A descriptive guide to using the manual, indicating the type of information to be found in each section.
3. A brief description of the treatment process and a discussion of the capacity of the facility, including the flow and loading assumptions used as a basis for the sizing of the plant.
4. Regulatory requirements including permits and stream standards and requirements for reporting effluent quality information, non-compliant events, spills, etc.
5. Recommended staffing and staff responsibilities including plant supervisor and other management staff.
6. Description, operation and control of each unit of the facility (include offsite lift stations, if appropriate):
 - a. Description, function, flow routing and design capacity for each unit.
 - b. Listing of major components and mechanical equipment.
 - c. Process control:
 1. Normal operating procedures and parameters including such things as valve positions, sludge depths, etc.
 2. Discussion of laboratory and field tests and expected operational ranges.
 3. Discussion of common operating problems and solutions.
 4. Alternate operational modes.
 - d. Hazards and safety concerns.
 - e. Recommended maintenance of mechanical equipment including lubrication schedules, recommended lubricants, etc.

7. Sludge management program:
 - a. Permit requirements and other limitations.
 - b. Method of disposal.
 - c. Method of tracking.
8. Recommended recordkeeping procedures for plant operating parameters, compliance reporting, sludge tracking and maintenance.
9. General safety information, procedures and accident reporting
10. Emergency operating procedures for such things as power loss, flood, freeze, etc.
11. Recommended maintenance program and schedule for any equipment or parts of the facility not covered in section 6 above, including painting, ground upkeep, tractors, mowers, portable pumps, etc.
12. Laboratory procedures and/or sample handling.
13. Collection system maintenance procedures.
14. Appendices:
 - a. Schematic and flow diagram for the facility.
 - b. List of process chemicals and their source.
 - c. List of utilities and contacts.
 - d. List of equipment suppliers.
 - e. List of sources of service and parts.
 - f. Protective coatings list for equipment and structures subject to corrosion.
 - g. Recommended spare parts inventory.
 - h. Warranties and bonds.
 - i. Sample forms for operating parameters, compliance reporting equipment maintenance, etc.
 - j. Map of the collection system including location and size of lines, manholes and lift stations, if available.

Finance - Related Legal and Contractual Requirements Applicable to Loan Indebtedness (WRD-018)

With the Texas Water Development Board

This document presents the primary finance-related legal and contractual requirements associated with the financing of a project through a loan contract or the sale of bonds to the Texas Water Development Board (TWDB). This document does not necessarily include all applicable finance-related legal or contractual requirements. **For further assistance in this regard, please contact the Contract Management Division Staff (512) 463-8415.**

I. PRIMARY CONTRACTUAL AND LEGAL AUTHORITIES

- A. Contract - The contractual loan agreement between the TWDB and political subdivision is the bond indenture or loan agreement. This ordinance, resolution or order is the transcript of legal proceedings authorizing the bond issuance. The TWDB provides to the political subdivision a written summary of selected provisions of this document.
- B. Laws and Regulations - All loan programs of the TWDB are subject to the following laws and regulations:
1. Chapters 15, 16 & 17 of Texas Water Code
 2. U.S. Treasury Federal Arbitrage Regulations (for tax exempt debt)
 3. Chapter 363 of TWDB Rules - Financial Assistance Programs

In addition, State Revolving Fund (SRF) program loans are subject to:

1. EPA SRF Regulations 40 CFR 35 Subpart K
2. Chapter 375 of TWDB Rules – Clean Water State Revolving Fund

The State Uniform Grant & Contract Management Standards Act of 1981 and its related regulations do not apply to financial loan assistance provided by the TWDB.

II. USE OF LOAN PROCEEDS

- A. Construction Fund - The loan proceeds should be deposited to a construction fund established with the political subdivision's official depository bank and be secured and collateralized in accordance with State law.
- B. Investment Earnings - All investment earnings on loan proceeds accrue to the construction fund. Investments of tax exempt loan proceeds should be in accordance with applicable Federal arbitrage rebate and yield restriction regulations. Generally, the yield restriction on the investment of loan proceeds is the interest rate on the political subdivision's debt and/or the TWDB's source bonds.
- C. Project Budgeting - The political subdivision is responsible for managing its construction and project budget and ensuring that there are sufficient funds to complete the project. TWDB approval is not required for budget revisions that have no affect on the total amount of TWDB assistance.

- D. Expenditure/Reimbursement Criteria - In order to be funded by the gross proceeds or related investment earnings, an expenditure or interfund reimbursement should be an element of cost that is allocable to the project scope of work approved for funding by the TWDB in its loan commitment and is a lawful obligation of the political subdivision.
- E. Land Acquisition - Loan proceeds may not be used to fund the cost of acquiring land, rights-of-way or easements that are not an integral part of the treatment process.
- F. Arbitrage Reimbursement Limitations (for tax exempt debt) - In accordance with Federal arbitrage reimbursement regulations (26 CFR 1.150-2):
1. Tax exempt loan proceeds may not be used to reimburse the costs of acquiring land, rights-of-way or easements paid before the date of loan issuance unless the political subdivision has declared an "official intent" to reimburse the expenditure on or before the date the expenditure is paid.
 2. A reimbursement allocation of tax exempt loan proceeds to an expenditure must generally occur on or before the latter of either the date one year after the expenditure was paid or the date one year after the property was placed in service.
- G. Interest, Operation and Maintenance (O&M) Costs and Interfund Transfers - In accordance with the Public Security Procedures Act (§1201.042, Government Code), proceeds of loans which, in whole or in part, are payable from and secured by the revenues of the system may be used to:
1. pay interest on the loans during the period of construction and one year thereafter;
 2. pay system operation and maintenance during the estimated period of construction and one year thereafter; and
 3. fund debt service, reserve, contingency and other funds relating to the loans.
- Political subdivisions should consult TWDB before using loan proceeds in the above manner.
- H. Contractors' Retainage - Retainage should be withheld from construction contractors' periodic payments in accordance with State law. Under certain circumstances, interest earnings on contractors' retainage accrue to the benefit of the contractor. Regardless of the source of funds, final release of construction retainage to the contractor shall not be made until the political subdivision has requested and received a contract "Certificate of Approval" from the TWDB.
- I. Final Accounting - At the time the project is complete or when all loan proceeds and investment earnings are expended, a final accounting review will be completed to determine the total sources and authorized uses of project funds. Any unexpended (surplus) loan proceeds or related investment earnings are generally used to redeem loan maturities held by the TWDB.
- J. Colonia Wastewater Treatment Assistance Program (CWTAP) – If the political subdivision is receiving CWTAP Federal assistance from the TWDB and the bond proceeds provided to the political subdivision by the TWDB represent the State match for the CWTAP assistance, the authorized uses of the bond proceeds are subject to the allowability criteria of U.S. Office of Management and Budget Circular A-87.

III. ANNUAL INDEPENDENT AUDITS

- A. Standards and Auditor's Qualifications - Annual audits required by law and the loan documents should be conducted:
1. in accordance with generally accepted auditing standards (GAAS); and
 2. by a certified public accountant or public accountant licensed to practice in the state by the State Board of Public Accountancy.
- B. Audited Annual Financial Statements - Annual audits required by state law and the loan documents must, as a minimum:
1. include the political subdivision's fiscal year general purpose financial statements;
 2. include the auditor's report and opinion on the general purpose financial statements;
 3. be completed and made available for public inspection within 120 days (135 days for districts and authorities) of the close of the fiscal year; and
 4. be promptly submitted to the TWDB upon completion.

III. MONTHLY AND QUARTERLY OPERATING STATEMENTS

Monthly operating statements may be required by the loan documents and/or the Development Fund Director. Forms are available for submission of the required information or for guidance in the submission of copies of financial statements presented at the political subdivision's monthly council or board meeting.

This policy has proven to be especially beneficial to borrowers issuing first-time debt, new system debt, systems with 500 or fewer customers, and others designated during staff review.

V. ACCOUNTING AND BUDGETING

- A. Accounting Standards - The political subdivision's accounting systems, records and reports related to the loan with the TWDB should:
1. comply with generally accepted accounting principles (GAAP);
 2. demonstrate compliance with finance-related legal and contractual provisions; and
 3. contain current, accurate and complete accounts and records.
- B. Loan Funds and Accounts - The funds and accounts commonly required by loan documents include:
1. Debt Service Fund - This fund is for paying principal maturities and interest coupons on the loan as they come due. Other common names for this fund include certificate fund, interest & sinking fund and bond fund.
 2. Reserve Fund - This fund is for paying principal and interest payments on the loan when no other funds are available for debt service. This fund is generally required only with loans secured by system revenues. Documents generally require equal monthly deposits to the reserve fund over a five-year period until the fund's balance reaches the loan's average annual debt service requirement.

3. Construction Fund - This fund is for the deposit, investment and expenditure of the loan proceeds and other project funding sources.
 4. Other Funds and Accounts - Loan documents commonly have specific requirements for the accounting of revenues pledged for repayments. This is often referred to as the "flow-of-funds." These funds are commonly referred to as system fund, revenue fund, surplus revenue fund, etc.
- C. Records Retention and Access - All construction-related records should be retained for no less than three years from completion of final accounting. For as long as the loan is outstanding, all other loan-related records should be retained for no less than three years from the close of each fiscal year. The staff of the TWDB or its authorized representative shall have access to any records of the political subdivision related to the loans.
- D. Annual Operating Budgets - Political subdivisions are required by state law to prepare and adopt fiscal year operating budgets. Annual budgets should reflect sufficient revenues to adequately operate and maintain the system and to meet both general obligation and revenue debt of the system. The TWDB requests selected political subdivisions to submit annual operating budgets for review.

VI. PLEDGED REVENUES

- A. System Revenue Pledge - This type of pledge requires that system revenues be sufficient to pay system operation and maintenance expenses and system revenue debt. Revenue Bond Coverage is a measure of whether system revenues remaining after the payment of system O&M costs (net revenues) are sufficient to pay debt service requirements on revenue loans. The coverage factor is computed by dividing annual net revenues by the annual debt service requirement. The coverage factor can be computed on the current (next year's) debt service requirement or the average annual debt service requirement. Most loan documents require a 1.00 coverage factor on the average annual or current debt service requirement.
- B. Tax Pledge - This pledge requires the political subdivision to levy and collect an ad valorem interest and sinking (I&S) fund tax sufficient to pay system general obligation debt service requirements on the loans.
- C. Combination Tax and System Revenue Pledge - This pledge requires the political subdivision to levy and collect an ad valorem I&S tax and/or generate system net revenues that are in combination sufficient to pay system general obligation and revenue debt service requirements.
- D. Contract Revenue Pledge - This pledge requires the political subdivision to set rates and charges to parties who are contracting to repay the debt issued by the political subdivision in an amount sufficient to pay debt service on the contract revenue loan. In addition, the underlying contracting parties are required to set rates and charges to their customers sufficient to pay the portion of the debt service on the contract revenue debt for which the underlying contracting party is obligated.
- E. System Rates and Charges - Loan documents generally provide that rates and charges for services provided by the system be sufficient to pay at all times the operating expenses and debt of the system. Rates should be examined at least once a year as a part of the annual budget process and should be based on sound system operating and customer records.

VII. SYSTEM OPERATIONS AND INSURANCE COVERAGE

TWDB Financial Interests - In order to protect the economic viability and financial solvency of the system and the State's investment, the political subdivision shall provide adequate operation and maintenance and insurance coverage on the system for as long as the loan is outstanding. Insurance coverage on the system's operations and facilities shall be sufficient to protect it against damages or losses.

VIII. FINANCIAL MONITORING AND MANAGEMENT ASSISTANCE

A. Financial Monitoring - The TWDB monitors political subdivisions' financial stability and loan document compliance through the review of:

1. audited annual financial reports
2. monthly and quarterly operating statements as appropriate
3. annual operating budgets as appropriate
4. reports issued by the Municipal Advisory Council
5. other sources of financial data as appropriate and
6. on-site financial reviews when necessary

In cases where there is evidence of financial instability or material noncompliance with the loan documents, the TWDB requests and monitors corrective action by the political subdivision.

B. Financial Management Assistance - The TWDB's audit staff will provide whatever assistance is necessary or requested in matters of financial stability and loan document compliance.