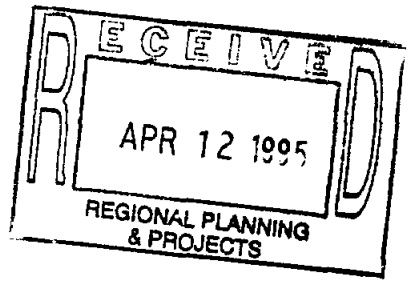
CITY OF PORT NECHES

JEFFERSON COUNTY, TEXAS



WATER CONSERVATION PLAN

As Required For TWDB Planning Grant

For Regional Wastewater Study

SUBMITTED TO:

TEXAS WATER DEVELOPMENT BOARD

PREPARED BY:

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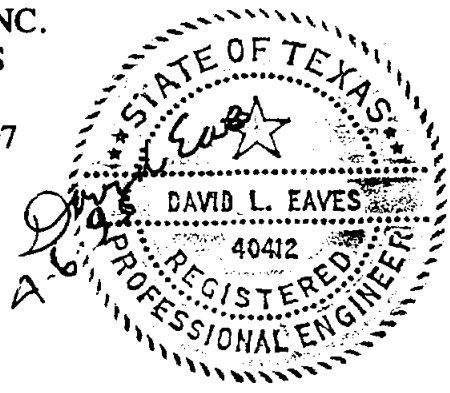

APRIL 1995

SPI No. 10201
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Water Conservation Plan
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Schaumburg & Polk, Inc.
CONSULTING ENGINEERS

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DISCLAIMER

This Water Conservation Plan has been prepared as a requirement of the Texas Water Development Board in connection with a planning grant. The grant helped finance a regional wastewater planning study for the cities of Nederland, Port Neches, and Groves.

It is the understanding of the City of Port Neches that the following requirements are applicable to the City:

- As a condition of the planning grant, this Water Conservation Plan must be prepared and submitted to the TWDB along with the planning study, *but not necessarily implemented.*

- In the event that the City should finance any project *(including all or part of the wastewater improvements outlined in the planning study)* with a TWDB loan exceeding $500,000, the City would be required to adopt and implement a Water Conservation Program meeting TWDB requirements.

This Water Conservation Plan is in essence a draft of the Water Conservation Program which would be adopted in the event of a TWDB loan. As such, some portions of the text, ordinances, resolutions, and other exhibits contain references to TWDB loan requirements or to the City's desire for a TWDB loan. These references would become applicable in the event of TWDB project financing. However, inclusion of such references in the Water Conservation Plan does not represent a commitment by the City at this time to seek a TWDB loan for any purpose.

The Water Conservation Plan outlines certain proposed or suggested practices in the implementation of the program *(such as mailouts, annual reporting, and any water conserving plumbing measures not already required by state legislation).* By submittal of this Water Conservation Plan, the City is not committing itself to any of these measures in the absence of a TWDB loan. Also, in the event that the City should in the future seek TWDB financing, the City reserves the right to review the Water Conservation Plan more thoroughly at the time and make any appropriate revisions before submitting it as an implemented program.

Any information in the Water Conservation Plan describing the associated wastewater project is for informational purposes and does not in itself obligate the City to implement all or part of the project, or to follow any specific time frame for the project.

I. INTRODUCTION

A. PLANNING AREA

Port Neches is located in Jefferson County in Southeast Texas in the Beaumont-Port Arthur-Orange metropolitan area (Exhibits 1, 2). Port Neches is the northeasternmost of three cities known collectively as the Midcounty area, and is located next to the east boundary of the county. The City is situated between Nederland and the Neches River.

The population within the City is estimated at 13,606 for 1995. The main portion of the community covers the inland side of the City (toward Beaumont). This area is essentially a large residential area extending from the Neches River to the cities of Nederland and Port Arthur. The area is interspersed with various commercial, school, recreational, and vacant areas.

The remainder of the City, toward Sabine Lake, is comprised mainly of large undevelopable marshland and oil field waste sites, with limited amounts of residential areas. Several large industrial areas are surrounded by, but excluded from, the City.

Port Neches has only a limited potential for future growth. The City is surrounded on most sides by the cities of Port Arthur, Groves, and Nederland. The City is bounded on the other sides by the Neches River and adjacent marshland. There are only limited areas of developable vacant land within the City.

The City provides water and sewer service for all residents within the City, as well as various commercial and light industrial customers. The City also provides potable water service to several large industries enveloped by the City, as well as sanitary sewer service for some industries.

The City has a surface water plant near downtown, approximately 0.4 mile from the Neches River. The wastewater treatment plant is located adjacent to the City of Groves.

Port Neches is located in the Golden Triangle which encompasses Beaumont and Port Arthur in Jefferson County and Orange in Orange County. Port Neches lies within the side extending from Beaumont to Port Arthur, a highly industrialized area extending the length of eastern Jefferson County in a broad strip parallel to the Neches River. Dominant industries in the area include petroleum refining and chemical and plastics industries, with two large paper mills a short distance north of the Triangle. Shipyards and a steel mill are also located in the Triangle.

In recent years, a portion of Jefferson County south of Beaumont has become the home of various state, federal, and county correctional facilities. Upon completion of all currently proposed units, the area will house approximately 12,000 inmates.

Although there is little industry within the City, several large industries lie in areas surrounded by the City, including Ameripol Synpol, Huntsman Corporation (formerly Texaco Chemical), and the Star Enterprise asphalt plant (inactive). Various other major industries are located within the Midcounty and Port Arthur areas including the Star Enterprise (Texaco) and Clark *(formerly Chevron)* refineries adjacent to Port Arthur, the American Petrofina refinery adjacent to Groves, and several chemical plants in the Port Arthur and Nederland areas. Port Neches is also within commuting distance of the industries in the Beaumont area and in Orange County, as well as the correctional facilities south of Beaumont. Other employment is focussed in federal, state, and local government; oil and gas production; education; health care; retail business; and construction, especially the industrial construction which has been in progress for the last several years.

Agriculture in the Port Neches area is almost nonexistent. Agriculture in other portions of Jefferson County consists mainly of rice and soybean production. Other agriculture includes wheat, sorghum, crawfish, blueberries, and cattle production. Much land in the north and central portions of the county is forested.

The City obtains all of its raw water from the canal system operated by the Lower Neches River Authority. Wastewater is presently discharged into a canal system leading to Taylor Bayou.

The existing service area for water and sewer service is confined to the city limits plus the encircled industrial areas (Exhibit 3). However, the planning area for the Regional Wastewater Study includes all of the cities of Nederland, Port Neches, and Port Neches, as well as the service area outside the City of Nederland. The area covered by this Water Conservation Plan is currently restricted to the City of Port Neches plus its industrial customers, although the other two cities are developing similar programs concurrently.

B. PROJECT

This water conservation plan has been developed as a requirement of a Regional Wastewater Study which is funded in part by a planning grant from the Texas Water Development Board. The study addressed the problems of wastewater disposal for the cities of Nederland, Port Neches, and Port Neches, and examined the feasibility of a regionalized treatment plant to serve all three cities.

Three of the existing treatment plants -- Nederland, Port Neches, and the North Plant in Groves -- discharge into the canal system of Jefferson County Drainage District 7. The plants have been operating under secondary effluent standards (20 mg/l limit for BOD_5 and suspended solids). The plants are capable of meeting the 20/20 standard.

The canal system leads to Taylor Bayou, a sensitive coastal stream. Recent stream studies by the TNRCC (Texas Natural Resource Conservation Commission) have resulted in extremely stringent effluent standards for the canal system. The recently renewed Nederland and Port Neches permits will in effect require tertiary standards (5 mg/l limit for BOD_5 and suspended solids, with a limit of 2 mg/l for ammonia nitrogen). The North plant in Groves is expected to encounter similar limits upon its next permit renewal in 1995. These standards are very difficult to meet with conventional treatment processes, and all of these plants would require major upgrading to meet them.

In addition, the permitting agencies often limit the quantity of flow into a stream even if the effluent meets stringent quality standards. The TNRCC has indicated that the flow from the Nederland plant can be increased only marginally, whereas it is in need of a significant expansion to accommodate excessive wet weather flows from infiltration/inflow.

The Groves North Plant is also in need of expansion because it has been operating at or above capacity during wet weather. The South Plant, although it does not discharge into a sensitive stream, also has various problems, including occasional excessive flows, which should be addressed in the study.

The study considered various individual and collective treatment alternatives, including a single regional plant to serve all three cities and major upgrading of most of the plants. In the latter case, flows from some or all of the plants would be diverted to the Neches River where the effluent standards are expected to be less stringent. Various collection system problems were also examined.

Total costs for the City of Port Neches are expected to be in the $1.5 to $4 million range for diverting secondary effluent to the Neches River, depending on two main factors:

- The extent, if any, to which the cities of Port Neches and Groves enter into a joint venture for a common lift station and force main to the Neches River.

- Whether the TNRCC agrees to allow excess storm flows to be discharged into the drainage ditch beside the plant *(as at present)* instead of being pumped to the river.

It is probable that at least some costs will be financed by the TWDB through the SRF program (State Revolving Fund) and/or other TWDB loan programs. Design and implementation of the project is expected to occur within the next few years.

C. UTILITY EVALUATION DATA

Utility evaluation data, as specified in the TWDB format, is provided in Exhibit 4.

D. NEED FOR AND GOALS OF THE PROGRAM

Of the $200,000 cost of the study, $100,000 is financed through a planning grant from the TWDB and the rest by local funds from the three cities. The design and construction costs attributable to Port Neches are expected to fall into the $1.5 to $4 million range. Some implementation costs are expected to be financed through the SRF program and/or other TWDB loan programs.

One requirement of any TWDB loan in excess of $500,000 is that the entity develop a program for water conservation and drought contingency and receive program approval by Board action (TWDB) following TWDB staff review. The approved program, including any stipulations contained in Board approval, must be implemented by the entity before closing of the loan and approved by the Board in an implemented form.

In this case, the requirement for development *(not necessarily implementation)* of the Water Conservation Program has been made a condition of the Planning Grant. The Water Conservation Program must be developed as a part of the Regional Wastewater Study, and the anticipated savings in water usage are to be considered in sizing of the wastewater facility improvements to be identified in the study.

The requirement for the Water Conservation Program is contained in House Bill No. 2 and House Joint Resolution No. 6, 69th Texas Legislature, 1985. This program is required for all communities receiving new state (or state administered) loans of more than $500,000 for water, sewer, or flood control projects.

The two main divisions of the program are (1) a water conservation plan to reduce water usage on a year-round basis and (2) a drought contingency plan to minimize hardship during a water shortage. State guidelines (Exhibit 5) prescribe eleven elements of the water conservation plan and six elements of the drought contingency plan to be considered in designing the program. All of these elements will be covered in following sections.

The total reduction in water usage is expected to be less than the reduction for an average community. Since Jefferson County receives one of the highest amounts of annual rainfall in the state, outdoor watering is not as prevalent as in arid areas. Indoor domestic use also seems to fall below average. Total residential water usage for Port Neches is approximately 78 gallons per capita per day (gpcd) in winter months. This usage increases somewhat in the summer.

In the Southeast Texas area, the underlying needs for the program are different from those of Central or West Texas communities. Ground and surface water are presently available in the area in abundant quantities. Southern Jefferson County, including Port Neches, is supplied with surface water from the Neches River basin through the LNVA canal system. The LNVA has sufficient surface water rights, along with a sufficient water supply, to supply its customers for many years at current growth trends. Communities in some portions of Southeast Texas use ground water for all or part of their supply. The ground water supply also appears adequate for many years, although some wells may eventually have to be relocated farther inland to escape salt water intrusion.

However, changing conditions could contribute to a scarcity of water in Southeast Texas in the future. One possible problem for this area could be diversion of surface water to other river basins as a result of high population growth in those basins. As an example, the Sabine River Authority has been considering the feasibility of diverting water to the Houston area. State or federal policies could possibly encourage or mandate such diversions in the future, to the detriment of areas such as Southeast Texas.

Other potential causes of future water shortages include surface and ground water pollution; abandonment of wells because of excessive ground settlement or salt water intrusion; and increasingly stringent federal drinking water standards.

The water conservation program is expected to become more effective in the future if water should become scarce or more expensive. By the time the need arises, local residents will have become better educated in regard to water conservation, and the necessary control mechanisms will already be in place.

In response to the possibility of future water shortages or the need to convert to surface water, the Lower Neches Valley Authority has begun a regional water supply study. Results of the study will not be available for a number of months.

The local water supply is not presently sensitive to any anticipated drought conditions. The drought contingency plan applies to various other events which could disrupt the water supply, such as upstream river pollution, system failure, or storm damage. It can become applicable in the future to drought conditions, however.

The City's goal for reduction of per capita usage is 5% within two years. However, under current conditions in Southeast Texas, a 2% reduction would be more realistic for planning purposes.

II. WATER CONSERVATION PLAN

A. PLAN ELEMENTS

1. EDUCATION AND INFORMATION

a. General

Education and information alone would probable have little effect on residential water consumption. Many local residents are preoccupied with current economic conditions. Although utility bills are of major concern to local residents, electric bills which run up to several hundred dollars per month in the summer receive much more attention than a water/sewer bill of $20 to $40. Some residents who are very affluent may be unconcerned with water conservation unless their water supply is threatened.

Water conservation is encouraged to some extent by an increasing block water price ranging from $1.\underline{87}$ to $1.\underline{92}$ per 1000 gallons, plus an increasing block sewer charge ranging from 87¢ to $1.\underline{145}$ per 1000 gallons. The education and information program may reduce water usage by several percentage points, provided it includes an emphasis on economic incentives.

The proposed method of education and information consists of flyers and printed messages on billing notices, plus possible press releases in the local newspaper. Flyers (Exhibit 6) will vary from time to time, including items such as excerpts from pages 3-8 of the state guidelines; information on incremental water and sewer rates; and a copy of the press release (Exhibit 7). The flyers will be hand delivered either alone or with other items for the customer.

b. First Year, Long Term, and New Customers

The distributions are planned for six times the first year *(at least twoce by flyer and other times by printed messages)*, and twice a year thereafter (just prior to high usage periods) until the loan(s) are paid off or until otherwise released by the TWDB. The first flyer is expected to include the press release (Exhibit 7) plus any supplementary information needed at that time.

New customers will be supplied with fact sheets and brochures similar to those mailed out, to the extent necessary to make them aware of the program. The City plans to assemble packets as soon as possible after program implementation so they will be on hand to give to new customers.

2. WATER RATE STRUCTURES

Port Neches is unusual for the Southeast Texas area in having an increasing block rate for its water and sewer rates. The current water rate schedule is as follows:

$7.75 minimum charge	(3000 gallons)
$1.87 per 1000 gallons	(3000 - 15,000)
$1.92 per 1000 gallons	(15,000 and up)

The current sewer rate schedule is as follows:

$9.25 minimum charge	(Zero usage)
87¢ per 1000 gallons	(0 - 3000)
$1.12 per 1000 gallons	(3000 - 15,000)
$1.145 per 1000 gallons	(15,000 and up)

The water rate structure will not change as a result of the project, although increases in the various block rates (reflecting rising operating costs) may coincide with adoption of the Water Conservation Program. The water rates will be reviewed periodically and adjusted if additional revenues are necessary.

The proposed Water Rate System Ordinance and Water Rate Ordinance (Exhibits 8 and 9) will define and establish the existing system for calculating water rates and set any rate increases which may be needed at that time. Various categories of water users will be established, should the need arise, so that large commercial users will not be unfairly penalized. In the event of future water shortages, the City may consider gradual or sudden adjustments of commercial block rates, so as to encourage water conservation measures.

The existing sewer rate structure will remain similar to its present form except that rates will be increased as needed to pay for various phases of the sewer project. Final determination of future sewer rates is pending more detailed studies.

The incremental water and sewer rates appear to be satisfactory for water conservation purposes, especially for Southeast Texas where the need for conservation is less crucial than for arid portions of the state.

3. UNIVERSAL METERING

The Lower Neches Valley Authority (as seller of the raw water supply) maintains a meter for billing purposes at the City's intake site on the canal. The City maintains production meters for the plant:

- Two raw water meters, one for each clarifier unit.
- A meter totalizing the treated water from each of the three filters.
- Two output meters, one for each pair of high service pumps which supply treated water to the distribution system.

In addition, all private water usage (excluding firefighting and related drills) is metered. There are numerous existing master meters which serve several units at the same address, such as condominiums, apartments, mobile homes, stores in shopping centers, etc.

The wastewater treatment plant has a meter for potable water used within the plant. The City does not currently meter other potable water used by the City. It is recommended that the City add meters where practical such as for City office and shop use; water used within the water plant and drawn from the adjacent distribution system; and park irrigation. Some uses, however, would be impractical to meter including the following:

a. Water line flushing, repair, and sterilization.

b. Sewer line and lift station testing and maintenance.

c. Firefighting, related drills, and hydrant testing.

The City had a meter testing program at one time. However, since so few meters were proving inaccurate, the City discontinued the program. Meters are now replaced when they are obviously defective or not functioning.

The City proposes to require individual meters for all new construction, and for existing individual construction in lieu of existing master meters where practical. Meter testing will be conducted in accordance with state guidelines (annually for 1" meters or larger, including production meters; and every 10 years for smaller meters). Testing will also be performed in cases where apparent problems with meters are noted.

4. LEAK DETECTION AND REPAIR

The City discovers leaks in the distribution system by two methods:

a. Customers call to complain of lack of water or unusually low pressure. If these leaks are not visible on the surface, excavation may be necessary to pinpoint them. *(It is recommended that the City obtain a listening device to assist in pinpointing leaks.)*

b. Leaking line results in water appearing on ground surface.

The majority of leaks in the City system result from the following sources:

- Line breaks in asbestos cement lines from ground shifting.
- Pipe blowouts on cast iron lines.
- Tap failure on cast iron line.

Leaks are not considered to be a major problem in the Port Neches water system.

Line repairs are performed by City personnel using whatever adapters are necessary for similar or dissimilar materials. Repairs are performed in accordance with Rules and Regulations for Public Water Systems, 30 TAC 290.46 (g), Texas Natural Resource Conservation Commission, including disinfection.

Most of the distribution system is laid out in loops with valves on most segments. Many repairs can be made, therefore, by isolating short segments without affecting large parts of the system.

Leaks do not account for a significant amount of water loss. Approximately 76% of raw water is sold. Some water is lost in the treatment process. Most of the remainder is used for City facilities, park watering, line flushing, and fire department usage, including hydrant testing and fire fighting.

A member of the water department staff prepares monthly internal reports for the City Manager including total water intake and production for the treatment plant. The Director of Public Works submits monthly reports to the TNRCC covering total water pumpage (raw and treated), number of active water services, treated water quality, disinfectant usage (particularly chlorine dioxide), and water quality violations (if any). See Exhibit 10 for samples.

The best means to improve water accounting would be to meter certain City water usage as discussed above. Another possible means of improvement would be to report the volume of water used for line flushing, but this volume may be difficult to estimate without a portable meter. Continuous accounting of other uses is impractical or burdensome. In the case of firefighting, it would divert firemen from their primary purpose.

Unauthorized water usage is not believed to represent a significant amount of water loss. City meter readers are kept posted of any new, removed, disconnected, or reconnected meters. They will generally notice any residential or commercial facility which appears occupied but is not listed as having an active meter. Although a property owner could construct a supplementary tap illegally, most local residents do not have the necessary skills and equipment. Few licensed plumbers would construct an illegal tap for fear of losing their licenses or local permits. Unauthorized use of fire hydrants is believed to be negligible or non-existent.

5. IMPLEMENTATION AND ENFORCEMENT

a. Education and Information. City personnel under supervision of Director of Public Works, with possible assistance from City's consulting engineer.

b. Water Rate Structure. The City Council will enact the ordinances codifying the current water rate structure and setting the appropriate rate schedules. Enforcement powers include termination of water service.

c. Universal Metering. City personnel under supervision of Water and Wastewater Superintendent. Some of the requirements may be included in Item j below.

d. Leak Detection. City personnel under supervision of Water and Wastewater Superintendent.

e. Review and Evaluation. Director of Public Works, with possible assistance of consulting engineers; his findings will be presented to City Manager for review, then to City Council for approval. Along with review and evaluation, City Manager will submit required reports to Texas Water Development Board.

f. Water Conserving Landscaping. Not applicable.

g. Pressure Control. Not applicable.

h. Recycling and Reuse. City Manager and/or Director of Public Works may make recommendations to selected large commercial users if appropriate; action to be taken by users at their option. City will, if appropriate, practice a small amount of recycling.

i. Retrofit Programs. Any mandatory retrofitting would be required under Item j below.

j. Plumbing Codes. The City Council will enact the necessary plumbing code revisions, with enforcement by the City plumbing inspector. Enforcement powers could include termination of water service.

6. REVIEW AND EVALUATION

The City will review and evaluate the Water Conservation Program at least annually for various areas of concern. The review will cover all items specified in the annual letter from the Texas Water Development Board. Based on a letter and attached form issued by the TWDB in January 1992 to a Southeast Texas community (Exhibit 11), the City will need to review the program for the following parameters:

a. Summary of education and information activities conducted by the City over the past year, and whether they met minimum requirements of the approved program.

b. Status of City Plumbing Code, including its coverage of water conservation requirements and the amount of plumbing work performed which was subject to those requirements.

c. Status of retrofit program, including the amount of retrofit work performed if any.

d. Water and wastewater rate structures, including sufficiency of revenue and (if applicable) adequacy for encouragement of water conservation.

e. Status of metering programs including universal metering, number of meters, and amount of testing, repairs, and replacement of meters.

f. Any water audits, leak detection, or leak repair employed by City, including any effects on accountability.

g. Status of water conserving landscaping, if applicable.

h. Any recycling or reuse practiced by City or at recommendation of City.

i. Activation of drought contingency plan, if any, and associated reduction in water use.

j. Public response to program, if any.

k. General effectiveness of program.

l. Frequency of review by operating staff.

m. Any problems in implementing program.

n. Potential means to improve program.

o. Expense of conducting program.

p. Savings in water and/or operating expense.

q. Annual improvement in water accountability.

In addition to the topics covered in the annual report, the City will review the following matters:

r. Any changes in water supply and/or demand which require more stringent implementation of the program. This includes both actual and imminent changes (such as an impending shortage of surface water).

s. Any changes in state regulations which could require modification or more extensive implementation of the program, or which could allow relaxation of any aspects of the program.

7. WATER CONSERVING LANDSCAPING

Because of the high rainfall, no special landscaping requirements are proposed. In fact, many water conserving plants may not be adapted for the local soils and climate. Customers will be made aware of potential restrictions on lawn watering, however.

8. PRESSURE CONTROL

Because of the flat terrain, pressures are relatively uniform throughout the system without dividing it into pressure planes. The elevated storage tanks serve the City adequately without creating excessive pressures near the tanks or at low points.

Since no problems with excessive water pressure have been observed, no measures for reducing pressure within the City system or in customer plumbing are necessary.

9. RECYCLING AND USE

Several large industrial and commercial users, as well as all car washes, should consider means of recycling process water and wastewater if they are not already doing so. The use of small static screen or filtering devices may prove to be cost effective in comparison to the rates they would have to pay for the City's treated water. This would also effectively reduce the amount of flow to the sewage treatment plant as well.

Reuse of treated effluent is not feasible for various reasons.

The surface water supply available to the Midcounty area through the LNVA canal system should be adequate to serve local communities for many years. Existing supplies can be produced, transported, and treated much more economically than treatment and reuse of effluent. Domestic reuse of treated effluent would be unacceptable to local residents considering the abundance of conventional supplies.

Reuse by local industry and return to the canal system were investigated by the City of Groves in a 1991 water reuse study and found uneconomical. Return to the canal system would almost certainly be similarly uneconomical for Port Neches, as would be reuse by industry. Also, most industrial usage, as well as reuse by the LNVA, requires a higher standard of quality than is currently produced by the plant. The effluent is expected to be routed to the Neches River and still not treated to tertiary standards.

Irrigation is not feasible use for treated effluent. This disposal method, if applied to the entire discharge from the plant, would require thousands of acres of land because of low soil permeability and high annual rainfall. There are no local crops adaptable to extensive year-round irrigation. The nearest golf course to the plant is located approximately ½ mile away. The water reuse study found reuse of treated effluent for the golf course to be extremely uneconomical for the Groves North Plant adjacent to the Port Neches plant.

Recharging of aquifers is not practical. There are no local aquifers which could supply large quantities of quality fresh water. The recharging of aquifers which serve the areas north or east of Jefferson County is basically accomplished by the high annual rainfall in their outcrop areas in various counties to the north.

Reuse of treated effluent is not proposed for the listed reasons. However, it could be considered in the future in the event that the existing sources of water for the area should become inadequate, unsatisfactory, or uneconomical.

A small portion of the treated effluent may be used within the plant in the future for purposes such as chlorination if cost effective.

10. RETROFIT PROGRAM

Retrofitting in existing structures simply for water conservation is unlikely to be accepted by local residents, especially considering the abundant supply of ground water and the substantial cost involved. Therefore, mandatory retrofitting is recommended only for the following cases:

a. Replacement of plumbing due to wear, damage, remodeling, or modernization.

b. Displacement devices in toilet tanks (where practical).

c. Flow restricters in showers (where they can be readily installed).

d. Insulation for hot water pipes (where pipes are accessible without breaking out. concrete).

The last three cases represent low cost measures which are easily implemented. However, the City proposes to employ these measures only during severe or prolonged water shortages.

11. PLUMBING CODES

The City has adopted ordinances (Exhibit 12) including the adoption of the Standard Plumbing Code to govern plumbing within the City. The City proposes to adopt a supplementary ordinance (Exhibit 13) requiring certain water conserving features in new construction and in any replacement of existing plumbing. The new ordinance will be consistent with 1991 legislation (Senate Bill 587) regarding water conservation. A limited amount of retrofitting could be required in the future in event of a prolonged water shortage.

Population growth over the study period is projected at only 11.6%. However, many older homes will be abandoned or demolished within the planning period and will be replaced by new residential construction within the City. Also, many existing homes may undergo modernization or replacement of fixtures within the design period. Therefore, conservation measures in new construction could save a fairly significant amount of water by the end of the 30 year planning period.

B. ANNUAL REPORTING

The City will submit annual reports to the Texas Water Development Board, covering all elements prescribed annually by the TWDB, for the life of any loans which the City might obtain from the TWDB (unless otherwise released by the TWDB). (See Exhibit 14 for resolution.)

C. CONTRACTS WITH OTHER ENTITIES

Exhibit 15 consists of an existing contract for raw water supply from the LNVA. If necessary to meet the requirements of the water conservation program, the City will seek modifications to the contract. Any future contracts to supply water or sewer service to outside entities will contain provisions to make water conservation provisions applicable to those entities.

III. DROUGHT CONTINGENCY PLAN

A. GENERAL

Port Neches obtains its raw water supply from the LNVA canal system which serves southern Jefferson County. The canal serving Port Neches is known as the Atlantic Refining Company Canal, with the junction between the LNVA and City canals at Farm Road 366 @ Park Street. The canal water comes from intakes north of Beaumont, partially from the Neches River and partially from its tributary, Pine Island Bayou.

The Neches River extends approximately 300 miles inland from Jefferson County. The entire basin lies within the humid region of East Texas.

The City canal extends approximately 3800 feet to a raw water pump station located approximately 1800 feet from the water treatment plant. Raw water is pumped into the plant through a 14 inch line. (See Exhibit 16 for locations of existing facilities.)

Local water supplies could be interrupted for a number of reasons. The most likely events appear to be failure of the treatment plant filter unit or failure of the raw water transmission line. Other possibilities include other equipment failure, canal breakage (City or LNVA), storage tank failure, severe storm damage, severe freezing conditions, failure of the canal intake or high service stations, pollution of the canal system, and surface water contamination.

Treated water is distributed to the greater part of the City through a well-looped system. The only major isolated transmission line passes from the main town to a residential area to the southeast, then to an interconnect with the City of Groves.

Any water supply emergency, whether acute or protracted, requires a responsible agency to manage the situation. Such crisis management includes maintenance of the existing supply if possible, controlling or restricting usage in order to conserve water, and obtaining alternate sources of supply if necessary. In most cases, the City, as the water purveyor, will assume this responsibility. In the event of disasters such as major storms, riots, or acts of war, some of the City's functions may be overridden by emergency management authorities.

B. TRIGGER CONDITIONS

1. Goal of Policy. The trigger conditions listed below are intended as guidelines to help the City determine (a) when it is necessary to implement preliminary or emergency measures, (b) which measures should be implemented, and (c) the extent of such measures. The guidelines can also be used to help decide whether to upgrade, continue, downgrade, or terminate the measures which have already been taken in a given situation.

   These guidelines are not intended to be followed automatically and blindly. An automatic approach might be preferable for communities with a recurring problem of a fixed nature, such as limited transportation/treatment capacity or a surface reservoir subject to depletion during a drought. However, in the case of the Midcounty area, no recurrent problems are anticipated in the foreseeable future. In any event, the City needs to be prepared for the unexpected.

   In any water supply emergency, the City must rely chiefly on the judgement of the City Manager and his subordinates, along with any specialized advice which they might obtain. These guidelines are intended to help the City assess a situation and make necessary decisions more easily. In no event are they meant to replace the sound judgement of City personnel.

2. Focus Of Emergency Measures. In the event of a water supply emergency, the City will act toward one or more of the following goals:

   a. Keeping existing supply and/or distribution systems operative.

b. Preventing further loss or contamination of water.

c. Controlling or restricting usage in order to conserve water.

d. Preventing public health problems which could result from a contaminated water supply.

e. Obtaining alternate sources of water.

3. Basis for Trigger Conditions-General. Most trigger conditions for Port Neches will be qualitative rather than quantitative. Particular attention, however, must be devoted to several measurable parameters: the rate of total water usage and the levels of water in the clearwells and the elevated storage tanks (and also in the raw water canal when applicable), along with the duration of critical values for these parameters. The City could also easily monitor the water level in the LNVA canal at its withdrawal point and compare the level against the level at which its intake is affected.

It appears that the City will rely primarily on the LNVA for long term planning in regard to raw water supply. The City should maintain good communication with the LNVA regarding any factors which may point to long or short term shortages.

A number of factors can govern system capacity--stream flow, pumping capacity (both for the canal system and the City), treatment capacity, storage capacity, and transportation/distribution capacity. The Neches River and Pine Island Bayou at the intake points are fed by well over 90% of the 10,011 square miles of the Neches River Basin. However, during periods of prolonged dry weather and high water usage (including irrigation), the canal system sometimes pumps water as fast as it is being replenished from upstream. On the other hand, extreme flooding has occurred a number of times in recent years.

4. Sources of Supply. As stated earlier, the City water supply comes from the Neches River and Pine Island Bayou through the LNVA canal system. Raw water flows through a City canal to a pump station, from which it is pumped to the City water treatment plant. The water passes through two accelators (solids contact upflow flocculating clarifiers) in parallel, each with preaeration. The water then passes through a three-bay sand filter unit to covered clearwells. Various chemicals and other additives, including caustic, polymer, alum or clay (according to varying raw water quality), ammonia, chlorine, and fluorides, are injected at appropriate points. Four high service pumps deliver the water into the distribution system.

5. Storage and Pressure Maintenance. Treated water storage facilities for the City consist of three clearwells (at treatment plant) and two elevated tanks as follows:

Water plant:	Three clearwells, capacities 2,000,000 gallons, 29,000 gallons, and 15,000 gallons.
Sierra:	500,000 elevated storage
Magnolia:	200,000 gal. elevated storage

Total existing storage capacity is 2,043,000 gallons ground storage and 700,000 gallons elevated storage.

Pressure maintenance for the City, which contains only one pressure plane, is provided by the elevated tanks noted above. In the event that any outside entities should connect to the Port Neches system, those entities would supply any additional storage or pressure maintenance facilities needed to serve their systems.

6. Distribution. The City's water distribution system consists of various sizes up to 14 inches. The system is undergoing minor extensions in some areas by developers. An additional transmission line is proposed for the future to provide a loop for the portion of the City near Groves.

Existing distribution lines are generally adequate, with very few complaints of low pressure, even in the edges of the system. However, a study has indicated potential localized pressure deficiencies in case of major firefighting demand. The City plans system improvements within the next few years to relieve this problem.

7. Standby Power. The raw water pumping station and the water plant are each provided with standby power capable of meeting full demands.

8. Previous Analysis of System. A comprehensive analysis of the treatment and distribution system was performed in 1990. This analysis identified various deficiencies in the system and outlined a multiphase construction program for correction of the problems. Some improvements to the raw water pump station and the treatment plant have already been performed, with others presently under construction. Other work, including plant improvements, elevated tanks, and distribution system work, will extend through the remainder of the decade.

9. General Considerations. In establishing trigger conditions, it is necessary to consider the various events which could disrupt or impair water service to one or more parts of the system. Most events would cause only localized problems or slight reductions in the level of service. Severe curtailment of service for the entire system is not expected to occur except in the following cases:

   i. Widespread, prolonged power failure involving LNVA canal pumping facilities.

   ii. Severe pollution of the surface water sources.

   Various events which could result in water shortages or reduction in service include the following:

   a. Water Supply. Power failure involving LNVA canal surface water intakes or booster stations; pump or other equipment failures; contamination of surface water including future salt water intrusion; lowered river level due to unforeseen conditions such as prolonged drought with total impoundment in upstream reservoirs; future exports of large volumes of water to other river basins.

b. Water Transmission. Transmission line breaks, including the 14" raw water intake line, the lines coming out from the plant site, the transmission lines in the southeastern portion of the City, or the canal siphon line under Pine Island Bayou; power or equipment failures in pump stations for the LNVA canal; levee failure on the LNVA or City canal systems resulting in spillage or contamination.

c. Storage. Structural failure or contamination in clearwells or elevated tanks.

d. Treatment. Equipment or structural failure (or contamination) in the filters, both accelators, the feed systems for chemicals/additives, or several of the in-plant pumps; also, extended failure of the sludge facilities in the plant.

e. Service Pumping. Power or equipment failure; contamination.

f. Distribution System. Major line breaks; heavy demands for firefighting; contamination.

System capacity can be taken as 3.15 mgd. This is based on the capacity of the filtration unit in the City's surface water treatment plant. *(The clarifier capacity was recently expanded to 4.1 mgd. The filtration capacity is scheduled for expansion to 6.3 mgd within the next few years, followed by an additional clarifier resulting in 6.1 mgd clarification capacity. The plant capacity will thus increase to 4.1 mgd and then to 6.1 mgd.)*

Present water usage (including losses) averages approximately 1.81 mgd, with a peak daily usage of 3.3 mgd during extremely dry or freezing weather. Monthly usage has been as high as 66.7 million gallons (2.15 mgd $\pm$), based on July 1993.

10. Mild Conditions

a.* Water demand is approaching the capacity of the system on a sustained basis.

Sustained water usage over 2.5 mgd (five consecutive days; *future increase to 3.5 mgd, then to 5 mgd*) should be taken as a trigger condition for mild conditions.

b.* Mild contamination is noted in the surface water, but water can still be treated by existing facilities by means such as increasing chlorine dosage; or additional sources of pollution, serious enough to threaten quality of water at the City's intake, are reported within the Neches River basin upstream from the canal intakes.

c.** Water levels in tanks are consistently below 3/4 full (five days uninterrupted).

d.** City canal level has dropped noticeably and cannot be replenished readily from LNVA canal.

e.** Performance of raw water pumps, service pumps, or other equipment (including pumping equipment for the LNVA canal) indicates imminent failure.

f.** Water levels in Neches River and Pine Island Bayou are consistently below levels to be recommended by LNVA as representing mild conditions.

g.** Neches River flow is well below normal, and other water users along river are threatening to deplete the supply.

h.** 14" transmission line *[or both lines after future second 14" line is added]* from City canal to water plant is in danger of imminent failure.

i.** Levees are approaching failure conditions in the City canal or in portions of the LNVA canal system which are vital to providing Port Neches with raw water.

j.*** Water supply emergencies in outlying communities or industries served by City could require diversion of local water supplies. [This type of situation could have a significant effect on Port Neches under present conditions if large portions of Nederland and/or Port Neches should receive emergency service.]

k.*** Severe freezing conditions are forecast, and widespread breakage of home plumbing, water treatment units, and/or breakage of distribution lines is anticipated.

l.*** The Midcounty area is under a severe storm warning and falls in the path of the storm.

11. Moderate Conditions

a.* Water demand occasionally reaches capacity of system (two days within a 30 day period), and failure of any pump, chlorine feeder, or surface treatment unit could reduce the level of service to the system.

Safe limit is 3.15 mgd *(4.1 future, followed by 6.1 mgd later)* as discussed above.

b.* Contamination of surface water is approaching limit of treatability with existing facilities.

c.** Over 20% of storage tank capacity is out of service due to structural failure, leakage, maintenance, or contamination.

d.** City canal level has dropped enough to interfere with pumping and cannot be replenished readily from LNVA canal.

e.** Water level in tanks is consistently below half full (three days uninterrupted).

f.** A surface water treatment unit has been damaged from a severe storm.

g.** Water levels in Neches River and Pine Island Bayou are consistently below levels to be recommended by LNVA as representing moderate conditions.

h.** Neches River flow is far below normal, and other water users along river are close to depleting the supply.

i.** Water emergencies in adjacent communities require diversion of so much water that the level of service to any part of the Port Neches system is threatened.

j** The 14" transmission line from City canal to water plant *(or both lines in future)* has failed, and City cannot readily implement temporary bypass pumping.

k.*** Levee failure has shut off the supply of raw water to Port Neches, and it will be several days before the supply can be resumed.

l.*** Severe freezing conditions have resulted in widespread damage to home plumbing and/or distribution lines.

m.*** One or more surface water pumps (LNVA or City) have failed due to mechanical problems, but several pumps (in that group) remain operable.

12. Severe Conditions

a.* Water demand is exceeding capacity (3.15 mgd, future *4.1/6.1*) on a regular basis (five consecutive days).

b.** Surface water is so contaminated that it cannot be treated with existing facilities, or such contamination is imminent because of nearby canal or stream pollution.

c.** An immediate health or safety hazard could result from actual or imminent failure of a system component.

d.*** Water levels in elevated tanks are too low to provide adequate fire protection (generally less than 1/4 full).

e.*** City canal level is too low for proper pump operation and cannot be replenished readily from LNVA canal.

f.*** Several clearwells or elevated storage tanks are out of service.

g.*** Rupture of distribution lines or filter compartments in water plant has resulted in loss of water from storage tanks, and the pumps are not capable of refilling tanks quickly.

h.*** Water levels in Neches River and Pine Island Bayou are consistently below levels to be recommended by LNVA as representing severe conditions.

i.*** Neches River flow is severely below normal, and other water users along river, along with LNVA, are using more water than the river can supply.

j.*** Levee failure has shut off the supply of raw water to Port Neches, and it will be an extended length of time before the supply can be resumed.

k.*** All or most surface water pumps in any group (LNVA or City pumps) have failed due to mechanical problems and will be out of service for an extended period of time.

l.*** Water emergencies in adjacent communities require so much water diversion that service to portions of the Port Neches system is severely disrupted.

*Initiated by City Council
**Initiated by City Manager or Council
***Initiated by Director of Public Works or delegated personnel

13. Termination of Emergencies. Trigger conditions for termination or downgrading of an emergency are not broken down by severity of crisis but are listed as one group. City officials and/or City Council must use judgement as to whether to upgrade, continue, downgrade, or discontinue an emergency.

The decision to terminate or downgrade an emergency will normally be made at the level (City Council or official) at which the emergency was declared.

Emergencies will be terminated or downgraded in events such as the following;

a. Water demand has been reduced to safe levels and is expected to remain stable.

b. Actual contamination of water supplies is ended or is under control; or threat of contamination has subsided; or alternate supply has been obtained on temporary or permanent basis.

c. Power has been restored and no additional power failures are anticipated.

d. Failure of system components has been averted or repaired; or, temporary units have been substituted; or alternate supplies have been obtained.

e. Water emergency in adjacent communities is ended or mitigated.

f. Water levels and flows in the Neches River and Pine Island Bayou have improved substantially.

g. Water levels in clearwells, elevated storage tanks, or City canal have been restored to normal.

h. Freezing conditions have ended without damaging the water system; or damage has been repaired.

i. The storm has passed without damaging the water system; or damage has been repaired.

C. DROUGHT CONTINGENCY MEASURES

1. General. The proposed City ordinance (Exhibit 17) contains measures such as prohibition or restriction of outdoor water use; a standby pricing structure with higher incremental prices than for normal conditions; flow restricting devices; and a standby rationing plan with penalties for metered usage in excess of a preset limit. The ordinance provides for certain actions to be taken by the City Council and/or by the City Manager in the event of water shortages.

The City provides potable water for several industries encircled by, but outside, the City. Restrictive use of water will be required of these outside users during any drought emergencies.

The City has no immediate plans to secure an alternate source of water for the community. The surface water facilities are being upgraded in several phases so as to be adequate to serve the community for the entire 30 year study period *(at currently forecast growth rates)*. The facilities, when completed, could provide adequate service to the community during an emergency with any one major unit (other than certain canal segments) out of service. The City will monitor the adequacy of the existing facilities and may seek alternate supplies in the future if a standby source should be necessary.

Port Neches has interconnections with the Nederland and Groves systems for emergency use only. Before activation of either interconnection, designated officials of both cities involved must agree on both the need and the feasibility of such action.

Each of the other cities is comparable in size to Port Neches. The Port Neches water plant and system are still in the process of upgrading to meet TNRCC standards. Consequently, any diversion to a large portion of another city during peak usage could load the Port Neches system to capacity and possibly impair the level of service. Service from Groves to Port Neches, however, could be accomplished more feasibly because of surplus capacity in the Groves plant.

The entire surface water plant will seldom be out of service for any length of time. Likewise, the components of the canal system required to supply Port Neches will seldom be out of service for a long time. Only an extraordinary event such as a severe storm, riots, an act of war, a major fire (or chain of fires), or severe river pollution would put the City in a severe water crisis. In such an event, drinking water would be hauled in until the crisis passed (unless an interconnection has been activated). All of the disasters above (other than stream pollution) would probably be managed by emergency management authorities rather than by the water purveyors.

2. Mild Conditions Measures

a. Inform all customers that a low level emergency has been reached. In the case of a slowly developing crisis, notice could be through news media in conjunction with mailing. For a more imminent crisis, the news media should be used along with flyers passed out from door to door. Flyers should contain a date and signature along with the message to make it plain that they represent current developments.

Some situations such as failure of a single piece of equipment could be handled by City personnel without notifying the public.

b. Warn customers to start reducing water use; protect pipes against freezing; and/or store water for emergency use, as appropriate.

c. Recommend a voluntary lawn watering schedule, if appropriate.

d. Look into possibility of alternate supply, including activation of interconnections if appropriate.

e. Make or arrange for repairs, if appropriate.

f. Pursue action against stream pollution, if appropriate.

g. Take steps toward increasing system capacity, if usage is nearing safe capacity.

h. Keep customers updated as appropriate.

3. Moderate Conditions Measures*

a. Notify customers of intermediate level emergency by appropriate means.

b.* Impose mandatory lawn watering schedule, if appropriate (in dry weather conditions), under authority of proposed ordinance (Exhibit 17).

c.* Prohibit wasteful uses [certain uses, mainly outdoor, defined as "Water Waste" in ordinance (Exhibit 17)].

d. In the event of contamination, notify customers so that they can seek bottled drinking water supply or be prepared to purify City water if needed.

e. Seek reduced usage from commercial users and outside entities if appropriate.

f. Take steps toward obtaining alternate supply (including activation of interconnections), if appropriate.

g.* Impose surcharge system, if appropriate.

h. Make or arrange for repairs, if appropriate.

i. Pursue action against stream pollution, if appropriate.

j. Take measures toward increasing system capacity, if appropriate.

k. Keep customers updated as appropriate.

*See ordinance (Exhibit 17) for various procedures for businesses dependent on outdoor water usage.

4. Severe Conditions Measures*

a. Notify customers of emergency by appropriate means.

b.* Prohibit all outdoor use and all wasteful use (as defined in Exhibit 17).

c.* Impose surcharge system, if appropriate (if not already done).

d.* Impose rationing, if appropriate.

e. In the case of contamination, warn customers to use bottled water for drinking and cooking (or to purify City water before use, if appropriate).

f. Require commercial and industrial users to stop using City water for processes, for cooling, or for recreation.

g. Place City and neighboring fire departments on alert that pumper units may be needed, if appropriate.

h. Make or arrange for repairs, if appropriate.

i. Pursue action against stream pollution, if appropriate.

j. Act as fast as possible toward expanding system capacity, providing additional treatment, and/or obtaining alternate supply, if appropriate.

k. Keep customers updated as appropriate.

*See ordinance (Exhibit 17) for various procedures for businesses dependent on outdoor water usage.

D. INFORMATION AND EDUCATION

One or more of several measures should be taken to inform customers of crisis conditions and to keep them updated. These measures include:

1. Radio and television announcements. (Two television stations in Beaumont, one station in Port Arthur, various radio stations in Midcounty area and in nearby cities; also, consider possible emergency messages on cable stations.)

2. Press releases in Beaumont Enterprise, Midcounty Chronicle (Nederland), and/or Port Arthur News.

3. Letters or flyers mailed to customers (alone or with monthly bills).

4. Letters or flyers hand delivered to customers in course of meter reading.

5. Letters or flyers hand delivered to customers in emergency.

6. Telephone calls in cases where emergency notice must be given at night, or when only a small neighborhood is involved.

7. Vehicles with loud speakers in emergencies when telephone service is out or when unusually fast notification is necessary.

Selection of notification methods depends on the nature and urgency of the crisis. The notifications would state the nature of the crisis, the actions requested of customers, and the anticipated duration (if known). *NOTE: If the crisis is related to contamination of the water supply, the City should follow any applicable public notice requirements of 30 TAC 337.3 (8), TNRCC water hygiene regulations.*

Customers should be warned through brochures, well in advance of any emergency, what might be required during an emergency. See Exhibit 18 for one proposed brochure or flyer.

E. INITIATION PROCEDURES

1. Responsibility for Monitoring. The City Manager has overall responsibility for monitoring the performance of City facilities. However, the necessary monitoring for trigger conditions will be delegated to the Director of Public Works and to water department and engineering personnel under his supervision. The personnel will monitor the specified quantitative parameters for mild, moderate, and severe conditions. Monitoring frequency for each parameter will be consistent with the description of that parameter.

   The personnel will also be on the alert for various nonquantitative trigger conditions. Many of these conditions will be noted in the course of normal operating duties.

   Information as to whether these parameters are reached, or close to being reached, will be added to the appropriate monthly operating report. If a trigger condition requiring prompt action is noted, the personnel will take immediate action and/or notify the Director of Public Works as appropriate.

2. Authority for Action. Except in catastrophes where actions are governed by emergency management authorities, actions should be taken by the City Manager and/or the City Council as authorized in the proposed Ordinance Controlling Water Usage in Emergencies. The City's Attorney should be notified in advance of any Council action related to water conservation.

   The responsibility for declaring a water supply emergency depends on the nature and urgency of the situation. For slowly developing situations, a resolution can be passed by the City Council at a regular semimonthly meeting. As the urgency increases, action may occur at a special meeting, at an emergency meeting, by the City Manager, or by a designated subordinate acting on his own. In situations such as hurricanes or riots, action by emergency management authorities may be the overriding factor.

Each action listed in preceding sections is noted as to whether it should be implemented by the City Manager or by the Council.

In Section III. B above, the various trigger conditions are classified with respect to who should declare the emergency, as follows:

*City Council (in regular, special, or emergency meeting as appropriate).
**City Council if appropriate under circumstances. City Manager should first look at the situation and decide whether to initiate the action on his own or to call for a special Council Meeting for that purpose.
***City Manager (or designated subordinate) on his own.

Even though the City Manager has declared an emergency without prior Council approval, certain actions dealing with the crisis must be taken by the Council. These actions include restricting or prohibiting outdoor water use; imposing surcharge or rationing plans; and taking legal action against activities which could reduce or contaminate the City's water supply.

3. Procedures for Implementation. (See also Exhibit 22.)

a. Repair of lines or equipment: Water Department staff perform minor repairs or equipment replacement; Water Department supervisors arrange for minor contract repairs; Director of Public Works and/or City Manager arrange for major repairs as appropriate. Water Superintendent acts on his own, or obtains authority from Director of Public Works and/or City Manager according to magnitude of repairs.

b. Obtaining alternate supply: Director of Public Works reports to City Manager that alternate supply may be needed on a long-term or emergency basis. In an emergency, contact with neighboring water systems is made by City Manager or designated subordinate. For long term alternate supply (improbable situation), Director of Public Works reports situation to City Manager for further action.

c. Expanding system capacity or providing additional treatment: City Manager initiates action on his own or at recommendation of Director of Public Works. Initial action consists of discussion with Director of Public Works and/or consultants.

d. Action against stream polluters: Upon recommendation of Director of Public Works, City Manager discusses matter with City Attorney and brings matter before Council if appropriate.

e. Placing fire departments on alert: City Manager or Director of Public Works notifies appropriate personnel of City and neighboring fire departments.

f. Notices to customers, including updates: Water Department personnel give notice in case of localized situations; Director of Public Works arranges for notices, including selection of method, for widespread situations.

g. Requests for voluntary lawn watering schedule or reduced industrial/commercial usage: City Manager sends out public notice by appropriate means, or arranges to have businesses and industries contacted by letter or telephone.

h. Curtailment of specified commercial and industrial use: City Manager issues written notice; may arrange for verbal notice before written notice.

i. Restrictions/curtailment of outdoor water usage/wasteful use, surcharges, rationing: Resolution by City Council. City's attorney will be notified in advance.

4. Advance Planning. The City should prepare a list of all radio stations, television stations, and newspapers which may be called on to assist in public notification. Each station or newspaper should be contacted in advance regarding the possible need for emergency assistance of this nature. For each station or newspaper, one or more contact persons should be designated, together with telephone numbers for 24 hours use if possible.

Lists of potential repair contractors for vital system components should be maintained. Lists of agencies such as neighboring water departments, neighboring fire departments, police and sheriff departments, and many offices performing emergency management functions should also be kept ready for emergency use.

Although many potential crisis situations cannot be foreseen, the City should prepare lists of those situations most likely to occur. At least a rough draft of flyers, letters, press releases, and broadcast messages should be prepared for the most probable situations.

Port Neches already has emergency interconnections with Nederland and Groves. If it should become apparent in the future that additional sources may become necessary, the City should make interconnection arrangements with owners of other water systems. The only other system presently close enough for easy interconnection with Port Neches is the Port Arthur system, which draws its raw water supply from the LNVA canal system as do the three Midcounty cities. The Port Arthur water plant presently suffers from severe deficiencies, but will be upgraded or replaced in the next few years. The Beaumont system, although not dependent on the LNVA system, has its nearest water mains approximately four miles outside Port Neches, and any interconnection with the Beaumont system would logically be through the Nederland system.

The terms of any interconnection agreement, as well as the interconnection facilities, would have to assure protection for both water systems.

In an extreme situation requiring water to be hauled in for the City's sole supply, severe rationing would be needed. Water would in that event be distributed in bottled form. Many industrial or commercial users would be forced to curtail water usage or to obtain alternative supplies if available.

F. TERMINATION NOTIFICATION

Council action is mandatory to rescind specific actions taken by the Council to deal with a crisis, such as restricting or prohibiting outdoor water use; imposing surcharges; or imposing rationing.

Council action is normally needed to downgrade or terminate an emergency if the Council (1) declared the emergency and/or (2) took specific action to deal with the emergency.

EXCEPTION: Cases where the Council set a specific time limit for the crisis or authorized a City official to end the crisis at his discretion.

The City Manager (or his designated subordinate) can announce the end of the crisis if no Council action was involved. The Manager should also take any appropriate action in connection with the termination.

Once the termination decision has been made, notification should be prompt. If customers are kept under a crisis notice unnecessarily, they will tend to relax vigilance and will also tend to disregard future notices.

Notification procedures and methods should be similar to those for the onset of a crisis. The City Council and/or the City Manager should use discretion in selecting the appropriate procedure(s).

G. IMPLEMENTATION

1. Ordinance. Exhibit 12 consists of excerpts from existing City water and sewer ordinances. The City has adopted the Standard Plumbing Code by one or more separate ordinances. Such ordinance(s) include several specific modifications of the Code, but do not call for the optional water conservation provisions in the Code.

   The basis for possible future changes in rate structures will be by a proposed City ordinance (Exhibit 8). The basis for emergency surcharges and rationing will be by a proposed City ordinance (Exhibit 17).

2. Changes in Plumbing Codes. Exhibit 13 consists of the proposed amendment to the ordinance(s), adopting the water conservation provisions of the Code and requiring certain additional water conserving measures in home plumbing. This ordinance refers to Senate Bill 587, passed in 1991, which imposes certain water conservation measures statewide.

3. The City will, if necessary in the future, approach the appropriate City officials in Nederland and/or Groves regarding the need for opening the existing interconnections. Procedures already established by contract will be followed in such cases. Also, if appropriate, the City will approach owners of other water systems regarding additional interconnections. Agreements for such additional supplies would probably be by contract.

4. The City must adopt specific resolutions (sample copies, Exhibit 19) at the beginning and ending of emergencies to initiate/terminate restrictions on lawn watering, prohibition of lawn watering, surcharge rates, and/or rationing. In an extreme emergency, these resolutions can be passed by simple motion and still be valid.

5. The City's attorney will be notified prior to any Council action related to conservation in order to review or recommend proposed action as appropriate.

6. Any future contracts to provide water and/or wastewater service to wholesale entities (such as water districts and water supply corporations) will contain provisions making those entities subject to provisions of the City's Drought Contingency Plan. *(This will not apply to contracts for emergency service only.)* Any existing contracts *(such as contracts with industries)* will be amended if required by the Texas Water Development Board.

IV. ADOPTION OF PROGRAM

See following ordinances and resolutions:

1. Ordinance Adopting Water Conservation Program, Including Drought Contingency Plan (Exhibit 23).

2. Water Rate System Ordinance (Exhibit 8).

3. Water Rate Ordinance (Exhibit 9).

4. Supplementary Plumbing Ordinance (Exhibit 13).

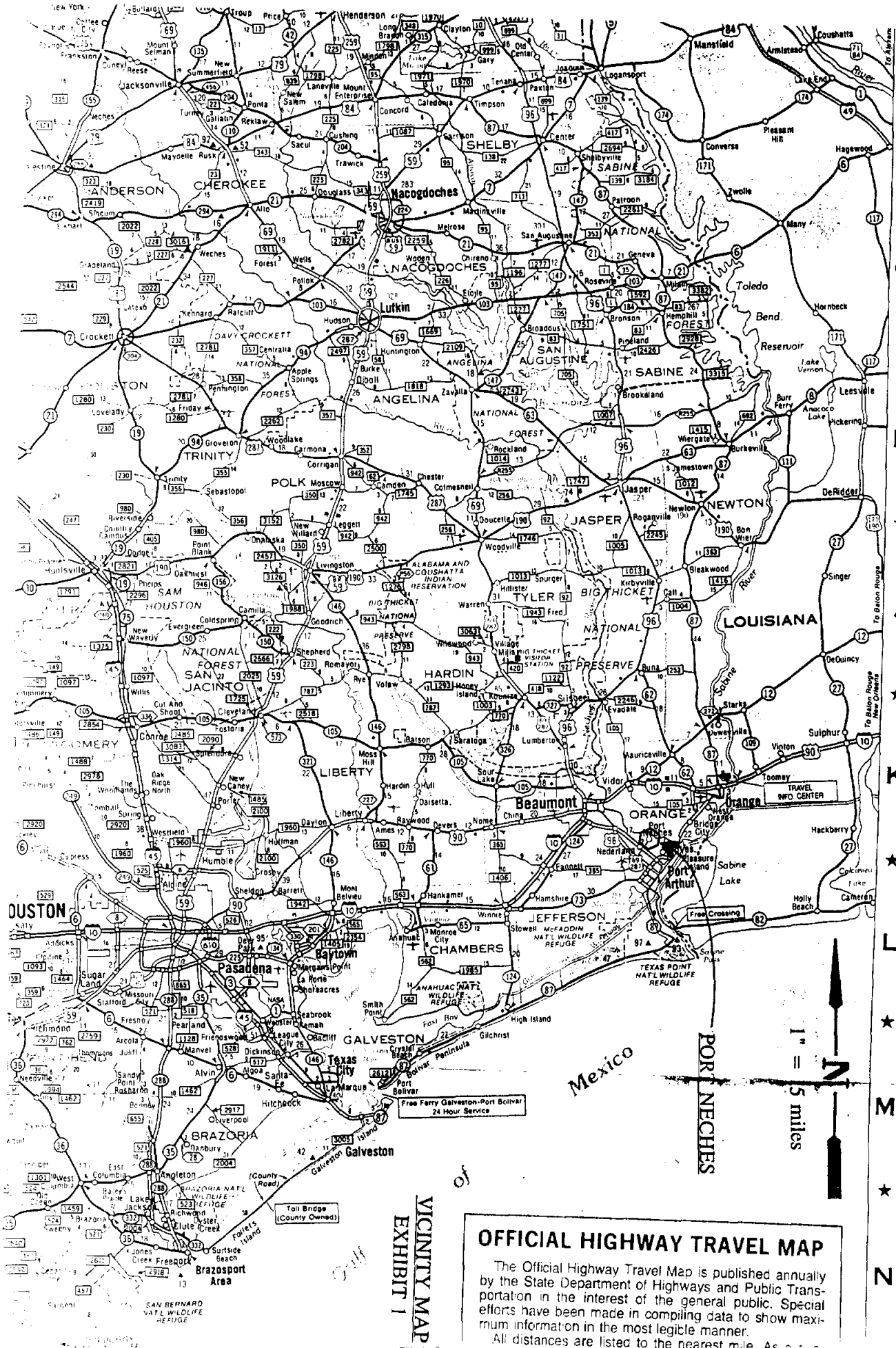
5. Resolution for Annual Reporting (Exhibit 14).

6. Ordinance Controlling Water Usage in Emergencies (Exhibit 17).

7. Resolution for Information/Education Program (Exhibit 20).

8. Resolution for Monitoring for Trigger Conditions (Exhibit 21).

EXHIBITS

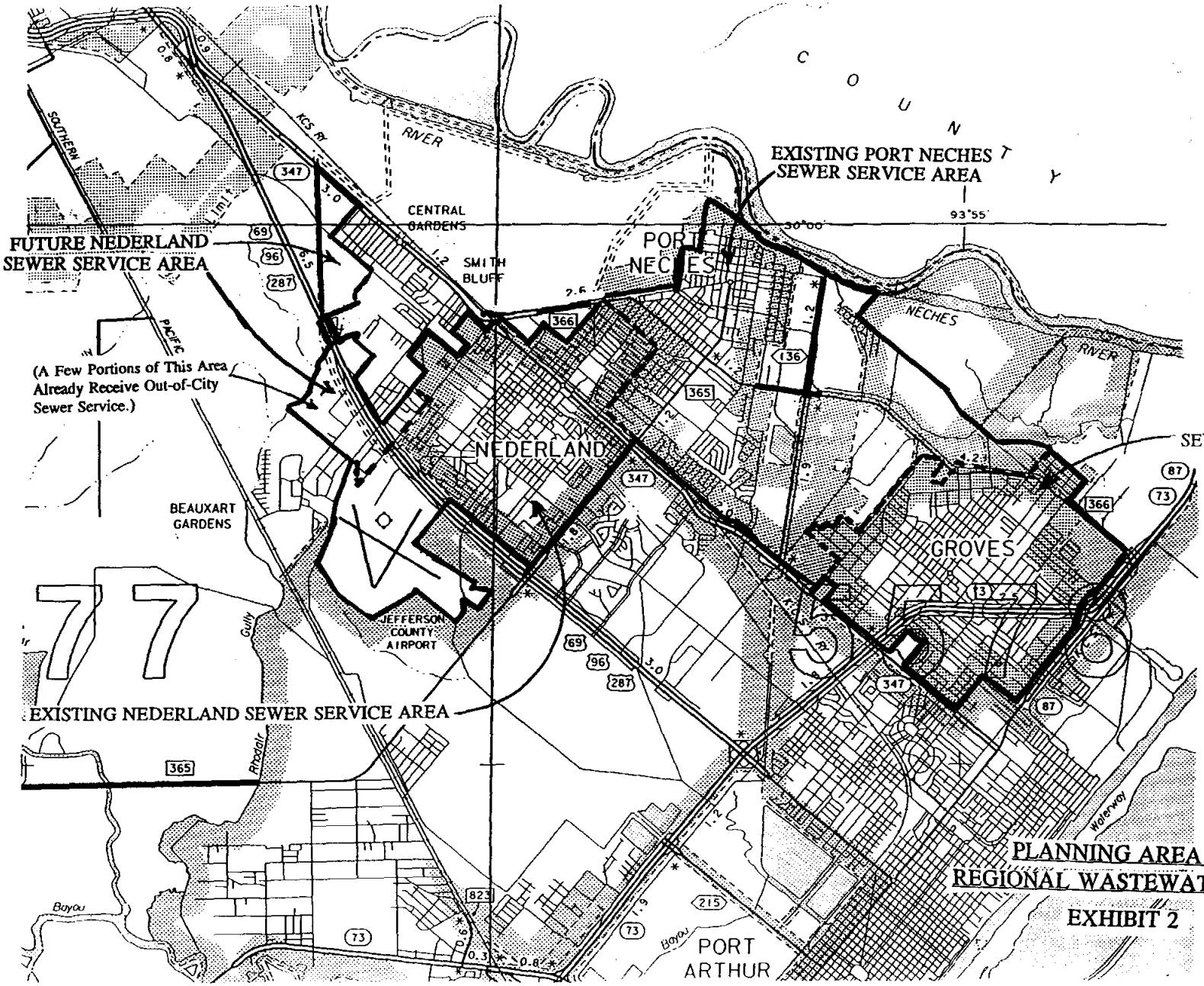


VICINITY MAP
EXHIBIT 1

OFFICIAL HIGHWAY TRAVEL MAP

The Official Highway Travel Map is published annually by the State Department of Highways and Public Transportation in the interest of the general public. Special efforts have been made in compiling data to show maximum information in the most legible manner.

All distances are listed to the nearest mile. As a rule


EXISTING PORT NECHES SEWER SERVICE AREA
FUTURE NEDERLAND SEWER SERVICE AREA
(A Few Portions of This Area Already Receive Out-of-City Sewer Service.)
EXISTING NEDERLAND SEWER SERVICE AREA
EXISTING GRO
NORTH AND SO
SEWER SERVICE A
PLANNING AREA FOR
REGIONAL WASTEWATER STUDY
EXHIBIT 2
NEDERLAND
PORT NECHES
GROVES
PORT ARTHUR
BEAUXART GARDENS
CENTRAL GARDENS
SMITH BLUFF
JEFFERSON COUNTY AIRPORT
93°55'
30°00'
77

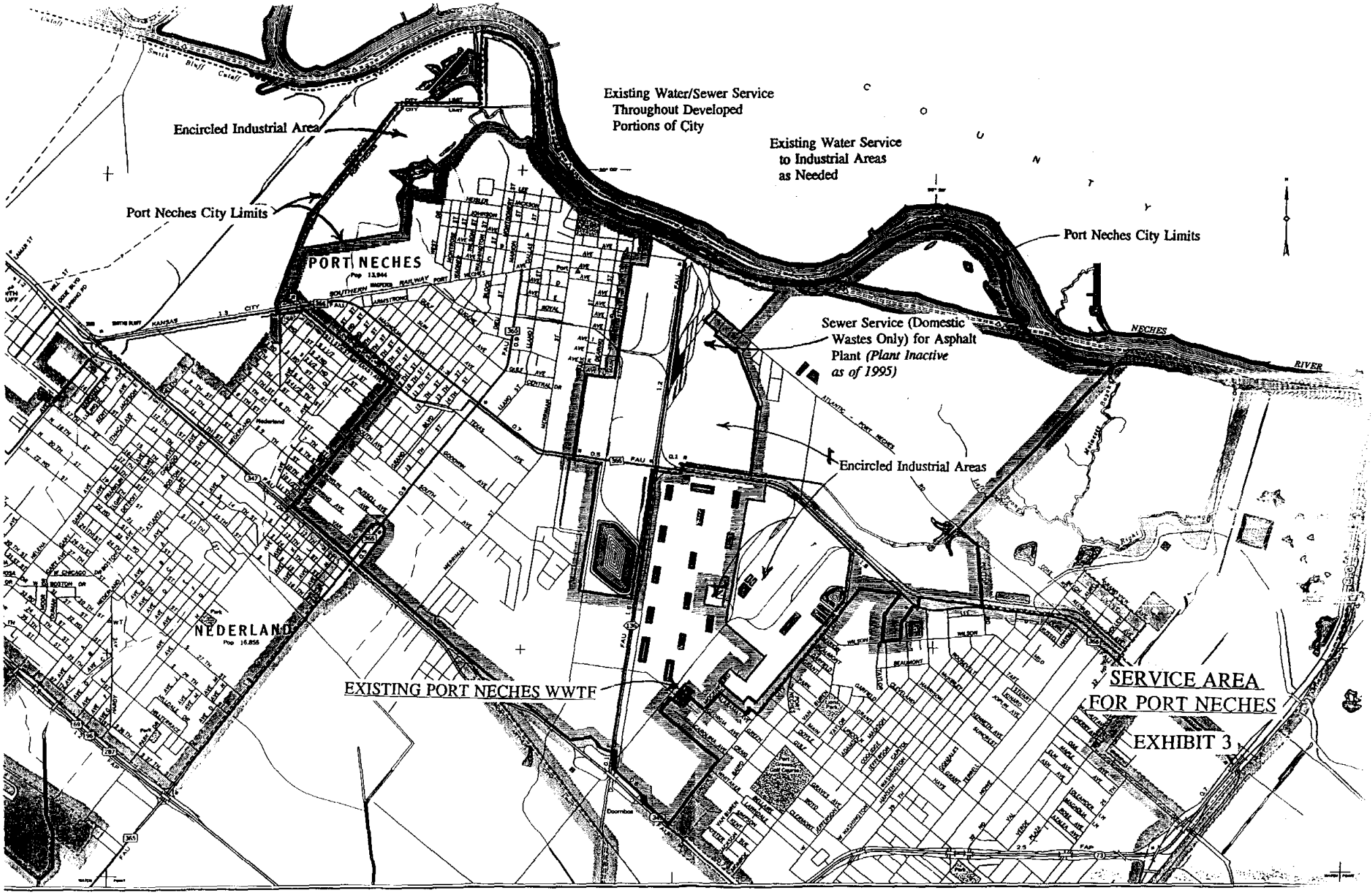

Existing Water/Sewer Service Throughout Developed Portions of City
Existing Water Service to Industrial Areas as Needed
Encircled Industrial Area
Port Neches City Limits
Port Neches City Limits
PORT NECHES
Pop 13,944
Sewer Service (Domestic Wastes Only) for Asphalt Plant (Plant Inactive as of 1995)
NECHES RIVER
Encircled Industrial Areas
NEDERLAND
Pop 16,856
EXISTING PORT NECHES WWTF
SERVICE AREA FOR PORT NECHES
EXHIBIT 3

EXHIBIT 4

UTILITY EVALUATION DATA

(pages 49-52 from TWDB Guidelines)

Including Attachments:
Population and Water Use Projections
Existing Rate Ordinance

APPENDIX A

UTILITY EVALUATION DATA FORM

The following data form provides a convenient format to insure that the most important information and data needed for the development of water conservation and emergency water demand management plans are considered.

WATER SUPPLY AND DISTRIBUTION SYSTEM INFORMATION

A. Population of Service Area 12,908 * (Number)

B. Size of Service Area 15.6 (Sq. mi.)

* 13,479 estimated 1994 City population

RAW C. Water Production and Sales Information

(1) Water Supplied (water produced from your own wells, diverted and treated from a lake or stream, purchased from another utility, etc.) during the Last Year 662,157,000 (gal/yr.)

(2) Average Water Supplied for Last 3 Years 603,530,667 (gal/yr.)

TREATED (3) Estimated Monthly Water Sales by User Category for the Last Year in 1,000's of gallons (based on customer meters)

Month	Residential	Commercial-Institutional*	Industrial	Total
January	30,527.2	4097.6	6891.2	41,516
February	28,261.2	4337.5	5643.1	38,241.8
March	28,562.4	6030.8	5038.4	39,631.6
April	30,128.6	5083.6	5525.5	40,737.7
May	29,765.1	5199	4808.9	39,773
June	34,554.4	5578.3	4709.9	44,842.6
July	32,485	5105.4	5720.4	43,310.8
August	34,358.1	5851.8	5099.6	45,309.5
September	35,091.1	5849	5344.6	46,284.7
October	34,124.3	5329.6	3429.9	42,883.8
November	30,087	4332.7	3253	37,672.7
December	32,744.5	4291.9	4313.1	41,349.5
Total	380,688.9	61,087.2	59,777.6	501,553.7

*Indicate if apartment water sales are included in the commercial figures. It is preferable to include apartment water sales under residential sales if it is possible to determine from existing water sales data.

RAW (4) Highest Daily Water Use (production) on Record for System 3,302,000 (gal/day)

1990

RAW (5) Peak Daily Use (production) for the Last Year 2,962,000 (gal/day)

(6) Unaccounted for Water
(Production - Sales)÷production x 100 = 24.25 % unaccounted for water

D. Number and Type (Residential, Commercial, or Industrial) of Meter Connections in Service Area
4664 (Res.) 268 (Comm.) 7 (Ind.) -- (Wholesale)

E. Net Gain (Loss) of New Connections per year
(New Connections less disconnects)
14 (Res.) 1 (Comm.) -- (Ind.) -- (Wholesale)

RAW F. Source of Water (List the sources and relative volumes of water used form each source on an annual basis)
Source 1. LNVA 93 Volume of Water 662,157,000 (gal/yr)
Source 2. LNVA 92 Volume of Water 604,761,000 (gal/yr)
Source 3. LNVA 91 Volume of Water 543,674,000 (gal/yr)

RAW G. Safe Annual Yield of Water Supply 662,157,000 93 (gal/yr)

H. Design Capacity of Water System 3,150,000 (gal/day)

I. Major High-Volume Customers
TREATED

	NAME	USE (in 1,000 gallons per year)
1.	Ameripol Synpol	16,137.4
2.	Texaco Chemical (West)	11,912.7
3.	Lloyd's Trailer Sales	8,741.9
4.	Barcelona Apartments	8,252.4
5.	Meadowlark Estates	6,495.2
6.	Texaco Chemical	6,470.2
7.	Texaco, Inc.	5,088.1
8.	Royal Neches Apartments	4,316.8
9.	Ridgewood Investors	4,058.2
10.	Texas Emulsion	2,461.6

J. Population and Water Use Projections (Attach if Available)

WASTEWATER SYSTEM INFORMATION

A. Service Area Information

1. Percent of your potable water customers sewered by your utility's wastewater treatment system 100 %.

2. Percent of your utility's potable water customers who have septic tanks or other privately operated sewage disposal systems 0 %.

3. Percent of potable water customers sewered by another wastewater treatment utility 0 %.

B. Wastewater System Capacity Information

1. Average daily volume of wastewater treated for most recent year 1993
2,062,000 (gal/day) *

2. Peak daily wastewater volumes during the last year
11,570,000 (gal/day)*

*Includes storm flows routed through storm water clarifiers.

3. Wastewater treatment system permitted capacity:

a. Average daily capacity 4.98 (gal/day)

b. Maximum daily capacity 26.0 (gal/day)

C. Estimated percent of wastewater flows to your treatment plant that originate from the following categories:

Residential	76 %
Industrial and Manufacturing	12 %
Commercial/Institutional	12 %
Storm Water	* %
Other - Explain	%

*Sources of return flows, exclusive of storm water, are listed. Flows from industries are domestic, with actual industrial process wastewater treated and discharged by others. Storm and ground water probably comprise a substantial amount of total annual flows.

UTILITY FINANCIAL OPERATIONS INFORMATION

A. Water or Wastewater Rate Structure
(Uniform, Increasing Block, etc.) (ATTACH COPY OF RATES)

B. Sources of Revenue for the Utility

1. Percent of Annual Revenues from Water or Wastewater Rates 84 %

2. Percent of Annual Revenues from all other sources (taxes, general revenue, etc.) (Mainly taxes) 16 %

C. Annual Operating Costs

1. Average Annual Operating Costs $2.4 million + (Dollars)

2. Percent of Average Annual Operating Costs that are Fixed Costs _____%

3. Percent of Average Annual Operating Costs that are Variable Costs _____%

OTHER APPLICABLE INFORMATION

A. Copies of applicable local regulations relating to Water Conservation and Emergency Water Demand Management Planning. (ATTACH COPIES)

B. Other applicable documents. (ATTACH COPIES OR LIST AS NEEDED)

C. Information on Civic Groups, Organizations, and Other Entities. It would be advisable for the utility to consider which groups may help and which groups may be opposed to various aspects of the water conservation and emergency water demand management plans. These need not be listed, but early consideration by the utility is advised.

TABLE B-2
POPULATION PROJECTIONS
PORT NECHES, TEXAS (JEFFERSON COUNTY)

A YEAR	*B* SETRPC Water Quality Management Plan - 1993	*C* Texas Water Development Board Most Likely Series	*D* Selected Population (Assume 100% Sewered)[a]
1950	5488		5488
1960	8696		8696
1970	10,894		10,894
1980	13,944	13,944	13,944
1990	12,974	12,974	12,974
1992	13,114	13,227	13,227
1994	13,254	13,479	13,479
1995	13,324	13,606	13,606
2000	13,724	14,237	14,237
2005	14,124	14,392	14,392
2009	14,464	14,517	14,517
2010	14,549	14,548	14,548
2014		14,710	14,710
2020		14,953	14,953
2024		15,040	15,040
2030		15,171	15,171

a Subject to verification by City.

TABLE B-2 NOTES

1. The South East Texas Regional Planning Commission's Water Quality Management Plan, as updated in 1993, has for purposes of this report been superseded by the TWDB Most Likely Series (recently revised, in draft form, 1994). The revised projections are based on an increased inward migration rate for Southeast Texas as a result of recent employment growth.

2. Column B: Projections were provided for every five years through 2010, with other years interpolated.

Table B-2 Notes (cont.)

3. Column C: Projections were provided for every ten years through 2050, with other years interpolated. It is assumed for this report that the City projections reflect no future annexations, and that there will in fact be no such annexations.

4. Column D: Historical census figures (as quoted in SETRPC Plan) are used through 1990, then the TWDB projections (actual or interpolated) are used for all subsequent years. For purposes of this report, the City is assumed to serve all City residents and no residents outside the City.[b]

a Subject to verification by City.

CITY OF PORT NECHES
WATER USE PROJECTIONS

The water use projections prepared in a 1990 engineering study for the City's water treatment system are not applicable to this project for to following reasons:

- The water use projections used in the 1990 study were not based directly on population projections, but on the rate of growth in water usage over the 1980's. Those water use projections showed a considerably higher growth rate than would have been derived from the TWDB projections in effect at that time. Since that time, the TWDB growth projections have changed.

- The 1990 water use projections did not reflect any anticipated savings from water conservation measures, since the City had no water conservation program at that time nor any plans to develop such a program in the near future. Given the prevailing conditions in Southeast Texas at this time *(a humid climate, a consequent plentiful water supply, and moderate projections for population growth)*, a 2% reduction in per capita water usage may be considered realistic.

  Water usage projections should be approximately proportionate to the population projections for the City, adjusting for a 2% reduction in per capita water usage. However, a larger reduction may occur in the future if conditions should change. Another factor which may prove significant is the amount of increase or decrease in industrial water usage in the City's water service area.

which may be hereafter constructed and used in connection with the city water system shall pay the following rates per month for each one thousand (1,000) gallons of water:

	Per 1,000 gallons
(a) 1 to 3,000 gallons, minimum bill	$ 7.75
(b) 3,001 to 15,000 gallons	1.87
(c) All over 15,001 gallons	1.92

Location of meters. New meters will be located on public property, rights-of-way, alleys or easements and shall not be placed on private property without securing an easement for the placement of the meter. The city shall not furnish, install, maintain or be responsible for any lines of any kind laid on private property. Meters presently located on private property will be moved on request as soon as time and labor permits.
(Ord. No. 1970-13, § 1, 11-3-70; Ord. No. 1974-15, § 1, 9-17-74; Ord. No. 1979-20, § 1, 9-4-79; Ord. No. 1981-19, § 1, 9-8-81; Ord. No. 1982-14, § 1, 9-16-82; Ord. No. 1985-03, § 1, 2-7-85; Ord. No. 1986-12, § 1, 9-18-86; Ord. No. 1990-17, § 1, 9-6-90; Ord. No. 1991-13, § 1, 9-19-91; Ord. No. 1992-06, § 1, 9-17-92; Ord. No. 1993-11, § 1, 9-2-93; Ord. No. 1994-11, § 1, 9-1-94)

Sec. 23-3. Sewer rates, monthly.

(a) There are hereby established for the use and service of the sewage system of the City of Port Neches, the following rates per month per meter:

	Per 1,000 gallons
(1) Minimum bill	$9.25 plus
(2) 1 to 3,000 gallons	0.87
(3) 3,001 to 15,000 gallons	1.12
(4) All over 15,001 gallons	1.145

(b) The discharge of any wastewater or sewage of any kind, excepting only rain water or the flow from natural streams, upon or across any public property, streets, alleys or dedicated rights-of-way is prohibited.

EXHIBIT 5

FLYLEAF OF STATE GUIDELINES

GUIDELINES

FOR

MUNICIPAL WATER CONSERVATION

AND

EMERGENCY WATER DEMAND MANAGEMENT

TEXAS WATER DEVELOPMENT BOARD
November 1991

TWDB GB-3

EXHIBIT 6

PROPOSED FLYERS

(To be Distributed to Customers at Beginning of Program)

WATER CONSERVATION SUGGESTIONS
CITY OF PORT NECHES
JEFFERSON COUNTY, TEXAS

The following water saving methods were compiled by the Texas Water Development Board to assist in water conservation programs throughout the state. Most items will be of benefit to Port Neches residents. Several items, however, are designed for portions of the state where water is in short supply or will be in a few years. These items can be reserved for use during unexpected water shortages.

Several suggestions for water saving features in plumbing may be incorporated into local plumbing codes, including a few retrofit items. Homeowners who are planning to construct or replace plumbing can obtain current requirements from the City.

GUIDELINES FOR MUNICIPAL WATER CONSERVATION
AND DROUGHT CONTINGENCY PLANNING
AND PROGRAM DEVELOPMENT

Texas Water Development Board
April 1986

In the Bathroom, Customers Should be Encouraged to:

- **Take a shower instead of filling the tub and taking a bath. Showers usually use less water than tub baths.**
- **Install a low-flow shower head which restricts the quantity of flow at** 80 **psi to no more than** 2.75 gallons per minute.
- **Take short showers and install a cutoff valve or turn the water off while soaping and back on again only to rinse.**

- Not use hot water when cold will do. Water and energy can be saved by washing hands with soap and cold water; hot water should only be added when hands are especially dirty.
- Reduce the level of the water being used in a bath tub by one or two inches if a shower is not available.
- Turn water off when brushing teeth until it is time to rinse.
- Not let the water run when washing hands. Instead, hands should be wet, and water should be turned off while soaping and scrubbing and turned on again to rinse. A cutoff valve may also be installed on the faucet.
- Shampoo hair in the shower. Shampooing in the shower takes only a little more water than is used to shampoo hair during a bath and much less than shampooing and bathing separately.
- Hold hot water in the basin when shaving instead of letting the faucet continue to run.
- Test toilets for leaks. To test for a leak, a few drops of food coloring can be added to the water in the tank. The toilet should not be flushed. The customer can then watch to see if the coloring appears in the bowl within a few minutes. If it does, the fixture needs adjustment or repair.
- Use a toilet tank displacement device. A one-gallon plastic milk bottle can be filled with stones or with water, recapped, and placed in the toilet tank. This will reduce the amount of water in the tank but still provide enough for flushing. (Bricks which some people use for this purpose are not recommended since they crumble eventually and could damage the working mechanism, necessitating a call to the

plumber). Displacement devices should never be used with new low-volume flush toilets.

- Install faucet aerators to reduce water consumption.
- Never use the toilet to dispose of cleansing tissues, cigarette butts, or other trash. This can waste a great deal of water and also places an unnecessary load on the sewage treatment plant or septic tank.
- Install a new low-volume flush toilet that uses 1.6 gallons or less per flush when building a new home or remodeling a bathroom.

In the Kitchen, Customers Should be Encouraged to:

- Use a pan of water (or place a stopper in the sink) for rinsing pots and pans and cooking implements when cooking rather than turning on the water faucet each time a rinse is needed.
- Never run the dishwasher without a full load. In addition to saving water, expensive detergent will last longer and a significant energy saving will appear on the utility bill.
- Use the sink disposal sparingly, and never use it for just a few scraps.
- Keep a container of drinking water in the refrigerator. Running water from the tap until it is cool is wasteful. Better still, both water and energy can be saved by keeping cold water in a picnic jug on a kitchen counter to avoid opening the refrigerator door frequently.
- Use a small pan of cold water when cleaning vegetables rather than letting the faucet run.
- Use only a little water in the pot and put a lid on it for cooking most food. Not only does this method save water, but food is more nutritious since vitamins and minerals are not poured down the drain with the extra cooking water.

- Use a pan of water for rinsing when hand washing dishes rather than a running faucet.
- Always keep water conservation in mind, and think of other ways to save in the kitchen. Small kitchen savings from not making too much coffee or letting ice cubes melt in a sink can add up in a year's time.

In the Laundry, Customers Should be Encouraged to:

- Wash only a full load when using an automatic washing machine (32 to 59 gallons are required per load).
- Use the lowest water level setting on the washing machine for light loads whenever possible.
- Use cold water as often as possible to save energy and to conserve the hot water for uses which cold water cannot serve. (This is also better for clothing made of today's synthetic fabrics.)

For Appliances and Plumbing, the Customer Should be Encouraged to:

- Check water requirements of various models and brands when considering purchasing any new appliance that uses water. Some use less water than others.
- Check all water line connections and faucets for leaks. If the cost of water is $1.00 per 1,000 gallons, one could be paying a large bill for water that simply goes down the drain because of leakage. A slow drip can waste as much as 170 gallons of water EACH DAY, or 5,000 gallons per month, and can add as much as $5.00 per month to the water bill.
- Learn to replace faucet washers so that drips can be corrected promptly. It is easy to do, costs very little, and can represent a substantial amount saved in plumbing and water bills.

- Check for water leakage that the customer may be entirely unaware of, such as a leak between the water meter and the house. To check, all indoor and outdoor faucets should be turned off, and the water meter should be checked. If it continues to run or turn, a leak probably exists and needs to be located.
- Insulate all hot water pipes to avoid the delays (and wasted water) experienced while waiting for the water to "run hot."
- Be sure the hot water heater thermostat is not set too high. Extremely hot settings waste water and energy because the water often has to be cooled with cold water before it can be used.
- Use a moisture meter to determine when house plants need water. More plants die from over-watering than from being on the dry side.

For Out-of-Door Use, Customers Should be Encouraged to:

- Water lawns early in the morning during the hotter summer months. Much of the water used on the lawn can simply evaporate between the sprinkler and the grass.
- Use a sprinkler that produces large drops of water, rather than a fine mist, to avoid evaporation.
- Turn soaker hoses so the holes are on the bottom to avoid evaporation.
- Water slowly for better absorption, and never water on windy days.
- Forget about watering the streets or walks or driveways. They will never grow a thing.
- Condition the soil with compost before planting grass or flower beds so that water will soak in rather than run off.
- Fertilize lawns at least twice a year for root stimulation. Grass with a good root system makes better use of less water.
- Learn to know when grass needs watering. If it has turned a dull grey-green or if footprints remain visible, it is time to water.

- Not water too frequently. Too much water can overload the soil so that air cannot get to the roots and can encourage plant diseases.
- Not over-water. Soil can absorb only so much moisture and the rest simply runs off. A timer will help, and either a kitchen timer or an alarm clock will do. An inch and one-half of water applied once a week will keep most Texas grasses alive and healthy.
- Operate automatic sprinkler systems only when the demand on the town's water supply is lowest. Set the system to operate between four and six a.m.
- Not scalp lawns when mowing during hot weather. Taller grass holds moisture better. Rather, grass should be cut fairly often, so that only 1/2 to 3/4 inch is trimmed off. A better looking lawn will result.
- Use a watering can or hand water with the hose in small areas of the lawn that need more frequent watering (those near walks or driveways or in especially hot, sunny spots).
- Learn what types of grass, shrubbery, and plants do best in the area and in which parts of the lawn, and then plant accordingly. If one has a heavily shaded yard, no amount of water will make roses bloom. In especially dry sections of the state, attractive arrangements of plants that are adapted to arid or semi-arid climates should be chosen.
- Consider decorating areas of the lawn with rocks, gravel, wood chips, or other materials now available that require no water at all.
- Not "sweep" walks and driveways with the hose. Use a broom or rake instead.
- Use a bucket of soapy water and use the hose only for rinsing when washing the car.

EXHIBIT 7

PRESS RELEASE

To be Submitted to Local Newspapers in Article Form at Beginning of Program and Also Distributed to Customers with Flyers

PRESS RELEASE

PORT NECHES - The City of Port Neches was required to develop a water conservation program as a condition of a planning grant from the Texas Water Development Board. The grant was used to provide partial funding for an engineering study on wastewater management alternatives for the Midcounty cities. The study investigated the feasibility of various options including a regional treatment plant serving Nederland, Port Neches, and Groves, as well as upgrading the individual plants now serving the three cities. The study also addressed the need for rehabilitation and/or upgrading of the collection systems in the three cities.

The need for the study arose primarily from new stream standards for the Drainage District 7 canal system into which the North Plant in Groves, as well as the Nederland and Port Neches plants, discharge. The Texas Natural Resource Conservation Commission, as part of a statewide practice, has performed recent stream studies for the canal system which leads to the outfall of Taylor Bayou. The studies indicate that the existing quality of effluent discharged from the three plants will no longer be acceptable. At best, the Nederland and Port Neches plants will be required to treat to tertiary standards in order to keep discharging into the canal system as they presently do. The North Plant in Groves is expected to fall under similar requirements when its discharge permit is renewed in 1995.

The study examined various potential improvements to the wastewater collection and treatment facilities for the Midcounty cities, including a regional treatment plant and diversion of flows to the Neches River, where a less stringent level of treatment is required. Because of the urgency of some of the measures which must be taken, major construction programs must be initiated within the next several years. In the case of Port Neches, this construction is expected to consist of diversion of treated effluent to the Neches River.

The project cost for the City of Port Neches is expected to fall in the $1.5 to $4 million range, depending on two main factors:

- The extent, if any, to which the cities of Port Neches and Groves enter into a joint venture for common transportation facilities from their plants to the Neches River.

- Whether the TNRCC agrees to allow excess storm flows to discharge into the drainage ditch beside the plant *(as at present)* instead of being pumped to the river.

At least part of the construction defined in the study is expected to be financed by loans from or through the Texas Water Development Board.

The requirement for development and implementation of a Water Conservation Program was imposed by the state legislature in 1985 for governmental bodies seeking loan funds from or through the Texas Water Development Board. A program must also be developed for entities participating in planning which is partially financed by grants from the Texas Water Development Board. The cost of the ongoing study is $200,000, of which $100,000 is provided by the TWDB and the remainder by the three cities equally.

The two major divisions of the program are a water conservation plan and a drought contingency plan. The water conservation plan will initially contain various measures designed to minimize waste and leakage. Water conservation measures will be required in all new plumbing. (Please note that some water conserving features are already required by 1991 legislation.) In addition, the City will promote water conservation by distributing information to customers and by installing individual meters in complexes if needed.

Drought contingency measures will minimize hardship in the event of surface water contamination, extended power failure, pump failure, storm damage, severe freeze, and other emergencies. These measures include emergency repairs; restrictions on outdoor or industrial water use; temporary surcharges; and rationing in extreme cases.

The City already has a water rate structure in which unit prices per 1000 gallons increase with a customer's total usage. This rate structure tends to discourage excessive use, but does not prevent necessary consumption.

Although there is no actual shortage of surface water for Southeast Texas, all portions of the state are subject to conservation requirements as result of 1985 legislation. Any community seeking a new loan of over $500,000 from state loan funds is required to establish a program for general water conservation and emergency procedures according to state regulations. The requirement to develop a program *(not necessarily implement it)* also applies to communities receiving TWDB planning grants such as the three Midcounty cities have received. Because of local climate and adequate ground water supply, the program for Port Neches will be much less rigorous than for arid portions of the state.

EXHIBIT 8

PROPOSED WATER RATE SYSTEM ORDINANCE

ORDINANCE
ESTABLISHING WATER RATE SYSTEM
FOR DEBT SERVICE AND
OPERATION AND MAINTENANCE OF PUBLICLY OWNER WATER WORKS

FOR

CITY OF PORT NECHES
JEFFERSON COUNTY, TEXAS

WHEREAS, the City of Port Neches adopted an ordinance on September 1, 1994, setting rates for water and sewer service provided by the City; and

WHEREAS, the City of Port Neches has in the past fixed rates for water service by simple ordinance or resolution whenever it became necessary to adjust the rates; and

WHEREAS, the City of Port Neches desires a loan commitment from the Texas Water Development Board to provide funding for improvements to its wastewater treatment facilities; and

WHEREAS, state regulations require the City to establish a WATER RATE SYSTEM meeting certain requirements before such loan commitment can be implemented;

NOW, THEREFORE LET IT BE ORDAINED by the City Council of the City of Port Neches:

SECTION I
DEFINITIONS

(a) Block Rate. The unit price per 1000 gallons for any specified range of monthly water usage.

(b) City. The City of Port Neches, Jefferson County, Texas or any authorized person acting in its behalf.

(c) City Manager. The chief executive officer of the City.

(d) Current Capital Improvements. Those capital improvements to the City's water system which are financed through current operating revenues.

(e) Debt Service. Periodic payments of principal and/or interest on indebtedness incurred for the purpose of constructing, improving, or rehabilitating the City's water production, treatment, storage, and distribution system, including necessary land or easement purchases.

(f) Director of Public Works. The Director of Public Works for the City whose jurisdiction includes water and sewer operations for the City, or any person acting in this capacity, or his duly authorized deputy, agent, or representative.

(g) Operation and Maintenance. The actual cost of operating and maintaining the City water system, including a reasonable allowance for periodic replacement of major system components needed during the life of the system. Also included are necessary administrative costs allocable to the water system and any costs for purchasing treated or untreated water from outside the system.

(h) Operator. The chief operator of the City's water production, storage, and distribution system, or any person acting in this capacity, or his duly authorized deputy, agent, or representative.

(i) User (or Customer). Each residential, commercial, governmental, school, or industrial customer who is supplied water directly through the City water system. This definition excludes fire departments taking water through hydrants for fire fighting, fire drills, or related purposes. Also excluded are any neighboring communities or other water systems who may be supplied with water temporarily through interconnections between water systems, or customers of such systems.

A user may be located either within or outside the City.

(j) User Class. A class of residential or nonresidential users with similar fundamental characteristics governing their rate or consumption.

(k) Wholesale User (or Customer). Any city, water district, water supply corporation, or other entity which purchases water from the City on a regular or emergency basis for the purpose of distribution and resale to individual customers located outside the City.

SECTION 2
OBJECTIVES

1. Water rates, in combination with other water related income such as tap fees, shall be sufficient to pay for all operation and maintenance, current capital improvements, and debt service attributable to the water system, except as provided otherwise by ad valorem taxes, grants, or other revenue sources.

2. Fixed expenses not attributable to volume of usage may be recovered through a fixed minimum charge which covers not more than the first 3000 gallons per month for each user.

3. Water rates for any user class shall be designed to discourage excessive usage. Monthly volumes of usage for any user may be grouped in blocks so that the unit price increases with the volume of usage. Except as noted in Item 2 above, the unit price shall never decrease with increased volumes of usage.

4. The legitimate needs of each user class shall be considered in establishing usage blocks so that no user will be penalized unfairly for using the amount of water he needs to carry on his operations.

5. Appropriate classes of users such as senior citizens may be provided with a reasonable amount of rate relief.

6. Charges for water shall be distributed as equitably as possible among user classes consistent with the objectives above.

7. No user shall be allowed to circumvent the intent of this ordinance by using water from several meters on the same premises.

SECTION 3
USER CLASSES

The City may, by separate ordinance, group all users into classes with similar water usage characteristics. Such classes shall include residential, various types of commercial, government, school, and various types of industrial classes. Each class may also be grouped into subclasses according to meter size.

The Director of Public Works shall assign each existing user to the appropriate class and/or subclass and shall notify all users in writing. Each new user shall also be assigned to the appropriate class and/or subclass. All users shall be notified of the right to appeal their classification to the Director of Public Works, to the City Manager, and to the City Council.

User classes and/or subclasses may be altered by subsequent ordinance as appropriate.

SECTION 4
BLOCK RATES

For each user class or subclass, the City may by separate ordinance establish two or more blocks representing monthly volume of usage, with corresponding water rates as follows:

Block		Block Rate
0 through B_1	b_1	= Minimum bill divided by B_1
B_1 through B_2	b_2	
B_2 through B_3	b_3	
B_{n-1} through B_n	b_n	

where B_1 through B_3 = upper limits of first three blocks in 1000 gallons (B_1 not to exceed 3.0).

B_n = upper limit of nth block in 1000 gal.

b_1 through b_3 = block rates for first three blocks.

b_n = block rate for nth block.

Each block rate shall be larger than the preceding block rate so that the unit price increases by volume (except that the minimum bill, B_1, may be set high enough to recover fixed expenses plus the gallonage rate included in the minimum bill). The gallonage rate shall remain the same or increase in each succeeding block rate.

SECTION 5
ESTABLISHMENT OF USER CHARGES

The City shall, by separate ordinance to be enacted on a yearly basis, establish the terms B_1, B_2, B_3, B_n, b_1, b_2, b_3, b_n, etc., for each user class and/or subclass. These terms shall be designed so as to generate sufficient revenue for all operation and maintenance, current capital improvements, and debt service for the City water system (except as provided from other sources). These terms shall also be designed to be equitable for the various user classes, but may allow for differing needs of different classes.

For any users located outside the City, the City may increase water rates by a uniform percentage as may be justified to cover the entire cost of service to those users, considering that the City is not receiving tax revenues from those users.

The City may reduce or waive the minimum bill for senior citizens (as a class) and for any other class of users for whom the City deems such rate relief necessary and appropriate on the basis of need.

The City reserves the right to establish surcharge rates for any or all user classes to be used during water shortage emergencies. Such emergencies may be declared only by the City Council.

SECTION 6
FREQUENCY OF METER READING

Meter reading shall be recorded at approximately the same time each month. If the period covered by a meter reading varies by more than seven days from a calendar month, block rates shall be adjusted to what they would have been for a month at the average daily usage for the reading.

SECTION 7
METERING REQUIREMENTS

Each new user shall be served by an individual meter. Each existing user shall normally be served by an individual meter. However, in cases where two or more users are located on the same premises, such as apartments or mobile home parks, the Director of Public Works may allow continued use of a master meter if individual meters are impractical to install.

No user may obtain water on the same premises from more than one meter for the purpose of avoiding the increasing block rate for a higher volume of usage. If separate meters are allowed for the purpose of separating the volume of water not returned to the sewer system, the meter readings may be combined for the purpose of calculating water charges.

SECTION 8
WHOLESALE USERS

1. The City shall not enter into any future contract for water service to any municipality or water supply corporation outside its own boundaries unless the contract contains one of the following provisions:

   (a) The entity agrees to adopt a water conservation program acceptable to the Texas Water Development Board, or relevant provisions of the City's Water Conservation Program including a rate structure which does not provide discounts for large volumes of usage; or,

   (b) The entity agrees to meet the requirements of provision (a) in the future if so required by the City.

2. The City shall not supply wastewater service to any municipality or water supply corporation outside its own boundaries unless that entity adopts, or agrees to adopt, a water conservation program acceptable to the Texas Water Development Board. Alternately, such entities may adopt the relevant provisions of the City's Water Conservation Program including a rate structure which does not provide discounts for large volumes of usage.

3. Any existing contracts for water service to outside entities shall be subject to future renegotiation, so as to contain the provisions in Subsection 1, to the extent allowable under the existing contract and/or under applicable laws.

4. The City shall notify each outside entity that the entity may be subject to more strenuous requirements, including an increasing block rate structure, in the future if circumstances should warrant.

5. These requirements shall not apply to emergency supplies due to water supply emergencies in other communities.

SECTION 9
WASTEFUL USE

No person, firm, or corporation shall use City water wastefully and without purpose, even though he pays the prescribed charges for such water.

SECTION 10
VALIDITY

All ordinances in conflict herewith are hereby repealed. If any section or provision of this ordinance, or the application of same to any person or set of circumstances is invalidated or rendered unenforceable by a court of competent jurisdiction, such judgement shall not affect the validity of any remaining parts of the ordinance which can be given effect without the invalidated part or parts, or their application to other persons or sets or circumstances.

SECTION 11
EFFECTIVE DATE

This Ordinance shall be in full force and effect with the _____ billing from and after its final passage, approval, recording, and publication as provided by law.

PASSED AND APPROVED on first reading this the _____ day of _____, 19__.

CITY OF PORT NECHES, JEFFERSON COUNTY, TEXAS

(City Seal)

ATTEST:

_____ Secretary or Clerk

_____ Mayor

Approved as to Form:

_____ Attorney for City

PASSED AND APPROVED on second and final reading this the _____ day of _____, 19__.

CITY OF PORT NECHES, JEFFERSON COUNTY, TEXAS

(City Seal)

ATTEST:

_____ _____

Secretary or Clerk Mayor

EXHIBIT 9

PROPOSED WATER RATE ORDINANCE

ORDINANCE
FIXING RATES
FOR WATER SERVICE FURNISHED BY

CITY OF PORT NECHES
JEFFERSON COUNTY, TEXAS

WHEREAS, the City of Port Neches has adopted a WATER RATE SYSTEM ORDINANCE to collect revenues for DEBT SERVICE, for CURRENT CAPITAL IMPROVEMENTS, and for the OPERATION AND MAINTENANCE of a PUBLICLY OWNED WATER WORKS; and

WHEREAS, these revenues must be sufficient to cover all costs for OPERATION AND MAINTENANCE of said PUBLICLY OWNED WATER WORKS, for CURRENT CAPITAL IMPROVEMENTS to the PUBLICLY OWNED WATER WORKS, and for payment of BONDED INDEBTEDNESS for the PUBLICLY OWNED WATER WORKS; and

WHEREAS, the WATER RATE SYSTEM ORDINANCE contains various requirements for establishing water rates; and

WHEREAS, the WATER RATE SYSTEM ORDINANCE provides for annual determination of user charges for water service;

NOW, THEREFORE LET IT BE ORDAINED by the City Council of the City of Port Neches:

SECTION 1
DEFINITION OF USER

Where more than one residential, commercial, or industrial unit is served by the same water meter, each unit shall constitute a separate user, except in the case of wholesale users.

SECTION 2
PRESCRIBED CHARGES

The following rates per month shall be the rates charged for water service furnished to retail customers within the boundaries of the City.

Minimum monthly charge for first 3000 gallons per two month period:

$ _____

3000 to 15,000 gallons: $ _____ per 1000 gallons

Over 15,000 gallons: $ _____ per 1000 gallons

Rates for retail customers outside the City shall be _____ times the rates for service inside the City.

Where more than one residential, commercial, or industrial unit is served by the same meter (except for wholesale users):

a. The minimum monthly charge shall be equal to the sum of the minimum monthly charges which would apply to the various units if they were metered separately. Units which are vacant for any given month are excluded.

b. The minimum monthly charge shall cover the first 3000 gallons times the number of units.

Wholesale water service shall be at rates negotiated between the City and wholesale user.

SECTION 3
OTHER CHARGES

Other charges related to water service shall be as prescribed by other City ordinances.

SECTION 4
SUFFICIENCY OF REVENUE

The City Council has determined that the water charges prescribed in this ordinance are necessary and sufficient to cover all costs of debt service and operation and maintenance of the City's water production, treatment, and distribution system, after adjusting for he following factors:

1. Other revenue sources such as sewer charges, ad valorem taxes, grants, and interest income.

2. The portion of that other revenue required for debt service and operation and maintenance of the sanitary sewer system.

3. The portion of that other revenue required for current capital improvements to water and sewer systems.

SECTION 5
DISCONNECTION OF SERVICE

1. The City may disconnect water service to any customer for any of the following reasons:

   a. Written request of the customer.

   b. Failure to pay all water and sewer charges within 30 calendar days after the date of issuance of the bill.

c. Existence of a known dangerous condition resulting from water service to that customer.

d. Service established through meter bypassing, unauthorized connection, or unauthorized reconnection.

e. Tampering with meter.

f. Any reasons listed in the Sewer Use Ordinance.

2. If disconnection is solely due to failure to pay bills the City must:

a. Give 10 calendar days notice prior to reconnection.

b. Have City personnel available to collect delinquent bills and to make reconnection on the day of disconnection and on the following day.

SECTION 6
VALIDITY

All ordinances or parts of ordinances in conflict herewith are hereby repealed. If any section or provision of this ordinance, or the application of same to any person or set of circumstances is invalidated or rendered unenforceable by a court of competent jurisdiction, such judgement shall not affect the validity of any remaining parts of the ordinance, which can be given effect without the invalidated part or parts, or their application to other persons or sets of circumstances.

SECTION 7
EFFECTIVE DATE

This Ordinance shall be in full force and effect with the _____ billing from and after final passage, approval, recording, and publication, provided by law.

PASSED AND APPROVED on first reading this the ___ day of _____, 19__.

CITY OF PORT NECHES, JEFFERSON COUNTY, TEXAS

(City Seal)

ATTEST:

_____ _____

Secretary or Clerk Mayor

Approved as to Form: _____

Attorney for City

PASSED AND APPROVED on second and final reading this the ____ day of _____, 19__.

CITY OF PORT NECHES, JEFFERSON COUNTY, TEXAS

(City Seal)

ATTEST:

_____ _____

Secretary or Clerk Mayor

EXHIBIT 10

SAMPLE WATER USAGE REPORTS

Name of System: City of Port Neches PWS ID No.: 1230010

Name of Plant or Plant No.: Port Neches Water Treatment Month/Year: Oct. 94 Number of Connections: 4932

DATE	RAW WATER PUMPAGE (MGD)	TREATED WATER PUMPAGE (MGD)	RAW WATER ANALYSES			DISINFECTION PROCESS DATA			FINISHED WATER ANALYSES									
											TURBIDITY						DISINFECTANT	
											1	2	3	4	5	6		
			NTU	pH	Alk	D1	D2	D3	pH	Alk	12 AM	4A	8A	12 N	4P	8P	Lowest Residual	Time*
1	1.583	1.485	40	7.4	22	4.96	4.13	3.69	9.4	25	0.1	0.1	0.1	0.1	0.1	0.1	3.69	
2	1.866	1.731	39	7.5	23	5.56	4.44	3.69	9.5	32	0.1	0.1	0.1	0.1	0.1	0.1	3.69	
3	1.950	1.709	38	7.4	23	5.24	4.13	3.69	9.4	32	0.1	0.1	0.1	0.1	0.1	0.1	3.69	
4	2.074	1.793	42	7.3	22	6.08	4.48	3.97	9.4	33	0.1	0.1	0.1	0.1	0.1	0.1	3.97	
5	1.962	1.674	43	7.3	23	6.08	4.13	3.83	9.4	31	0.1	0.1	0.1	0.1	0.1	0.1	3.83	
6	1.916	1.738	45	7.5	23	5.40	4.13	3.83	9.5	28	0.1	0.1	0.1	0.1	0.1	0.1	3.83	
7	1.528	1.441	45	7.4	21	5.72	4.13	3.83	9.5	29	0.1	0.1	0.1	—	0.1	0.1	3.83	
8	1.670	1.332	42	7.1	21	5.56	4.13	3.83	9.1	31	0.1	0.1	0.1	0.1	0.1	0.1	3.83	
9	1.727	1.409	38	7.1	22	5.72	4.13	3.83	9.0	30	0.1	0.1	0.1	0.1	0.1	0.1	3.83	
10	1.565	1.469	36	7.1	23	5.72	4.13	3.83	9.0	31	0.1	0.1	0.1	0.1	0.1	0.1	3.83	
11	1.742	1.452	40	7.2	21	6.08	4.48	3.97	9.1	32	0.1	0.1	0.1	0.1	0.1	0.1	3.97	
12	1.581	1.591	38	7.1	21	5.56	4.82	3.97	9.1	31	0.1	0.1	0.1	0.1	0.1	0.1	3.97	
13	1.857	1.684	42	7.2	26	5.56	4.13	3.97	9.2	31	0.1	0.1	0.1	0.1	0.1	0.1	3.97	
14	2.066	1.459	43	7.2	27	6.26	4.13	3.83	9.3	32	0.1	0.1	—	0.1	0.1	0.1	3.83	
15	1.651	1.622	37	7.2	22	6.26	4.13	3.69	9.2	32	0.1	0.1	0.1	0.1	0.1	0.1	3.69	
16	1.517	1.399	37	7.2	24	6.26	4.48	3.83	9.2	30	0.1	0.1	0.1	0.1	0.1	0.1	3.83	
17	1.578	1.344	39	7.2	23	5.72	4.36	3.97	9.2	31	0.1	0.1	0.1	0.1	—	0.1	3.97	
18	1.588	1.370	35	7.2	17	5.90	4.13	3.69	9.1	26	0.1	0.1	0.1	0.1	0.1	0.1	3.69	
19	1.522	1.335	33	7.0	17	5.90	4.13	3.69	9.0	26	0.1	0.1	0.1	0.1	0.1	0.1	3.69	
20	1.194	1.184	36	7.2	20	5.10	4.26	3.69	9.1	25	0.1	0.1	0.1	0.1	0.1	0.1	3.69	
21	1.361	1.336	44	7.3	21	5.40	4.13	3.69	9.2	26	0.1	0.1	0.1	0.1	0.1	0.1	3.69	
22	1.455	1.358	41	7.2	22	5.56	4.13	3.97	8.9	26	0.1	0.1	0.1	0.1	0.1	0.1	3.97	
23	1.425	1.156	43	7.4	22	5.72	4.13	3.51	8.7	28	0.1	0.1	0.1	0.1	0.1	0.1	3.51	
24	1.343	1.202	45	7.2	22	5.90	4.13	3.51	8.7	27	0.1	0.1	0.1	0.1	0.1	0.1	3.51	
25	1.441	1.331	43	7.1	19	6.26	4.48	3.97	8.7	26	0.1	0.1	0.1	0.1	0.1	0.1	3.97	
26	1.475	1.397	47	7.0	18	5.90	5.10	3.83	8.6	26	0.1	0.1	0.1	0.1	0.1	0.2	3.83	
27	1.466	1.441	43	6.7	15	5.40	4.13	3.97	8.8	22	0.1	0.1	0.2	0.3	0.4	0.4	3.97	
28	1.511	1.420	43	6.5	12	5.10	4.08	3.34	8.7	16	0.4	0.4	—	0.4	0.4	0.4	3.34	
29	1.550	1.380	44	6.4	11	5.10	4.13	3.39	8.6	16	0.4	0.3	0.3	0.3	0.3	0.3	3.39	
30	1.495	1.369	41	6.4	15	5.40	4.13	3.57	8.5	17	0.3	0.3	0.3	0.3	0.3	0.3	3.57	
31	1.326	1.309	35	6.4	13	5.10	4.13	3.57	8.2	18	0.3	0.3	0.3	0.4	0.4	0.5	3.57	
TOTAL	49.985	44.920																
AVG	1.612	1.449																
MAX	2.074	1.793																
MIN	1.194	1.156																

Disinfectant No. 1: NH_3Cl

Disinfectant No. 2: NH_3Cl

Disinfectant No. 3: NH_3Cl

Distribution Disinfectant: NH_3Cl

Total No. of Turbidity Readings: 182

No. above 0.5 NTU: 0 No. above 1.0 NTU: 0

* NOTE: ONLY use the "TIME" column to show the length of time that the disinfectant residual entering the distribution system fell below acceptable levels.

Submitted by: Lee Taylor Date: 11/4/94

ADDITIONAL REPORTING REQUIREMENTS ON THE FRONT OF THIS FORM

TEXAS WATER COMMISSION
MONTHLY REPORT FOR CHLORINE DIOXIDE

WATER SYSTEM NAME _____

P.W.S. # _____ MONTH/YR ___/___

DATE	DAILY RESIDUAL	
	RESULT	POINT OF COLLECTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
TOTAL		
AVERAGE		
MAXIMUM		
MINIMUM		

MONTHLY DISTRIBUTION	
TEST #1	
DATE ___/___/___	
CHLORINE DIOXIDE	
CHLORITE	
CHLORATE	
TOTAL OXIDANTS	
TEST #2 – OPTIONAL	
DATE ___/___/___	
CHLORINE DIOXIDE	
CHLORITE	
CHLORATE	
TOTAL OXIDANTS	
TEST #3 – OPTIONAL	
DATE ___/___/___	
CHLORINE DIOXIDE	
CHLORITE	
CHLORATE	
TOTAL OXIDANTS	
TEST #4 – OPTIONAL	
DATE ___/___/___	
CHLORINE DIOXIDE	
CHLORITE	
CHLORATE	
TOTAL OXIDANTS	

CHEMICAL USED:
SODIUM CHLORITE _____ lbs
CHLORINE _____ lbs

SODIUM CHLORITE ANALYSIS
CHLORITE _____ mg/l
CHLORATE _____ mg/l

TOTAL WATER TREATED THIS MONTH:
_____ MG

GENERAL REMARKS REGARDING CHLORINE DIOXIDE GENERATOR O & M: _____

SUBMITTED BY: _____

ACCEPTABLE DAILY METHOD FOR DISINFECTION OR OTHER PURPOSES:
AMPEROMETRIC TITRATION

ACCEPTABLE DAILY METHOD FOR PURPOSES OTHER THAN DISINFECTION:
DPD–GLYCINE COLORIMETER

ACCEPTABLE MONTHLY METHOD FOR CHLORITE AND CHLORATE IONS:
ION CHROMATOGRAPHY

TEXAS WATER COMMISSION
WATER UTILITIES DIVISION

MONTHLY OPERATIONAL REPORT FOR PUBLIC WATER SYSTEMS WHICH ARE USING SURFACE WATER SOURCES OR GROUNDWATER SOURCES WHICH ARE UNDER THE INFLUENCE OF SURFACE WATER

PUBLIC WATER SYSTEM NAME: _____ PLANT NAME OR NUMBER: _____

PWS ID No.: TX _____

Submitted by: _____ Date: _____

Report for the month of: _____ ,19 __ Certificate No.: _____ Grade: _____

TREATMENT PLANT PERFORMANCE

FINISHED WATER QUALITY

Maximum Allowable Turbidity level for this plant: _____ NTU

Total No. of turbidity measurements: _____

No. of measurements above the limit: _____

Percentage of measurements above the limit: _____ (1)

Number of days with values above 5.0 NTU: _____ (2)

Minimum Allowable Disinfectant Residual for this plant: _____ mg/l

No. of days with values below the limit for more than 4 consecutive hours: _____ (3)

DISINFECTION PROCESS

Giardia Inactivation Required: _____ log

Viral Inactivation Required: _____ log

Disinfectant	Specified Minimum	Minimum Reported Value
D1		
D2		
D3		

Plants which fail to maintain the specified minimum disinfectant residual must also submit a Supplemental Operating Report for CT Determination

	Yes	No
Supplemental Operating Report required?		
Supplemental Operating Report submitted?		

No. of days the plant failed to meet CT requirements for more than 4.0 consecutive hours: _____ (4)

DISTRIBUTION SYSTEM

Minimum allowable disinfectant residual: _____ mg/l

Total No. of measurements this month: _____

No. of measurements below the limit: _____

Percentage of the measurements below the limit this month: _____ (5A)

Percentage of the measurements below the limit last month: _____ (5B)

PUBLIC NOTIFICATION

TREATMENT TECHNIQUE VIOLATION	Yes/No	If YES, Date when Notice was Given to the: Texas Water Commission	Customers*
More than 5.0% of turbidity measurements above acceptable levels? - see (1) above			
Any turbidity measurement above 5.0 NTU? - see (2) above			
Any period when treated water failed to have an adequate disinfectant residual for more than 4 hours? - see (3) above			
Any period when the minimum CT requirements were not met for more than 4 hours? - see (4)			
Disinfectant residual in the distribution system below acceptable levels for two consecutive months? - see (5A) and (5B)			

*Copies of each Public Notice must accompany this report.

ADDITIONAL REPORTING REQUIREMENTS ON THE BACK OF THIS FORM

Submit Report to TWC/Water Utilities Division, P.O. Box 13087, Austin, TX 78711-3087

Name of System: _____ PWS ID No.: _____

Name of Plant or Plant No.: _____ Month/Year: _____ Number of Connections: _____

DATE	RAW WATER PUMPAGE (MGD)	TREATED WATER PUMPAGE (MGD)	RAW WATER ANALYSES			DISINFECTION PROCESS DATA			FINISHED WATER ANALYSES									
											TURBIDITY						DISINFECTANT	
			NTU	pH	Alk	D1	D2	D3	pH	Alk	1	2	3	4	5	6	Lowest Residual	CR Time *
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
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26																		
27																		
28																		
29																		
30																		
31																		
TOTAL																		
AVG																		
MAX																		
MIN																		

Disinfectant No. 1: _____

Disinfectant No. 2: _____

Disinfectant No. 3: _____

Distribution Disinfectant: _____

Total No. of Turbidity Readings: _____

No. above 0.5 NTU: _____ No. above 1.0 NTU: _____

* NOTE: ONLY use the "TIME" column to show the length of time that the disinfectant residual entering the distribution system fell below acceptable levels.

Submitted by: _____ Date: _____

ADDITIONAL REPORTING REQUIREMENTS ON THE FRONT OF THIS FORM

EXHIBIT 11

RECENT ANNUAL REPORTING FORM

Return completed form to:

Executive Administrator
Texas Water Development Board
P.O. Box 13231, Capitol Station
Austin, Texas 78711-3231
ATTN: CONSERVATION

For Questions and Information call:
Municipal Water Conservation Unit
(512) 445-1470

Water Conservation and Drought Contingency Program Annual Report

TWDB Code No.

Hugh Winc[illegible]
ORANGE COUNTY WCID NO. [illegible]
P.O. Box [illegible]
Orange, [illegible]

Texas Water Development Board (TWDB) "Rules Relating to Financial Programs," require that recipients of financial assistance from the TWDB that implement a water conservation and drought contingency program report annually to the TWDB's Executive Administrator on the implementation progress, public response, and effectiveness of their water conservation programs until all financial obligations to the state have been discharged. The required annual reports should be submitted within sixty (60) days after the anniversary date of loan closing.

The following questions have been designed to provide the Board with sufficient information to determine the progress, response, and effectiveness of your program in a format that is concise and consistent for all loan recipients. Please fill in all blanks that pertain to your program as completely and objectively as possible. **If you need additional space or wish to attach a separate report in addition to this, please feel free to do so using the same numbering sequence.**

IMPLEMENTATION PROGRESS

Long-Term Water Conservation Program

1. **Education and Information Program**

During the past year, _____ (number) different water conservation brochures were distributed to utility customers during the months of _____ _____. Also, _____ news articles were submitted and printed in the _____ (newspaper, newsletter), and approximately _____ brochures were distributed to customers through the utility office or

employees. If possible, would you please send us copies of literature distributed and news articles published.

In addition, the following education activities were conducted during the reporting period (talks, presentations, school programs, exhibits, television, radio etc). _____
_____
_____
_____
_____
_____
_____
(Please attach copies of materials as appropriate)

2. **Water Conservation Plumbing Code**

Which plumbing code does your utility follow? _____.
Does this plumbing code include conservation requirements?_____
Approximately what number of new structures _____, additions _____, and remodeled structures _____ were constructed under water conservation plumbing requirements during the reporting year?

3. **Water Conservation Retrofit Program**

Have you conducted a retrofit program during the last year? _____
If a water conservation retrofit program is in place, approximately _____ households received devices, _____ households installed devices, or _____ households received retrofit information. If kits were distributed, please list the contents of the kit or describe other activities. _____
_____
_____
_____
_____
_____
_____
_____
_____

4. **Conservation - Oriented Rate Structure**

Please provide your current water and wastewater rate schedule in the space below or attach a preprinted rate schedule to this report.

Has your rate structure changed since your last report? _____. If yes, the structure changed from a _____ block to a _____ block.

5. **Universal Metering and Meter Repair**

During the past year, what is the approximate number of:

Production (master) meters tested _____, repaired _____, replaced _____
Meters larger than 1½" tested _____, repaired _____, replaced _____
Meters 1½" and smaller tested _____, repaired _____, replaced _____

Total active meters _____ (production and user meters)

6. **Water Audits and Leak Detection**

What is the percent of unaccounted-for water in your utility? _____

How often do you audit or account for the water in your system? _____

What types of equipment or methods do your use to locate leaks in your distribution system? _____

Last year, _____ leaks were repaired in the system. Approximately _____ of these leaks were in main lines, _____ were at service connections, _____ were fire hydrants, and _____ were at other points.

7. **Water Conserving Landscaping**

Please list any water conserving landscaping programs, educational activities, or ordinances enacted during the last year. _____

_____

_____

Is the utility participating in these programs?_____ If so, how? _____

_____

_____

_____

8. **Recycling and Reuse**

What types of water recycling or reuse activities, such as golf course irrigation, recycling filter backwash, etc, are practiced by your utility? _____

_____

_____

_____

_____

_____

_____

_____

This recycling or reuse involves approximately _____ gallons per month for _____ months during the year.

9. **Other Comments**

List any other water conservation activities your utility is conducting. _____

_____

_____

_____

_____

_____

_____

_____

10. During the past year, the Emergency Demand Management or Drought Contingency Plan was activated for _____ days, beginning on _____ and ending on _____.
The reason for activation was _____
_____
_____
_____
_____

Water demand was reduced by approximately _____ gallons per day.

PUBLIC RESPONSE

11. Briefly describe any public response your utility has received regarding the water conservation and/or the emergency water demand management program. _____
_____
_____
_____
_____
_____

EFFECTIVENESS OF THE PROGRAM

12. In your opinion, how would rank the effectiveness of your utility's program?

Very effective _____, Effective _____, Somewhat effective _____,
Less than effective _____, Not effective _____.

13. Does the operations staff of your utility review the program on a regular basis?
_____ If so, how often?_____

14. What type of problems did your utility encounter in implementing the program during the last year? _____
_____
_____
_____
_____

15. What might your utility do, or what could the Board do to improve the effectiveness of your program? _____

_____

_____

_____

_____

_____

16. What additional expense has your utility incurred in implementing this program during the reporting period (literature, materials, staff time, etc.)?
$_____

17. Approximately how much water would you estimate your utility saved during the reporting period due to the overall conservation program? _____ million gallons

What is the estimated dollar value to the utility of this water savings? $_____

18. Approximately how much would you estimate your water accountability has improved during the reporting period as compared to last year? _____%

To assure our addressing future correspondence to the proper person, please type or print the following:

BY:_____

Name Title Phone Date

EXHIBIT 12

ADOPTED WATER AND SEWER ORDINANCES

which may be hereafter constructed and used in connection with the city water system shall pay the following rates per month for each one thousand (1,000) gallons of water:

	Per 1,000 gallons
(a) 1 to 3,000 gallons, minimum bill	$ 7.75
(b) 3,001 to 15,000 gallons	1.87
(c) All over 15,001 gallons	1.92

Location of meters. New meters will be located on public property, rights-of-way, alleys or easements and shall not be placed on private property without securing an easement for the placement of the meter. The city shall not furnish, install, maintain or be responsible for any lines of any kind laid on private property. Meters presently located on private property will be moved on request as soon as time and labor permits.
(Ord. No. 1970-13, § 1, 11-3-70; Ord. No. 1974-15, § 1, 9-17-74; Ord. No. 1979-20, § 1, 9-4-79; Ord. No. 1981-19, § 1, 9-8-81; Ord. No. 1982-14, § 1, 9-16-82; Ord. No. 1985-03, § 1, 2-7-85; Ord. No. 1986-12, § 1, 9-18-86; Ord. No. 1990-17, § 1, 9-6-90; Ord. No. 1991-13, § 1, 9-19-91; Ord. No. 1992-06, § 1, 9-17-92; Ord. No. 1993-11, § 1, 9-2-93; Ord. No. 1994-11, § 1, 9-1-94)

Sec. 23-3. Sewer rates, monthly.

(a) There are hereby established for the use and service of the sewage system of the City of Port Neches, the following rates per month per meter:

	Per 1,000 gallons
(1) Minimum bill	$9.25 plus
(2) 1 to 3,000 gallons	0.87
(3) 3,001 to 15,000 gallons	1.12
(4) All over 15,001 gallons	1.145

(b) The discharge of any wastewater or sewage of any kind, excepting only rain water or the flow from natural streams, upon or across any public property, streets, alleys or dedicated rights-of-way is prohibited.

EXHIBIT 13

PROPOSED SUPPLEMENTARY PLUMBING ORDINANCE

ORDINANCE

SUPPLEMENTING AND AMENDING THE EXISTING ORDINANCE GOVERNING WATER AND SEWER SERVICE BY THE CITY; REQUIRING CERTAIN WATER CONSERVING FEATURES IN NEW, REPLACEMENT, AND EXISTING PLUMBING; ADOPTING AND SUPPLEMENTING THE WATER CONSERVATION PROVISIONS IN THE STANDARD PLUMBING CODE; REFERRING TO A 1991 AMENDMENT TO THE HEALTH AND SAFETY CODE OF THE TEXAS STATUTES; PROVIDING ENFORCEMENT HEREOF; AND PROVIDING SAVINGS AND REPEALING CLAUSES.

WHEREAS, as a condition of a planning grant from the Texas Water Development Board (TWDB) for a study regarding potential improvements to its existing sewage collection and treatment facilities, the City of Port Neches was required to submit a Water Conservation Plan to the TWDB; and,

WHEREAS, in order to obtain a loan from the Texas Water Development Board for such improvements, the City of Port Neches was required to implement a Water Conservation Program; and,

WHEREAS, the TWDB guidelines for the Water Conservation Plan recommend provisions for water conserving features in home plumbing; and,

WHEREAS, Senate Bill 587 of the 72nd Legislature contains additional requirements for water conserving features in home plumbing; and,

WHEREAS, the City of Port Neches has adopted ordinances governing water and sewer service provided by the City; and,

WHEREAS, such ordinances include adoption of the Standard Plumbing Code, 1988 Edition as published by the Southern Building Code Congress International, but do not adopt the optional water conservation provisions included in the Standard Plumbing Code as an appendix; and,

WHEREAS, in order to meet the TWDB guidelines for water conservation, certain water conservation provisions are necessary or desirable; and,

NOW, THEREFORE LET IT BE ORDAINED by the City Council of the City of Port Neches:

SECTION 1
AMENDMENT TO EXISTING ORDINANCE

This ordinance shall constitute an amendment and supplement to the existing City ordinances governing plumbing.

SECTION 2
AREA OF JURISDICTION

This ordinance shall apply to all users of the City of Port Neches water system who are also subject to the requirements of City plumbing codes, including the Standard Plumbing Code or any other published plumbing codes which may be adopted by the City.

SECTION 3
REQUIREMENTS FOR NEW OR REPLACEMENT PLUMBING

1. All hot water lines shall be insulated.

2. All new swimming pools shall have recirculating filtration equipment.

3. The requirements above and the requirements of Appendix J of the Standard Plumbing Code, 1991 Edition (except as modified herein), shall apply to any new plumbing and to any replacement of existing plumbing, regardless of the reason for replacement.

4. The requirements of Chapter 421 of the Health and Safety Code, as adopted through Senate Bill 587 of the 72nd Legislature in 1991, shall govern any new or replacement plumbing to the extent that they are more strenuous than other requirements of this ordinance.

5. The following water use limits are hereby placed on certain fixtures in lieu of limits specified in Appendix J:

   a. Toilets -- 1.6 gal./flush except as allowed in subsection b.

   b. Wall-mounted toilet using flushmeter or flush valve -- 2 gal./flush.

   c. Urinals -- 3 gal./flush for tank type, 1 gal./flush for flush valve type.

   d. Kitchen and lavatory faucet -- 2.2 gpm.

SECTION 4
RETROFIT ITEMS

1. The City may require the following retrofit items to be installed on existing plumbing where applicable, upon proper notice to the owner of the building as specified below:

   a. Displacement devices in toilet tanks (minimum reduction of 0.5 gallons/flush, made of a material which will not disintegrate or flake off in water).

   b. Low flow showerheads (maximum flow 2.75 gallons/minute at 80 psi).

   c. Insulation for hot water lines (for accessible portions of existing lines).

2. Displacement devices shall not be required for toilet tanks designed for low flow in their existing form.

3. Retrofit devices shall not be required where they are impractical or expensive to install.

4. The City shall impose retrofitting requirements as soon as practical under either of the following circumstances:

   a. Requirement by the Texas Water Development Board and/or the Texas Natural Resource Conservation Commission in connection with the Water Conservation Program; or

   b. Determination by the City Council that such retrofit devices are needed because of an existing or imminent water shortage.

   In either event, the City shall notify the owner of each single family residence, multiple family residence, nonresidential building, or other water using facility within the area of jurisdiction. The notice shall specify a period between 90 days and one year during which the specified retrofit items must be installed.

5. If retrofitting is imposed, it shall apply to all residential and nonresidential users of the City water system uniformly.

SECTION 5
PERMITS

Permit requirements for any work required by this ordinance shall be according to governing City ordinances. However, no permit fee shall be required for retrofit devices to be installed (voluntarily or by City requirement) according to Section 4 of this ordinance.

SECTION 6
INSPECTION

All plumbing work constructed according to this ordinance shall be inspected by City personnel (or by any other persons authorized by the City) according to applicable City ordinances, including any applicable sections of the Standard Plumbing Code adopted by reference.

SECTION 7
AVAILABILITY OF REGULATION

Copies of the Standard Plumbing Code (as updated periodically), Senate Bill 587, and any applicable standards referenced therein shall be kept available for inspection at the City Clerk's office in the City of Port Neches during normal business hours on a permanent basis.

SECTION 8
PENALTIES

Any person, firm, or corporation violating any provision of this ordinance shall be fined not less than Ten Dollars ($10.00) nor more than Two Hundred Dollars ($200.00) for each offense; and a separate offense shall be deemed committed on each and every day during or on which a violation occurs or is permitted to continue.

In addition to the fines, the City may terminate water service to any user for repeated or flagrant violations of this ordinance. Reconnection may be made only after the user pays all outstanding bills and fines, plus a $10.00 service charge. Reconnection of a commercial or recreational user may be postponed by the City if, in the opinion of the City, such postponement is necessary to conserve water in an acute emergency.

The City also may, at its option, install a flow restricter in the service line of any user for repeated or flagrant violations of this ordinance. Such restricter may be set at any amount of flow equal to or larger than the amounts listed in other City ordinances as the minimum amounts for water rationing. The City may charge the user for the cost of the flow restricter, including installation, and may disconnect service for failure to pay for this item.

In the case of new construction, the City may refuse connection of water and/or sanitary sewer service to a new structure or facility until the requirements of this ordinance have been met.

In addition to the penalties listed above, the City may bring any civil action in a state court as prescribed in Senate Bill 587.

SECTION 9
VALIDITY

All ordinances or parts of ordinances in conflict herewith are hereby repealed. If any section or provision of this ordinance, or the application of same to any person or set of circumstances is invalidated or rendered unenforceable by a court of competent jurisdiction, such judgement shall not affect the validity of any remaining parts of the ordinance, which can be given effect without the invalidated part or parts, or their application to other persons or sets of circumstances.

SECTION 10
EFFECTIVE DATE

This Ordinance shall be in full force and effect from and after its final passage, approval, recording, and publication, as provided by law.

PASSED AND APPROVED on first reading this the ____ day of _____, 19__.

CITY OF PORT NECHES, JEFFERSON COUNTY, TEXAS

(City Seal)

ATTEST:

_____ _____
Secretary or Clerk Mayor

Approved as to Form: _____
Attorney for City

PASSED AND APPROVED on second and final reading this the ____ day of _____, 19__.

CITY OF PORT NECHES, JEFFERSON COUNTY, TEXAS

(City Seal)

ATTEST:

_____ _____
Secretary or Clerk Mayor

EXHIBIT 14

PROPOSED RESOLUTION FOR ANNUAL REPORTING

RESOLUTION

Be it resolved by the City Council of the City of Port Neches that the City of Port Neches will submit an annual report to the Texas Water Development Board as follows:

Subject: Water Conservation Program, including specifically (a) program implementation progress, (b) public response, and (c) quantitative effectiveness of program in reducing water use and wastewater flows; and also such other topics as may be prescribed periodically by the Texas Water Development Board.

Schedule: Once per year as prescribed by Texas Water Development Board, on or before sixty days after each anniversary of loan closing, until all indebtedness to the Texas Water Development Board is paid in full, or until otherwise released by the Texas Water Development Board.

Be it further resolved that the City of Port Neches will provide such additional information and responses which may be required by the Texas Water Development Board following review of said report.

_____

(Title)_____

(City Seal)

ATTEST:

_____

(Secretary or Clerk)

Date: _____

EXHIBIT 15

CONTRACTS WITH OTHER ENTITIES

LOWER NECHES VALLEY AUTHORITY
WATER SUPPLY CONTRACT

THE STATE OF TEXAS |

COUNTY OF JEFFERSON |

THIS CONTRACT AND AGREEMENT made and entered into on this the 15th day of March, 19 94, and effective as of the 31st day of March, 19 94 (hereinafter referred to as the "effective date") by and between LOWER NECHES VALLEY AUTHORITY, a political subdivision of the State of Texas, having an office at Beaumont, Jefferson County, Texas, hereinafter referred to for convenience as "SELLER", and

CITY OF PORT NECHES

a corporation authorized to do business in the State of Texas, acting herein by and through an officer of said corporation who is hereunto duly authorized by a Resolution of the Board of Directors of said Corporation, hereinafter called "BUYER"

WITNESSETH:

In consideration of the mutual agreements herein contained, SELLER agrees to sell and BUYER agrees to buy water upon the terms and conditions and for the consideration hereinafter set forth:

1. Quantity: Subject to the remaining terms and provisions hereinafter set forth in this Contract, SELLER agrees to sell and deliver to BUYER at the delivery point hereinafter specified and BUYER agrees to pay for not less than the amount of water specified in Subparagraph 4 of Section 6., below, at the rate required by said Subparagraph 4 of said Section 6., below, and BUYER, at its option, may take the amount of water above mentioned together with such additional water as BUYER may require for use in the operation of its plant located at or near the LNVA Canal, Engineering Station 231+20.

2. Quality: The water to be delivered by SELLER and received by BUYER hereunder shall be raw water, and SELLER shall not be obligated to treat such water in any manner, provided, however, that BUYER shall not be obligated to receive water and pay for same for any period during which it shall contain per gallon, at the delivery point, hereinafter specified, in excess of: Ten (10) grains of sodium chloride; and Fifteen (15) grains of encrusting solids in carbonates of magnesium and calcium. And there shall be no liability, whatsoever, on the part of SELLER for failure to furnish and deliver the quality of water specified in this Section 2. It is expressly understood and agreed that there is and shall be no warranty or covenant expressed or implied upon the part of SELLER that said water shall be suitable for use by BUYER, and it is understood that BUYER is to filter and/or otherwise treat said water in order to render it suitable for its use.

3. Delivery Point: The delivery point for water sold and purchased hereunder for BUYER'S operations shall be at a point on SELLER'S canal heretofore selected and designated by BUYER, adjacent to or in the vicinity of BUYER'S plant. BUYER has constructed and agrees to operate, maintain and reconstruct, at BUYER'S own cost and expense, all facilities necessary to take the water purchased hereunder from the canal of SELLER. The equipment and facilities so constructed, operated, maintained and reconstructed by BUYER shall be and remain the property of BUYER.

4. Measuring Equipment: SELLER has heretofore furnished and installed and in the future will operate and maintain at its expense, at the delivery point of water for BUYER'S operations, the necessary meter of standard type to measure properly the water delivered under this agreement. The meter or meters and other equipment so installed shall be and remain the property of SELLER, and the same shall be used in determining the quantity of water delivered to BUYER under this contact and the following provisions in reference thereto shall apply:

BUYER shall have access to said metering equipment at all reasonable times, but the reading and calibrating and adjustment thereof shall be done only by the employees or agents of SELLER. For the purpose of this contract the original record of readings of the meter or meters shall be the journal or other record book of SELLER in its office into which the records of the employees or agents of SELLER who takes meter readings is or may be transcribed and SELLER will, upon request, give BUYER a copy of such journal or record book or permit BUYER to have access to same at the office of SELLER during business hours.

Not more than once each month, on a date as near the last day of each month as practicable, SELLER must calibrate its meters if requested by BUYER to do so, in the presence of representatives of BUYER, and the parties shall jointly observe any adjustments which are made to the meters, should such adjustments be necessary, and if the check meters hereinafter provided for have been installed, the same shall also be calibrated by BUYER in the presence of representatives of SELLER and the parties shall jointly observe any adjustments, should such adjustments be necessary. If BUYER shall request SELLER to calibrate its meters and SELLER shall have given BUYER notice of the time when any such calibration is to be made a sufficient length of time in advance to enable BUYER to have its representatives present, and if representatives are not present at the time set, SELLER may proceed with said calibration and adjustments in the absence of BUYER'S representatives.

If either party at any time observes a variation between the delivery meter or meters and the check meter or meters, if any such check meter or meters is or are installed, it will promptly notify the other party and the parties will then cooperate to secure an immediate calibration test and joint observation of any adjustment and the meter or meters shall then be adjusted to accuracy. Each party shall give to the other party forty-eight (48) hours notice of the time of all tests of meters so that the other party may conveniently have its representatives present.

If, upon any test, the percentage of inaccuracy of any metering equipment is found to be in excess of two percent (2%), registrations thereof shall be corrected for a period extending back to the time such inaccuracy occurred, if such time is ascertainable, and if not ascertainable then back one-half (½) of the time elapsed since the last date of calibration. If, for any reason, any meters are out of service and/or out of repair so that the amount of water delivered cannot be ascertained or computed from the readings thereof, the water delivered through the period such meters are out of service and/or out of repair shall be estimated and agreed upon by the parties hereto upon the basis of the best data available, using the first of the following methods which is feasible:

a. By using the registration of any check meter or meters if installed and accurately registering;

b. By correcting the error if the percentage of error is ascertainable by calibration test of mathematical calculation and

c. By estimating the quantity of delivery by deliveries during preceding periods under similar conditions when the meter or meters was or were registering accurately.

BUYER may, at its option and expense, install and operate check meters to check each meter installed by SELLER but measurement of water for the purpose of this agreement shall be by SELLER'S meters only, except in case hereinabove specifically provided to the contrary. Check meters shall be of the orifice or venturi type and of standard make, and shall be subject at all reasonable times to inspection and examination of SELLER, but the reading, calibration and adjustment shall be done only by BUYER, except during any period where a check meter may be used under the provisions hereof for measuring the water delivered when the reading, calibration and adjustment hereof shall be made by SELLER with like effect, as if such check meter or meters has or have been furnished and installed by it.

5. Unit of Measure: The unit of measure for water delivered hereunder shall be One Thousand (1,000) Gallons of water U. S. Standard Liquid Measure.

6. Price and Payment for Water: For the purpose of billing and accounting, the day shall begin at 10:00 a.m. on a day and extend to 10:00 a.m. the next day, and the billing month as used under this contract shall begin at 10:00 a.m. on the first day of each calendar month and end at 10:00 a.m. on the first day of the succeeding calendar month.

The bill for any month shall be paid by BUYER to SELLER at SELLER'S office in Jefferson County, Texas on or before the 15th day of the calendar month during which the bill is received by BUYER. Should BUYER fail to pay any amount due SELLER hereunder, when same is due, and should such failure to pay continue for sixty (60) days, SELLER may suspend deliveries of water hereunder.

SELLER has established and charges all industrial and municipal customers the standard rates for water which are set out in Exhibit "A", which is attached hereto and made a part hereof as fully and to the same extent as if copied herein in full, giving customers the option to take and pay for water under any one of the brackets set out in said Exhibit "A".

BUYER has elected to take and pay for water under Bracket or Rate Number 2 set out in said Exhibit "A".

The price for daily deliveries shall be determined on the basis of average daily deliveries during the applicable billing month. The minin amount of each bill for the billing month, as hereinabove provided in Section 1, shall be no less than an amount equivalent to 1,000,000 One Million gallons of water per day at the rate set out in Exhibit "A", or such amended rate as may hereafte adopted by the Board of Directors of SELLER, for each day of the billing month and BUYER agrees to pay such amount.

It is expressly understood and agreed that SELLER shall have the right at any time during the period of this contract to change the abov forth standard scheduled rates charged its customers for water, and in the event such rates are lowered, BUYER shall have the advantage of same mediately when they become effective, and if said rates are made higher or different, then BUYER hereby agrees to take and pay for water u such higher or different rates.

If by reason of accident to BUYER or a suspension necessary to make repairs, BUYER is unable to or does not take for some particular m the minimum quantity contracted to be taken each month but pays SELLER the amount due for the minimum quantity provided herein, BU shall have the right to take such water paid for but not taken at some future date convenient to both parties, and when so taken such water shal be counted nor considered in the total amount of water taken during such month.

BUYER shall at all times have the right to refuse to receive water tendered for delivery which does not meet the above quality specified, a on this account, or on account of limitation of quantity as set forth in the next paragraph of this Agreement, BUYER is delivered less than an aver of 1,000,000 One Million gallons of water per day or no water at all, then for such month BUYER shall be relieve the minimum payment and pay for only such water as it receives.

7. **Limitation on Quantity:** Anything in this contract to the contrary notwithstanding, it is understood and agreed by the parties hereto in no event shall SELLER be obligated to deliver to BUYER more water than SELLER shall have available through its present plant facilities equipment, and SELLER shall not be obligated to extend nor enlarge its plant facilities or equipment for the purpose of supplying demanc BUYER under this contract. Should SELLER at any time, by reason of a shortage resulting from any of the causes mentioned in Section 5.039 of Texas Water Code or by reason of any of the happenings or conditions mentioned in Paragraph 8., below, not have available sufficient water to nish to all parties having contracts with SELLER the water to which they are otherwise entitled under the terms of such contracts, then and in event the water available will be distributed and divided as required by said Section 5.039 of the Texas Water Code.

8. **Force Majeure:** In the event of either party being rendered unable, wholly or in part, by force majeure to carry out its obligations u this contract, other than the obligations to make payments of amounts accrued and due hereunder at the time thereof, it is agreed that on such p giving notice and full particulars of such force majeure in writing or by telegraph to the other party within a reasonable time after the occurren the cause relied on, then the obligations of the party giving such notice, so far as they are affected by such force majeure shall be suspended du the continuance of any liability so caused but for no longer period, and such cause shall so far as possible be remedied with all reasonable diligs The term "force majeure" as employed herein shall mean and include, without limitation, acts of God, strikes, lockouts, or other industrial dis bances, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, hurricanes, sto floods, washouts, droughts, arrests, and restraint of Government and people, civil disturbances, explosions, breakage or accident to machi and/or canals, partial or entire failure of the supply of water, and inability on the part of SELLER to deliver water hereunder or all of the water tracted for hereunder on account of contractual rights of others or on account of the prior rights of other users to the supply of water at the sour the supply arising by operation of law, and any other causes, whether of the kind herein enumerated or otherwise not reasonably within the contr the party claiming suspension. It is understood and agreed that the settlement of strikes or lockouts shall be entirely within the discretion of the p having the difficulty, and that the above requirement that any force majeure shall be remedied with all reasonable dispatch shall not require settlement of strikes or lockouts be acceding to the demands of opposing party when such course is inadvisable in the discretion of the party ha the difficulty.

9. **Other Purchases:** It is expressly understood and agreed that during any period that SELLER fails to deliver to BUYER water mee contract specifications, or is unable to perform its obligations hereunder, BUYER shall have the right during the continuance of such failure, or s inability, to obtain water from other sources.

10. **Non-Waiver:** The failure of either party hereto to insist, in any one or more instances, upon performance of any of the terms, covenant conditions of this contract shall not be construed as a waiver or a relinquishment of the future performance of any such term, covenant, or conditi the other party hereto, but the obligation of such other party with respect to such future performance shall continue in full force and effec

11. **Term:** This contract shall be for a term of two (2) years commencing at 12:01 a.m. on the effective date of this contract and ending tw years from such time and date. This contract may be renewed and extended for an additional period of time, upon the same terms and condition herein set out, by a letter of agreement executed prior to the expiration of this contract by the persons then authorized to enter into contract behalf of SELLER and BUYER.

12. **Assignment:** This agreement shall enure to the benefit of, and be binding upon the parties hereto and their respective successors assigns.

13. **Notice:** Any notice required or authorized to be given under the terms and provisions of this contract will be in writing and wil delivered in person at the office address or in the alternative will be delivered by registered mail addressed to the post office address which is set below following the name of the party to whom notice is being given. Said offices and mailing addresses will be considered as remaining in effect u such time as notice of a change of address is given by one party to the other in writing as herein provided in this paragraph.

14. **Regulatory Bodies:** This contract shall be subject to all valid rules and regulations and laws applicable hereto, passed or promulgate the United States, the State of Texas and any municipal or other governmental body or agency or by any authorized representatives or agency of of them, having lawful jurisdiction.

15. This contract is made and entered into in Beaumont, Jefferson County, Texas, is performable in all particulars in said Jefferson Co ty, Texas, shall be construed and enforced in accordance with the laws of the State of Texas and any cause of action hereunder shall be filed maintained in a court of competent jurisdiction in Jefferson County, Texas.

IN WITNESS WHEREOF, the SELLER and BUYER have caused this Contract and Agreement to be executed by their respective authorized officers and have caused their respective seals to be hereunto affixed as of the effective date above stated.

LOWER NECHES VALLEY AUTHORITY, Seller

Office Address: 7850 Eastex Freeway, Beaumont, Texas 77708

Mailing Address: P. O. Drawer 3464, Beaumont, Texas 77704

ATTEST:

Secretary

By _____

President

City of Port Neches — Buy

Mailing Address:

P.O. Box 758

Port Neches, Texas 77651

ATTEST:

Secretary

By _____

James L. Harrington, City Manager

(Officers Title)

EXHIBIT 16

LOCATIONS OF EXISTING WATER FACILITIES

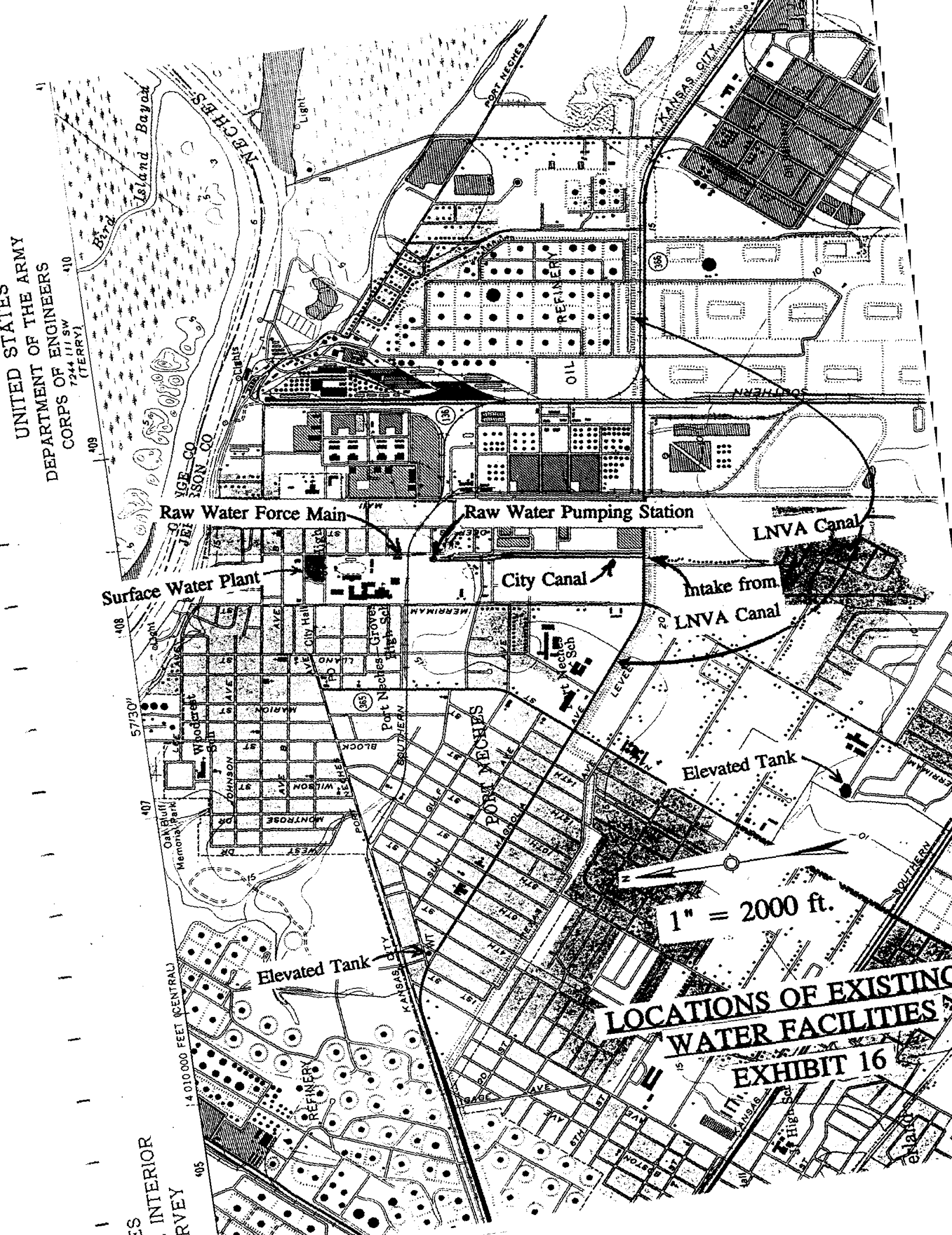
UNITED STATES
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
7244 III SW
(TERRY)
Raw Water Force Main
Raw Water Pumping Station
LNVA Canal
Surface Water Plant
City Canal
Intake from
LNVA Canal
Elevated Tank
Elevated Tank
1" = 2000 ft.
LOCATIONS OF EXISTING
WATER FACILITIES
EXHIBIT 16
PORT NECHES
NECHES
Bird Island Bayou
KANSAS CITY
OIL REFINERY
SOUTHERN
Port Neches Grover High Sch
City Hall
Oak Bluff Memorial Park
Woodcrest
LEVEE
INTERIOR
RVEY

EXHIBIT 17

PROPOSED ORDINANCE CONTROLLING WATER USAGE IN EMERGENCIES

ORDINANCE
CONTROLLING WATER USAGE DURING EMERGENCIES: EMPOWERING CITY COUNCIL TO DECLARE EMERGENCIES: AND PRESCRIBING PENALTIES FOR VIOLATION THEREOF

WHEREAS, the City of Port Neches finds it necessary to control and/or limit water use during an emergency;

NOW, THEREFORE LET IT BE ORDAINED by the City Council of the City of Port Neches:

SECTION 1
DEFINITION OF USER

Except as provided in Section 8, users shall include only retail customers served directly by the City water system, whether located within or outside the City, and not customers of wholesale users such as other cities, water districts, or water supply corporations.

Where more than one residential or commercial unit is served by the same water meter:

1. For surcharging or rationing purposes, each unit shall constitute a separate user.

2. For disconnection purposes, the person, firm, or corporation responsible for the master meter shall be considered the user.

SECTION 2
DECLARATION OF EMERGENCY

The City Council may, at any properly posted, convened, and conducted meeting, declare the City to be in a water usage emergency requiring one or more of the following actions:

1. Water Waste

   Prohibition of all water waste as defined in Section 3.

2. Outdoor Water Usage

   a. Alternate days for usage

   b. Prohibition of usage

   c. Other restrictions

3. Control Measures for Indoor Usage

   a. Surcharge system

   b. Rationing

   c. Flow restricters (for violators only)

4. Variances

   a. Variances for certain commercial users as prescribed in Section 7.

   b. Overriding of any standing variances which may have been previously granted.

SECTION 3
WATER WASTE AND OUTDOOR WATER USAGE

1. The City Council may, after declaring a water usage emergency, prohibit all water waste defined as follows:

   a. Washing vehicles, buildings, and other similar items unless a bucket or a hose with a cutoff device at the downstream end of the hose is used.

   b. Allowing water from vehicle washing, building washing, or plant watering to run excessively onto streets or sidewalks.

   c. Recreational use of sprinklers or hoses.

   d. Using water for ornamental fountains.

   e. Any other water use, indoor or outdoor, which is obviously wasteful.

2. The City Council may, after declaring a water usage emergency, prohibit any or all of the following outdoor water usages:

   a. Watering of grass, lawns, flowers, trees, gardens, or shrubbery

   b. Washing vehicles, buildings, or swimming pools

   c. Recreational purposes (including filling swimming pools)

   d. Ornamental fountains

3. The City Council may, after declaring a water usage emergency, restrict any or all of the outdoor water usages listed in Subsection 2 to alternate days as follows:

a. Even numbered house, business, lot, or premise:
Tuesdays, Thursdays, and Saturdays only.

b. Odd numbered house, business, lot, or premise:
Mondays, Wednesdays, and Fridays only.

c. House, business, lot or premise with no visible number or no number known to City:
Same as odd numbers.

4. On or after the date when the City Council shall meet and declare a water usage emergency requiring any or all of the restrictions described in Subsections 1, 2, and 3, it shall be unlawful for any person, firm, or corporation to violate any of these restrictions, unless the City Council grants an applicable variance and has not overridden such variance for the specific emergency.

SECTION 4
SURCHARGE SYSTEM

The City Council may, after declaring a water usage emergency, impose surcharges not to exceed the following amounts on all water usage (per month) by any user:

0 - 3,000 gallons	0.75 per 1000 gallons
3,000 - 5,000 gallons	$1.00 per 1000 gallons
5,000 - 10,000 gallons	$1.50 per 1000 gallons
Over 10,000 gallons	$1.75 per 1000 gallons

No surcharge for any bracket may be less than the surcharge for the next lower bracket.

These surcharges shall become effective for each user as soon as the City can read the meter serving that user and notify that user.

SECTION 5
RATIONING

The City Council may, after declaring a water usage emergency, impose rationing on any or all user classes. The daily amount which each user may be permitted to use shall be set equal to or greater than the following amounts:

Residential - 50 gallons	School - 100 gallons (plus 5 gallons/student on days classes are held)
Commercial - 100 gallons	
Recreational Facility - 300 gallons	Industrial - 300 gallons

Rationing shall become effective for each user as soon as the City can read the meter serving that user and notify that user.

SECTION 6
COMMERCIAL USE

The City Manager may, in a water shortage emergency, direct any or all commercial, industrial, and recreational users to suspend use of City water for purposes other than domestic use. He may take this action regardless of whether the City Council has declared a water usage emergency.

SECTION 7
APPEAL PROCEDURE

The City shall, as soon as practical after the effective date of this ordinance, notify all nonresidential users of the following facts:

1. Businesses which use outdoor water in their primary business functions (such as commercial car washes) may be considered for variances from emergency restrictions or prohibitions of outdoor water usage.

2. The City may restrict or prohibit such outdoor usage, even if a business qualified for a variance, if the water shortage emergency is severe enough to impose such restriction or prohibition.

3. Any businesses which feel that they may qualify for variances are encouraged to request (preferably in nonemergency time) that the City grant a standing variance.

4. Such businesses shall show to the City sufficient cause for granting the variance.

5. The City may grant a specific variance during a water shortage emergency, or may override a standing variance.

The City shall notify all new nonresidential customers of the above facts at the time they apply for or receive service.

SECTION 8
NOTIFICATION OF USERS

The City shall notify all users promptly when a water supply emergency is declared. For prohibition of outdoor water usage, such notice may be through local news media. For surcharges or rationing, such notice shall be in writing for each user if practical, preferably delivered along with the meter reading. The individual notice shall, if practical, shown the date and amount of the meter reading.

SECTION 9
APPLICABILITY OF RESTRICTIONS

Water use restrictions and surcharges contained in this ordinance shall apply to all water supplied by the City water system to its retail customers, whether located within or outside the City.

The following rules shall govern wholesale users and their customers:

1. Restrictions on outdoor usage shall not apply to customers of wholesale users unless provided in the contract between the City and the wholesale user.

2. Surcharges shall not apply to wholesale users or to their customers unless provided in the contract between the City and the wholesale user. If the surcharges are to be applied, they shall become effective for each customer of the wholesale user as soon as the wholesale user can read that customer's meter. The surcharges prescribed by emergency resolution shall be collected by the wholesale user in its billing cycle and passed on directly to the City. Nothing in this ordinance shall prevent the wholesale user from assessing an additional surcharge to defray its own expenses.

3. Rationing shall not apply directly to customers of wholesale users unless provided in the contract between the City and the wholesale user. Otherwise, each wholesale user shall be rationed to the total amount of water to which its individual customers would be entitled under the emergency resolution.

4. Any restriction, surcharges, or rationing adopted under authority of this ordinance shall be applied uniformly to the City's retail customers and to such wholesale users and/or their customers as may be applicable.

SECTION 10
DURATION OF RESTRICTIONS

All restrictions contained in this ordinance shall remain in effect until terminated by further Council action, unless, at the time the Council initiates the restrictions, or at a subsequent meeting:

1. The Council sets a specific time limit, or

2. The Council delegates authority to the City Manager to terminate the restrictions at his discretion.

SECTION 11
PROCEDURAL REQUIREMENTS

The Council may initiate and terminate water usage emergencies and accompanying restrictions by means of simple motions recorded in the minutes, so long as the intent of the action is made clear. Any rules requiring reading at two or more meetings are automatically suspended for all actions authorized by this ordinance.

SECTION 12
PENALTIES

Any person, firm, or corporation violating any provision of this ordinance shall be fined not less than Ten Dollars ($10.00) nor more than Two Hundred Dollars ($200.00) for each offense; and a separate offense shall be deemed committed on each and every day during or on which a violation occurs or is permitted to continue.

In addition to the fines, the City may terminate water service to any user for repeated or flagrant violations of this ordinance. Reconnection may be made only after the user pays all outstanding bills and fines, plus a $10.00 service charge. Reconnection of a commercial or recreational user may be postponed by the City if, in the opinion of the City, such postponement is necessary to conserve water in an acute emergency.

The City also, may at its option, install a flow restricter in the service line of any user for repeated or flagrant violations of this ordinance. Such restricter may be set at any amount of flow equal to or larger than the amounts listed in Section 5 of this ordinance. The City may charge the user for the cost of the flow restricter, including installation, and may disconnect service for failure to pay for this item.

SECTION 13
VALIDITY

All ordinances or parts of ordinances in conflict herewith are hereby repealed. If any section or provision of this ordinance, or the application of same to any person or set of circumstances is invalidated or rendered unenforceable by a court of competent jurisdiction, such judgement shall not affect the validity of any remaining parts of the ordinance, which can be given effect without the invalidated part or parts, or their application to other persons or sets of circumstances.

SECTION 14
EFFECTIVE DATE

This Ordinance shall be in full force and effect with the _____ billing from and after its final passage, approval, recording, and publication, as provided by law.

PASSED AND APPROVED on first reading this the ____ day of _____, 19__.

CITY OF PORT NECHES, JEFFERSON COUNTY, TEXAS

(City Seal)

ATTEST:

_____ _____

Secretary or Clerk Mayor

Approved as to Form: _____

Attorney for City

PASSED AND APPROVED on second and final reading this the ____ day of _____, 19__.

CITY OF PORT NECHES, JEFFERSON COUNTY, TEXAS

(City Seal)

ATTEST:

_____ _____

Secretary or Clerk Mayor

EXHIBIT 18

PROPOSED BROCHURE CONCERNING EMERGENCY MEASURES

(To be Distributed in Advance of Water Shortages)

EMERGENCY MEASURES
FOR
WATER SHORTAGE
CITY OF PORT NECHES, JEFFERSON COUNTY, TEXAS

Most Southeast Texans think of a water shortage as something that occurs in Austin, San Antonio, or other arid portions of the state. With all the abundant surface water supply in the Neches River for Jefferson County, the Midcounty area should have all the water it could ever use. Why should we ever have to worry about saving water?

A number of things can happen to interrupt the water supply in Port Neches. Most of these events are short term emergencies such as extended power failure; failure of pumps, tanks, canals, transmission lines, and other components of the water system; severe freezes resulting in broken pipes; severe storms; and major fires which use up water supplies. Long term shortages could occur in the future in the event that local surface water becomes contaminated.

Although the City is responsible for taking whatever measures are needed to restore full water service, local residents can do many things to help save water in the mean time. These measures may be voluntary or mandatory, depending on the nature of the crisis. In any event, the homeowner needs to know ahead of time what will be expected of him.

Many suggestions for water saving can be found in the six page water conservation flyer which was passed out earlier. These tips were intended for long term conservation, but can come in very handy in an emergency. If you cannot find your copy of the flyer, come by the Public Works Department at 634 Avenue C for a copy.

There are many other emergency measures not covered in the flyer. Some of these measures may be requested or required when an emergency strikes. These measures include, but are not limited to, the following:

1. Stopping all outdoor water usage, or limiting it to alternate days.

2. Turning off the water at the meter just before a severe freeze. All outdoor faucets should be drained and the water saved for indoor use. An adequate supply of water should be saved before cutting off the water to last through the freeze.

NOTE: Do not leave water dripping all night through the faucets. Beaumont residents did that a few years ago in a big freeze, and it almost used up their water supply.

3. Better still, try to protect all piping from the freeze. Wrap all outdoor faucets with newspapers and cover with a plastic bag. If your house is on blocks, cover the sides temporarily to keep the wind from going under the house. This way you can leave the water turned on. Be sure to draw some water in advance, though, in case there is a shortage.

4. If a severe storm is coming, follow instructions of the emergency management agency or other applicable agency. If you are staying through the storm, draw water in advance to last several days and watch for reports of contamination. Be ready to purify water before drinking it.

5. If the water supply becomes contaminated, be ready to buy bottled water or to purify the City water. Purification might be by boiling or by tablets. Some types of chemical pollution cannot be purified, so it may pay to store up bottled water ahead of time.

EXHIBIT 19

SAMPLE RESOLUTIONS

(To be Enacted by City Council at Beginning
or End of Water Shortage Emergency
and Filled in as Appropriate)

RESOLUTION

WHEREAS, the City Council of the City of Port Neches has declared a water usage emergency for the community and for the City water system;

BE IT THEREFORE RESOLVED by the City Council of the City of Port Neches:

____ 1. In accordance with the previously adopted Ordinance Controlling Water Usage During Emergencies, all water waste (as defined below) involving water supplied by the City is hereby prohibited. Water waste is defined as follows:

a. Washing vehicles, buildings, and other similar items unless a bucket or a hose with a cutoff device at the downstream end of the hose is used.

b. Allowing water from vehicle washing, building washing, or plant watering to run excessively onto streets or sidewalks.

c. Recreational use of sprinklers or hoses.

d. Using water for ornamental fountains.

e. Any other water use, indoor or outdoor, which is obviously wasteful.

____ 2. The following outdoor usages of any water supplied by the City are hereby prohibited;

____ a. Watering of grass, lawns, flowers, trees, gardens, or shrubbery

____ b. Washing vehicles, buildings, or swimming pools

____ c. Recreational purposes, including filling swimming pools

____ d. Ornamental fountains

____ 3. The following outdoor uses of any water supplied by the City are hereby restricted to alternate days, as follows:

Even numbered house, business, lot, or premise:
Tuesdays, Thursdays, and Saturdays only.

Odd numbered house, business, lot, or premise:
Mondays, Wednesdays, and Fridays only.

House, business, lot or premise with no visible number or no number known to City: Same as odd numbers.

Resolution Form WCP a

____ a. Watering of grass, lawns, flowers, trees, gardens, or shrubbery

____ b. Washing vehicles, buildings, or swimming pools

____ c. Recreational purposes, including filling swimming pools

____ d. Ornamental fountains

____ 4. The following special variances are hereby granted for this occasion on the basis of sufficient justification provided by the users involved:

_____
_____
_____
_____
_____

____ 5. The following standing variances are hereby overridden because of the seriousness of this emergency:

_____
_____
_____
_____
_____

The restrictions prescribed above shall remain in effect;

____ a. Until further notice from City Council

____ b. Until and including _____, 19 ___

____ c. Until further notice from City Manager

Resolution Form WCP a

The City Manager is hereby directed to notify affected users by appropriate means as promptly as possible, of (a) the restrictions checked above, (b) the variances granted or overridden as listed above, and (c) the penalties prescribed by prior ordinances.

_____

(Title) _____

(SEAL)

ATTEST:

_____
Secretary or Clerk

Date: _____

Resolution Form WCP a

RESOLUTION

WHEREAS, the City Council of the City of Port Neches has declared a water usage emergency for the community and for the City water system;

BE IT THEREFORE RESOLVED by the City Council of the City of Port Neches:

1. In accordance with the previously adopted Ordinance Controlling Water Usage During Emergencies, the following surcharges are hereby assessed on all usage of City water in addition to the regular prescribed charges:

Bimonthly Usage Block	Block Rate (per 1000 gal.)
0 - _____ gallons	_____
_____ - _____ gallons	_____
_____ - _____ gallons	_____
_____ - _____ gallons	_____
_____ - _____ gallons	_____

2. The following special variances are hereby granted for this occasion on the basis of sufficient justification provided by the users involved:

_____
_____
_____
_____
_____
_____

3. The following standing variances are hereby overridden because of the seriousness of this emergency:

_____
_____
_____
_____
_____
_____

4. These surcharges shall become effective for each user immediately after the next meter reading for that user.

Resolution Form WCP b

5. The surcharges prescribed above shall remain in force through the next meter reading, following;

   _____ a. Further notice from City Council

   _____ b. _____, 19 ___

   _____ c. Further notice from City Manager

6. The City Manager is hereby directed to notify affected users by appropriate means as promptly as possible.

_____

(Title)_____

(SEAL)

ATTEST:

_____
Secretary or Clerk

Date: _____

Resolution Form WCP b

RESOLUTION

WHEREAS, the City Council of the City of Port Neches has declared a water usage emergency for the community and for the City water system;

BE IT THEREFORE RESOLVED by the City Council of the City of Port Neches:

1. In accordance with the previously adopted Ordinance Controlling Water Usage During Emergencies, water usage is hereby rationed to the following amounts per day for each user* according to user class.

Residential	_____ gallons
_____	_____ gallons
_____	_____ gallons
_____	_____ gallons
_____	_____ gallons
_____	_____ gallons

*Applies to each unit separately where more than one unit is served by a master meter.

2. The following special variances are hereby granted for this occasion on the basis of sufficient justification provided by the users involved:

_____
_____
_____
_____
_____
_____

3. The following standing variances are hereby overridden because of the seriousness of this emergency:

_____
_____
_____
_____
_____
_____

4. These limits shall become effective for each user immediately after the next meter reading for that user.

Resolution Form WCP c

5. The limits prescribed above shall remain in force through the next meter reading, following:

   _____ a. Further notice from City Council

   _____ b. _____, 19 ___

   _____ c. Further notice from City Manager

6. The City Manager is hereby directed to notify affected users by appropriate means as promptly as possible, of (a) this rationing action, (b) the variances granted or overridden as listed above, and (c) penalties prescribed by prior ordinance.

_____

(Title)_____

(SEAL)

ATTEST:

_____
Secretary or Clerk

Date: _____

Resolution Form WCP c

RESOLUTION

WHEREAS, the City Council of the City of Port Neches has previously declared a water usage emergency for the community and for the City water system; and

WHEREAS, the City Council of the City of Port Neches has declared that the water supply emergency is ended, or is reduced in severity;

BE IT THEREFORE RESOLVED by the City Council of the City of Port Neches:

_____ 1. Those water uses defined as water waste in the Ordinance Controlling Water Usage During Emergencies are hereby allowed to the extent they are not prohibited by other ordinances. This action shall not be construed to encourage wasteful use of City water.

_____ 2. The following outdoor usages of any water supplied by the City are hereby allowed without restriction:

_____ a. Watering of grass, lawns, flowers, trees, gardens, or shrubbery

_____ b. Washing vehicles, buildings, or swimming pools

_____ c. Recreational purposes, including filling swimming pools

_____ d. Ornamental fountains

_____ 3. The following outdoor uses of any water supplied by the City are hereby allowed on alternate days, as follows:

Even numbered house, business, lot, or premise:
Tuesdays, Thursdays, and Saturdays only.

Odd numbered house, business, lot, or premise:
Mondays, Wednesdays, and Fridays only.

House, business, lot or premise with no visible number or no number known to City: Same as odd numbers.

_____ a. Watering of grass, lawns, flowers, trees, gardens, or shrubbery

_____ b. Washing vehicles, buildings, or swimming pools

_____ c. Recreational purposes, including filling swimming pools

_____ d. Ornamental fountains

Resolution Form WCP d

_____ 4. The following standard or special variances are hereby allowed in light of the downgraded state of emergency:

_____

_____

_____

_____

_____

_____ 5. Any remaining restrictions prescribed above shall remain in effect:

_____ a. Until further notice from City Council

_____ b. Until and including _____, 19 ___

_____ c. Until further notice from City Manager

The City Manager is hereby directed to notify affected users by appropriate means as promptly as possible.

_____

(Title)_____

(SEAL)

ATTEST:

_____
Secretary or Clerk

Date: _____

Resolution Form WCP d

RESOLUTION

WHEREAS, the City Council of the City of Port Neches has previously declared a water usage emergency for the community and for the City water system; and

WHEREAS, the City Council of the City of Port Neches has declared that the water supply emergency is ended, or is reduced in severity;

BE IT THEREFORE RESOLVED by the City Council of the City of Port Neches:

_____ 1. In accordance with the previously adopted Ordinance Controlling Water Usage During Emergencies, all surcharges on City water and/or rationing of City water shall be terminated.

_____ 2. Any existing rationing or surcharges shall be replaced with the following surcharges:

Bimonthly Usage Block	Block Rate (per 1000 gal.)
0 - _____ gallons	_____
_____ - _____ gallons	_____
_____ - _____ gallons	_____
_____ - _____ gallons	_____
_____ - _____ gallons	_____

The surcharges prescribed above shall remain in force through the next meter reading following:

_____ a. Further notice from City Council

_____ b. _____, 19 ___

_____ c. Further notice from City Manager

_____ 3. The following standard or special variances are hereby allowed in light of the downgraded state of emergency:

_____

_____

_____

_____

_____

_____ 4. The action taken under Section 1 or 2 shall become effective for each user immediately after the next meter reading for that user.

Resolution Form WCP e

The City Manager is hereby directed to notify affected users by appropriate means as promptly as possible.

_____

(Title)_____

(SEAL)

ATTEST:

_____
Secretary or Clerk

Date: _____

Resolution Form WCP e

EXHIBIT 20

PROPOSED RESOLUTION FOR

IMPLEMENTING EDUCATION AND INFORMATION

Be it resolved by the City Council of the City of Port Neches that the Education and Information Program, as prescribed in Section II. A of the Water Conservation Plan as submitted previously to the Texas Water Development Board, will be carried out in the following manner and according to the following schedule:

Manner: (a) Hand delivery of the specified materials to each customer, either alone or with the delivery of other items to the customer.

(b) Printed messages on the customer's monthly billing notices.

Schedule: Every two months for a one year period beginning with the closing of the Texas Water Development Board loan now applied for or pending, including at least twice by manner (a) and the other times by manner (b); then,

No less than twice a year by manners (a) and/or (b) until all indebtedness to the Texas Water Development Board is paid in full, unless otherwise released by the Texas Water Development Board, with mailing periods selected so as to precede periods of high water usage.

New Customers: At time of application or connection.

(SEAL)

_____

(Title)_____

_____

Secretary or Clerk

Date: _____

EXHIBIT 21

PROPOSED RESOLUTION FOR

MONITORING FOR TRIGGER CONDITIONS

RESOLUTION

WHEREAS, in order to obtain a loan from the Texas Water Development Board (TWDB) for improving existing sewage facilities, the City of Port Neches was required to submit a Water Conservation Plan to the TWDB; and,

WHEREAS, said Water Conservation Plan includes various drought contingency measures for the City to implement in the event of actual or impending water shortages from various causes; and,

WHEREAS, said Water Conservation Plan also includes a set of guideline policies referred to as trigger conditions, which will result in action by the City Council and/or the City Manager, to declare an emergency and to take appropriate action;

WHEREAS, said guideline policies have been approved by the TWDB subject to certain modifications;

THEREFORE, BE IT RESOLVED by the City Council of the City of Port Neches:

1. The City hereby adopts said guidelines.

2. The City will monitor its water usage patterns, and if necessary parameters such as rates of water usage, water level in tanks, and/or pressures in distribution system, along with durations of such parameters, in order to verify the appropriateness of said guidelines.

3. The City will revise and/or supplement said guidelines as required on the basis of monitoring.

4. The City will use all due judgement in implementing drought contingency measures.

5. The City will keep all necessary records of the actual use, if any, of drought contingency measures.

6. The City will modify the guidelines as necessary on the basis of experience.

7. The City will, if appropriate, submit any revisions to the TWDB.

_____

(Title)_____

(City Seal)

_____
Secretary or Clerk

Date: _____

EXHIBIT 22

DELINEATION OF RESPONSIBILITIES

DELINEATION OF RESPONSIBILITY

CITY OF PORT NECHES

A. Director of Public Works:

1. Supervises Education and Information program.

2. Groups water customers into classes for purposes of water rates and/or rationing should such classification become necessary, then notifies customers; also, is first level of appeal for customers disagreeing with classification.

3. Annual review of program operation *(submits findings to City Manager)*.

4. Recommends recycling for large users *(joint jurisdiction with City Manager)*.

5. Supervises monitoring for trigger conditions.

6. Reports to City Manager in the event that alternate water supply may be needed on long term or emergency basis.

7. Recommends to City Manager that expansion of water system capacity or providing additional treatment is needed, if appropriate.

8. Recommends action against polluters of upstream water supply, if appropriate.

9. Notifies City and neighboring fire departments of acute water shortage, if necessary *(joint jurisdiction with City Manager)*.

10. Arranges for notification of water customers in case of widespread emergency.

11. Recommends standing variances to potential water rationing.

12. Arranges for notification of termination or downgrading of emergencies.

13. Receives applications for standard variances to water rationing, and recommends appropriate action to City Manager.

14. Reviews water rates periodically and recommends increases to City Manager, if appropriate.

15. Reviews the need for any possible plumbing retrofit requirements and provides recommendation to City Manager.

16. Supervises advance planning for emergencies.

17. Maintains communications with LNVA regarding any factors pointing to long or short term shortages.

18. Approves major repairs for water system *(or, if warranted, passes recommendation to City Manager)*.

B. City Manager:

1. Recommends increasing block rate to Council, if appropriate *(unless task is delegated to consultants)*.

2. Second level of appeal for customers disagreeing with classification for water rate and/or rationing purposes.

3. Annual review of program operation *(reviews findings of Director of Public Works, then submits findings to Council for approval)*.

4. Submits annual reports to Texas Water Development Board.

5. Recommends recycling for large users *(joint jurisdiction with Director of Public Works)*.

6. Overall responsibility for monitoring performance of City facilities.

7. Recommends that City Council declare a water supply emergency, and accordingly recommends specific measures for Council to take such as rationing and/or surcharges, including specific numbers for such measures. Conversely, recommends termination or downgrading of emergency.

8. Declares a water supply emergency *(if circumstances indicate the need for such action on his part without calling a Council meeting for that purpose)*.

9. Approves major repairs to water facilities if required by the magnitude of repairs.

10. Contacts neighboring water systems in emergency if water is needed from interconnect.

11. Initiates action *(following recommendation of Director of Public Works)* toward expanding system capacity, providing additional treatment, or obtaining a long term alternate supply.

12. Discusses any necessary action against polluters of upstream water supply with City Attorney, then if appropriate brings matter before Council.

13. Notifies City and neighboring fire departments of acute water shortage, if necessary *(joint jurisdiction with Director of Public Works)*.

14. Arranges for public notice for voluntary lawn watering schedule and/or reduced industrial/commercial usage when appropriate.

15. Notifies of curtailment of specified commercial, industrial, and recreational use.

16. Announces the end or downgrading of a crisis *(if he declared the crisis, or if authorized by Council to end crisis)* and takes any appropriate measures accordingly.

17. Notifies outside entities purchasing wholesale water and sewer services (such as encircled industries) of need to adopt water conservation provisions, and of possible strenuous requirements in future.

18. Makes decisions regarding applications for standing variances to water rationing.

19. Notifies City Attorney in advance of any proposed Council action.

20. Takes action against violators *(in consultation with City Attorney)*.

21. Reviews any need for rate increases and recommends action to Council.

22. Recommends imposition of plumbing retrofit requirements if needed.

C. City Attorney:

1. Reviews all proposed actions by City Council.

2. Discusses any proposed legal action or major contracts with City Manager before such items are presented to Council.

3. Consults with City Manager regarding action against violators.

D. City Council:

1. Enacts all necessary ordinances and resolutions for initial implementation of program, including initial endorsement of program for submittal to TWDB.

2. Enacts all necessary ordinances to adjusts rates and/or go to increasing block rate if appropriate.

3. Reviews and approves City Manger's annual report to TWDB.

4. Adopts resolutions declaring water supply emergency and taking appropriate actions, and conversely resolutions downgrading or terminating emergencies.

5. Approves major contracts as appropriate.

6. Imposes plumbing retrofit requirements if needed.

E. City Clerk:

1. Keeps copy of Standard Plumbing Code, Senate Bill 587, and any applicable standards referenced therein on hand for public inspection.

2. Keeps copy of adopted Water Conservation Plan on hand for public inspection.

F. City Plumbing Inspector:

1. Inspects all normal plumbing installations.

2. Inspects all plumbing retrofit items required or voluntary installed in according to Plumbing Ordinance.

G. Water and Wastewater Superintendent, Personnel:

1. Implement universal metering.

2. Implement leak detection program, including use of electronic equipment; perform line repairs as needed.

3. Implement Education and Information Program.

4. Furnish information to Director of Public Works for annual report and also on frequent basis in order to exercise judgement in implementing water conservation program *(with possible assistance from engineering staff)*.

5. Observe system operation and other factors *(with assistance from engineering staff in regard to certain parameters)* to determine when trigger conditions, and conversely conditions for downgrading and/or termination of emergencies), are occurring.

6. Implement *(usually at direction of Director of Public Works)* appropriate measures in response to trigger conditions or the end of such conditions.

7. Perform minor repairs to water system components as needed, or arrange for minor contract repairs.

8. Recommend major repairs to Director of Public Works *(sometimes in conjunction with engineering staff)*.

9. Perform advance planning for emergencies as directed by Director of Public Works.

10. *With assistance of engineering staff,* perform monitoring of system operation for purpose of determining need to modify trigger conditions.

11. Notify customers of water supply emergency in localized situations.

H. Engineering Staff:

1. Assist water department staff in providing information to Director of Public Works for annual report.

2. Assist water department staff in monitoring operating conditions (a) for detection of beginning or end of trigger conditions and (b) for verifying adequacy of trigger conditions.

3. Assist water department staff where appropriate in recommending major repairs.

EXHIBIT 23

PROPOSED ORDINANCE ADOPTING

WATER CONSERVATION PROGRAM

INCLUDING

DROUGHT CONTINGENCY PLAN

ORDINANCE
ADOPTING WATER CONSERVATION PROGRAM, INCLUDING DROUGHT CONTINGENCY PLAN

CITY OF PORT NECHES
JEFFERSON COUNTY, TEXAS

WHEREAS, the City of Port Neches has applied for a loan commitment from the Texas Water Development Board to provide funding for improvements to its existing wastewater facilities; and,

WHEREAS, one requirement of said planning grant is that the City develop and adopt a program for water conservation and drought contingency; and,

WHEREAS, the City of Port Neches has previously authorized Schaumburg & Polk, Inc. to prepare a Water Conservation Plan, including drought contingency measures, to be submitted to the Texas Water Development Board; and,

WHEREAS, that Water Conservation Plan has been submitted to the Texas Water Development Board and approved subject to certain revisions; and,

WHEREAS, the City of Port Neches has enacted such ordinances and resolutions which are required at this time for the Water Conservation Program;

NOW, THEREFORE LET IT BE ORDAINED by the City Council of the City of Port Neches:

SECTION 1
ADOPTION OF PLAN

The City Council hereby approves and adopts the Water Conservation Plan, including drought contingency measures, ordinances, resolutions, and exhibits, the text of which is on file at the City Clerk's office in the City of Port Neches and available for public inspection, as prepared by Schaumburg & Polk, Inc., previously submitted to the Texas Water Development Board and available for inspection at these Council meetings at which it is adopted. The City shall implement and enforce the program and will submit all necessary reports to the Texas Water Development Board.

SECTION 2
AVAILABILITY OF PLAN

The above referenced Water Conservation Plan shall be made available for public inspection in the City Clerk's office on a permanent basis and shall be plainly labelled as being the plan adopted by the City.

SECTION 3
IMPLEMENTATION

The City Manager shall be responsible for the overall implementation of the program, particularly including drought contingency measures. In the event that measures requiring separate action by the City Council are found necessary, the City Manager shall be responsible for requesting a special or emergency Council meeting if necessary, and for presenting the matter to the Council for action.

Other City officials shall have responsibilities as prescribed in other ordinances or resolutions included in the Water Conservation Plan, or in the text of the plan.

SECTION 4
PENALTIES

Persons in violation of the ordinance shall be subject to one or more of the following penalties, as specified in the separate ordinances included in the Water Conservation Program:

1. Having a flow restricter placed on the violator's water service line at that person's expense.

2. Disconnection of any or all water and/or sanitary sewer services provided to the violator by the City.

3. Withholding of water and/or sanitary sewer service to newly constructed facilities.

4. A fine not to exceed $200 per day per violation.

SECTION 5
VALIDITY

All ordinances or parts of ordinances in conflict herewith are hereby repealed. If any section or provision of this ordinance, or the application of same to any person or set of circumstances is invalidated or rendered unenforceable by a court of competent jurisdiction, such judgement shall not affect the validity of any remaining parts of the ordinance, which can be given effect without the invalidated part or parts, or their application to other persons or sets of circumstances.

SECTION 6
EFFECTIVE DATE

This Ordinance shall be in full force and effect with the _____ billing from and after final passage, approval, recording, and publication, as provided by law.

PASSED AND APPROVED on first reading this the ____ day of _____, 19__.

CITY OF PORT NECHES, JEFFERSON COUNTY, TEXAS

(City Seal)

ATTEST:

_____ _____

Secretary or Clerk Mayor

Approved as to Form: _____

Attorney for City

PASSED AND APPROVED on second and final reading this the ____ day of _____, 19__.

CITY OF PORT NECHES, JEFFERSON COUNTY, TEXAS

(City Seal)

ATTEST:

_____ _____

Secretary or Clerk Mayor