

Sterling County
Underground Water
Conservation District

Management Plan
2005-2010

Amended: December 12, 2005

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District Mission

The Sterling County Underground Water Conservation District strives to provide for the conservation, preservation, protection, recharge, prevention of waste and pollution, and efficient use of groundwater within the district. Groundwater integrity, the main purpose for the district, is preserved through monitoring of water levels, water quality analysis, and remediation of any contamination. The District also endeavors to maintain groundwater ownership and rights of the owners of the land and their lessees as provided in the Texas Water Code §36.002.

Time Period for this Plan

This plan becomes effective upon adoption by the Board of Directors and approval the Texas Water Development Board. The plan remains in effect for ten years after the date of Board adoption and TWDB approval, or until a revised or amended plan is adopted and approved.

Statement of Guiding Principles

The District acknowledges that groundwater resources of the region are of vital importance for the economic benefit of the citizens of Sterling County and the region. Integrity and ownership of groundwater are also recognized as important in the management of this precious resource. The primary goal of the District is to preserve the integrity of the groundwater in the county from any potential contamination including oil and gas production and related activities. This is accomplished as the District sets objectives to provide for the conservation, preservation, protection, recharge, prevention of waste and pollution, and efficient use of water within the district.

General Description

The citizens of Sterling County, accepting the importance of protecting the integrity of groundwater from potential contamination from the vast amount of oil and gas production and associated activities and the necessity of local control of groundwater resources, introduced legislation in the 70th Regular Legislative Session (1987) for creation of the District. The District was confirmed the same year. Government of the District is by a five member locally elected board serving staggered four year terms.

Current Board of Directors:

Jack Clark, Chairman

Jim Terry, Vice-Chairman

Josh Gaines, Secretary

Herbert McCaleb

Mackey McEntire

Location and Extent

The Sterling County UWCD has an areal extent of 616,101 acres (963 square miles) in Sterling and Tom Green Counties located in the west-central part of Texas. Elevation ranges from approximately 2,200 to 2,700 feet above mean sea level. Total population is approximately 1400 including the County Seat, Sterling City (population 996).

The District overlies the Edwards-Trinity (Plateau) and Dockum aquifers and is included in the Upper Colorado Region of the Colorado River Basin.

Regional Cooperation and Coordination

The passage of HB 1763, 79th Regular Legislative Session (2005) mandated regional cooperation between districts for the management of future conditions of the aquifers in the State. However, the District has cooperated with other districts on a regional basis for the past seventeen years to improve local management of groundwater resources. The District has also been an active member of the Texas Alliance of Groundwater Districts for the past seventeen years to exchange ideas, develop or influence programs for the management, conservation, protection, and development of groundwater.

West Texas Regional Groundwater Alliance

In 1988, four groundwater conservation districts; Coke County UWCD, Glasscock County UWCD, Irion County WCD, and Sterling County UWCD signed an original Cooperative Agreement to coordinate activities to provide for the wise use of groundwater resources and the maximum beneficial use of local taxpayer dollars. As new districts were created, they too signed the Cooperative Agreement. In the fall of 1996, the original Cooperative Agreement was redrafted creating the West Texas Regional Groundwater Alliance.

The regional alliance now consists of sixteen locally created and locally funded groundwater conservation districts that encompass approximately 16.6 million acres or 18.95 thousand square miles in Region F and GMA 7. This region is as diverse as the State of Texas and due to this diversity, each member district provides it's own unique management programs to best serve its

constituents.

Current member districts include:

Coke County UWCD	Emerald UWCD	Glasscock GCD	Hickory UWCD # 1
Hill Country UWCD	Irion County WCD	Kimble County GCD	Lipan-Kickapoo WCD
Lone Wolf GCD	Menard County UCD	Middle Pecos GCD	Plateau UWC & SD
Santa Rita UWCD	Sterling County UWCD	Sutton County UWCD	Wes-Tex GCD

This Alliance was created because the local districts have a common objective to facilitate the conservation, preservation, and beneficial use of water and related resources. Local districts monitor water-related activities which include but are not limited to the State's largest industries of farming and ranching and oil and gas production. The Alliance provides coordination essential to the activities of these member districts as they monitor these activities in order to accomplish their objectives.

West Texas Weather Modification Association

In 1996, in response to the landowners of seven groundwater conservation districts, the West Texas Weather Modification Association was formed for the purpose of providing weather modification (cloud seeding) for rainfall enhancement throughout the geographical region of its members. The target area of the Association includes all of seven counties and part of another for a total area of nearly 6.7 million acres or 10.4 thousand square miles of West Texas.

Current membership includes:

City of San Angelo	Plateau UWC & SD
Emerald UWCD	Santa Rita UWCD
Glasscock GCD	Sterling County UWCD
Irion County WCD	Sutton County UWCD

Understanding the importance of increased amounts of rainfall in the region, this Association was formed to provide benefits from enhanced rainfall which include a reduction of groundwater withdrawals, increase in runoff, increase in agricultural productivity with the resulting economic impact for the region, provide additional recharge, and increase spring flow. These benefits are not only realized within the region but also downwind and down stream of the target area.

Regional Water Planning

The District has been active in attending the Region F, Regional Water Planning Group Meetings to provide input in developing and adopting both the 2001 and 2006 Regional plans.

Groundwater Management Area

Groundwater Management Area 7 covers all or part of thirty-three counties and includes twenty-one groundwater conservation districts. These GCD's manage groundwater resources at the local level in all or part of twenty-four counties within GMA 7 and surrounding areas. The District will work with the other GCD's to determine the future desired condition of the aquifer.

Edwards-Trinity (Plateau) Aquifer

The Edwards-Trinity (Plateau) aquifer underlies the Edwards Plateau east of the Pecos River and consists of saturated sediments of lower Cretaceous age Trinity Group formations and overlying limestones and dolomites of the Comanche Peak, Edwards, and the Georgetown formations. The aquifer generally exists under water table conditions, however, where it is fully saturated and a zone of low permeability occurs, artesian conditions may exist. Springs issuing from the aquifer form the headwaters for several eastward and southerly flowing rivers. The water levels have generally remained constant or have fluctuated only with seasonal precipitation.

Natural chemical quality of groundwater ranges from fresh to slightly saline. The water is typically hard and may vary widely in concentrations of dissolved solids made up mostly of calcium and bicarbonate. Water quality of the springs is typically excellent.¹

Dockum Aquifer

¹ Water For Texas, Today and Tomorrow, August 1997, Texas Water Development Board.

The Dockum group underlies the Cretaceous formations in the northwestern Edwards Plateau region. The primary water-bearing zone is commonly called the “Santa Rosa” and consists of up to 700 feet of sand and conglomerate interbedded with layers of silt and shale. Concentrations of dissolved solids range from 1,000 ml/l in the eastern outcrop to more than 20,000 ml/l in the deeper parts of the western part of the aquifer. High sodium concentrations pose salinity problems in irrigated land and often exceed safe drinking water standards for municipal water supplies.²

Recharge by precipitation occurs in areas where Dockum Group sediments are exposed to the surface mainly in eastern New Mexico. The Santa Rosa Sandstone is in hydraulic contact with the overlying Edwards/Trinity (Plateau) aquifer in parts of Crockett, Irion, Reagan, Sterling, Tom Green and Upton counties and water quality analysis suggest some movement from the Edwards/Trinity (Plateau) aquifer.³

² Ibid

³ TWDB Report 359, The Groundwater Resources of the Dockum Aquifer in Texas

Groundwater Resource Estimates

Estimates of groundwater availability, usage, supplies, recharge, storage, and future demands are from data supplied by the 2006 Region F Regional Water Plan, the Texas Water Development Board, and as otherwise noted. Use of TWDB estimates does not constitute endorsement by the District. These estimates will be used until alternate numbers are determined through additional data collection.

Historic Groundwater Use (expressed as acre-feet)⁴

Historic groundwater use is the total amount of groundwater used within the district including the Edwards/Trinity (Plateau) and other aquifers.

Use	1999	2000	2001	2002	2003	Average
Municipal	317	324	292	289	262	297
Irrigation	697	637	681	717	633	673
Mining	560	560	560	560	560	560
Livestock	292	292	369	323	196	294
Total	1,866	1,813	1,902	1,889	1,651	1,824

Estimated Groundwater Recharge From Precipitation (expressed as acre-feet)

The estimated groundwater recharge from precipitation was determined in a run of the Edwards-Trinity (Plateau) GAM Run 05-37 by the Texas Water Development Board. No recharge from precipitation for the Dockum occurs within the district.⁵

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⁴ TWDB Water Use Survey Database

⁵ TWDB Report 359, The Groundwater Resources of the Dockum Aquifer in Texas

River Basin	Aquifer	2000	2010	2020
Colorado	Edwards-Trinity (Plateau)	10,335	10,539	10,539
Colorado	Dockum	0	0	0
	Total Precipitation Recharge	10,335	10,539	10,539

Estimated Lateral Inflow and Outflow

An Edwards-Trinity (Plateau) GAM water budget run, including the lateral inflow and outflow, was requested from the Texas Water Development Board. Inflows and outflows are total amounts from surrounding areas and cross-formation flow to the Dockum as determined by the Edwards-Trinity (Plateau) GAM Run 05-37.

Aquifer	2000	2010	2020
Edwards-Trinity			
Inflows	1,708	1,550	1,504
Outflows	(4,483)	(3,890)	(3,827)
Dockum			
Inflow	135	109	56
Outflow	(1,312)	(1,291)	(1,300)
Total Lateral Flows	(3,952)	(3,522)	(3,567)

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Projected Surface Water Supply

The total projected available surface water supplies are from Table 4, 2002 State Water Plan. This is essentially the same as the three permitted surface water rights for 168 ac/ft per year.⁶

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⁶ Texas Commission on Environmental Quality, San Angelo, TX.

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Use	2000	2010	2020
Irrigation	65	67	68
Livestock	99	99	99
Total	164	166	167

Projected Groundwater Demands (expressed as acre-feet)⁷

These projected groundwater demands will be used to determine projected groundwater supply. There are some differences between the 2002 State Plan and the 2006 Region F Regional Plan, but the District considers the 2006 data to be more reflective of actual conditions for planning purposes.

Use	Average	2010	2020
Municipal	297	349	377
Irrigation	673	648	621
Mining	560	590	600
Livestock	294	503	503
Total	1,824	2,090	2,101

Estimated Discharge to Spring Flow (expressed as acre-feet)

Historic spring flow from the Edwards/Trinity (Plateau) GAM Run 05-37 was established as 6,183 ac/ft/yr. This represents all springs and seeps within the district as represented by the model. Although spring flow or seepage may occur along the margin of the Edwards/Trinity (Plateau) aquifer only projected surface water supply or permitted water right amounts are considered for this plan. The North Concho River and Sterling Creek both flow intermittently and are the only

⁷ Chapter 2, 2006 Region F Regional Water Plan

“permanent” surface water flow in the District. Other spring flow or seeps, which normally occur only during wet periods, remain on the surface in small amounts and for limited distance before evaporating or percolating into the soil profile and is not available.

Estimated discharge to spring flow for the Edwards-Trinity (Plateau) is assumed to be equal to the projected surface water supply without consideration other possible spring flow or seeps. There is no estimated discharge to spring flow for the Dockum. Except for spring flow, there is no discharge to surface water.

Aquifer	2000	2010	2020
Edwards-Trinity	164	166	167
Dockum	0	0	0
Total	164	166	167

Projected Water Demand

The total projected demand on water supplies from Table 2, 2002 State Water Plan.

Use	2000	2010	2020
Municipal	315	329	333
Irrigation	886	851	817
Mining	570	422	405
Livestock	571	571	571
Total	2,342	2,173	2,126

Projected Available Groundwater Supply (expressed as acre-feet)

Although the managed available groundwater has not been established by the future desired condition of the aquifer, the District recognizes the importance of maintaining groundwater availability for residents and maintaining spring flow and limits availability to effective recharge or

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N/A

sustainability.

In the Region F Regional Water Plan, January 2001, and also in the 2006 Plan, the region was divided into three availability categories: 1) limited to annual effective recharge only, 2) annual recharge plus an annual amount equal to 75 percent of the retrievable storage over 50 years, and 3) annual recharge plus an annual storage depletion equal to 75 percent of the retrievable storage over 100 years.⁸ The District is in “the limited to annual effective recharge” category.

During the development of groundwater availability for the 2006 Region F Regional Water Plan, the groundwater consultant requested the “recharge input file” from the Texas Water Development Board and ran the Edwards-Trinity (Plateau) GAM to determine recharge. Further assumptions were made, since the region had been experiencing drought conditions since 1992 and water level measurements did not start to rise until November, 2004 after an exceptional year for rainfall, that sustainable availability should only be half of total recharge or “drought recharge”.

The District participated in a two year recharge study through Region F to provide recharge estimates for a portion of the Edwards-Trinity (Plateau). This study has not been completed to date. Water levels continue to be measured on a monthly basis to provide additional data for future recharge studies and Edwards-Trinity (Plateau) GAM runs.

Adhering to the principle that demand should not exceed recharge to maintain dependable and sufficient groundwater supplies for future generations, the District’s projected available groundwater supply is limited to drought recharge. It is also assumed that with drought recharge the inflows and outflows would be reduced by at least one third.

Projected Available Groundwater Supplies			
	Average	2010	2020
Drought Recharge	5,168	5,270	5,270
Lateral Inflows (outside the district and Dockum)	1,216	1,095	1,028
Less Projected Groundwater Demand	(1,824)	(2,090)	(2,101)
Less Discharge to Spring Flow	(164)	(166)	(167)

⁸ 2006 Region F Regional Water Plan

Less Lateral Outflows (outside the district and Dockum)	(3,825)	(3,236)	(3,384)
Total	571	873	646

Enhancement of Recharge and Availability

The District supports precipitation enhancement, recharge enhancement and brush control as management practices to maintain and improve groundwater supplies and quality in the District and region. Benefits practices can be summed up in a study done by Texas Tech University: “Private benefits include enhanced crop yields, livestock production due to forage increases and reduced irrigation cost. Social benefits include enhanced runoff, increased reservoir levels, downwind benefits, secondary regional benefits (multiplier impact), improved water quality and reduced aquifer depletion.”⁹

Weather Modification

Recharge of the aquifers is achieved through rainfall infiltration and can be enhanced by increasing the amount of precipitation received annually through weather modification (cloud seeding). Rainfall enhancement has been conducted by the Colorado River Municipal Water District, located in Big Spring, since 1970 with documented average 23% rainfall increase.¹⁰ The City of San Angelo conducted a program from 1985-1989 which resulted in a 26% rainfall increase.¹¹

In 1996 the District joined six groundwater conservation districts in forming the West Texas Weather Modification Association to conduct rainfall enhancement program for a target area that currently encompassing approximately 6.7 million acres. The program has since obtained the equipment and personnel necessary and conducts a year around program with most operations between April and May. There were 46 operational days with 109 clouds seeded for the period of April, 18 through October 30, 2004 evaluated for the entire target area with an overall result average of very good. The District received an additional 125,725 ac/ft or 2.51" of rainfall during the

⁹ Weather Modification: Private and Social Benefits and Costs, Texas Tech University, Lubbock, TX, August 1996

¹⁰ “1995 Weather Modification Program”, Colorado River Municipal Water District, Report 95-1.

¹¹ “Three Rainfall Augmentation Programs in Texas”, The Journal of Weather Modification, April 1987.

period.¹²

¹² West Texas Weather Modification 2004 Final Report

Under ideal conditions with 100% grass cover, 16% of rainfall absorbed into the ground surface infiltrates beyond the root zone for potential recharge.¹³ Type and amount of ground surface covered by brush, rainfall event type (slow soaking or hard), and amount of rainfall per event will alter the amount of estimated recharge. The average rainfall for the District is 18.38 in/yr and 9.98 in the growing season¹⁴ from May through September when the majority of weather modification activities occur. A modest 10% increase (one inch) of rainfall during the growing season would result in a reduction of pumpage for all users, potential increase in runoff, increased productivity of crops and rangeland (thus improving the economy of the district and region), provide additional moisture infiltration below the root zone available for recharge, and increased spring flow. One inch of rainfall distributed over the entire District is equal to 49,938 ac-ft of rainwater. Estimated recharge is calculated using the formula:

$$\text{rainfall(in)} \div 12 \times \text{acres} \times \% \text{ infiltration rate} = \text{recharge}$$

Using an infiltration rate of 2%¹⁵, increased rainfall would result in additional potential recharge as follows:

Increase During Growing Season (Average 9.98 in, May-Sept.)	10% Increase (1.0 in)	15% Increase (1.5 in)	25% Increase (2.51 in)
Additional Recharge Potential in ac-ft	1,027	1,540	2,577

Recharge Enhancement

Recharge enhancing facilities would be beneficial to the District and region in improving groundwater quality and quantity. There is insufficient data, and lack of funding to obtain data, to indicate areas where recharge structures would enhance recharge. As data and funding become available, the District will consider building recharge enhancement structures.

There are no available estimates of potential recharge from recharge enhancement facilities.

Brush Control

Brush control can be accomplished by mechanical control, prescribed burn, chemical application, or

¹³ "How an Increase or Reduction in Juniper Cover Alters Rangeland Ecology" and Justin W. Hester, 1997 Juniper Symposium, Technical Report 97-1, Texas A&M Research and Extension Service.

¹⁴ U.S. Department of Agriculture, Soil Conservation Service - Soil Survey of Sterling County Texas.

¹⁵ TWDB Edwards/Trinity GAM calibrations

combination of these methods. The control of mesquite and juniper, and other undesirable plants would allow more rainfall to reach the soil surface. Benefits would include more rainfall absorption into the soil, increased productivity of rangeland (and resulting economic impact), and increased amount of moisture available to infiltrate as recharge.

A large mature juniper has an evapotranspiration rate of about 33 gal/day.¹⁶ This same mature juniper allows roughly 25% of rainfall to reach the soil surface due to canopy and litter interception and only 2% to infiltrate beyond the root zone for potential recharge. Approximately 16% of rainfall is available for deep infiltration with 100% grass coverage.¹⁷

¹⁶ “Biology and Ecology of Redberry Juniper”, 1997 Juniper Symposium, Technical Report 97-1, Texas A&M Research and Extension Service

¹⁷ “How an Increase or Reduction in Juniper Cover Alters Rangeland Ecology” and Justin W. Hester, 1997 Juniper Symposium, Technical Report 97-1, Texas A&M Research and Extension Service

The following table demonstrates the water balance on rangeland at the Texas Agricultural Experiment Station, Sonora, TX.¹⁸

	100% Grass	70% Grass 12% Oak 18% Juniper	40% Grass 24% Oak 36% Juniper
Rainfall (inches)	22.6	22.6	22.6
Interception Loss (inches)	3.0	6.3	9.6
Water Reaching the Soil (inches)	19.6	16.3	13.0
Runoff (inches)	0.2	0.2	0.2
Water Going into the Soil (inches)	19.4	16.1	12.8
Evapotranspiration (inches)	15.7	15.8	12.8
Deep Drainage (Recharge) (inches)	3.7	0.3	0.0
Moderate Stocking Rate (animal units/sec)	34	22	11

Brush cover reduces potential recharge through canopy and litter interception of rainfall thus limiting available moisture for soil absorption and runoff. Brush control would allow more rainfall to reach the soil surface increasing available moisture for absorption into the soil and resulting in potential increase of deep infiltration and recharge.

The District had an estimated 75% brush cover in 1999 which has been reduced to 50% with implementation of the State Brush Control Program.¹⁹ This reduction in brush cover has resulted in draws, creeks and the Middle Concho now running. Water levels also indicate that brush demand on the aquifer has been reduced. The Upper Colorado River Authority is currently evaluating water levels and runoff to determine the effect of the brush reduction on the aquifer and stream flow area and region wide.

¹⁸ Ibid

¹⁹ Texas Soil and Water Conservation Board, Brush Office - San Angelo

Utilizing the data for deep drainage with from the Texas Agriculture Experiment Station, Sonora, assuming that 60% brush cover is the point at which deep drainage ceases, not taking into account the difference in brush type and coverage, soil type, amount and type of rainfall, and topography between Sutton and Sterling Counties, assuming that brush coverage and reduction is consistent throughout the district, and using 2004 average rainfall of 27.60 inches²⁰, the corresponding 33% reduction in brush cover from the state program could potentially result in an additional recharge of:

	33% Brush Reduction (0.43% deep drainage increase)
Recharge Potential in ac-ft	6,093

Total Estimated Enhanced Recharge

In 2004 both the rainfall enhancement program and the brush control program were active in the district. Combined effect of both programs would result in the private and social benefits stated above and provide for an estimated additional recharge potential of:

	25% Increase (2.51 in)
Rainfall Enhancement for 2004	2,577
33% Brush Reduction with average 2004 rainfall of 27.60 inches	6,093
Total	8,670

Both the rainfall enhancement and brush control programs should be continued. Funding for both from the State level is necessary to continue the positive effects that both programs have accomplished. Both are necessary tools to increase the water supplies and boost economic benefits of the District, Region and State.

Consideration of Management Strategies

²⁰ 2004 Rainfall records collected by the District

The District would consider water management strategies developed and adopted in the State Water Plan, however there are no applicable strategies from the 2002 State Water Plan. The District works closely with the regional planning group in preparation and adoption the Region F, 2006 Regional Water Plan. Any new water management strategies developed and adopted by the State Water Plan will be considered when applicable.

Management of Groundwater Supplies

The District will monitor groundwater resources within the District to promote the conservation, preservation, protection, enhanced recharge, prevention of waste and pollution, and ensuring efficient use of the resource while seeking to maintain its integrity and the economic viability of all resource user groups, public and private. In consideration of the economic and cultural activities occurring within the district, the District will identify and engage in such activities and practices, that if implemented would result in a reduction of groundwater use and/or enhanced recharge. An observation network shall be maintained in order to monitor changing quality and groundwater levels within the District. The District will employ all technical resources at its disposal and within budget constraints to evaluate the resources available within the District and to determine the effectiveness of management or conservation measures.

Actions, Procedures, Performance and Avoidance for Plan Implementation

The District will implement the provisions of this plan and will utilize the provisions of this plan as a guide for determining the direction and/or priority for all District activities. All operations of the District and all agreements entered into by the District will be consistent with the provisions of this plan.

The District has adopted rules for the management of groundwater resources and will amend those rules as necessary pursuant to TWC Chapter 36 and the provisions of this plan. All rules will be adhered to and enforced. The promulgation and enforcement of the rules will be based on the best technical evidence available.

The District shall treat all citizens with equality. Citizens may apply to the District for discretion in enforcement of the rules on grounds of adverse economic effect or unique local character. In granting discretion to any rule, the Board shall consider the potential for adverse effect on adjacent landowners. The exercise of said discretion by the Board, shall not be construed as limiting the power of the Board. The District will seek cooperation in the implementation of this plan and the management of groundwater supplies within the District.

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Methodology for Tracking Progress

The methodology that the District will use to trace it's progress on an annual basis in achieving it's management goals will be as follows. The District holds a regular monthly Board Meeting for the purpose of conducting District business. Each month, the Managers Report will reflect the number of meetings attended, number of water analysis samples collected and analyzed, resulting action regarding potential contamination or remediation of actual contamination, water levels monitored, reports on any school or civic group programs, fluid injection permit applications, and other matters of district importance. The District manager will prepare and present an annual report to the Board of Directors on District performance in regards to achieving management goals and objectives (during first monthly Board of Directors meeting each fiscal year, beginning January 1, 2001). The annual report will be maintained on file at the District Office.

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Coordination With Surface Water Entities

There are no surface water management entities within the District.

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N/A

Goals, Management Objectives and Performance Standards

The District recognizes the importance of public education to encourage efficient use, implement conservation practices, prevent waste, and preserve the integrity of groundwater.

Goal 1.0 - Control and Prevent the Waste of Groundwater

1.1. Management Objective

Each year the District will publish at least one article on conservation measures and wasteful practices and the availability of programs for civic groups. Each year the District will provide, upon request, all informational materials and programs available for local civic groups to improve public awareness of conservation measures and wasteful practices.

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1.1a. Performance Standard

Number of articles published each year.

1.1b. Performance Standard

Number of informational materials and programs requested and provided each year.

1.2. Management Objective

Each year the District will make a written or personal contact with school administrators(s) or science department head(s) on the availability of District resources. Each year the District will cooperate with all schools within the district in providing all available information and programs on water conservation practices, water quality analysis, or other water issues, when requested.

1.2a. Performance Standard

Number of written or personal contacts each year.

1.2b. Performance Standard

Number of informational materials or programs requested and provided each year.

Goal 2.0 - Providing for the Efficient Use of Groundwater

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2.1. Management Objective

Each year the District will publish at least one article on efficient water use and availability of information materials. Each year the District will provide, upon request, all available information on water conservation practices for the efficient use of water. These will include but are not limited to publications from the Texas Water Development Board, Texas Natural Resource Conservation Commission, Texas Agricultural Extension Service, and other sources.

2.1a. Performance Standard

Number of articles published each year.

2.1b. Performance Standard

Number of informational materials requested and distributed each year.

2.2. Management Objective

Each year the District will publish at least one article on the availability of water analysis services. Each year the District will perform a water quality analysis for residents of the District upon request.

2.2a. Performance Standard

Number of articles published each year.

2.2b. Performance Standard

Number of water analysis requested and performed each year.

2.3. Management Objective

Each year the District will collect at least two water samples, for partial chemical analysis, to monitor for possible contamination problems which would jeopardize the integrity of the groundwater.

2.3a. Performance Standard

Number of samples collected and analyzed each year.

2.3b. Performance Standard

Number of contamination problems each year.

2.4. Management Objective

Each year, the District will monitor water levels in ten selected wells within the District and

report the levels to the TWDB.

2.4a. Performance Standard

Number of water levels taken and reported each year.

Goal 3.0 - Natural Resource Issues Impacting Groundwater

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3.1. Management Objective

The District participates financially on a per acre basis in the West Texas Weather Modification Association for the purpose of enhancing rainfall for reduction of groundwater use, increased recharge of the aquifers, and economic benefit. Each year the District participates in the WTWMA, representatives will attend 85% of the WTWMA Board Meetings.

3.1a. Performance Standard

Number of WTWMA Board Meetings attended each year.

3.2. Management Objective

Each year the District will make a written or personal contact with school administration(s) or science department head(s) on the availability of information resources on weather modification and tours of the WTWMA Office and facilities.

3.2a. Performance Standard

Number of written or personal contacts each year.

3.3 .Management Objective

Each year the District will continue to monitor the San Angelo Standard Times and Sterling Courier public/legal notices and the for all “Notice of Application for Fluid Injection Well Permit” and the Sterling County Clerk’s Office for all “Application for Fluid Injection Well Permit”.

3.3a. Performance Standard

Number of newspaper notices and permit applications reviewed each year.

3.4. Management Objective

The District will continue to determine if the “Application for Fluid Injection Well Permit” poses any threat to the integrity of groundwater or if the source of the water supply is of

potable quality on an individual basis. The District will file an objection and/or a request for a public hearing for all applications determined to pose a threat to the integrity of groundwater or if the source of the water supply is of potable quality.

3.4a. Performance Standard

Number of objections and/or hearing requests filed.

Goal 4.0 -Drought Conditions

4.1 Management Objective

The District will monitor the Palmer Drought Severity Index (PDSI) by Texas Climatic Divisions at least twice yearly. If PDSI indicates that the District will experience severe drought conditions, the District will notify all public water suppliers within the District.

4.1a Performance Standard

Number of times the PDSI was monitored each year.

4.1b Performance Standard

Number of times public water suppliers contacted.

Goal 5.0 - Conservation

5.1 Management Objective

This objective is closely related to Goals 1 and 2 on efficient use and waste. Conservation is the non wasteful and efficient use of a resource. Conservation measures will be included in the articles on efficient use and waste. The management objectives of this goal are the same as the management objectives of Goals 1 and 2.

5.1a Performance Standard

Identical to Performance Standards 1.1a, 1.1b, 1.2a, 1.2b, 2.1a, and 2.1b.

Goal 6.0 - Brush Control

6.1 Management Objective

Each year the District will measure ten water levels for the Upper Colorado River Authority to assist in determining the effectiveness of brush control within the District and area.

6.1a Performance Standard

33
35
36

37
39
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37
39
40

Number of water levels taken for and provided to the Upper Colorado River Authority each year.

Goal 7.0 - Precipitation Enhancement

7.1 Management Objective

This objective is the same as Goal 3 on natural resources. The District participates in the West Texas Weather Modification Association to provide precipitation enhancement for an eight county area.

7.1a. Performance Standard

Identical to Performance Standard 3.1a.

37
39
40

Management Goals Determined Not-Applicable

Goal 8.0 - Control and Prevention of Subsidence

21

The rigid geologic framework of the region precludes significant subsidence from occurring. This management goal is not applicable to the operations of the District.

Goal 9.0 - Conjunctive Surface Water Management Issues

25

There are no surface water management entities within the District. This management goal is not applicable to the operations of the District.

Goal 10.0 - Recharge Enhancement

The District recognizes the importance of recharge enhancement. However, at this time there is not sufficient data nor adequate funding to accomplish this goal.

37

Goal 11.0 - Rainwater Harvesting

There is not sufficient annual rainfall in the District to make rainwater harvesting economically feasible.

37

Goal 12.0 - Desired Future Condition(s) of Aquifer(s)

At this time GMA 7 has not determined the future desired condition for the aquifers within the district.

41

Definitions and Concepts

“Board” - the Board of Directors of the Sterling County Underground Water Conservation District.

“District” - the Sterling County Underground Water Conservation District.

“Effective recharge” - the amount of water that enters the aquifer and is available for development

“Groundwater” - means water percolating below the surface of the earth.

“Integrity” - means the preservation of groundwater quality.

“Natural Recourse Issues” - includes groundwater integrity preservation

“Ownership” - pursuant to TWC Chapter 36, §36.002, means the recognition of the rights of the owners of the land pertaining to groundwater.

“Recharge” - the addition of water to an aquifer.

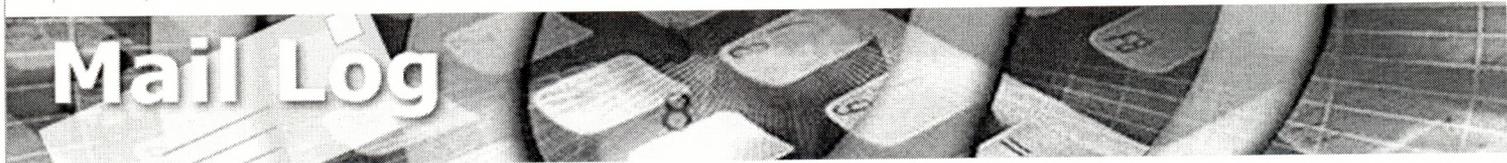
“Surface Water Entity” - TWC Chapter 15 Entities with authority to store, take, divert, or supply surface water for use within the boundaries of a district.

“TCEQ” - Texas Commission on Environmental Quality

“TWDB” - Texas Water Development Board.

“Waste” - as defined in TWC Chapter 36, §36.001(8), as amended.

“Well” - means an artificial excavation that is dug or drilled for the purpose of producing groundwater.



Edit Mail Log

Contact Name	Holland, Scott		Start Date (Auto)	12/15/2005 1:47:49 P
Job Title	Manager		Due Date	
Company Name	Sterling County Underground Wa		Review Date	12/21/2005
Operator	dlu		Complete Date	
			Incoming Correspondence	ScottHolland1215205.
			Path	\aspsmartupload\uplo:

Subject [View Incoming Document](#)

12/15/05 Management Plan 2005-2010. Amended December 12, 2005. Included are copies of the notice of public hearing, notice of board meeting for adoption, the adopted resolution, and letter of receipt of the plan by Region F.

Tasked to Respond

User	Date	Comments	Completed Date
No tasks have been entered.			

Notified (No response necessary)

User	Date	Comments
kward	12/15/2005 1:49:11 PM	
Iglenn	12/15/2005 1:49:32 PM	
Debbie	12/15/2005 1:49:46 PM	
bmullican	12/15/2005 1:51:21 PM	
pblanton	12/15/2005 1:51:40 PM	
rmace	12/15/2005 1:52:19 PM	
ctuck	12/15/2005 1:52:32 PM	
pwaters	12/15/2005 1:52:44 PM	

Outgoing Correspondence

User	Date	File Name	Path	Comments
No documents added.				

Admin Use Only

User	Date	Comments
dunderwood	12/15/2005 1:54:44 PM	Bound booklet attached to mail log item.

STERLING COUNTY UNDERGROUND WATER CONSERVATION DISTRICT

P.O. Box 873 Sterling City, TX 76951
Office: 325 378-2704 FAX: 325 378-2624 E-Mail: scuwcd@wcc.net

December 12, 2005

**TWDB
RECEIVED**

DEC 15 2005

Mr. Kevin Ward
Executive Administrator
Texas Water Development Board
1700 N. Congress
Austin, TX 78711-3231

ROUTE 10: _____
CCTO: _____

Dear Mr. Ward:

The Sterling County Underground Water Conservation District (SCUWCD) Board of Directors unanimously amended and adopted the attached Management Plan as required by Texas Water Code, §36.1072(e) at the regular Board Meeting on December 12, 2005. A public hearing was held prior to the board meeting.

Included are copies of the notice of public hearing, notice of board meeting for adoption, the adopted resolution, and letter of receipt of the plan by Region F. Also included are an electronic copy of the plan and an unbound copy of existing rules.

If the TWDB has any questions or requires additional information, please contact me at 325 835-2015 or icwcd@airmail.net.

Sincerely,



Scott Holland
General Manager

enclosures

**STATE OF TEXAS
COUNTY OF STERLING**

WHEREAS, Sterling County Underground Water Conservation District is operating under the authority conferred upon it by the Acts of the 70th Legislature, Regular Session (1987), H.B. No. 2587 and the 78th Legislature, Regular Session (2003), H.B. 3556, and whose boundaries include all of Sterling and part of Tom Green Counties, Texas; and

WHEREAS, the District is required by Texas Water Code, Chapter 36, §36.1072(e), to review and readopt the Management Plan every five years; and

WHEREAS, the District is required by Texas Water Code, Chapter 36, §36.1072(e) and §36.1073, to submit the amended and readopted Management Plan to the Executive Administrator of the Texas Water Development Board for review and approval; and

WHEREAS, the District's Management Plan shall be approved by the Executive Administrator if the plan is administratively complete; and

WHEREAS, the District Board of Directors, after reviewing the existing Management Plan, has determined that this plan should be replaced with an amended Management Plan; and

WHEREAS, the District Board of Directors has determined that the 10 year Management Plan addresses the requirements of Texas Water Code, Chapter 36, §36.1071.

NOW THEREFORE, Sterling County Underground Water Conservation District following notice and hearing, hereby adopts this amended Management Plan to replace the existing Management Plan; and

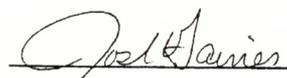
FURTHER, be it resolved, that this amended Management Plan shall become effective immediately upon adoption and be reviewed and amended as necessary.

NOW THEREFORE WITNESSED and executed this 12th day of December, 2005.

ATTEST:



Presiding Officer



Attesting Signature

1941

FILED December 7, 2005
At 9:58 o'clock A M
DIANE A. BROWNE
County Clerk, Sterling County, Texas
By Susan Wyatt Deputy

TO WHOM IT MAY CONCERN:

The REGULAR term of the Sterling County Underground Water Conservation District meeting will convene at 1:15 PM on the 12th day of DECEMBER, 2005, in the Water District Office, 612 4th, Sterling City, Texas. The purpose of this meeting is to transact any routine business in behalf of Sterling County U.W.C.D.:

1. Any Person or Group wishing to speak to the Board on any item on the Agenda will be allowed 5 minutes.
2. Approve Minutes - Decision Item
3. Pay Bills - Decision Item
4. Manager's Report - Decision Item
5. Amend FY 2005 Budget - Decision Item
6. Adopt Amended Management Plan - Decision Item
7. Adjourn

Scott Holland

Scott Holland, Manager
Bill Humble, Technician

THE STATE OF TEXAS:

COUNTY OF STERLING:

This is to certify that at the time and on the date stamped thereon, this notice of a meeting, a copy of which is attached hereto, has been filed in my office under File No. 1941 and was posted on the bulletin board in the Courthouse, as is required by Chapter 551, Government Code.

Executed on December 7, 2005

Diane A. Browne

Diane A. Brown, County Clerk, Sterling County, Texas

By Susan Wyatt

Susan Wyatt, Deputy Clerk

#1942

FILED December 7, 2005
At 9:59 o'clock A M
DIANE A. BROWNE
County Clerk, Sterling County, Texas
By Susan Wyatt Deputy

TO WHOM IT MAY CONCERN:

The SPECIAL term of the Sterling County Underground Water Conservation District meeting will convene at 1:00 PM on the 12th day of DECEMBER, 2005, in the Water District Office, 612 4th, Sterling City, Texas. The purpose of this meeting is to transact any routine business in behalf of Sterling County U.W.C.D.:

1. Any Person or Group wishing to speak to the Board on any item on the Agenda will be allowed 5 minutes.
2. Hearing on Amended Management Plan
3. Adjourn

Scott Holland
Scott Holland, Manager
Bill Humble, Technician

THE STATE OF TEXAS:

COUNTY OF STERLING:

This is to certify that at the time and on the date stamped thereon, this notice of a meeting, a copy of which is attached hereto, has been filed in my office under File No. 1942 and was posted on the bulletin board in the Courthouse, as is required by Chapter 551, Government Code.

Executed on December 7, 2005
Diane A. Browne
Diane A. Brown, County Clerk, Sterling County, Texas
By Susan Wyatt
Susan Wyatt, Deputy Clerk

STERLING COUNTY UNDERGROUND WATER CONSERVATION DISTRICT

P.O. Box 873 Sterling City, TX 76951
Office: 325 378-2704 FAX: 325 378-2624 E-Mail: scuwcd@wcc.net

December 12, 2005

Mr. John Grant
Chairman, Region F Water Planning Group
P.O. Box 869
Big Spring, TX 79721

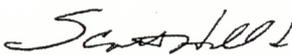
Dear Mr. Grant:

The Sterling County Underground Water Conservation District (SCUWCD) Board of Directors unanimously amended and adopted the attached Management Plan as required by Texas Water Code, §36.1072(e) at the regular Board Meeting on December 12, 2005. A public hearing was held prior to the board meeting.

Enclosed, as required by 31 TAC §356.4. Sharing with Region Water Planning Groups, is a bound copy of the amended management plan for use in regional planning.

If the regional planning group has any questions or requires additional information, please contact me at 325 835-2015 or icwcd@airmail.net.

Sincerely,



Scott Holland
General Manager

enclosures



Colorado River Municipal Water District

December 12, 2005

Sterling County Underground Water
Conservation District
P.O. Box 873
Sterling City, TX 76951

Dear Mr. Holland,

We have received your management plan and will forward a copy to the Region
F Regional Water Planning Group for their files.

Best regards,

A handwritten signature in black ink, appearing to read 'John Grant', is written over the typed name.

John Grant
General Manager

STERLING COUNTY UNDERGROUND WATER CONSERVATION DISTRICT

9

P.O. Box 873 Sterling City, TX 76951
Office: 915 378-2704 FAX: 915 378-2624 E-Mail: scuwcd@wcc.net

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The Rules of Sterling County Underground Water Conservation District and as amended are hereby published as of the 10th day of August, 1989.

In accordance with Section 59 of Article XVI of the Texas Constitution and with Acts of the 70th Legislature (1987), p.3092, ch. 915, H.B. 2587 and Chapters 51 and 52 of the Texas Water Code, the following rules are hereby ratified and adopted as the rules of the District by its Board. All rules or parts of rules in conflict with these rules are hereby repealed. Each rule as worded herein has been in effect since date of passage and as may be hereafter amended.

The rules, regulations and modes of procedure herein contained are and have been adopted for the purpose of simplifying procedure, avoiding delays, saving expense, and facilitating the administration of the ground water laws of the State and the rules of this District. To the end that the objectives be attained, these rules shall be so construed.

These rules may be used as guides in the exercise of discretion, where discretion is vested. However, under no circumstances and in no particular case shall they, or any of them, be construed as a limitation or restriction upon the exercise of any discretion, where such exists; nor shall they in any event be construed to deprive the Board of an exercise of powers, duties and jurisdiction conferred by law, nor to limit or restrict the amount and character of data or information which may be required for the proper administration of the law.

RULE 1 - DEFINITIONS

- (A) "Abandonment" shall mean the intentional discontinuation of use.
- (B) An "Authorized Well Site" shall be:
 - (1) The location of a proposed well on an application duly filed until such application is denied; or
 - (2) The location of a proposed well on a valid permit. (An authorized well site is not a permit to drill.)
- (C) The "Board" shall mean the Board of Directors of the Sterling County Underground Water Conservation District, consisting of five (5) duly elected members.
- (D) "Capping" shall mean the equipping a well with a suitable device that will prevent the entrance of surface pollutants into the well.
- (E) "Casing" shall mean a tubular watertight structure installed in the excavated or drilled hole to maintain the well opening and, along with cementing, to confine ground waters to their zones of origin and prevent the entrance of surface pollutants.
- (F) "Cement" shall mean a neat Portland or construction cement mixture of not more than seven gallons of water per 94-pound sack of dry cement, or a cement slurry which contains cement along with bentonite, gypsum, or other additives; the well driller will adhere to the manufacturer's recommended water content for the mix.
- (G) "Completion" shall mean the sealing off access of undesirable water to the well bore by proper casing and/or cementing procedures.
- (H) "District" shall mean the Sterling County Underground Water Conservation District, maintaining its'

principal office in Sterling City, Texas. Where applications, reports and other papers are required to be filed with or sent to “the District”, this means the District’s headquarters in Sterling City, Texas.

- (I) “Exempt Well” shall mean and include any artificial excavation constructed to produce or which produces less than 25,000 gallons per day or 17.36 gallons per minute. Except as provided in Rule 3 hereinafter, for all purposes herein, an “exempt well” as defined herein shall not be exempt from any and all rules and regulations created hereunder.
- (J) “Mud” shall mean a relatively homogenous, relatively viscous fluid produced by the suspension of clay-size particles in water.
- (K) “Open or Uncovered Well” shall mean any artificial excavation drilled or dug for the purpose of producing water from the underground reservoir, not capped or covered as required by these rules, which is as much as the (10) feet deep, nor more than six (6) feet in diameter.
- (L) “Owner” shall mean and include any person, firm partnership corporation, municipality, county, state or other political subdivision that has the right to produce water from the land either by ownership, contract, lease, easement, or any other estate in the land.
- (M) “Person” shall mean any individual partnership, firm, corporation, municipality, county, state or other political subdivision.
- (N) “Plugging” shall mean an absolute sealing of the well bore.
- (O) “Pollution” shall mean the alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the District that renders the water harmful, detrimental or injurious to humans, animal life, vegetation, or property or to public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.
- (P) “Undesirable Water” shall mean water that is injurious to vegetation, to land or to fresh water, or water that can cause pollution.
- (Q) The word “Waste” as used herein shall have the same meaning as defined by the Legislature, as follows:
 - (1) The withdrawal of underground water from an underground water reservoir at a rate and in an amount that causes or threatens to cause the intrusion into the reservoir of water unsuitable for municipal, industrial, agricultural, gardening, domestic, or stock raising purposes;
 - (2) The flowing or producing of wells from an underground water reservoir when the water produced therefrom is not used for a beneficial purpose;
 - (3) The escape of underground water from one underground water reservoir to any other reservoir not containing underground water;
 - (4) The pollution or harmful alteration of the character of the underground water in an underground water reservoir of the District by salt water or other deleterious matter admitted from another stratum or from the surface of the ground; or
 - (5) Willfully or negligently causing suffering, or permitting underground water to escape into any river, creek, or sewer, street, highway, road, or road ditch, or onto land other than that of the owner of the well.
- (R) “Water” shall mean underground water.

- (S) The term "well" shall mean and include any artificial excavation constructed to produce or which produces more than 25,000 gallons of water per day or 17.36 gallons per minute.
- (T) "Well log" shall mean a log accurately kept, or forms prescribed by the Water Well Drillers Board of Texas, or any successor regulatory agency with jurisdiction there, at the time of drilling showing the depth, thickness, character of the different strata penetrated, location of water-bearing strata, depth, size and character of casing installed, together with any other data or information required by the Water Well Drillers Board of Texas or of this Board. Each copy of a well log shall include the name, mailing address, and telephone number of the District as well as the Water Well Drillers Board of Texas and the Texas Water Commission.

RULE 2 - WASTE

- (A) Underground water shall not be produced within, or used within or without the District, in such a manner or under such conditions as to constitute waste as defined in Rule 1 hereof.
- (B) Any person producing or using underground water shall use every possible precaution, in accordance with the most approved methods, to stop and prevent waste of such water.
- (C) No person shall pollute or harmfully alter the character of the underground water reservoir of the District by means of salt water or other deleterious matter admitted from some other stratum or strata or from the surface of the ground.
- (D) No person shall commit waste as the term is defined by Section (Q) , Rule 1 of the Rules of the Sterling County Underground Water Conservation District.

RULE 3 - PERMIT REQUIRED

- (A) No person shall hereafter begin to drill a well, or increase the size of a well or pump therein without having first applied to the Board, and been issued a permit to do so, unless the drilling and operation of the well is exempt by the law or by these rules.
- (B) No permit shall be required for the drilling of temporary wells exempt by Subsection 118 of Chapter 52, Texas Water Code (being generally wells used for the production of oil, gas, or other minerals and water wells used in conjunction therewith).

RULE 4 - DEPOSITS

- (A) Each application for a permit to drill a well shall be accompanied by a \$50.00 deposit which shall be accepted by the District. Said deposit shall be returned to the applicant by the District if: (1) the application is denied; or (2) if the application is granted, upon receipt of correctly completed registration and log of the well; or (3) if said permit location is abandoned without having been drilled, upon return and surrender of said permit marked "abandoned" by the applicant. In the event neither the registration and log of the well nor the permit marked "abandoned" is returned to such District within sixty (60) days after the approval date of the permit or the extension date thereof, the said deposit shall become the property of the District. All deposits heretofore made or which shall

hereafter be made shall become the property of the District if such registration and log or permit has not been returned or is not returned to the District with which deposit was made within six months from the approval date of the permit.

RULE 5 - ISSUANCE OF PERMITS

- (A) The Board shall issue or cause to be issued a drilling permit for a well properly spaced upon proper application executed and filed by the owner with the District and containing the matters specified below. An application shall be considered filed when properly made out, completed, and signed and tendered to the District or person duly designated by such District to receive the same.
- (B) Rules for the filing of applications:
 - (1) If the applicant is an individual, the application shall be signed by the applicant or his duly appointed agent. The agent may be requested to present satisfactory evidence of his authority to represent the applicant.
 - (2) If the application is by a partnership, the applicant shall be designated by the firm name followed by the words "a partnership" and the application shall be signed by at least one of the general partners who is duly authorized to bind all of the partners.
 - (3) In the case of a corporation, public district, county or municipality, the application shall be signed by a duly authorized official. A copy of the resolution or other authorization to make the application may be required by the officer or agent receiving the application.
 - (4) In case of an estate or guardianship, the application shall be signed by the duly appointed guardian or representative of the estate.
- (C) Such applications shall set forth the following:
 - (1) The exact proposed location of the well to be drilled as provided in the application
 - (2) The proposed use of the well to be drilled, whether municipal, industrial, or irrigation.
 - (3) The size of the pump.
 - (4) The approximate date drilling operations are to begin.
 - (5) The location of the three (3) nearest wells within a quarter of a mile of the proposed location, and the names and addresses of the owners thereof.
 - (6) An agreement by the applicant that a completed well registration and log will be furnished to the District (on forms furnished by it) by the applicant upon completion of this well and prior to the production of water therefrom (except for such production as may be necessary to the drilling and testing of such well).
 - (7) Such additional data as may be required by the Board.
 - (8) The name and address of the fee owner of the land upon which the well location is to be made.

RULE 6- REQUIREMENT OF DRILLER'S LOG, CASING AND PUMP DATA

- (A) Complete records shall be kept and reports thereof made to the District concerning the drilling, maximum production potential, equipping and completion of all wells drilled. Such records shall include an accurate driller's log, and electric log which shall have been made, and such additional

data concerning the description of the well, its potential, hereinafter referred to as "maximum rate of production" and its actual equipment and rate of discharge permitted by said equipment as may be required by the Board. Such records shall be filed with the District Board within 30 days after completion of the well.

- (B) No person shall produce water from any well hereafter drilled and equipped within the District, except that necessary to the drilling and testing of such well and equipment, unless or until the District has been furnished an accurate driller's log, any electric log which shall have been made, and a registration of the well correctly furnishing all available information required on the forms furnished by the District.
- (C) No person shall be required to equip and produce any well to its maximum rate of production; provided, however, that for purposes of reworking, redrilling or replacing a well pursuant to Rule 10 hereof, the maximum rate of production of each well established hereunder shall be considered the actual production rate even though said well is produced at a lesser rate of production.

RULE 7 - MINIMUM SPACING OF WELLS

(A) Distance Requirements.

- (1) No well to be drilled subsequent to the date of enactment of this rule shall be drilled such that said well shall be located nearer than three hundred thirty (330') feet from the nearest property line; provided that the Board, in order to prevent waste or to prevent confiscation of property, may grant exceptions to permit drilling within shorter distances than above described when the Board shall determine that such exceptions are necessary either to prevent waste or to prevent confiscation of property.
- (2) In the interest of protecting life and for the purpose of preventing waste and preventing confiscation of property, the Board reserves the right in particular subterranean water zones and/or reservoirs to enter special orders increasing or decreasing distances provided by this rule.
- (3) In applying this rule and in applying every special rule with relation to spacing in all the subterranean water zones and/or reservoirs underlying the confines of this District, no subdivision of property made subsequent to the adoption of the original spacing rule will be considered in determining whether or not any property is being confiscated within the terms of such spacing rule, and no subdivision of property will be regarded in applying such spacing rule or in determining the matter of confiscation if such subdivision took place subsequent to the promulgation and adoption of the original spacing rule.
 - (i) Any subdivision of property creating a tract of such size and shape that it is necessary to obtain an exception to the spacing rule before a well can be drilled thereon is a voluntary subdivision and not entitled to a permit to prevent confiscation of property if it were either, (a) segregated from a larger tract in contemplation of water resource development, or (b) segregated by fee title conveyance from a larger tract after the spacing rule became effective and the voluntary subdivision rule attached.
 - (ii) The date of attachment of the voluntary subdivision rule is the date of discovery of underground water production in a certain continuous reservoir regardless of the

subsequent lateral extensions of such reservoir, provided that such rule does not attach in the case of a segregation of a small tract by fee title conveyance which is not located in an underground water production area having a discovery date prior to the date of such segregation.

(iii) The date of attachment of the voluntary subdivision rule for a reservoir under any special circumstance which the Board deems sufficient to provide for an exception, may be established other than above so that innocent parties may have their rights protected.

(B) Well density. Subject to paragraph (A) (1) et seq. above, no more than a cumulative total of 16 wells, whether drilled prior to or subsequent to enactment of this rule, shall be permitted per section (hereinafter referred to as "drilled to density"). In the event the applicant owns less than a full section, then the number of wells permitted for said tract shall be proportionately reduced so that the total number of wells permitted shall be established by multiplying sixteen (16) times the quotient of the number of acres owned by the Applicant divided by the number of acres in the section; provided, however, that this density rule shall not apply to acreage drilled to density pursuant to these rules where the cumulative average of water production allowed per acre per minute is less than 2 gallons per acre per minute. In this event the landowner shall be permitted to drill additional water wells on said land until the 2 gallons/acre/minute basis is attained. Said cumulative average gallonage per acre per minute basis shall be computed by District personnel according to maximum pumping capability of the water well established at the time the well is drilled.

RULE 8 - EXCEPTION TO SPACING RULE

- (A) In order to protect vested property rights, to prevent waste, to prevent confiscation of property, or to protect correlative rights, the Board may grant exception to the above spacing regulations. This rule shall not be construed so as to limit the power of the Board, and the powers stated are cumulative only of all other powers possessed by the Board.
- (B) If an exception to such spacing regulations is desired, application therefore shall be submitted by the applicant in writing to the Board at its district office on forms furnished by the District. The application shall be accompanied by a plat or sketch, drawn to scale of one (1) inch equaling two hundred (200) yards. The plat or sketch shall show thereon the property lines in the immediate area and shall show accurately to scale all wells within a quarter mile of the proposed well site. The application shall also contain the names and addresses of all property owners adjoining the tract on which the well is to be located and the ownership of the wells within a quarter mile of the proposed location. Such application and plat shall be certified by some person actually acquainted with the facts who shall state that all the facts therein are true and correct.
- (C) Such exceptions may be granted ten (10) days after written notice has been given to the applicant and all adjoining owners and all well owners within a quarter mile of the proposed location and after public hearing at which all interested parties may appear and be heard, and after the Board has decided that an exception should be granted. Provided, however, that if all such owners execute a waiver in writing stating that they do not object to the granting of such exception, the Board may

thereupon proceed to decide upon the granting or refusing of such application without notice of hearing except to the applicant. The applicant may also waive notice of hearing or both.

RULE 9 - PLACE OF DRILLING OF WELL

- (A) After an application for a well permit has been granted, the well, if drilled, must be drilled within ten (10) yards of the location specified in the permit, and not elsewhere. If the well should be commenced or drilled at a different location, the drilling or operation of such well may be enjoined by the Board pursuant to Chapter 52, Texas Water Code.

RULE 10 - REWORKING OR REPLACING OF WELL

- (A) No person shall rework, redrill, or re-equip a well in a manner that would increase the maximum rate of production of water from such well beyond any previous actual rate of production of such well as established by Rule 6 above without first having made an application to the Board, and having been granted a permit by the Board to do so. Nor shall any person replace a well without a permit from the Board. A replacement well, in order to be considered as such, must be drilled within one hundred fifty (150) feet of the old well and not elsewhere. It must not be located toward any other well or authorized site unless the new location complies with Rule 7; otherwise the replacement well shall be considered to be a new well for which application must be made under Rule 7 above. Provided, however, that the Board may grant an exception without notice or hearing in any instance where the replacement well is placed farther away from any existing wells or authorized well sites. The location of the old well (the well being replaced) shall be protected in accordance with the spacing rules of the District until the replacement well is drilled and tested. The landowner or his agent must within 120 days of the issuance of the permit declare in writing to the District which one of these two wells he desires to produce. If the landowner does not notify the District of his choice within this 120 days, then it will be conclusively presumed that the new well is the well he desires to retain. Immediately after determining which well will be retained for production, the other well shall be:
- (1) Plugged and abandoned; or
 - (2) Properly equipped in such a manner that it cannot produce more than 25,000 gallons of water a day: or
 - (3) Closed in accordance with Article 9202, Vernon's Annotated Civil Statutes, as amended. Violation of such Article is made punishable thereby a fine of not less than \$100.00 nor more than \$500.00. An Application to rework, re-equip, redrill or replace an existing well may be granted by the Board without notice or hearing.
- (B) The size or maximum rate of production of a well shall not be hereafter changed to a larger size or capacity so as to substantially increase the rate of production of a well without a permit from the Board. (For example, increasing the size of the well bore from six to eight inches.) Such permit may be granted only after written notice to adjacent owners and owners of a well within a quarter of a mile from such well and after a decision by the Board that such change will not cause unreasonable drawdown of the water table or unreasonable interference between wells, waste, or confiscation of

property. Provided that if the adjacent owners of a well within a quarter of a mile indicate to the Board in writing that they have no objection to the proposed change, then the Board may proceed to decide such matter. Provided that if the well is a sufficient distance from other wells to comply with spacing regulations for new wells of the desired capacity the Board may proceed to act on such application.

- (C) In the event that application meets all spacing requirements and no contest is filed, the Board may grant such application without further action.

RULE 11 - TIME DURING WHICH A PERMIT SHALL REMAIN VALID

- (A) Any permit granted hereunder shall be valid if the work permitted shall have been completed within four (4) months from the filing date of the application. It shall thereafter be void. Provided, however, that the Board, for good cause, may extend the life of such permit for an additional four (4) months if an application for such extension shall have been made to the District during the first four (4) month period. Provided, further, that when it is made known to the Board that a proposed project will take more time to complete, the Board, upon receiving written application may grant such time as is reasonably necessary to complete such project.

RULE 12 - CHANGED CONDITIONS

- (A) The decision of the Board on any matter contained herein may be reconsidered by it on its own motion or upon motion showing changed conditions, or upon the discovery of new or different conditions or facts after the hearing or decision on such matter. If the Board should decide to reconsider a matter after having announced a ruling or decision, of after having finally granted or denied an application, it shall give notice to persons who were proper parties to the original action, and such persons shall be entitled to a hearing thereon if they file a request therefore with fifteen (15) days from the date of the mailing of such notice.

RULE 13 - RIGHT TO INSPECT AND TEST WELLS

- (A) Any authorized officer, employee, agent, or representative of the District shall have the right at all reasonable times to enter upon lands upon which a well or wells may be located within the boundaries of the District, to inspect such well or wells and to read, or interpret any meter, weir box or other instrument for the purpose of measuring production of water from said well or wells or for determining the pumping capacity of said well or wells; and any authorized officer, employee, agent, or representative of the District shall have the right at all reasonable times to enter upon any lands upon which a well or wells may be located within the boundaries of the District for the purposes of testing the pump and the power unit of the well or wells and of making any other reasonable and necessary inspections and tests that may be required or necessary for the information or the enforcement of the rules and regulations of the District. The operation of any well may be enjoined by the Board immediately upon the refusal to permit the gathering of information as above provided from such well.

RULE 14 - OPEN WELLS TO BE CAPPED

- (A) Every owner or operator of any land within the District upon which is located any open or uncovered well is, and shall be, required to close or cap the same permanently with a covering capable of sustaining weight of not less than four hundred (400) pounds, except when said well is in actual use by the owner or operator thereof; and no such owner or operator shall permit or allow any open or uncovered well to exist in violation of this requirement. Officers, agents and employees of the District are authorized to serve or cause to be served written notice upon any owner or operator of a well in violation of this rule, thereby requesting such owner and/or operator to close or cap such well permanently with a covering in compliance herewith. In the event any owner or operator fails to comply with such request within ten (10) days after such written notice, any officer, agent or employee of the District may go upon said land and close or cap said well in a manner complying with this rule and all expenditures thereby incurred shall constitute a lien upon the land where such well is located, provided, however, no such lien shall exceed the sum of one hundred dollars (\$100.00) for any single closing. Any officer, agent, or employee of the District, is authorized by Section 52.119 of the Texas Water Code. All of the powers and authority granted in such section are hereby adopted by the District, and its officers, agents, and employees are hereby bestowed with all of such powers and authority.

RULE 15 - FINAL ORDERS OF THE BOARD

- (A) The orders of the Board in any non-contested application or proceeding shall become the final order of the Board of the day it is entered by the Board. All orders of the Board in contested applications, appeals or other proceedings shall contain a statement that the same was contested. In such event the order will become final after fifteen (15) days from the entry thereof and be binding on the parties thereto unless a motion for rehearing is filed under Rule 18 hereof.

RULE 16 - REHEARING

- (A) Any person whose application is denied, whose contest is overruled, or who is not granted the relief desired, may file with the Board a motion for rehearing within fifteen (15) days from the announcement by the Board of its decision or action. The Board shall act thereon within a reasonable time. If such a motion for rehearing is filed and is overruled, the order of the Board shall be final on the date the motion is overruled.
- (B) The Board may, in a proper case, find that an emergency exists and that substantial injustice will result from delay. In that event, and upon recitation of such finding, the order of the Board will become final on the date of the announcement of the order by the Board, and no motion for rehearing will be considered thereon.
- (C) If an application or contest is denied by the Board, and if the applicant or contestant shall not have had and shall not have been afforded an opportunity for a hearing before the Board, as elsewhere provided by these rules, the applicant or contestant shall be entitled to a hearing before the Board. A written request to the Board for such a hearing, stating such facts, must be filed with the Board

within the above fifteen (15) day period. If such motion is in order and is duly filed, the Board shall give notice to the applicant and all proper and necessary parties of the time and place of such hearing, and shall proceed to conduct such hearing.

RULE 17 - RULES GOVERNING PROTESTS

- (A) NOTICE OF PROTEST: In the event anyone should desire to protest or oppose any pending matter before the Board, a written notice of protest or opposition shall be filed with the Board on or before the date on which such application or matter has been set for hearing. For the convenience of the Board, it is urged that protests be filed at least five (5) days before the hearing date.
- (B) PROTEST REQUIREMENTS: Protests shall be submitted in writing with a duplicate copy to the opposite party or parties and shall comply in substance with the following requirements:
 - (1) Each protest shall show the name and address of the Protestant and show that Protestant has read either the application or a notice relative thereto published by the Board.
 - (2) There shall be an allegation of injury to Protestant which will result from the proposed action or matter to be considered by the Board.
 - (3) If the protest is based upon claim of interference with some present right of Protestant, it shall include a statement of the basis of Protestant claim of right.
 - (4) Protestant should call attention to any amendment of the application or adjustment which, if made, would result in withdrawal of the protest.
- (C) CONTESTED APPLICATIONS OR PROCEEDINGS DEFINED: An application, appeal, motion or proceedings pending before the Board is considered contested when either Protestants or interveners, or both, files the notice of protest as above set out and appears at the hearing held on the application, motion or proceeding and present testimony or evidence in support of their contentions, or present a question or questions of law with regard to the application, motion or proceedings. Where neither Protestants nor interveners so appear and offer testimony or evidence in support of their contentions, or raise a question of law with reference to any pending application, motion or proceeding, the same shall be considered as non-contested.
- (D) In the event of a contested hearing each party shall furnish other parties to the proceeding with a copy of all motions, amendments or briefs filed by him with the Board.

RULE 18 - GENERAL RULES OF PROCEDURE FOR HEARING

- (A) Hearings will be conducted in such manner as the Board deems most suitable to the particular case, and technical rules of legal and court procedure need not be applied. It is the purpose of the Board to obtain all the relevant information and testimony pertaining to the issue before it as conveniently, inexpensively and expeditiously as possible without prejudicing the rights of either applicants or Protestants.
- (B) WHO MAY APPEAR: Any party at interest in a proceeding, may appear either in person or by attorney or both in such proceedings. A party at interest is any person owning a water right within the bounds of the District who is or may be affected by such proceeding. At the discretion of the Board anyone not a party at interest in a proceeding may appear.

- (C) **ADMISSIBILITY:** Evidence will be admitted if it is of that quality upon which reasonable persons are accustomed to rely in the conduct of serious affairs. It is intended that needful and proper evidence shall be conveniently, inexpensively and speedily produced while preserving the substantial rights of the parties to the proceeding.
- (D) **TESTIMONY SHALL BE PERTINENT:** The testimony shall be confined to the subject matter contained in the application of contest. In the event that any party at a hearing shall pursue a line of testimony or interrogation of a witness that is clearly irrelevant, incompetent or immaterial, the person conducting the hearing may forthwith terminate such line of interrogation.
- (E) **A STIPULATION:** Evidence may be stipulated by agreement of all parties at interest.
- (F) **LIMITING NUMBER OF WITNESSES:** The right is reserved to the Board in any proceeding to limit the number of witnesses appearing whose testimony may be merely cumulative.

RULE 19 - GENERAL RULES

- (A) **COMPUTING TIME:** In computing any period of time prescribed or allowed by these rules, by order of the Board, or by any applicable statute, the day of the act, event or default from which the designated period of time begins to run, is not to be included, but the last day of the period so computed is to be included, unless it be a Sunday or legal holiday, in which event the period runs until the end of the next day which is neither a Sunday nor a legal holiday.
- (B) **TIME LIMIT:** Applications, requests, or other papers or documents required or permitted to be filed under these rules or by law must be received for filing at the Board's offices at Sterling City, TX, or , in a proper case, at the office of the proper county committee, within the time limit, if any, for such filing. The date of receipt and not the date of posting is determinative.
- (C) **SHOW CAUSE ORDERS AND COMPLAINTS:** The Board, either on its own motion or upon receipt of sufficient written protest or complaint, may at any time, after due notice to all interested parties, cite any person operating within the District to appear before it in a public hearing and require him to show cause why his operating authority or permit should not be suspended, canceled, or otherwise restricted and limited, for failure to comply with the orders of rules of the Board or the relevant statutes of the State, or for failure to abide by the terms and provisions of the permit or operating authority itself. The matter of evidence and all other matters of procedure at any such hearing will be conducted in accordance with these rules of procedures and practice.

RULE 20 - WELL VALIDATION

- (A) In order to provide for the validation of existing water wells that are subject to the rules and regulations of the Sterling county Underground Water Conservation District (hereinafter referred to as the District), it shall be the policy of this Board that a certification of validation for a well can be issued only after the location of the well and the wellhead equipment of the well has been determined by field survey by District personnel, and /or designated agents acting for said District.
- (B) It is the privilege of this Board to cause to be issued a validation certificate for wells drilled and equipped within the District for which the landowner or his agent has not applied for an Application For Water Well Permit; or for wells not otherwise properly permitted, provided that such wells were

not drilled, equipped and operated (pumped) in such a manner as to violate any other rules and regulations of the District; and provided that the costs of such well validation are paid to the District as provided by this resolution. Nothing in this resolution is intended to limit the powers of this Board to any other course of action granted within Texas Law, or within its rules and regulations, or within the prerogative of the Board.

- (C) The District's Manager is hereby directed to establish and administer the District's program for well validation; with appeal to the Manager's well validating decisions being subject to Board review at any of its regularly called meetings, or at special called meetings.

RULE 21 - TRANSPORTATION OF WATER FROM THE DISTRICT

- (A) Every person must obtain a permit from the District for the transporting of water by pipeline, channel, ditch, watercourse or other natural or artificial facilities, or any combination of such facilities, if such water is produced from wells located or to be located within the District, and if all or any part of such water is used or is intended for use outside of the boundaries of the District. However, the requirement for a permit hereunder shall not apply to any well currently in operation located within the District prior to the effective date of this Rule provided the amount of water transported from such well annually shall not exceed the amount of water so transported in the greatest calendar year for the past three preceding years prior to the date of said application for permit.

- (1) The permit provided for herein must be applied for and filed with the District in the form of forms promulgated by the District hereunder and such permit must be obtained from the District prior to the proposed transporting of water, all in accordance with the provisions of this rule.
- (2) An application for the transportation of water for which a permit is required under this Rule must:
 - (i) be in writing and sworn to;
 - (ii) contain the name, post office address and place of residence of principal office of the applicant;
 - (iii) identify the location of the well from which the water to be transported is produced or to be produced;
 - (iv) describe specifically the proposed transportation facilities;
 - (v) state the nature and purposes of the proposed use and the amount of water to be used for each purpose;
 - (vi) state the time within which the proposed construction or alteration is to begin;
 - (vii) state the length of time required for the proposed use of water;
 - (viii) provide information showing the effect of the proposed transportation on the quantity and quality of water available within the District;
 - (ix) identify any other possible sources which could be used for the stated purposes, including quality and quantity of such alternate sources;
 - (x) identify any other liquids that could be substituted for the fresh ground water and possible sources of such liquid including quantity and quality.

- (3) The application must be accompanied by a map or plat drawn on a scale of not less than one inch equals 4,000 feet, showing substantially:
 - (i) the location of the existing or proposed well; and
 - (ii) the location of the existing or proposed water transporting facilities; and
 - (iii) the location of the proposed or increased use or uses.
- (4) The application must be accompanied by an application fee in an amount of \$50.00.
- (5) The District shall determine whether the application, maps, and other materials comply with the requirements of this Act. The District may require amendment of the application, maps, or other materials to achieve necessary compliance.
- (6) The District shall conduct a hearing on each application within ninety (90) days of filing of the complete application.
- (7) The District shall give notice of the hearing on the application as prescribed by this Rule, stating:
 - (i) the name and address of the applicant;
 - (ii) the date the application was filed;
 - (iii) the location and purpose of the well from which the water to be transported is produced or to be produced;
 - (iv) the time and place of the hearing; and
 - (v) any additional information the District considers necessary.
- (8) At the time and place stated in the notice, the District shall hold a hearing on the application. The hearing may be held in conjunction with any regular or special meeting of the District, or a special meeting may be called for the purpose of holding a hearing. Any person may appear at the hearing, in person or by attorney, or may enter his appearance in writing. Any person who appears may present objections to the issuance of the permit. The District may receive evidence, orally or by affidavit, in support or in opposition to the issuance of the permit, and it may hear arguments.
- (9) After the hearing the District shall make a written decision granting or denying the application. The application may be granted in whole or in part. Any decision to grant a permit, in whole or in part, shall require a majority vote of Directors present.
- (10) Such application shall not be approved unless the Board of Directors finds and determines that the transporting of water for use outside the District applied for will not substantially affect the quantity and quality of water available to any person or property within the District; that all other feasible sources of water available to the person requesting a permit have been developed and used to the fullest; that no other liquid could be feasibly substituted for the use of fresh ground water; and that the proposed use, or any part of the proposed use, will not constitute waste as defined under the laws of the State of Texas. In evaluating the application, the District shall consider the quantity of water proposed to be transported; the term for which the transporting is requested; the safety of the proposed transportation facilities with respect to the contamination of the aquifer; the nature of the proposed use; the effect of the proposed use of the water to be transported on District residents taking into account all beneficial use of District residents, including municipal, agricultural, industrial, recreational and other categories; and such other factors as are

consistent with the purposes of the District.

- (11) On approval of an application, the District shall issue a permit to the applicant. The applicant's right to transport shall be limited to the extent and purposes stated in the permit. A permit shall not be transferable except as provided in Paragraph (O).
 - (i) The permit shall be in writing and attested by the seal of the District and it shall contain substantially the following information:
 - (a) the name of the person to whom the permit is issued;
 - (b) the date the permit is issued;
 - (c) the term for which the permit is issued;
 - (d) the date the original application was filed;
 - (e) the destination and use of purpose for which the water is to be transported;
 - (f) the maximum quantity of water to be transported annually;
 - (g) the time within which construction or work on the well transportation facilities must begin and the time within which it must be completed; and
 - (h) any other information the District prescribed.
 - (12) The permitted shall file with the District quarterly reports describing the amount of water transported and used for the permitted purpose. Such report shall be filed on the appropriate form or forms provided by the District within ten (10) days of the March 31, June 30, September 30, and December 31 next following the commencement of transporting of water, and within ten (10) days of each such quarterly date thereafter.
 - (13) All transporting facilities for wells subject to the requirements of this Subsection shall be equipped with flow monitoring devices approved by the District available for District inspection at any time.
 - (14) A permittee may apply for an extension of any permit granted under this Subsection or for transfer of a permit to another person. The District shall consider and grant or deny such application for extension or transfer of a permit in the same manner as is provided herein for the application for a permit.
 - (15) Any permit granted under this Subsection shall be subject to revocation for nonuse or waste by the permittee, or for substantial deviation from the purposes or other terms stated in the permit. Revocation of a permit for non-use shall require that no water is transported under the permit for a period of five (5) years.
- (B) Any person transporting water produced from wells located within the District for use outside of the District, regardless of the amount of water so transported, must register such transporting with the District. Such registration shall be made within one hundred eighty (180) days after the effective date of this Rule.
- (1) Any person subject to the requirements of the Subsection (II) shall file with the District quarterly reports describing the amount of water transported, the destination and use of such water. Such report shall be filed on the appropriate form or forms provided by the District within ten (10) days of the March 31, June 30, September 30 and December 31 next following the commencement of transporting of water and within ten (10) days of each such quarterly date thereafter.
 - (2) All transporting facilities for wells subject to the requirements of this Subsection shall be

equipped with flow monitoring devices approved by the District and available for District inspection at any time.

RULE 22 - WELL DRILLING, COMPLETION, CAPPING AND PLUGGING

- (A) Responsibility
- (1) All well drillers and persons having a well drilled, deepened, or otherwise altered shall adhere to the provisions of this Rule prescribing the location of wells and proper drilling completion, capping and plugging.
- (B) Location of Domestic, Industrial, Injection and Irrigation Wells.
- (1) Except as noted in paragraph (c) (1) of this Rule (relating to Standards of Completion for Domestic, Industrial, Injection and Irrigation Wells), a well shall be located a minimum horizontal distance of 50 feet from any water-tight sewage and liquid-waste collection facility.
 - (2) Except as noted in paragraph (c) (1) of this Rule (relating to Standards of Completion for Domestic, Industrial, Injection and Irrigation Wells), a well shall be located a minimum horizontal distance of 150 feet from any concentrated sources of contamination, such as existing or proposed livestock or poultry yards, privies, and septic system absorption fields.
 - (3) A well shall be located at a site not generally subject to flooding; provided, however, that if a well must be placed in a flood prone area, it shall be completed with a watertight sanitary well seal and steel casing extending a minimum of 24 inches above known flood level.
- (C) Standards of Completion for Domestic, Industrial, Injection and Irrigation Wells. These wells shall be completed in accordance with the following specifications and in compliance with local county and/or incorporated city ordinances:
- (1) The annular space between the borehole and the casing shall be filled from ground level to a depth of not less than 10 feet below the land surface or well head with cement slurry. The distances given in Paragraph (b) (1) and (2) of this Paragraph (relating to Location of Domestic, Industrial, Injection and Irrigation Wells) may be decreased provided the total depth of cement slurry is increased by twice the horizontal reduction. In areas of shallow, unconfined groundwater aquifers, the cement need to be placed below the static water level. In areas of shallow, confined groundwater aquifers having artesian head, the cement need not be placed below the top of the water-bearing strata.
 - (2) In all wells where plastic casing is used, a concrete slab or sealing block shall be placed above the cement slurry around the well at the ground surface.
 - (i) The slab or block shall extend at least two feet from the well in all directions and have a minimum thickness of four inches and shall be separated from the well casing by a plastic or mastic coating or sleeve to prevent bonding of the slab to the casing.
 - (ii) The surface of the slab shall be sloped to drain away from the well.
 - (iii) The top of the casing shall extend a minimum of one foot above the top of the slab.
 - (3) In all wells where steel casing is used:
 - (i) The casing shall extend a minimum of one foot above the original ground surface;
 - (ii) A slab or block as described in Paragraph (2) (i) is required above the cement slurry

except when a pitless adapter is used.

- (a) the adapter is welded to the casing or fitted with another suitably effective seal; and
- (b) the annular space between the borehole and the casing is filled with cement to a depth not less than 15 feet below the adapter connection.

- (4) All wells, especially those that are gravel packed, shall be completed so that aquifers or zones containing waters that are known to differ significantly in chemical quality are not allowed to co-mingle through the borehole-casing annulus or the gravel pack and cause quality degradation of any aquifer or zone.
- (5) The well casing shall be capped or completed in a manner that will prevent pollutants from entering the well.

(D) Standards for Completion for Wells Encountering Undesirable Water:

- (1) If a well encounters undesirable water and the well is not plugged, the licensed well driller or owner shall see that the well drilled, is deepened or otherwise altered in forthwith completed in accordance with the following:
 - (i) When undesirable water is encountered in a well, the undesirable water shall be sealed off and confined to the zone(s) of origin.
 - (ii) When undesirable water is encountered in a zone overlying fresh water, the well shall be cased from the top of the fresh water zone to the land surface.
 - (iii) The annular space between the casing and the wall of the borehole shall be cemented to the land surface.
 - (iv) When undesirable water is encountered in a zone underlying a fresh water zone, the part of the well bore opposite the undesirable water zone shall be filled with cement to a height that will prevent the entrance of the undesirable water in the pumping well.
- (2) The person who performs the well completion on a well shall, within 30 days after completing the well, submit a well completion report to the District Manager, on forms supplied by the District Manager.

(E) Standards for Wells Producing Undesirable Water:

- (1) Wells completed to produce undesirable water shall be cased from the top of the undesirable water zone of 50 feet below the lowermost fresh water zone to the land surface.
- (2) The annular space between the casing and the wall of the borehole shall be cemented to the land surface, or as a minimum, to a height greater than the hydrostatic head of the undesirable water aquifer plus the uppermost 10 feet of casing.
- (3) If the undesirable water does not enter the cased part of the well, the lowermost and uppermost 10 feet (minimum) of the casing shall be cemented in order to seal off all other water-bearing or other permeable sections from the well.

(F) Recompletion:

- (1) The landowner shall have the continuing responsibility of insuring that a well does not allow the co-mingling of undesirable water and fresh water or the unwanted loss of water through the wellbore to other porous strata.
- (2) If a well is allowing the co-mingling of undesirable water and fresh water or the unwanted

loss of water, and the casing in the well cannot be removed and the well recompleted with the applicable rules, the casing in the well shall be perforated and squeeze cemented in a manner that will prevent the co-mingling of loss of water. If such a well has no casing then the well shall be cased and cemented, or plugged in a manner that will prevent such comingling or loss of water.

- (3) The District Manager may direct the landowner to take proper steps to prevent the commingling of undesirable water and fresh water, or the unwanted loss of water.

(G) Well Plugging and Capping:

- (1) It is the responsibility of the landowner or person having the well drilled, deepened, or otherwise altered, to cap or have capped, under standards set forth in this Rule (relating to Well Drilling, Completion, Capping, and Plugging), any well which is open at the surface.
- (2) It is the responsibility of the landowner or person having the well drilled, deepened or otherwise altered to plug or have plugged a well which is abandoned.
- (3) It shall be the responsibility of the landowner or person having the well drilled, deepened, or otherwise altered to see that any well which encounters undesirable water is plugged under the standards set forth in this Rule (relating to Well Drilling, Completion, Capping and Plugging).
- (4) The person that plugs such a well shall, within 30 days after completion or plugging complete, submit a well completion and plugging report to the District Manager, on forms supplied by the District Manager.

(H) Standards for Plugging Wells:

- (1) If the use of a well that does not contain any undesirable water zones is permanently discontinued, all removable casing shall be removed from the well and the entire well filled with cement to the land surface.
- (2) In lieu of the procedure in subsection (1) of this paragraph, the well may be filled with heavy mud followed by a cement plug extending from land surface to a depth of not less than 10 feet.
 - (i) Standards for Plugging Wells That Penetrate Undesirable Water Zones:
 - (a) If the use of a well that penetrates undesirable water is to be permanently discontinued, all removable casing shall be removed from the well and the entire well filled with cement to the land surface.
 - (b) In lieu of the procedure in subsection (1) of this paragraph, either the zone(s) contributing undesirable water, or the fresh water zone(s), shall be isolated with cement plugs and the remainder of the wellbore filled with heavy mud to form a base for a cement plug extending from land surface to a depth of not less than 10 feet.

RULE 23 - REPORTING UNDESIRABLE WATER

- (A) Each licensed well driller shall immediately inform the landowner of person having a well drilled, deepened, or otherwise altered when undesirable water has been encountered.
- (B) The well driller shall submit to the District Manager and the landowner or person having the well

drilled, deepened, or otherwise altered, on forms supplied by the District Manager, a statement signed by the well driller indicating that the landowner or person having the well drilled, deepened, or otherwise altered, has been informed that undesirable water has been encountered and shall note on all logs filed the depth such undesirable water was found.

- (C) The statement indicated in subsection (2) of this Rule must be submitted within 30 days after encountering undesirable water.

RULE 24 - DISPOSAL AND STORAGE OF WASTES

- (A) None of the following materials and substances may be imported from outside the district to a point within the district, nor moved within the district from point to point, for the purpose of temporarily, or permanently disposing, discharging or storing of such materials or substances within the district without first obtaining a permit from the district:
- (1) Radioactive wastes;
 - (2) Toxic substances;
 - (3) Hazardous substances;
 - (4) Polychlorinated biphenyls;
 - (5) Oil, gas, and mineral production and refinement wastes;
 - (6) Soil, fluids or other material or substances contaminated with any of the above; and
 - (7) Any other substance that presents a threat to the quality or quantity of groundwater used within the district.
- (B) Exclusions – The following substances are hereby expressly excluded from this rule:
- (1) Agricultural insecticides, herbicides or other agri-chemicals applied to the surface at the appropriate rate and for their intended use only; provided, however, that this rule shall not exclude the disposal from washing out of equipment used for applying the chemicals by any operator.
- (C) The following activities are prohibited unless a permit is granted by the district:
- (1) Construction, operation, maintenance or use of water disposal wells for disposal of any of the, materials or substances enumerated in subparagraphs (1) (a) through (1) (g) inclusive of this Rule 24; and
 - (2) Construction, operation, maintenance of use of tanks, reservoirs, pits, depression, sites, land fills, or other manner or storage of any of the materials or substances enumerated in subparagraphs (1) (a) through (1) (g) inclusive of this Rule 24 on either a temporary or a permanent basis within the district.
- (D) Exceptions – This rule shall be strictly enforced in its application; provided, however, circumstances may arise that are materially different from those normally encountered in, or resulting from, any of the disposal or storage operations or activities described or prohibited by this rule. However, an exception may be granted at the discretion of the board upon due evidence presented that such prohibition shall cause undue hardship and the board finds that such disposal, or means of disposal, does not constitute a threat of waste, pollution or harmful alteration of groundwater within the district.
- (1) Any person, firm, corporation, partnership, association of persons, or other entity desiring

an exception to any of the provisions contained in this Rule shall file a written, sworn application with the District Office in Sterling City, TX, which shall state the following:

- (i) The nature of the exception requested;
 - (ii) The type of substance or material for which the exception is requested;
 - (iii) The quantity of the substance or material to be stored and/or disposed of;
 - (iv) The rate of disposal and method of disposal of such substance or material;
 - (v) The exact location of storage and/or disposition of such substance or material;
 - (vi) A description of the present place facilities and environment of the substance or material including the method of storage and safeguards afforded thereby;
 - (vii) The justification for granting the exception; and
 - (viii) Any information that the Applicant deems appropriate in support of said Application.
- (2) Seven copies of any Application for an Exception under this rule shall be submitted to the district at its general office in Sterling City, TX.
 - (3) All Applications for an Exception shall be heard and considered by the Board of Directors meeting in regular or special session within ninety (90) days after submittal. Thirty (30) days prior to the date of hearing the district shall give notice of such hearing to the applicant and any known interested parties, including, but not limited to all governmental agencies having potential concurrent jurisdiction, and notice shall also be given to the public by appropriate notice given by the district by appropriate notice published in a newspaper of general circulation within the district at least thirty (30) days prior to the date of hearing.
 - (4) Upon hearing of the evidence presented, within sixty (60) days the Board shall enter an order granting or denying an Application for Exception, with any such conditions as it shall deem proper and necessary to protect the quality and/or quantity of the groundwater underlying said district. In this regard, as one of such conditions, the district may require the installation of requisite equipment at the sole expense of the applicant to monitor water quality, as well as require testing and water analysis of the groundwater from areas around the waste disposal site. In addition, this monitoring equipment shall be in place and in working condition at all times and district personnel and/or agents or its contractors shall have the right to inspect and obtain samples from said equipment at any time deemed necessary by the district.
 - (5) Any hearings hereunder shall be public in nature and shall be conducted pursuant to Rules 15 through 19, inclusive, provided herein.
 - (6) At the hearing the Applicant will be given the opportunity to present evidence with respect to the type of substance or materials for which an exception is sought, the quantity, location, description of the present facilities and environment of the material or substances, whether the substances of materials will alter or harm the groundwater, and protective devices and/or techniques to be employed by the Applicant to prevent such alteration or harm to the groundwater.
 - (7) The decision of the Board shall be based upon a preponderance of the evidence submitted at the hearing by the Applicant, by the district, or by other interested parties, local state or federal agencies or public officials.
 - (8) The board may grant an exception to more than one applicant with the same waste disposal

process.

- (E) All persons, firms, partnerships, corporations, associations of persons, or other legal entities having in their possession or under their care, custody and control within the district any of the material and substances enumerated in subparagraphs (1) (a) through (1) (g) inclusive of this rule as of the date on which this rule becomes effective, whether for use, storage or disposal, shall report by sworn inventory to the district office in Sterling City, TX, within sixty (60) days of the effective date of this rule. The report shall include a description of the material or substances possessed, amount, location, status and whether a plan or schedule has been formulated for the ultimate disposal of the materials or substances and the place of such disposal.
- (F) In the event of a change in the quality or quantity of the groundwater which would indicate possible contamination of the groundwater, at any time, the board shall have the right, power and authority to require the disposal facility to shut down until the source of the contamination is located and measures have been taken to correct the source of contamination and restore the water quality to its previous condition.

REPEAL OF PRIOR REGULATIONS

All of the previous rules and regulations of the District have been revised and amended; and except as they are herein republished, they are repealed. Any previous rule or regulation which conflicts with or is contrary to these rules is hereby repealed.

SAVINGS CLAUSE

If any section, sentence, paragraph, clause, or part of these rules and regulations should be held or declared invalid for any reason by a final judgment of the courts of this state or of the United States, such decision or holding shall not affect the validity of the remaining portions of these rules; and the Board does hereby declare that it would have adopted and promulgated such remaining portions of such rules irrespective of the fact that any other sentence, section, paragraph, clause, or part thereof may be declared invalid.

Entered this 10th day of August, 1989.

Sterling County Underground Water Conservation District
P.O. Box 359
Sterling City, TX 76951