Groundwater Management Plan

Prepared for:

Middle Pecos Groundwater Conservation District
Pecos County, Texas

June 2004
Groundwater Management Plan

Prepared for:

Middle Pecos Groundwater Conservation District
Pecos County, Texas

Charles R. Williams, P.G.
Associate Hydrogeologist

Mark V. Lowry, P.E.
Associate Vice President

June 2004
# Table of Contents

District Mission .................................................................................................................. 1

Purpose of Management Plan .............................................................................................. 1

Time Period of Management Plan ...................................................................................... 1

Middle Pecos Groundwater Conservation District .............................................................. 1

Authority of the District ...................................................................................................... 3

Groundwater Resources of the District .............................................................................. 4
  Aquifer Relationships in the Western Portion of the District ............................................. 5
  Aquifer Descriptions .......................................................................................................... 6

Geomorphology of the District ............................................................................................. 9

Estimate of the Total Useable Amount of Groundwater in the District ......................... 9

Estimate of the Annual Amount of Groundwater Use in the District ............................. 9

Estimate of the Annual Amount of Natural or Artificial Recharge to the Groundwater Resources within the District ................................................................. 10

How the Natural or Artificial Recharge in the District May be Increased ..................... 11

Estimate of the Projected Total Water Demand within the District ............................... 11

Estimate of Projected Surface Water and Groundwater Supplies ................................ 12

Water Management Strategies to Meet Needs of Water User Groups ...................... 13

How the Groundwater Management Plan Addresses Water Supply Needs in a Manner Not in Conflict with the Region F Water Plan .............................................. 13

Details on How the District Will Manage Groundwater in the District ...................... 13

Actions, Procedures, Performance and Avoidance Necessary to Effectuate the Plan ...... 17

Management Goals ............................................................................................................ 17

References .......................................................................................................................... 20
List of Appendices

Appendix A: District Enabling Act HB 1258 of 77th Texas Legislature Validating
      Creation of the Middle Pecos Groundwater Conservation District
Appendix B: Evidence of the Administrative Processes Required for the Certification
      of the Groundwater Management Plan as Administratively Complete
Appendix C: Draft Rules Being Considered for Adoption by the Middle Pecos
      Groundwater Conservation District
Appendix D: TWDB Groundwater Use Estimates for Pecos County
Appendix E: Details on the Development of the Estimate of Annual Recharge to the
      Capitan Reef Aquifer in Pecos County
Middle Pecos Groundwater Conservation District

Groundwater Management Plan

June, 2004

District Mission

The Middle Pecos Groundwater Conservation District (the District) is committed to manage and protect the groundwater resources of the District. The District was created to help maintain a sustainable, adequate, reliable, cost effective and high quality source of groundwater to promote the vitality, economy and environment of the District. The District will work with and for the citizens of the District and cooperate with other local, regional and State agencies involved in the study and management of groundwater resources.

Purpose of Management Plan

In 1997 the 75th Texas Legislature established a statewide comprehensive regional water planning initiative with the enactment of Senate Bill 1 (SB1). Among the provisions of SB1 were amendments to Chapter 36 of the Texas Water Code requiring groundwater conservation districts to develop a groundwater management plan that shall be submitted to the Texas Water Development Board (TWDB) for certification. The groundwater management plan was specified to contain estimates on the availability of groundwater in the district, details of how the district would manage groundwater, and management goals for the district. In 2001 the 77th Texas Legislature further clarified the water planning and management provisions of SB1 with the enactment of Senate Bill 2 (SB2).

The requirements of the Chapter 36 Texas Water Code provisions for groundwater management plan development are specified in 31 Texas Administrative Code Chapter 356 of the TWDB Rules. This plan fulfills all requirements for groundwater management plans in SB1, SB2, Chapter 36 Texas Water Code, and TWDB rules.

Time Period of Management Plan

This plan shall be in effect for a period of ten years from the date of certification by TWDB, unless a new or amended management plan is adopted by the District Board of Directors and certified by TWDB.

Middle Pecos Groundwater Conservation District

The District was created in 1999. The creation of the District is recorded in Chapter 1331 of the Acts of the 76th Texas Legislature (SB 1911). This act enabled the District to function in a limited capacity until the creation of the District was fully validated in the 77th Legislature. The validation of the District is recorded in Chapter 1299 of the Acts of the 77th Texas Legislature (HB 1258). The District was confirmed by local election held in Pecos County on November 5, 2002.
The District boundaries are coterminous with the boundaries of Pecos County, Texas. The District is bounded by Reeves, Ward, Crane, Crockett, Terrell, Brewster, and Jeff Davis counties. As of the plan date, groundwater conservation districts (GCDs) that bound the District are in Jeff Davis, Brewster, and Crockett Counties. The GCDs neighboring the District are: Brewster County GCD, Jeff Davis County Underground Water Conservation District (UWCD), and Emerald UWCD (Crockett County). Fig. 1

Figure 1, Neighboring Districts to Middle Pecos Groundwater Conservation District

Most of the District is in Groundwater Management Area (GMA) 7, with the northern part of the District in GMA 3. Chapter 36 of the Texas Water Code authorizes the District to co-ordinate its management of groundwater with other GCDs in both GMA 7 and GMA 3. The District is currently the only GCD in GMA 3. The other GCDs that are located in GMA 7 are: Emerald UWCD (Crockett), Santa Rita UWCD (Reagan), Irion County Water Conservation District (WCD), Glasscock GCD, Sterling County UWCD, Lone Wolf GCD (Mitchell), Wes-Tex GCD (Nolan), Coke County UWCD, Lipan-Kickapoo WCD (Tom Green, Concho, and Runnels), Hickory UWCD No. 1 (McCulloch, San Saba, and Mason), Menard County UWCD, Hill Country UWCD (Gillespie), Kimble County GCD, Plateau Underground Water Conservation and Supply District (Schleicher), Sutton County UWCD, Real-Edwards C and R District, and Kinney County GCD. Fig. 2
The District Board of Directors is composed of eleven members elected to staggered four-year terms. Two directors are elected from each of the four county precincts, one director is elected at-large, one director is elected from the City of Iraan and one director is elected from the City of Fort Stockton. The Board of Directors holds regular meetings, at least quarterly. Meetings of the Board of Directors are public meetings noticed and held in accordance with public meeting requirements.

**Authority of the District**

The District derives its authority to manage groundwater use within the District by virtue of the powers granted and authorized in the District enabling act HB 1258 of the 77th Texas Legislature (Appendix A). The District, acting under authority of the enabling legislation, assumes all the rights and responsibilities of a groundwater conservation district specified in Chapter 36 of the Texas Water Code. The District is currently developing the rules specifying the bounds of due process governing District actions. Upon completion of the rule development process, the draft rules will be considered for adoption in a public meeting after notice and hearing (Appendix C).
Groundwater Resources of the District

There are 5 sources of groundwater recognized by TWDB in the District. Two of these sources; the Edwards-Trinity (Plateau) aquifer and the Cenozoic Pecos Alluvium are classified as major aquifers by TWDB. (Fig. 3) The other three sources of groundwater; the Rustler Formation, the Dockum aquifer and the Capitan Reef Complex are classified as minor aquifers by TWDB. (Fig. 4)

![Map of Middle Pecos GCD showing major aquifers](image)

Figure 3, Major Aquifers in Middle Pecos GCD

A major aquifer is defined by TWDB as a source of groundwater that is capable of producing large quantities of groundwater or that produces groundwater over a large area. A minor aquifer is defined as an aquifer that produces small quantities of groundwater or produces groundwater in a limited area. The distinction of a source of groundwater as a major or minor aquifer may have no bearing on the importance of a source of groundwater to a particular locality.

The groundwater sources in the District may produce both fresh and moderately saline (brackish) water. The geologic origins of the groundwater sources of the District cover a broad range of geologic time. Listed in ascending order by geologic age, these sources and their ages are: Rustler Formation and Capitan Reef Complex (Permian), Dockum aquifer (Triassic), Edwards-Trinity (Plateau) aquifer (Cretaceous), and Cenozoic Pecos Alluvium (Cenozoic). The geologic age of the various sources of groundwater in the District and the geologic history of Pecos County have a bearing on the structure of the groundwater sources of the District and their relationships.
Aquifer Relationships in the Western Portion of the District

Parts of the District lie within the Delaware and Val Verde Basins. These basins were centers of sediment deposition at various times in geologic history. Near the end of Permian time, the seas of the Delaware Basin became shallow and restricted. This resulted in high evaporation rates of the sea water and allowed the deposition of very large amounts of evaporite minerals such as Halite (Sodium Chloride - NaCl), Anhydrite (Calcium Sulfate - CaSO₄) and Gypsum (Calcium Sulfate - CaSO₄·H₂O). (Rees and Buckner, 1980)

In Cretaceous time, seas again advanced and deposited significant amounts of additional sediment that covered the Permian evaporite mineral deposits. When the Cretaceous seas eventually withdrew, fresh groundwater percolated through the Permian evaporite deposits. The groundwater percolation dissolved much of the evaporite minerals beneath the overlying Cretaceous rocks taking away much of their support. The unsupported Cretaceous rocks subsided with extensive faulting and folding. (Fig. 5) The areas where the Cretaceous rocks subsided were filled with erosional material from the nearby volcanic activity associated with the formation of the Davis Mountains. (Rees and Buckner, 1980)

The western portion of the District lies within the Delaware Basin. In the area bounded generally by the Capitan Reef Complex, the Edwards-Trinity (Plateau) aquifer is covered and dissected by the Cenozoic Pecos Alluvium aquifer. In this area water is commingled between the two aquifers. The water quality in this area is affected mainly by sulfates
from water percolating upward from the Rustler aquifer. Water that is recharged by infiltration on the Rustler outcrops in highlands to the west of the District leeches anhydrite and gypsum as it moves down-gradient into the District. The faulted and collapsed condition of the Edwards-Trinity allows the sulfate laden water to infiltrate relatively easily. In the portion of the District which lies outside of the Delaware Basin, the Edwards-Trinity (Plateau) aquifer is undisturbed. (Rees and Buckner, 1980) (Fig 5)

Aquifer Descriptions

Capitan Reef Aquifer – The Capitan Reef aquifer is a Permian age reef complex on the eastern and western margins of the Delaware Basin. Within the District the aquifer occurs as a generally north-south trending strip approximately 10 to 20 miles wide. This strip is part of a trend which runs from northern Brewster County to the New Mexico state line through Pecos, Ward and Winkler Counties. The aquifer is composed of various cavernous limestone formations that make up the reef complex. The Capitan aquifer outcrops in the Glass Mountains but is deeply buried below the Edwards-Trinity (Plateau) aquifer in other parts of the District. The aquifer may be 1,500 to 2,000 feet thick and up to 3,600 feet deep. Water quality in the Capitan aquifer may be fresh near the mountain outcrop areas but may be moderately saline in other areas. Because of the cavernous nature of the aquifer, well yields may be high with a generally high availability of groundwater. The Capitan Reef aquifer has been little studied in Texas. (Ashworth, 1990) (Guyton, 2003)

Rustler aquifer – The Rustler aquifer is made up of the Permian age Rustler Formation. The Rustler Formation is approximately 200 to 500 feet thick. It is mostly dolomite and anhydrite but has sand and conglomerate at its base and also contains some shale and limestone. From outcrops in Culberson County the Rustler aquifer dips into the subsurface to the east. It is deformed by folding and may not produce groundwater in all areas. The Rustler is recharged by runoff infiltration in the outcrop areas but age-dating of the water may indicate that more water is recharged by cross-formation flow than from infiltration. The water quality of the Rustler aquifer is moderately saline. Well yields may vary from low to high. The Rustler aquifer is relatively deeply buried in the District and contributes water to the Edwards-Trinity (Plateau) and Cenozoic Pecos Alluvium aquifers. The principal use of the Rustler aquifer is for irrigation and oil field uses. The Rustler aquifer is not well understood and has been little studied. (Guyton, 2003)

Dockum Aquifer – The Dockum aquifer is composed of the Triassic age formations of the Dockum Group; the Santa Rosa and Tecovas Formations within the District. The aquifer has upper and lower shale sections with a fine grained sand in the middle often referred to as the “Santa Rosa” sand. The Dockum aquifer occurs only under artesian conditions in a limited area of the north western part of the District. It receives recharge from infiltration of runoff in the outcrop areas but may only receive cross-formation recharge within the area of the District. In areas where the Dockum aquifer is hydraulically connected to the Cenozoic Pecos Alluvium aquifer, the two units have been referred to as the Allurosa aquifer. Water quality in the Dockum aquifer within the District is slightly (3,000 mg/l) to moderately (5,000 mg/l) saline with a generally low productivity of wells. (Rees and Buckner, 1980) (Ashworth, 1990) (Guyton, 2003)
Figure 5, Geologic Cross Section of Reeves and Pecos Counties (Rees and Buckner, 1980)
Edwards-Trinity (Plateau) Aquifer – The Edwards-Trinity (Plateau) aquifer is of Cretaceous age and consists of the Edwards Group limestones and the sands and limestone of the Trinity Group. Within the District the Edwards Group is currently considered to consist of the Segovia and Fort Terrett Formations, but other terminology conventions may be applied to the Edwards Group. (BEG, 1975, 1981, 1982) The Trinity Group consists of the Maxon Sand, the Glen Rose Limestone and may include a basal conglomerate. (Rees and Buckner, 1980) The aquifer may be up to 1,200 feet in thickness and produces small to moderately large quantities of fresh to slightly saline (3,000 mg/l) water. The Edwards-Trinity (Plateau) aquifer is hydraulically connected to the Rustler and Cenozoic Pecos Alluvium aquifers in the western part of the District. (Ashworth, 1990)

Cenozoic Pecos Alluvium Aquifer – Consists of up to 1,500 feet of unconsolidated to partially consolidated sand, silt, clay and caliche. The alluvial fill material of the aquifer had two main deposition centers; the Pecos trough and the Monument Draw trough. The aquifer is a principal source of irrigation supply in the northern and western portions of the District. The water quality is fresh to moderately (5,000 mg/l) saline and well yields may be high. The Cenozoic Pecos Alluvium aquifer is hydraulically connected to the Rustler and Edwards-Trinity (Plateau) aquifers in the western part of the District. (Ashworth, 1990)

<table>
<thead>
<tr>
<th>System</th>
<th>Geologic Unit</th>
<th>Hydrologic Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quaternary</td>
<td>Alluvial Fill Material</td>
<td>Cenozoic Pecos Alluvium aquifer</td>
</tr>
<tr>
<td>Cretaceous</td>
<td>Edwards Group</td>
<td>Edwards-Trinity (Plateau) aquifer</td>
</tr>
<tr>
<td></td>
<td>Trinity Group</td>
<td></td>
</tr>
<tr>
<td>Triassic</td>
<td>Santa Rosa and Tecovas Formations (may be undifferentiated)</td>
<td>Dockum aquifer</td>
</tr>
<tr>
<td>Permian</td>
<td>Rustler Formation</td>
<td>Rustler aquifer</td>
</tr>
<tr>
<td></td>
<td>Capitan Reef Complex</td>
<td>Capitan Reef aquifer</td>
</tr>
</tbody>
</table>

Figure 6. Water-bearing Geologic and Hydrologic Units of Pecos County, Modified from Rees and Buckner, 1980; Ashworth, 1990
Geomorphology of the District

The topography of the District ranges from nearly level to gently undulating in the northern half and hilly to mountainous in the southern half. The eastern and central portions of the District are on the edge of the Edwards Plateau and are marked by mesas of varying sizes with intervening arroyos. Hills become more rounded and valleys more pronounced with generally undulating terrain further west. The northern part of the District slopes generally toward the Pecos River. Elevation ranges from about 2,200 feet above mean sea level (amsl) near the Pecos River to about 5,200 feet amsl in the mountains. All drainages flow to the Pecos River. The Pecos River flows continuously, but other streams in the county flow only after infrequent torrential rains. Springs were at one time an important water source for the area, but many no longer flow. (Rives 1980 and TSHA 2002)

Estimate of the Total Useable Amount of Groundwater in the District

The estimate of the total amount of useable groundwater in the District is an expression of the amount of groundwater in the District that is available for use. The District has chosen to express the estimate of the total amount of useable groundwater in the District as an annual rate at which groundwater may be sustainably used. The amount of useable groundwater available from the aquifers in the District is estimated to be 149,605 acre-feet per year. This estimate is taken from the data on groundwater availability in Exhibit B, Data Table 4 of the Region F Water Plan. The District intends to use the Region F estimates until the District has completed the well registration and permitting process and will be able to base future estimates on the actual amounts of reported use in each aquifer.

<table>
<thead>
<tr>
<th>Aquifer</th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
<th>2040</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>20,408</td>
<td>20,408</td>
<td>20,408</td>
<td>20,408</td>
<td>20,408</td>
<td>20,408</td>
</tr>
<tr>
<td>Dockum aquifer</td>
<td>1,089</td>
<td>1,089</td>
<td>1,089</td>
<td>1,089</td>
<td>1,089</td>
<td>1,089</td>
</tr>
<tr>
<td>Edwards-Trinity aquifer</td>
<td>126,615</td>
<td>126,615</td>
<td>126,615</td>
<td>126,615</td>
<td>126,615</td>
<td>126,615</td>
</tr>
<tr>
<td>Other aquifers</td>
<td>1,493</td>
<td>1,493</td>
<td>1,493</td>
<td>1,493</td>
<td>1,493</td>
<td>1,493</td>
</tr>
<tr>
<td>Total in acre-feet per year</td>
<td>149,605</td>
<td>149,605</td>
<td>149,605</td>
<td>149,605</td>
<td>149,605</td>
<td>149,605</td>
</tr>
</tbody>
</table>

Table 1, Region F estimates of groundwater availability in Pecos County

Estimate of the Annual Amount of Groundwater Use in the District

To estimate the annual amount of groundwater being used in the District, the District has relied on the TWDB Annual Water use Survey Data. In past years responses to the TWDB survey was voluntary. As a result, the TWDB water use survey data is subject to variations in the completeness or accuracy of the data. The estimate of the amount of groundwater being used in the District on an annual basis is 79,485 acre-feet per year. The estimate is from the TWDB Annual Water Use Survey for the Year 2000 which is the most recent data available. TWDB data on estimated groundwater use is available from 1980 to 2000, excepting 1981 to 1983 when no data was collected. Details of the estimate of the total amount of groundwater use are presented in Appendix D.
Estimate of the Annual Amount of Natural or Artificial Recharge to the Groundwater Resources within the District

The estimated annual amount of recharge to the groundwater resources of the District is 115,484 acre-feet per year. This estimate is based in part on data from Table 3-1 on page 3-5 of the Region F Regional Water Plan text and gives recharge estimates for the Cenozoic Pecos Alluvium, Edwards-Trinity (Plateau) and Dockum aquifers in the District. The estimates of annual recharge for the Capitan Reef and Rustler aquifers are based on estimates developed by the District.

In the TWDB rules concerning groundwater management plans, recharge is defined as "The addition of water from precipitation or runoff by seepage or infiltration to an aquifer from the land surface, streams, or lakes directly into a formation or indirectly by way of leakage from another formation." This definition precludes the inclusion of down-gradient movement of water in an aquifer in the estimate of recharge. Neither the Rustler aquifer nor the Dockum aquifer has an outcrop within the District and can not receive recharge by infiltration. As of the date of this plan the District has not located an estimate or an estimated rate of inter-formation leakage that recharges these aquifers. The District affirms the Region F estimate of recharge to the Dockum aquifer and estimates recharge to the Rustler aquifer as 0 ac-ft per year in accordance with the definition of recharge in Chapter 356 of the TWDB rules.

<table>
<thead>
<tr>
<th>Capitan Reef</th>
<th>824</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>11,880</td>
</tr>
<tr>
<td>Dockum</td>
<td>0</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>102,780</td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Estimated Annual Recharge (ac-ft per year)</strong> =</td>
<td><strong>115,484</strong></td>
</tr>
</tbody>
</table>

Table 2, Region F annual recharge estimates for Pecos County

As of the date of this plan, no published estimates on the annual amount of recharge or estimates of the rate of infiltration for recharge of the Capitan Reef aquifer have been identified. Published estimates on the rate of recharge infiltration for portions of the Edwards-Trinity (Plateau) aquifer near the outcrop of the Capitan Reef aquifer may be applicable. Published estimates recharge rates for the Edwards-Trinity Plateau aquifer are available for Pecos County, Anaya 2002, and Crockett County, Inglehart 1967. The range of these estimates is 4 percent of annual precipitation for Pecos County to 1.6 percent for Crockett County. Because the actual rate of infiltration recharge for the Capitan Reef aquifer is unknown the District has chosen to use a mid-range assumptive rate of 2.8 percent of annual precipitation.

The Capitan Reef aquifer has an estimated area of outcrop within the District of 22,279 acres. The assumed rate of infiltration of 2.8 percent of annual precipitation was applied to the average annual precipitation for this area of the District (16 inches per year). (USDA-NRCS, 1999) The District estimates the annual recharge to the Capitan Reef aquifer to be 824 ac-ft per year. The details of the District calculation of the estimated recharge to the Capitan Reef aquifer are included in Appendix E.
The estimates of individual aquifer annual recharge used in this plan were existing published estimates or based on a reasonable methodology and available data that could be considered applicable. As more information on groundwater conditions in the District becomes available, the District may use this information to refine the specific methodology by which the District will seek to sustainably manage the groundwater in the District.

**How the Natural or Artificial Recharge in the District May be Increased**

The natural or artificial recharge in the District might be increased by the construction of small retention structures on ephemeral streams to impound storm-water run-off.

**Estimate of the Projected Total Water Demand within the District**

Estimates of projected water demand are based on anticipated patterns of population growth and migration that are applied to standardized estimated water use rates for the recognized categories of water use. Estimates of projected annual total water demand represent a need for water that may ultimately be met by a supply of surface water or groundwater. The estimation of projected total water demand is the first step in determining the adequacy of a regional system of water supply. The estimate of projected total water demand within the District in the year 2010 is 87,195 acre-feet. The source of this estimate is from Exhibit B, Data Table 2 in the Region F Regional Water Plan.

<table>
<thead>
<tr>
<th>WUG</th>
<th>Category</th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
<th>2040</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>County-Other</td>
<td>Municipal</td>
<td>730</td>
<td>746</td>
<td>733</td>
<td>722</td>
<td>705</td>
<td>671</td>
</tr>
<tr>
<td>Fort Stockton</td>
<td>Municipal</td>
<td>2,892</td>
<td>3,047</td>
<td>3,086</td>
<td>3,101</td>
<td>3,092</td>
<td>3,108</td>
</tr>
<tr>
<td>Iraan</td>
<td>Municipal</td>
<td>525</td>
<td>580</td>
<td>600</td>
<td>616</td>
<td>627</td>
<td>642</td>
</tr>
<tr>
<td>Irrigation</td>
<td>Irrigation</td>
<td>82,458</td>
<td>81,190</td>
<td>79,921</td>
<td>78,652</td>
<td>77,383</td>
<td>76,114</td>
</tr>
<tr>
<td>Livestock</td>
<td>Livestock</td>
<td>1,351</td>
<td>1,351</td>
<td>1,351</td>
<td>1,351</td>
<td>1,351</td>
<td>1,351</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Manufacturing</td>
<td>7</td>
<td>8</td>
<td>10</td>
<td>11</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>Mining</td>
<td>Power</td>
<td>322</td>
<td>267</td>
<td>263</td>
<td>266</td>
<td>270</td>
<td>277</td>
</tr>
<tr>
<td>Power</td>
<td>Power</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

| Projected Demand in acre-feet/year = 88,291 | 87,195 | 85,970 | 84,725 | 83,447 | 82,184 |

Table 3, Region F Estimates of Projected Water Demands in Pecos County

At the time that the estimates of projected total water demand for Pecos County were developed by the Region F Planning Group, the District was not yet in operation and able to participate in the estimate development process.
Estimate of Projected Surface Water and Groundwater Supplies

Estimates of projected water supplies represent the estimated capacity of water supply systems to deliver water to meet user needs on an annual basis. Estimates of projected water supplies are compared with estimates of projected demand to determine if the existing infrastructure is capable of meeting the expected needs of a water user group. The annual water delivery capacity of different water systems in different areas may not be estimated by the same methods. The estimate of projected groundwater supplies in the District for the year 2010 is 89,933 acre-feet. This estimate is from Exhibit B, Data Table 5 in the Region F Water Plan.

Estimates of projected groundwater supplies typically represent the pumping capacity of the wells or well fields that supply a water user group. The estimation methodology for projected groundwater supplies may or may not reduce projections based on expected water-level drawdown or other conditions. The projected groundwater supplies of a water user group may significantly exceed the amount of water actually used by the user because the well fields supplying the user groups have additional or redundant capacity. This is particularly true of municipal water user groups where redundant capacity is built in to the system to insure a constant supply of water.

<table>
<thead>
<tr>
<th>WUG</th>
<th>Source Name</th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
<th>2040</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co.-Other</td>
<td>Cenozoic Pecos Alluvium aquifer</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>302</td>
<td>302</td>
</tr>
<tr>
<td>Co.-Other</td>
<td>Edwards-Trinity aquifer</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>Fort Stockton</td>
<td>Edwards-Trinity aquifer</td>
<td>5,600</td>
<td>5,600</td>
<td>5,600</td>
<td>5,600</td>
<td>5,600</td>
<td>5,600</td>
</tr>
<tr>
<td>Iraqn</td>
<td>Edwards-Trinity aquifer</td>
<td>525</td>
<td>580</td>
<td>600</td>
<td>616</td>
<td>627</td>
<td>642</td>
</tr>
<tr>
<td>Irrigation</td>
<td>Direct re-use</td>
<td>864</td>
<td>864</td>
<td>864</td>
<td>864</td>
<td>864</td>
<td>864</td>
</tr>
<tr>
<td>Irrigation</td>
<td>Red Bluff Lake</td>
<td>1,558</td>
<td>1,558</td>
<td>1,558</td>
<td>1,558</td>
<td>1,558</td>
<td>1,558</td>
</tr>
<tr>
<td>Irrigation</td>
<td>Cenozoic Pecos Alluvium aquifer</td>
<td>19,846</td>
<td>19,846</td>
<td>19,846</td>
<td>19,846</td>
<td>19,846</td>
<td>19,846</td>
</tr>
<tr>
<td>Irrigation</td>
<td>Edwards-Trinity aquifer</td>
<td>58,713</td>
<td>57,445</td>
<td>56,176</td>
<td>54,907</td>
<td>53,838</td>
<td>52,369</td>
</tr>
<tr>
<td>Irrigation</td>
<td>Other aquifers</td>
<td>1,483</td>
<td>1,483</td>
<td>1,483</td>
<td>1,483</td>
<td>1,483</td>
<td>1,483</td>
</tr>
<tr>
<td>Livestock</td>
<td>Livestock local supply</td>
<td>57</td>
<td>57</td>
<td>57</td>
<td>57</td>
<td>57</td>
<td>57</td>
</tr>
<tr>
<td>Livestock</td>
<td>Cenozoic Pecos Alluvium aquifer</td>
<td>220</td>
<td>220</td>
<td>220</td>
<td>220</td>
<td>220</td>
<td>220</td>
</tr>
<tr>
<td>Livestock</td>
<td>Edwards-Trinity aquifer</td>
<td>1,070</td>
<td>1,070</td>
<td>1,070</td>
<td>1,070</td>
<td>1,070</td>
<td>1,070</td>
</tr>
<tr>
<td>Livestock</td>
<td>Other aquifers</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Manufacture</td>
<td>Edwards-Trinity aquifer</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Mining</td>
<td>Cenozoic Pecos Alluvium aquifer</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Mining</td>
<td>Edwards-Trinity aquifer</td>
<td>249</td>
<td>249</td>
<td>249</td>
<td>249</td>
<td>249</td>
<td>249</td>
</tr>
<tr>
<td>Power</td>
<td>Edwards-Trinity aquifer</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Projected Supplies in acre-feet/year = 91,146 89,933 88,684 87,431 86,173 84,919

Table 4, Region F Estimates of Projected Water Supplies in Pecos County

At the time that the estimates of projected water supplies for Pecos County were developed by the Region F Planning Group, the District was not yet in operation and able to participate in the estimate development process.
Water Management Strategies to Meet Needs of Water User Groups

The projected water supplies and demand estimates for Pecos County taken from the Region F Water Plan indicate that projected demands do not exceed projected supplies through 2050. Only one water management strategy was recommended in the Region F Regional Water Plan that involved additional groundwater development in the District. This strategy involves the expansion of the existing Pecos County well field for an electric generating plant in Crockett County.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>Pecos</td>
<td>No Management Strategy Identified</td>
<td>None</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Steam Electric Power</td>
<td>Crockett</td>
<td>Additional Wells in Existing Pecos County Well Field</td>
<td>Edwards-Trinity (Plateau) aquifer</td>
<td>0</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
<td>1900</td>
</tr>
<tr>
<td>Mining</td>
<td>Pecos</td>
<td>No Management Strategy Identified</td>
<td>None</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 5, Water Management Strategies Recommended for Pecos County in the Region F Regional Water Plan

How the Groundwater Management Plan Addresses Water Supply Needs in a Manner Not in Conflict with the Region F Water Plan

In order to address water supply needs in a manner not in conflict with the TWDB approved regional water plan from the Region F Water Planning Group, the District has adopted a groundwater availability value of 149,605 ac-ft per year taken from Exhibit B, Data Table 4 of the approved 2001 Region F Water Plan.

Details on How the District Will Manage Groundwater in the District

The District will manage the supply of groundwater within the District in order to conserve the resource while seeking to maintain the economic viability of all resource user groups, public and private. The District seeks to manage the groundwater resources of the District as practicably as possible in a sustainable manner. The Texas Legislature established that groundwater conservation districts are the preferred method of groundwater management in Section 36.0015 of the Texas Water Code. 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 may result in the conservation of groundwater in the District. The District will manage groundwater resources through rules developed and implemented in accordance with Chapter 36 of the Texas Water Code and the provisions of the District Enabling Act recorded in Chapter 1299 of the Acts of the 77th Texas Legislature (HB 1258). The District will require that any well constructed as an exempt well under activities regulated by the Texas Railroad Commission (TRC) and later converted to another use not regulated by the TRC will be required to seek a permit for the use of groundwater in the District.
An observation well network may be established and maintained in order to monitor changing storage conditions of groundwater supplies within the District. When a monitoring well network has been established the District will make a regular assessment of water supply and groundwater storage conditions and will report those conditions to the District Board of Directors and to the public. The District may undertake, as necessary, investigations of the groundwater resources within the District and will make the results of investigations available to the public upon adoption by the District Board of Directors. The District will co-operate with investigations of the groundwater resources of the District undertaken by other local political subdivisions or agencies of the State of Texas.

In order to better manage groundwater resources the District may establish management zones for all sources of groundwater within the District. In each management zone the District may:
   a) Establish groundwater availability and authorize the production of groundwater
   b) Determine and implement the proportional reductions of the use of groundwater for all classes of groundwater use that are established by the District
   c) Allow for the transfer of the permitted right to use groundwater if a process is established in the District rules

Section 36.116 of the Texas Water Code provides that the District may use the management zones to adopt different rules for each:
   a) Aquifer
   b) Aquifer subdivision
   c) Geologic formation
   d) Geographic area in which any part of a through c above may occur within the District

For the purpose of managing the use of groundwater within the District, the District will define sustainable use as the use of an amount of groundwater in the District as a whole or any management zone established by the District that does not exceed:
   a) The amount of annual recharge of the aquifer or aquifer subdivision in which the use occurs as recognized by the District or
   b) Any other criteria established by the District as being a threshold of use beyond which further use of the aquifer or aquifer subdivision may result in a specified undesirable or injurious condition

The District will use the currently available estimates of groundwater recharge, movement and availability within the District in exercising the statutory responsibility of managing the groundwater in the District. As more information on groundwater conditions in the District becomes available, the District may use that information to refine the specific methodology by which the District will seek to sustainably manage the groundwater in the District.
The annual amount of water used from an aquifer or aquifer subdivision in the District or in a management zone established by the District will be averaged over a period of years specified in the District rules to determine if the sustainable use has been exceeded. If the sustainable use of an aquifer or aquifer subdivision in the District or a management zone is found to have been exceeded the District may implement proportional reductions in the permitted use of groundwater in the District or management zone to reduce the levels of use to the sustainable amount. The District will implement proportional reductions in the permitted use of groundwater only to the extent that is required to maintain sustainable use in an aquifer, aquifer subdivision or a management zone when averaged over time.

The District rules will specify the methodology by which the District will track the usage of groundwater from an aquifer or aquifer subdivision in the District or a management zone to determine whether the sustainable use has been exceeded. The District rules will specify the methodology by which the District will implement any proportional reductions in the permitted use of groundwater in the District. All District actions with regard to proportional reductions of the permitted use of groundwater will be taken in noticed public meetings and in accord with the District rules.

The District will implement rules establishing a claims process in which the District may require an existing or historic user of groundwater to obtain a historic use permit. The claims process is intended to protect existing use as provided for in Section 36.113(e) of the Texas Water Code. To the extent practicable while remaining consistent with this plan, the District's existing and historic use claims process and period will preserve historic use as provided in Section 36.116(b) of the Texas Water Code.

The District will protect the existing and historical use of groundwater in the District prior to the effective date of the rules establishing the claims process. To obtain a historic use permit, an existing or historic user must prove the maximum annual amount of groundwater that the user put towards a beneficial use during an existing and historic use period established in the District rules. The protection extended to historic use permit holder would be achieved by imposing more restrictive permit conditions on new permit applications. In extending this protection to historic use permit holders the District will establish limitations that:

a) Apply to all subsequent new applications for the permitted use of groundwater and applications for the increased use of groundwater by holders of historic use permits regardless of the type or location of use

b) Bear a reasonable relationship to the District’s management plan

c) Are reasonably necessary to protect existing use
The District may adopt rules to regulate groundwater withdrawals by means of spacing and/or production limits. The District may deny a well construction permit or limit groundwater withdrawals in accordance with the guidelines stated in the rules of the District. In making a determination to deny a permit or reduce the amount of groundwater withdrawals authorized in an existing permit, the District will weigh the public benefit in managing the aquifer to be derived from the denial of a groundwater withdrawal permit or the reduction of the amount of authorized groundwater withdrawals against the individual hardship imposed by the permit denial or authorization reduction.

The relevant factors to be considered in making a determination to deny a permit or limit groundwater withdrawals may include:
   a) The rules of the District
   b) The distribution of groundwater resources in the District or any management zones established by the District
   c) The economic hardship resulting from grant or denial of a permit or the terms prescribed by the permit

In pursuit of the District’s mission of protecting the resource, the District may require reduction of groundwater withdrawals. To achieve this purpose, the District may, at the Boards discretion amend or revoke any permits after notice and hearing. The determination to seek the amendment, reduction or revocation of a permit by the District will be based on aquifer conditions observed by the District. The District will, when necessary, enforce the terms and conditions of permits and the rules of the District by enjoining the permit holder in a court of competent jurisdiction as provided for in Texas Water Code Chapter 36.102.

The District will establish rules for the proportional reduction of the permitted use of groundwater in the District that will recognize the following priorities of use:
   1) Exempt users with particular consideration to livestock and domestic use
   2) Holders of historic use of groundwater permits
   3) Holders of non-historic groundwater use permits

The District may employ technical resources at its disposal, as needed, to evaluate the resources available within the District and to determine the effectiveness of regulatory or conservation measures. In consideration of particular individual, localized or District-wide conditions the District may allow the production in a management zone to exceed the sustainable amount for a period of time considered necessary by the District. The exercise of this discretion by the District shall not be construed as limiting the authority of the District in any other matter. A public or private user may appeal to the Board for discretion in enforcement of the provisions of a reduction in the permitted use of groundwater on grounds of adverse economic hardship or unique local conditions. The exercise of said discretion by the Board shall not be construed as limiting the power of the Board.
Actions, Procedures, Performance and Avoidance Necessary to Effectuate the Plan

The District will implement the provisions of this management plan and will utilize the objectives of the plan as a guide for District actions, operations and decision-making. The District will ensure that planning efforts, activities and operations are consistent with the provisions of this plan.

The District will adopt rules in accordance with Chapter 36 of the Texas Water Code and all rules will be followed and enforced. The development of rules will be based on the scientific information and technical evidence available to the District.

The District will encourage cooperation and coordination in the implementation of this plan. All operations and activities will be performed in a manner that encourages the cooperation of the citizens of the District and with the appropriate water management entities at the state, regional and local level.

Methodology for Tracking the District’s Progress in Achieving Management Goals

The General Manager of the District will prepare and submit an annual report (Annual Report) to the District Board of Directors. The Annual Report will include an update on the District’s performance in achieving the management goals contained in this plan. The general manager will present the Annual Report to the Board of Directors within one hundred twenty (120) days following the completion of the District’s Fiscal Year, beginning in the fiscal year starting on November 1, 2004. A copy of the annual audit of District financial records will be included in the Annual Report. The District will maintain a copy of the Annual Report on file for public inspection at the District offices, upon adoption by the Board of Directors.

Management Goals

1. Providing for the Most Efficient Use of Groundwater in the District

1.1 Objective – Each year, the District will require all new exempt or permitted wells that are constructed within the boundaries of the District to be registered with the District in accordance with the District rules.

1.1 Performance Standard – Each Year the number of exempt and permitted wells registered by the District for the year will be incorporated into the Annual Report submitted to the Board of Directors of the District.
2. Controlling and Preventing the Waste of Groundwater in the District

2.1 Objective – Each year, the District will make an evaluation of the District Rules to determine whether any amendments are recommended to decrease the amount of waste of groundwater within the District.

2.1 Performance Standard – The District will include a discussion of the annual evaluation of the District Rules and the determination of whether any amendments to the rules are recommended to prevent the waste of groundwater in the Annual Report of the District provided to the Board of Directors.

2.2 Objective – Each year, the District will provide information to the public on eliminating and reducing wasteful practices in the use of groundwater by a page on groundwater waste reduction on the District’s website or by providing an article on eliminating and reducing wasteful practices to a newspaper of general circulation in the District for potential publication.

2.2 Performance Standard – Each year, a copy of the information provided on the groundwater waste reduction page of District’s website or a copy of the article provided to a newspaper of general circulation in the District will be included in the District’s Annual Report to be given to the District Board of Directors.

3. Controlling and Preventing Subsidence
This Management Goal is not Applicable to the District.

4. Natural Resource Issues That Affect the Use and Availability of Groundwater or are affected by the Use of Groundwater

4.1 Objective – The District will inquire to the Texas Railroad Commission asking for the location of existing salt water or waste disposal injection wells permitted by the Texas Railroad Commission within the District by the end of fiscal year 2004.

4.1 Performance Standard – A copy of the letter to the Texas Railroad Commission asking for the location of existing salt water or waste disposal wells permitted to operate within the District will be included in the Annual Report submitted to the Board of Directors of the District for fiscal year 2004.

4.2 Objective – Each year the District will inquire to the Texas Railroad Commission asking whether any new salt water or waste disposal injection wells have been permitted by the Texas Railroad Commission to operate within the District.

4.2 Performance Standard – Each year a copy of the letter to the Texas Railroad Commission asking for the location of any new salt water or waste disposal wells permitted to operate within the District will be included in the Annual Report submitted to the Board of Directors of the District.
4.3 **Objective** – Each year the District will request the Texas Railroad Commission to provide a copy of the results of integrity tests performed on salt water or waste disposal injection wells permitted by the Texas Railroad Commission to operate within the District.

4.3 **Performance Standard** – Each year a copy of the letter to the Texas Railroad Commission requesting the results of the integrity testing performed on salt water or waste disposal injection wells permitted by the Texas Railroad Commission to operate within the District will be included in the Annual Report submitted to the Board of Directors of the District.

5. **Conjunctive Surface Water Management Issues**

5.1 **Objective** – Each year, the District will participate in the regional planning process by being represented at the Region F Regional Water Planning Group meetings.

5.1 **Performance Standard** – The attendance of a District representative to at least 50 percent of the Region F Regional Water Planning Group meetings will be noted in the Annual Report presented to the District Board of Directors.

6. **Addressing Conservation**

6.1 **Objective** – The District will submit an article annually, regarding water conservation for publication to at least one newspaper of general circulation in Pecos County.

6.1 **Performance Standard** – A copy of the article submitted by the District for publication to a newspaper of general circulation in Pecos County regarding water conservation will be included in the Annual Report to the Board of Directors.

7) **Addressing Drought Conditions**

7.1 **Objective** – Each month, the District will download the updated Palmer Drought Severity Index (PDSI) map and check for the periodic updates to the Drought Preparedness Council Situation Report (Situation Report) posted on the Texas Water Information Network website [www.txwin.net](http://www.txwin.net).

7.1 **Performance Standard** – Quarterly, the District will make an assessment of the status of drought in the District and prepare a quarterly briefing to the Board of Directors. The downloaded PDSI maps and Situation Reports will be included with copies of the quarterly briefing in the District Annual Report to the Board of Directors.
References


Bureau of Economic Geology 1975; Geologic Atlas of Texas, Pecos Sheet; The University of Texas at Austin, Bureau of Economic Geology.

Bureau of Economic Geology 1981; Geologic Atlas of Texas, Sonora Sheet; The University of Texas at Austin, Bureau of Economic Geology.

Bureau of Economic Geology 1982; Geologic Atlas of Texas, Fort Stockton Sheet; The University of Texas at Austin, Bureau of Economic Geology.

Iglehart, H. H. 1967; Occurrence and Quality of Groundwater in Crockett County, Texas; Texas Water Development Board, Report 47.


Rives, J. L. 1980; Soil Survey of Pecos County, Texas; U.S. Department of Agriculture Soil Conservation Service

Appendix A

District Enabling Act HB 1258 of 77th Texas Legislature Validating Creation of the Middle Pecos Groundwater Conservation District
AN ACT
relating to the ratification of the creation of and to the
administration, powers, duties, operation, and financing of the
Middle Pecos Groundwater Conservation District.
BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:
SECTION 1. RATIFICATION OF CREATION. The creation by
Chapter 1331, Acts of the 76th Legislature, Regular Session, 1999
(Senate Bill No. 1911), of the Middle Pecos Groundwater
Conservation District in Pecos County is ratified as required by
Section 15(a) of that Act, subject to approval at a confirmation
election under Section 7 of this Act.
SECTION 2. DEFINITION. In this Act, "district" means the
Middle Pecos Groundwater Conservation District.
SECTION 3. BOUNDARIES. The boundaries of the district are
coextensive with the boundaries of Pecos County, Texas.
SECTION 4. GENERAL POWERS. (a) The district has all of
the
rights, powers, privileges, authority, functions, and duties
provided by the general law of this state, including Chapter 36,
Water Code, applicable to groundwater conservation districts
created under Section 59, Article XVI, Texas Constitution. This
Act prevails over any provision of general law that is in
conflict
or inconsistent with this Act, including any provision of
Chapter
1331, Acts of the 76th Legislature, Regular Session, 1999
(Senate
Bill No. 1911).
(b) Notwithstanding Subsection (a) of this section, the
following provisions prevail over a conflicting or inconsistent
provision of this Act:
(1) Sections 36.1071-36.108, Water Code;
(2) Sections 36.159-36.151, Water Code; and
(3) Subchapter I, Chapter 36, Water Code.
(c) Section 36.121, Water Code, does not apply to the
district.
(d) The rights, powers, privileges, authority, functions,
and duties of the district are not subject to the continuing
right
of supervision of the state through the Texas Natural Resource
Conservation Commission.
(e) In addition to other fees assessed by the district,
the
district may assess an additional fee on groundwater transferred
out of the district not to exceed 10 percent of the amount of
the
fee assessed for the production of water for use within the
district.
(f) The district may not impose any additional rules or
regulations on the production of groundwater for use outside of
the
district than imposed upon production for in-district use.

SECTION 5. BOARD OF DIRECTORS. (a) The district is
governed
by a board of 11 directors.
(b) Temporary directors serve until initial directors are
elected under Section 7 of this Act.
(c) Initial directors serve until permanent directors are
elected under Section 8 of this Act.
(d) Permanent directors serve staggered four-year terms.
(e) Each director must qualify to serve as director in
the
manner provided by Section 36.055, Water Code.
(f) A director serves until the director's successor has
qualified.
(g) If there is a vacancy on the board, the remaining
directors shall appoint a director to serve the remainder of the
term. If at any time there are fewer than three qualified
directors, the Pecos County Commissioners Court shall appoint
the
necessary number of persons to fill all the vacancies on the
board.
(h) A director may not receive a salary or other
compensation for service as a director but may be reimbursed for
actual expenses of attending meetings at the rate in effect for
employees of Pecos County.

SECTION 6. METHOD OF ELECTING DIRECTORS. (a) The
directors
of the district shall be elected according to the method
provided
by this section.
(b) One director shall be elected by the qualified voters
of
the entire district, two directors shall be elected from each
county commissioners precinct by the qualified voters of that
precinct, one director shall be elected from the city of Iraan
by
the qualified voters of that city, and one director shall be
elected from the city of Fort Stockton by the qualified voters
of
that city.

c) To be qualified to be a candidate for or to serve as a
director at large, a person must be a registered voter in the
district. To be a candidate for or to serve as director from a
county commissioners precinct or a city, a person must be a
registered voter of that precinct or city, as applicable.

d) A person shall indicate on the application for a place
on the ballot:
(1) the precinct or city that the person seeks to
represent; or
(2) that the person seeks to represent the district at
large.

e) At the first election after the county commissioners
precincts are redrawn under Section 18, Article V, Texas
Constitution, eight new directors shall be elected to represent
the
precincts. The directors elected shall draw lots to determine
which four directors serve two-year terms and which four
directors
serve four-year terms.

SECTION 7. CONFIRMATION AND INITIAL DIRECTORS' ELECTION.

(a)
The temporary board of directors shall call and hold an election
to
confirm establishment of the district and to elect initial
directors.

(b) At the confirmation and initial directors' election, the
temporary board of directors shall have placed on the ballot the
name of any candidate filing for an initial director's position
and
blank spaces to write in the names of other persons. A
temporary
director who is qualified to be a candidate under Sections 5 and
6
may file for an initial director's position.

(c) Section 41.001(a), Election Code, does not apply to a
confirmation and initial directors' election held as provided by
this section.

(d) Except as provided by this section, a confirmation and
initial directors' election must be conducted as provided by
Sections 36.017(b)-(h), Water Code, and the Election Code.
(e) The elected initial directors shall draw lots to determine their terms. One director from each county commissioners precinct and the director from the district at large serve terms that expire on the date of the first election held under Section 8 of this Act. The remaining directors serve terms that expire on the date of the second election held under Section 8 of this Act.

(f) If the majority of the votes cast at an election held under this section is against the confirmation of the district, the temporary directors may call another election under this section not later than August 31, 2003.

SECTION 8. ELECTION OF DIRECTORS. On the first Saturday in May of the first even-numbered year after the year in which the district is authorized to be created at a confirmation election and on the first Saturday in May of each subsequent second year, an election shall be held in the district to elect the appropriate number of directors.

SECTION 9. FINDINGS RELATED TO PROCEDURAL REQUIREMENTS.

(a) The proper and legal notice of the intention to introduce this Act, setting forth the general substance of this Act, has been published as provided by law, and the notice and a copy of this Act have been furnished to all persons, agencies, officials, or entities to which they are required to be furnished by the constitution and other laws of this state, including the governor, who has submitted the notice and Act to the Texas Natural Resource Conservation Commission.

(b) The Texas Natural Resource Conservation Commission has filed its recommendations relating to this Act with the governor, lieutenant governor, and speaker of the house of representatives within the required time.

(c) All requirements of the constitution and laws of this state and the rules and procedures of the legislature with respect
fulfilled

and accomplished.

SECTION 10. EFFECTIVE DATE; EXPIRATION DATE. (a) This
Act
takes effect September 1, 2001.

(b) If the creation of the district is not confirmed at a
confirmation election held under Section 7 of this Act before
September 1, 2003, the district is dissolved and this Act
expires
on that date.

President of the Senate
I certify that H.B. No. 1258 was passed by the House on
March
29, 2001, by a non-record vote; and that the House concurred in
Senate amendments to H.B. No. 1258 on May 24, 2001, by a non-
record
vote.

Chief Clerk of the House
I certify that H.B. No. 1258 was passed by the Senate,
with
amendments, on May 17, 2001, by a viva-voce vote.

Secretary of the Senate

APPROVED: Date

Governor
Appendix B

Evidence of the Administrative Processes Required for the Certification of the Groundwater Management Plan as Administratively Complete
AGENDA FOR June 16, 2004

Notice is hereby given that the above named board will hold a **public hearing/workshop on June 16, 2004 at 5:30 p.m. followed by a regular Board Meeting**. Both public hearing/workshop and the board meeting will be held in the Pecos County Courthouse. The following items of business will be discussed.

Public hearing/workshop
1. Discussion of District’s proposed management Plan
2. Public Comment

Board Meeting
I. Call to Order immediately following workshop/public hearing 2nd floor – Pecos County Courthouse
II. Consider and/or act upon minutes of May 19, 2004
III. Consider and/or act upon accounts payable, treasurer’s report, line item transfers
IV. Consider and/or act upon swearing in of directors
V. Consider and/or act upon election of officers §3.02 Board Structure, Officers
VI. Consider and/or act upon committee reports
VII. Standing: from A. Zan Matthies, progress report
VIII. Special: Reports from Matthies, Ezell, & McKenzie on the research done on the development of an ArcIMS web site concerning a registering and permitting database for MPGCD – Honaker to report on Texas Mountain Canyon Water Association/James Reese proposal
IX. Consider and/or act upon any changes to the draft copy of the management plan and present copy for adoption
X. Consider and/or act upon formulation of rules
XI. Consider and/or act upon Turner Collie & Braden proposal for the district to purchase a computer program developed by TC&B – “ArcIMS web site for assisting with registering and permitting”; a web site database program for MPGCD’s use. Giving President authority to enter into contract with TC&B for this purpose
XII. Consider and/or act upon procedure, qualifications, salary, benefits, and hiring of a clerk/secretary for the district
XIII. Consider and/or act upon the authority to be given to the independent consultant and/or district manager to purchase a tape recorder for taping of meetings and/or hearings, and other uses for the district
XIV. Consider and/or act upon the purchase of handheld GPS’s for district use
XV. Consider and/or act upon district correspondence, up and coming meetings, conferences, seminars, etc. concerning water districts
XVI. Other Business to be discussed, no action to be taken
   **Assist with formulating next agenda**
XVII. Discussion with Public and Media
XVIII. Adjourn
RESOLUTION
OF THE BOARD OF DIRECTORS OF THE MIDDLE PECOS
GROUNDWATER CONSERVATION DISTRICT
HEARING HELD JUNE 16, 2004

A RESOLUTION ADOPTING MANAGEMENT PLAN

WHEREAS, the Middle Pecos Groundwater Conservation District (the "District") is a political subdivision of the State of Texas organized and existing under and by virtue of Article XVI, Chapter 39, of the Texas Constitution,

WHEREAS, under the direction of the Board of Directors, and in accordance with Section 36:1071, Texas Water Code, and Chapter 356, Title 31, Texas Administrative Code, the District developed a Management Plan,

WHEREAS, the District requested the technical assistance of the Texas Water Development Board and worked with TWDB's staff on ascertaining the technical information and estimates that are required by the TWDB, the Texas Administrative Code, and Chapter 36, Texas Water Code, to be included in the Management Plan,

WHEREAS, the District held public hearings to receive public and written comments on the Management Plan for the District at the District Courthouse, Pecos County Courthouse, located in Fort Stockton, Texas, on October 15, 2003 at 3:00 PM, October 15, 2003 at 6:00 PM, November 19, 2003 at 3:00 PM, November 19, 2003 at 6:00 PM, December 17, 2003, January 7, 2004, May 19, 2004, and June 16, 2004

WHEREAS, the Board of Directors finds that the Management Plan meets all of the requirements of Chapter 36, Texas Water Code, and Chapter 356, Title 31, Texas Administrative Code.

NOW THEREFORE BE IT RESOLVED THAT:

The Management Plan is hereby adopted as the management plan for the District; and

The Board and General Manager are further authorized to take any and all action necessary to file the adopted Management Plan with the Texas Water Development Board, and to coordinate with the Texas Water Development Board as may be required in furtherance of certification pursuant to the provisions of Section 36:1072 of the Texas Water Code.

AND IT IS SO ORDERED.

Upon motion duly made by Director W.R. SANCHEZ, and seconded by Director John D. ROOBS, and upon discussion, the Board voted 7 in favor and 0 opposed, 0 abstained, and 0 absent, and the motion thereby PASSED on this 16th day of June, 2004.

MIDDLE PECOS GROUNDWATER CONSERVATION DISTRICT

By [Signature]
Board President

ATTEST:
[Signature]
Board Secretary
Appendix C

Draft Rules Being Considered for Adoption by the Middle Pecos Groundwater Conservation District
PROPOSED DRAFT RULES

MIDDLE PECOS GROUNDWATER CONSERVATION DISTRICT

RULES

Substantive Rules Effective Date: September 1, 2004
Procedural Rules Effective Date: January 7, 2004
Procedural Rules Amended Effective September 1, 2004

PECOS COUNTY, TEXAS
DISTRICT’S RULES

The rules of the Middle Pecos Groundwater Conservation District were initially adopted by the Board of Directors on July 21, 2004, at a duly posted public meeting in compliance with the Texas Open Meetings Act and following notice and hearing in accordance with Section 36.101 of the Texas Water Code. The District’s rules are hereby adopted as the rules of this District in accordance with Section 59 of Article XVI of the Texas Constitution, Chapter 36 of the Texas Water Code, and the District’s enabling act [Acts 1999, 76th Leg., R.S., Ch. 1331 (Senate Bill 1911), and Acts 2001, 77th Leg., R.S., Ch. 1299 (House Bill 1258)]. The substantive rules are effective as of August 1, 2004. The procedural rules which initially took effect on January 7, 2004, were subsequently amended on July 21, 2004, and, in their present form, are effective as of August 1, 2004.

The District’s rules are and have been adopted to simplify procedures, avoid delays, and facilitate the administration of the water laws of the State of Texas. These rules are to be construed to attain those objectives. These rules may be used as guides in the exercise of discretion, where discretion is vested. However, these rules shall not be construed as a limitation or restriction upon the exercise of discretion conferred by law, nor shall they be construed to deprive the District or the Board of any powers, duties, or jurisdiction provided by law. These rules will not limit or restrict the amount and accuracy of data or information that may be required for the proper administration of the law.
SECTION 1. DISTRICT MANAGEMENT PLAN

The Board shall adopt a Management Plan that specifies the acts, procedures, performance and avoidance necessary to minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, to prevent interference between wells, to prevent degradation of water quality, or to prevent waste. The District shall use the Rules of the District to implement the Management Plan. The Board will review the plan at least every fifth year. If the Board considers a new plan necessary or desirable, based on evidence presented at a hearing, a new plan will be adopted. A plan, once adopted, remains in effect until amended, or until the adoption of a new plan.

SECTION 2. WATER WELL REGISTRATION

RULE 2.1 REGISTRATION

All water wells, existing and new, exempt and nonexempt, must be registered with the District and are required to comply with the District’s registration requirements in these rules.

RULE 2.2 GENERAL REGISTRATION POLICIES AND PROCEDURES

2.2.1 No person shall drill, modify, complete, operate, change type of use, plug, abandon, or alter the size of a well within the District without first registering or re-registering the well with the District on a form approved by the District, even though the well may be exempt from the requirement of a permit under District Rule 4.3. The District shall make registration forms available soon after the Effective Date of these rules. The registration form(s) required under this section shall be filed with the District no later than 120 calendar days from the date the forms are available by the District, or December 15, 2004, whichever date is later.

2.2.2 District staff will review the registration form and make a determination on whether the well meets the exclusions or exemptions provided in these rules. Providing the District’s determination is that the well is excluded or exempt, the registrant may begin drilling immediately upon receiving written notice that the District has approved the registration.

2.2.3 In the event of an emergency, as defined by the well driller, an exempt well may be reworked prior to registration. The registration requirement will be waived for a 48-hour period.
2.2.4 Term: A registration certificate is perpetual in nature, subject to cancellation for violation of these Rules.

2.2.5 Re-registration: If the owner or operator of a registered well plans to change the type of use of the groundwater, increase the withdrawal rate, or substantially alter the size of the well or well pump in a manner that does not require a permit, the well must be re-registered.

2.2.6 Ownership Transfer: Prior to any ownership transfer of any well(s) covered by a registration, written notice must be given the District by the registration holder, and permit amendment shall be secured, if applicable. Any person who becomes the owner of a previous registration must, within 90 (ninety) calendar days from the date of the change in ownership, file a request for transfer of the registration.

SECTION 3. PRODUCTION LIMITATIONS

RULE 3.1 HISTORIC AND EXISTING USE PERMITS

The District shall designate the quantity of groundwater produced on an annual basis under a Historic and Existing Use Permit pursuant to the conditions of the District Act, Chapter 36 of the Texas Water Code, and these rules, provided, however, that the quantity that may be withdrawn shall not exceed the Maximum Historic and Existing Use demonstrated by the applicant, and determined by the Board.
**RULE 3.2 PRODUCTION PERMITS**

The District shall designate the quantity of groundwater produced on an annual basis under an Production Permit pursuant to the conditions of the District Act, Chapter 36 of the Texas Water Code, and these rules, provided, however, that the quantity shall not exceed an amount demonstrated by the applicant and determined by the Board to be necessary for beneficial use during the permit term, except as may be reduced if the District imposes restrictions under this section.

**RULE 3.3 AQUIFER-BASED PRODUCTION LIMITS**

3.3.1 The District may limit the total annual production and maximum annual rate of groundwater withdrawal for any aquifer within the District as the District determines to be necessary based upon the best available hydrogeologic, geographic, and other relevant scientific data, including but not limited to noted changes in the water levels, water quality, groundwater withdrawals, annual recharge, the loss of stored water in the aquifer, or future planning projections developed by or accessible to the District. In accordance with the District Management Plan, the total amount of authorized, annual production and the authorized rate of production from each aquifer shall be limited to ensure that groundwater may be used on a sustainable basis from each aquifer. The District may also develop, utilize, and/or adopt groundwater availability models in support of the District’s management of the groundwater within its jurisdiction. The District may establish a series of index or monitoring wells to aid in this determination.

3.3.2 Using the best available hydrogeologic, geographic, and other relevant scientific information, the District will continue to study and accumulate data on the various aquifers located within the boundaries of the District and their subdivisions, and may amend from time to time the limit on total annual production or the authorized rate of production either throughout the District or for a particular aquifer or its subdivision, based upon this data and the District’s water resource management goals set forth in the District Management Plan.

3.3.3 The Board may set the allowable production of each permitted well. The Board has the right to modify a permit at any time if monitoring wells within the source aquifer show an unacceptable level of decline in water quality of the aquifer, or as may be necessary to prevent waste and achieve water conservation, minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, lessen interference between wells, or control and prevent subsidence.

3.3.4 As determined by the District, if the total amount of production within an aquifer is less than or equal to the annual sustainable amount available for withdrawal,
production amounts authorized under Historic and Existing Use and Production Permits may remain the same or be increased, as set forth under these rules.

3.3.5 As determined by the District, if the total amount of production within an aquifer is greater than the annual sustainable amount available for withdrawal, production amounts may be decreased proportionally among all permit holders producing from that aquifer, with any necessary reductions being applied first to Production Permits and, subsequently, if production is still greater than availability after reducing Production Permits in their entirety, to Historic and Existing Use Permits, as specifically set forth under Rule 3.4.

**RULE 3.4 PROPORTIONAL ADJUSTMENT**

3.4.1 The Board, by resolution, may establish proportional adjustment reductions to alter the amount of production allowed if reductions are required under these rules.

3.4.2 When establishing proportional adjustment restrictions, the Board shall first set aside an amount of groundwater equal to an estimate of total exempt use.

3.4.3 After setting aside an amount of groundwater for exempt use, to the extent of remaining groundwater availability, the Board shall allocate groundwater to Historic and Existing Use Permits according to the permitted or claimed Maximum Historic and Existing Use in each, depending upon whether the Historic and Existing Use Permit applied for has yet been issued. If there is insufficient groundwater availability to allow withdrawal under all Historic and Existing Use Permits, the Board shall allocate the groundwater availability first to the Historic and Existing Permits in an amount up to the Eligible Recharge Credit, on a pro rata basis relative to all other Historic and Existing Permits. The Eligible Recharge Credit shall mean 30% of the permitted or claimed Maximum Historic and Existing Use that is designated for and previously put to irrigation use in each Historic and Existing Use Permit or application, depending upon whether the Historic and Existing Use Permit application has yet been granted. The groundwater authorized for withdrawal pursuant to an Eligible Recharge Credit must be withdrawn from the same aquifer that has been recharged with groundwater allocated under the respective permit or application. The remaining groundwater availability shall then be allocated among the Historic and Existing Use Permits up to an amount authorized under each permit on an equal percentage basis until total authorized production equals groundwater availability district-wide or within a particular aquifer, if applicable. The Eligible Recharge Credit shall be applied in such a manner that the irrigation user’s Existing and Historic Use Permit shall not be proportionally reduced to the extent of the Eligible Recharge Credit. The only basis for proportionately reducing the Eligible Recharge Credit shall be in the event
that 100% of the non-recharge credit portion of the Historic and Existing Use Permit allotments have been reduced, and there is only sufficient groundwater availability to supply exempt use. If it can be demonstrated and the Board takes official action to determine that the irrigation recharge is more or less than 30%, then the Eligible Recharge Credit shall be adjusted accordingly. No groundwater shall be authorized for production under Production Permits if there is insufficient water availability to satisfy all Historic and Existing Use Permits and exempt use, subject to Subsection 3.4.6 of this rule. The Eligible Recharge Credit for irrigation use under a Production Permit shall not be applied where there is equal to or less than enough groundwater to satisfy all Historic and Existing Use Permits and exempt use.

3.4.4 If there is sufficient groundwater to satisfy all Historic and Existing Use Permits and exempt use, the Board shall then allocate remaining water availability first to the existing Production Permit holders in an amount equal to their Eligible Recharge Credit, on a pro rata basis relative to all other Production Permits. The Eligible Recharge Credit shall mean 30% of the groundwater allocated under each Production Permit that is designated for and previously put to irrigation use. The groundwater authorized for withdrawal pursuant to an Eligible Recharge Credit must be withdrawn from the same aquifer that has been recharged with groundwater allocated under the respective Production Permit. The remaining groundwater availability shall then be allocated among the Production Permits up to an amount authorized under each permit on an equal percentage basis until total authorized production equals groundwater availability district-wide or within a particular aquifer, if applicable. The recharge credit shall be applied in such a manner that the irrigation user’s Production Permit shall not be proportionally reduced to the extent of the recharge credit. The only occasion for proportionately reducing the Eligible Recharge Credit shall be in the event that 100% of the non-recharge credit portion of the Production Permit allotments have been reduced, and there is only sufficient groundwater availability to supply exempt use and Historic and Existing Use. If it can be demonstrated and the Board takes official action to determine that the irrigation recharge is more or less than 30%, then the recharge credit shall be adjusted accordingly. No groundwater may be authorized for production under new Production Permits if there is insufficient groundwater availability to satisfy all existing Production Permits, subject to Subsection 3.4.6 of this rule.

3.4.5 If there is sufficient groundwater to satisfy all Historic and Existing Use Permits, exempt use, and existing Production Permits, the Board may then allocate remaining groundwater availability to applications for new or amended Production Permits, subject to Subsection 3.4.6 of this rule.
3.4.6 When establishing proportional adjustment restrictions that contemplate the reduction of authorized production or a prohibition on authorization for new or increased production, the Board may also choose to proportionately reduce any existing Production Permits on a pro rata basis, excluding the authorized Eligible Recharge Credit, in order to make groundwater available for new applications for Production Permits in order to allocate to each surface acre, a designated amount of groundwater. In doing so, the Board may elect to allocate more water to surface acreage recognized under existing Production Permits than to surface acreage associated with applications for new Production Permits.

**RULE 3.5 LIMIT SPECIFIED IN PERMIT**

The maximum annual quantity of groundwater that may be withdrawn under a Historic and Existing Use Permit or Production Permit issued by the District shall be no greater than the amount specified in the permit or the amended permit. Permits may be issued subject to conditions and restrictions placed on the rate and amount of withdrawal pursuant to the District’s rules and permit terms necessary to prevent waste and achieve water conservation, minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, lessen interference between wells, or control and prevent subsidence. The permittee, by accepting the permit, agrees to abide by any and all groundwater withdrawal regulations established by the District that are currently in place, as well as any and all regulations established by the District in the future. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment of and agreement to comply with all of the terms, provisions, conditions, limitations, and restrictions.

In addition to any special provisions or other requirements incorporated into the permit, each permit is subject to the following standard permit provisions:

a) This permit is granted in accordance with the provisions of the Rules of the District, and acceptance of this permit constitutes an acknowledgment and agreement that the permittee will comply with the Rules of the District.

b) The permit terms may be modified or amended pursuant to the provisions of the District’s rules or to comply with statutory requirements.

c) To protect the permit holder from the illegal use of a new landowner, within ten (10) calendar days after the date of sale of the well, the permit holder must notify the District in writing of the name of the new owner of a permitted well. Any person who becomes the owner of a currently permitted well must, within 45 calendar days from the date of the change in ownership, file an application for a permit amendment to effect a transfer of the permit.

d) The operation of the well for the authorized withdrawal must be conducted in a non-wasteful manner.

e) Withdrawals from all nonexempt wells must be accurately measured either by meter or through a District-approved alternative measuring method, in accordance with District Rules and the Board-approved Meter Installation Schedule. All permitted wells must report their pumpage to the District monthly. If the well is
metered, the meter readings must be attached to the monthly pumpage report provided to the District. Wells that are drilled, completed, or equipped so that they are incapable of producing more than 25,000 gallons per day are not required to have a meter or report monthly production if used for domestic purposes or for watering livestock or poultry.

f) The well site must be accessible to District representatives for inspection, and the permittee agrees to cooperate fully in any reasonable inspection of the well and well site by the District representatives.

g) The application pursuant to which this permit has been issued is incorporated in the permit, and the permit is granted on the basis of, and contingent upon, the accuracy of the information supplied in that application. A finding that false information has been supplied is grounds for immediate revocation of the permit.

h) Violation of a permit’s terms, conditions, requirements, or special provisions is punishable by civil penalties as provided by the District’s rules.

i) The permit may also contain provisions relating to the means and methods of transportation outside the district of groundwater produced within the District.

**RULE 3.6 METERING AND REPORTING**

3.6.1 New wells: A meter must be installed to meet the District’s specifications, at the well owner’s cost, on each new, permitted well that is capable of producing more than 25,000 gallons per day, at the time of completing the well, and prior to commencing the production of groundwater for beneficial use. Meters are not required to be installed on nonexempt wells that are drilled, completed, or equipped so that they are incapable of producing more than 25,000 gallons per day, as long as an alternative measuring method approved by the District is used to record and report groundwater production from this type of well.

3.6.2 Existing wells: A well that must be permitted and that exists as of the initial effective date of these rules requires a meter that meets the District’s specifications, but the meter shall be installed in accordance with the Meter Installation Schedule to be adopted by Board resolution. The District may allocate funds for a portion or all of the meters required under this subsection, and may supply the meters. However, installation costs are to be paid by the well owner. The Meter Installation Schedule shall set forth the deadlines by which meters shall be required to be installed on existing wells, and shall be developed by the Board after consideration of relevant factors including but not limited to the District’s budget, logistical requirements for installation, and the benefits of measuring groundwater production within the District.

3.6.3 Alternative measuring method: The District may authorize the use of an alternative measuring method in lieu of a meter if it can be demonstrated by the well owner that the alternative measuring method is capable of accurate measurement of groundwater withdrawal. The owner of an existing, nonexempt well may apply to the District for approval of an alternative measuring method of determining the amount of groundwater withdrawn. The District General
Manager may authorize the alternative measuring method if the applicant well owner demonstrates that the alternative measuring method can accurately measure the groundwater withdrawn. Reporting shall still be required by an owner of a well who is using a District-approved alternative measuring method.

3.6.4 Exempt wells: Meters are not required to be installed on exempt wells. An entity holding a permit issued by the Railroad Commission of Texas under Chapter 134, Natural Resources Code, that authorizes the drilling of a water well shall report monthly to the district:

a) the total amount of water withdrawn during the month;
b) the quantity of water necessary for mining activities; and
c) the quantity of water withdrawn for other purposes.

3.6.5 The meter shall be read, and the meter reading and actual amount of pumpage recorded and reported each month on a form provided by the District. The permit holder subject to this reporting requirement shall keep accurate records of the amount of groundwater withdrawn and the purpose of the withdrawal, and such records shall be available for inspection by the District or its representatives. Where wells are permitted in the aggregate, metering and reporting are required on a well by well basis.

3.6.6 Immediate written notice shall be given to the District in the event a withdrawal exceeds the quantity authorized by this permit.

3.6.7 Meter accuracy to be tested. The District may require the applicant, at the applicant’s expense, to test the accuracy of the meter and submit a certificate of the test results. If the tests reveal that a meter is not registering within an accuracy of 95%-105% of actual flow, or is not properly recording the total flow of groundwater withdrawn from the well or well system, the applicant must take appropriate steps to remedy the problem, and to retest the meter within 90 calendar days from the date the problem is discovered.

3.6.8 Violation of Metering and Reporting Requirements: False reporting or logging of meter readings, intentionally tampering with or disabling a meter, or similar actions to avoid accurate reporting of groundwater use and pumpage shall constitute a violation of these rules and shall subject the person performing the action, as well as the well owner, and/or the primary operator who authorizes or allows that action, to such penalties as provided in the District Act and these rules.

3.6.9 Recordkeeping Required until Installation of Meter: Beginning on the Effective Date of this Rule, the owner of an existing well required to be metered that is not already metered shall be required to keep an accurate log of dates of operation of each well, the duration of such operation, and the purpose and place of use of the
water produced until such time as the well owner installs a meter or secures an alternate measuring method. Such metering log shall be submitted to the District in writing and sworn to within ten (10) calendar days of the installation of the meter or approval of an alternate measuring method, whichever is earlier. Failure to provide the metering log as required by this Rule or the provision of false information therein shall be a violation of these Rules and grounds for permit denial or revocation.

3.6.10 Meter Maintenance: Costs of meter maintenance shall be borne by the well owner or operator, if applicable.

SECTION 4. GENERAL PERMITTING POLICIES AND PROCEDURES

RULE 4.1 REQUIREMENT FOR PERMIT TO DRILL, OPERATE, OR ALTER THE SIZE OF A WELL OR WELL PUMP; PERMIT AMENDMENT

4.1.1 Permits Required: No person may drill, operate, or alter the size of a well or well pump without first obtaining a permit from the District as provided by statutory law and these rules.

4.1.2 Permit Amendment Required: A permit amendment is required prior to any deviation from the permit terms regarding the maximum amount of groundwater to be produced from a well, ownership of a well or permit, the location of a proposed well, the purpose of use of the groundwater, the location of use of the groundwater, or the drilling and operation of additional wells, even if aggregate withdrawals remain the same.

4.1.3 Absent an express reservation of rights in the transferor, the transfer of ownership of the well(s) designated by a permit is presumed to transfer ownership of the permit, and the transfer of the land and well site on which the well is located is presumed to transfer ownership of the well. The ownership of a permit may be transferred separately from the ownership of a well or place of use, subject to these Rules and permit conditions.

RULE 4.2 AGGREGATION OF WITHDRAWAL AMONG MULTIPLE WELLS

A drilling permit application must be filed for each well that requires permitting. However, one application may be filed for an Historic and Existing Use Permit or
Production Permit, or for renewal thereof, which consolidates two or more wells that will function as part of a well system.

**RULE 4.3 PERMIT EXCLUSIONS & EXEMPTIONS**

The District’s permit requirements in these rules do not apply to:

a) A well used solely for domestic use or for providing water for livestock or poultry on a tract of land larger than 10 (ten) acres that is either drilled, completed, or equipped so that it is incapable of producing more than 25,000 gallons of groundwater a day; provided, however, that this exemption shall also apply after the effective date of this rule to a well to be drilled, completed, or equipped on a tract of land equal to or less than 10 (ten) acres in size only if:

1. the well is to be used solely for domestic use or for providing water for livestock or poultry on the tract;
2. such tract was equal to or less than 10 (ten) acres in size prior to the effective date of this rule; and
3. such tract is not further subdivided into smaller tracts of land after the effective date of this rule and prior to the drilling, completion, or equipping of the well.

A well qualifying for exemption under this subsection must observe a minimum distance of 100 feet from the property line and 100 feet from other wells.

b) A water well used solely to supply water for a rig that is actively engaged in drilling or exploration operations for an oil or gas well permitted by the Railroad Commission of Texas provided that the person holding the permit is responsible for drilling and operating the water well and the well is located on the same lease or field associated with the drilling rig.

c) A water well authorized under a permit issued by the Railroad Commission of Texas under Chapter 134, Natural Resources Code, or for production from such a well to the extent the withdrawals are required for mining activities regardless of any subsequent use of the water.

d) A well exempted under Subsections (b) and (c) above must be permitted and comply with all District rules if:

1. the purpose of a well exempted under Subsection (b) is no longer solely to supply water for a rig that is actively engaged in drilling or exploration operations for an oil or gas well permitted by the Railroad Commission of Texas; or
2. the withdrawals from a well exempted under Subsection (c) are no longer necessary for mining activities or are greater than the...
amount necessary for mining activities specified in the permit issued by the Railroad Commission of Texas under Chapter 134, Natural Resources Code.

e) An entity holding a permit issued by the Railroad Commission of Texas under Chapter 134, Natural Resources Code, that authorized the drilling of a water well shall report monthly to the District:

(1) the total amount of water withdrawn during the month;
(2) the quantity of water necessary for mining activities; and
(3) the quantity of water withdrawn for other purposes.

f) A water well exempted under provisions a) through e) above shall:

(1) be registered in accordance with rules promulgated by the District; and
(2) be equipped and maintained so as to conform to the District’s rules requiring installation of casing, pipe, and fittings to prevent the escape of groundwater from a groundwater reservoir to any reservoir not containing groundwater and to prevent the pollution of harmful alteration of the character of the water in any groundwater reservoir.

g) Registered wells observe exemptions that were in place at the time of filing the registration.

h) A well exempt under this section will lose its exempt status if the well is subsequently used for a purpose or in a manner that is not exempt.

RULE 4.4 HISTORIC AND EXISTING PERMITS

4.4.1 The well owner of any existing operational well not exempt under Rule 4.3 is eligible to and must file an application for Historic and Existing Use on a form provided by the District no later than February 1, 2005. Upon the applicant’s presentation of evidence of beneficial use of groundwater during the Historic and Existing Use Period, the Board, after notice and hearing as provided for in this Section, shall take action to grant or deny the application, in full or in part, and issue a Historic and Existing Use Permit, if warranted.

4.4.2 Prior to the District’s decision on an application for Historic and Existing Use, the applicant is authorized to withdraw and put groundwater to beneficial use in an amount no greater than the Historic and Existing Use claimed or to be claimed in the application for Historic and Existing Use.
4.4.3 Increased use beyond the permit allotment specified in an Historic and Existing Use Permit from an existing, permitted well requires the submission and grant of an Production permit application.

**RULE 4.5 PERMITS REQUIRED TO DRILL A NEW WELL**

4.5.1 Every person who drills a water well after the effective date of these rules, other than an exempt well as defined in Rule 4.3, must file a permit application on a form approved by the District. Each permit application must be accompanied by an administration fee, which will be accepted and deposited by the District staff.

4.5.2 Drilling Permit Requirement: The well owner, well operator, or any other person acting on behalf of the well owner must obtain a drilling permit from the District prior to drilling a new water well, perforating an existing well or increasing the size of a well pump therein so that the well could reasonably be expected to produce 25,000 gallons per day or more, unless the well is an exempt well under District Rule 4.3.

**RULE 4.6 PERMITS REQUIRED TO OPERATE A NEW WELL OR FOR INCREASED WITHDRAWAL AND BENEFICIAL USE FROM AN EXISTING WELL**

4.6.1 Within 21 calendar days after completion of a new water well, or reworking or re-equipping an existing water well, the well owner or well operator must file a completed Production permit application on a form approved by the District. Each permit application must be accompanied by an application fee, which will be accepted and deposited by the District.

4.6.2 Production Permit Requirement: The well owner, well operator, or any other person acting on behalf of the well owner must obtain a Production permit from the District prior to operating a new water well or existing well if operation will result in increased use beyond the permit allotment specified in an Historic and Existing Use Permit.

**RULE 4.7 PERMIT TERM**

4.7.1 Drilling Permit Term: Unless specified otherwise by the Board or these rules, drilling permits are effective for a term ending 120 calendar days after the date the permit is issued by the District, which may be extended by the General Manager with good cause shown.
4.7.2 Historic and Existing Use Permit and Production Permit Terms: Unless specified otherwise by the Board or these rules, an Historic and Existing Use Permit and Production Permit are effective until the end of the calendar year in which they are issued. If renewed, such permits shall thereafter be effective for one-year terms from the initial expiration date unless specified otherwise by the Board. The permit term will be shown on the permit.

**RULE 4.8 PERMIT RENEWAL**

4.8.1 Permit Renewal: Renewal applications shall be provided by the District prior to expiration of the permit term, and shall be filed with the District no later than January 15th of the new year for which the permit renewal is requested. Production Permits will not be renewed unless the well has been drilled at the time of the renewal application. The General Manager may rule on any renewal application that seeks renewal with the identical permit conditions in the existing permit without notice, hearing, or further action by the Board, or with such notice and hearing as the General Manager deems practical and necessary under the circumstances. System water loss shall be reported to the District once annually, at the time of submitting documentation in support of annual permit renewal.

Any permit holder seeking renewal may appeal the General Manager’s ruling by filing, within ten calendar days of notice of the General Manager’s ruling, a written request for a hearing before the Board. The Board will hear the applicant’s appeal at the next available regular Board meeting. The General Manager shall inform the Board of any renewal applications granted or denied. On the motion of any Board member, and a majority concurrence in the motion, the Board may overrule the action of the General Manager. The General Manager may authorize an applicant for a permit renewal to continue operating under the conditions of the prior permit, subject to any changes necessary under proportional adjustment regulations or these rules, for any period in which the renewal application is the subject of a hearing.

Permitted wells that are drilled, completed, or equipped so that they are incapable of producing more than 25,000 gallons per day may be renewed by the General Manager, subject to any changes necessary under proportional adjustment regulations, these rules, or the District’s Management Plan.

4.8.2 Basis for Renewal: While there is no automatic right of renewal, an application for renewal will be approved if the General Manager or Board finds that the applicant’s continued use of groundwater will remain in compliance with the terms, provisions, and requirements of the applicant’s current permit and the District Act and rules, subject to adjustment by the General Manager or Board for any new production limits or proportional adjustment requirements that may be applicable to the renewed permit.
4.8.3 Basis for Denial: The General Manager or Board may deny a renewal application only on grounds that the applicant is in violation of the District’s rules, the District Act, or Chapter 36, Water Code, or that the applicant has a previous violation on record with the District, which has become a final order of the District’s Board and is no longer subject to a motion for rehearing before the District, that has not been corrected or overturned by a court, including, but not limited to, being current on payment of all fees to the District. The District has the burden of proof regarding establishment of any such violation. This subsection shall not be interpreted in a manner that creates a standard in connection with the renewal of a permit that would preclude the District from lawfully revoking a permit for violation of the permit terms, the District’s Rules or Act, or Chapter 36, Water Code.

4.8.4 Renewal Application Requirements: The District will timely provide a form for an application for renewal prior to expiration of the permit term. The renewal application will be a streamlined application and will not include all of the elements required for an original application.

RULE 4.9 PERMIT APPLICATIONS

4.9.1 Requirements for All Permit Applications:

a) Application forms and payment of applicable fees: Each original application for an Historic and Existing Use Permit, a water well drilling permit, Production permit, and permit amendment requires the filing of a separate application, payment of the applicable fees, if any, and issuance of notice as provided for in this Section. Application forms will be provided by the District and furnished to the applicant upon request. All applications for a permit shall be in writing and sworn to, and shall include the following:

1) the name and mailing address of the applicant and the owner of the land on which the well will be located;
2) if the applicant is other than the owner of the property, documentation establishing the applicable authority to construct and operate a well for the proposed use;
3) the location of each well and the estimated rate at which water will be withdrawn;
4) a declaration that the applicant will comply with the District’s Rules and all groundwater use permits and plans promulgated pursuant to the District’s Rules;
5) a water conservation plan or a declaration that the applicant will comply with the district’s management plan;
6) a water well closure plan or a declaration that the applicant will comply with all District well plugging and capping guidelines and report closure to the commission;

7) if groundwater is proposed to be transferred out of the District, the applicant shall describe the following issues and provide documents relevant to these issues:

(i) the availability of water in the District and in the proposed receiving area during the period for which the water supply is requested;

(ii) the projected effect of the proposed transfer on aquifer conditions, depletion, subsidence, or effects on existing permit holders or other groundwater users within the District; and

(iii) how the proposed transfer is consistent with the approved regional water plan and certified district management plan.

b) Notice of filing of an application: All permit applicants must provide notice by publication in a newspaper of general circulation in the District, and by certified mail, return receipt requested, to all property owners within a one-fourth (1/4) mile radius of the existing well or proposed well that is the subject of the application (notification of any property owner receiving water solely by a retail water utility is not required of any applicant if notice is provided to the retail water utility). For Historic and Existing Use permits, the District will provide the newspaper notice; property owner notification by mail is not required.

1) All public notices covered by this section must include the following information on a form first approved by the District prior to issuance or publication:

(i) name and address of the applicant;
(ii) date the application was filed;
(iii) location and a description of the well that is the subject of the application; and
(iv) a brief summary of the information in the application.

2) The applicant must provide the District with the following information for the District to declare that the application is administratively complete:

(i) proof of publication of public notice;
(ii) proof of receipt by certified mail of the public notice to the property owners identified by Subsection (b)(1); and
(iii) a list of the names and addresses of the property owners notified by certified mail.

4.9.2 Drilling and Production Permit Applications: In addition to the requirements in Rule 4.9.1, all drilling and Production permit applications shall include the following:

a) A location map of all existing wells within a half (1/2) mile radius of the proposed well or the existing well to be modified;

b) A tax plat map indicating the location of the proposed well or the existing well to be modified, the subject property, and adjacent owners’ physical addresses and mailing addresses;

c) Notice of any application to the Texas Commission on Environmental Quality to obtain or modify a Certificate of Convenience and Necessity to provide water or wastewater service with water obtained pursuant to the requested permit;

d) A statement of the nature and purpose of the proposed use and the amount of water to be used for each purpose;

RANDY WILLIAMS TO PROVIDE GUIDANCE ON WHETHER THE DISTRICT WANTS TO REQUIRE HYDROGEOLOGICAL REPORTS AND, IF SO, UNDER WHAT CONDITIONS:

e) Production permit applications meeting the following conditions shall include a hydrogeological report:

1) Requests to operate a nonexempt well with an annual maximum permitted use of more than 12 million gallons.

2) Requests to modify to increase production or production capacity of a Public Water Supply, Municipal, Commercial, Industrial, Agricultural or Irrigation well with an outside casing diameter greater than 6 5/8 inches.

f) Hydrogeological reports required for Production permit applications under section 4.9.2 (e) of these rules shall:

1) Describe the results of a pumping test of the well for which a permit is being requested.

2) Address the area of influence of the well for which a permit is being requested.

3) Include an assessment of the geology at the site of the well for which a permit is being requested and a description of the aquifer that will supply water to the well.

4) Be completed in a manner that complies with the guidelines adopted by the District for this purpose.
4.9.3 Historic and Existing Use Permit Applications: In addition to the requirements in Rule 4.9.1, all Historic and Existing Use Permit applications shall include the following:

a) a statement of the quantity, nature, and purpose of the beneficial use during the year of the maximum beneficial use during the Historic and Existing Use Period (Maximum Historic and Existing Use);

b) a statement of the nature and purpose of the proposed use and the amount of water to be beneficially used for each purpose;

c) the location of each well and the estimated rate at which water will be withdrawn; and

d) [A STATEMENT AND SUPPORTING DOCUMENTATION CONCERNING ANY PARTICIPATION IN THE CONSERVATION RESERVE PROGRAM DURING THE HISTORIC AND EXISTING USE PERIOD]

RULE 4.10 PERMIT HEARINGS

4.10.1 All hearings shall be held before a quorum of the Board.

4.10.2 Notice and Scheduling of Hearing: Once the District has received an administratively complete application for a water well drilling permit, Production permit, permit for Historic and Existing Use or a permit amendment and associated fees, the general manager will issue written notice on the application in accordance with these rules.

a) Notices of all hearings of the District shall be prepared by the General Manager and shall, at a minimum, state the following information:

(1) the name and address of the applicant;

(2) the name or names of the owner or owners of the land if different from the applicant;

(3) the time, date, and location of the hearing;

(4) the address or approximate proposed location of the well, if different than the address of the applicant;

(5) a brief summary of the General Manager's recommendation; and

(6) any other information the Board or General Manager deems appropriate to include in the notice.

b) Not less than 30 calendar days prior to the date of the hearing, notice shall be:
(1) posted by the General Manager at a place convenient to the public in the District Office;
(2) provided by the General Manager to the County Clerk of Pecos County, whereupon the County Clerk shall post the notice on a bulletin board at a place convenient to the public in the county courthouse; and
(3) provided to the applicant in written form.

c) Any hearing may or may not be scheduled during the District’s regular business hours, Monday through Friday of each week, except District holidays. All hearings shall be held at the location set forth in the notice.

d) The General Manager shall set a permit hearing date within 30 calendar days after the date the administratively complete application is submitted. The permit hearing shall be held within 35 calendar days after the setting of the date. Within this same time frame, the General Manager shall post notice and set a hearing on the application before the District Board. The General Manager may schedule as many applications at one hearing as the General Manager deems necessary.

4.10.3 Authority of Presiding Officer: The Presiding Officer may conduct the hearing or other proceeding in the manner the Presiding Officer deems most appropriate for the particular hearing. The Presiding Officer has the authority to:

a) set hearing dates, other than the initial hearing date for permit matters;
b) convene the hearing at the time and place specified in the notice for public hearing;
c) rule on motions and on the admissibility of evidence;
d) establish the order for presentation of evidence;
e) administer oaths to all persons presenting testimony;
f) examine witnesses;
g) ensure that information and testimony are introduced as conveniently and expeditiously as possible, without prejudicing the rights of any party to the proceeding;
h) conduct public hearings in an orderly manner in accordance with these rules;
i) recess any hearing from time to time and place to place; and
j) exercise any other appropriate powers necessary or convenient to effectively carry out the responsibilities of Presiding Officer.

4.10.4 Appearance; Presentation; Time for Presentation; Ability to Supplement; Conduct and Decorum; Written Testimony

a) Appearance: Protestants and non-protestant interested persons may present evidence, exhibits, or testimony, or make an oral presentation as allowed by the Presiding Officer. A person appearing in a representative
capacity may be required to prove proper authority. Each person attending and participating in a hearing of the District must submit on a form provided by the District, prior to or at the commencement of the hearing, the following information: the person’s name and address, who the person represents if other than himself, whether the person wishes to testify, whether the person is protesting the application, and any other information relevant to the hearing.

i) Protestants: A person desiring to protest an application for Historic and Existing Use shall file with the District a notice of protest no later than 45 days after newspaper notice, and shall serve the notice of protest on the applicant at the time of filing. A person desiring to protest an application for a Production Permit shall file with the District a notice of protest no later than 45 days after receipt of written, mailed notice or newspaper notice, whichever is later, and shall serve the notice of protest on the applicant at the time of filing. The notice of protest shall set forth the protestant’s justiciable interest and how that justiciable interest would be adversely affected by the permit proposed by the application. The Board may take testimony and shall deliberate and take official action at the hearing to determine whether the protestant has sufficiently demonstrated their justiciable interest and how that justiciable interest would be adversely affected by the permit proposed by the application. If the Board finds that a protestant does not adequately establish that its justiciable interest is affected by the proposed permit, then the protestant shall not be allowed to participate in the hearing.

ii) Non-protestant interested persons: A person may appear at a hearing in person or by representative provided the representative is fully authorized, in writing, to speak and act for the principal. Provided, however, any person desiring to protest an application must timely file a notice of protest and qualify pursuant to Subsection (a)(i) of this Rule as a condition to participating in the hearing.

b) After the Presiding Officer calls a hearing to order, the Presiding Officer shall announce the subject matter of the hearing and the order and procedure for presentations.

c) The Presiding Officer may prescribe reasonable time limits for the presentation of evidence and oral argument. If requested with good cause shown and if allowed in the sole discretion of the Presiding Officer, any person who appears at a hearing and makes a presentation before the Board may supplement that presentation by filing additional written evidence with the Board within 10 calendar days after the date of
conclusion of the hearing. Cumulative, repetitive, and unduly burdensome evidence filed under this subsection will not be considered by the Board.

e) Every person, party, representative, witness, and other participant in a proceeding must conform to ethical standards of conduct and must exhibit courtesy and respect for all other participants. No person may engage in any activity during a proceeding that interferes with the orderly conduct of District business. If in the judgment of the Presiding Officer, a person is acting in violation of this provision, the Presiding Officer will first warn the person to refrain from engaging in such conduct. Upon further violation by the same person, the Presiding Officer may exclude that person from the proceeding for such time and under such conditions as the Presiding Officer deems necessary.

f) Written testimony: When a proceeding will be expedited and the interest of the parties will not be prejudiced substantially, testimony may be received in written form, but may be subject to cross-examination. The written testimony of a witness, either in narrative or question and answer form, may be admitted into evidence upon the witness being sworn and identifying the testimony as a true and accurate record of what the testimony would be if given orally.

4.10.5 Evidence; Broadening the Issues

a) The Presiding Officer may admit evidence if it is relevant to an issue at the hearing.

b) The Presiding Officer may exclude evidence that is irrelevant, immaterial, or unduly repetitious.

c) No person will be allowed to appear in any hearing whose appearance, in the opinion of the Presiding Officer, is for the sole purpose of unduly broadening the issues to be considered in the hearing.

4.10.6 Continuance: The Presiding Officer may continue hearings or other proceedings from time to time and from place to place without the necessity of publishing, serving, mailing, or otherwise issuing a new notice. If a hearing or other proceeding is continued and a time and place for the hearing or other proceeding to reconvene are not publicly announced at the hearing or other proceeding by the Presiding Officer before it is recessed, a notice of any further setting of the hearing or other proceeding will be delivered at a reasonable time to persons who submitted a hearing registration form under this Section, and any other person the Presiding Officer deems appropriate, but it is not necessary to post or publish a notice of the new setting, except as required by the Texas Open Meetings Act.
4.10.7 Uncontested Hearings: If no persons timely protest the application and the General Manager proposes to grant the application, whether a partial or full grant, the application shall be considered uncontested. If, during a contested case hearing, all interested persons contesting the application withdraw their protests or are found by the Board not to have a justiciable interest affected by the application, or the parties reach a negotiated or agreed settlement which, in the judgment of the Board, settles the facts or issues in controversy, the proceeding will be considered an uncontested hearing.

4.10.8 Board Action: Within 35 calendar days after the final hearing date is concluded, the Board must take action on the subject matter of the hearing. In deciding whether or not to issue a drilling permit, Production permit, Historic and Existing Use permit, or a permit amendment, and in setting the permitted volume and other terms of a permit, the Board must consider whether:

a) the application contains all the information requested;
b) the water well(s) complies with spacing and production limitations identified in these rules;
c) the proposed use of water does or does not unreasonably affect existing groundwater and surface water resources or existing permit holders;
d) the proposed use of water is dedicated to a beneficial use;
e) the proposed use of water is consistent with the District’s water management plan;
f) the applicant agrees to avoid waste and achieve water conservation; and
g) the applicant has agreed that reasonable diligence will be used to protect groundwater quality and that the applicant will follow well plugging guidelines at the time of well closure.

The District may not impose any restrictions on the production of groundwater for use outside of the District other than imposed upon production for in-district use, and shall be fair, impartial, and nondiscriminatory. The district may periodically review the amount of water that may be transferred out of District and may limit the amount.

4.10.9 Request for Rehearing and Appeal: A decision of the Board concerning a hearing matter may be appealed by filing a request for rehearing before the Board within 20 calendar days of the date of the Board’s decision. The date of the Board’s decision shall be the date of the Board’s vote to deny or grant the application, whether a partial or full grant, or otherwise act on the application. Such a rehearing request must state clear and concise grounds for the request. Such a rehearing request is mandatory with respect to any decision or action of the Board before any appeal to District Court may be brought. The Board’s decision is final if no request for rehearing is made within the specified time, upon the Board’s denial of the request for rehearing, or upon rendering a decision after rehearing. If the rehearing
request is granted by the Board, the Board shall conduct a re-hearing within 45 calendar days of the decision to grant the re-hearing. The failure of the Board to grant or deny the request for re-hearing within 90 calendar days of the filing date shall constitute a denial of the request by operation of law.

SECTION 5. REWORKING AND REPLACING A WELL

a) An existing well may be reworked or re-equipped in a manner that will not change the existing well status.
b) A permit must be applied for and granted by the board if a party wishes to replace an existing well with a replacement well.
c) A replacement well, in order to be considered such, must be drilled within ten (10) yards (30 feet) of the existing well as long as it meets the District’s spacing requirements.
d) In the event the application meets spacing and production requirements, the Board may grant such application without further notice.

SECTION 6. WELL LOCATION AND COMPLETION

RULE 6.1 RESPONSIBILITY

After an application for a well permit has been granted, the well, if drilled, must be drilled within ten (10) yards (30 feet) of the location specified in the drilling permit, and not elsewhere, provided, however, that spacing restrictions be met. 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 36, Texas Water Code. As described in the Texas Water Well Drillers’ Rules, all well drillers and persons having a well drilled, deepened, or otherwise altered shall adhere to the provisions of the rule prescribing the location of wells and proper completion.

RULE 6.2 LOCATION OF DOMESTIC, INDUSTRIAL, INJECTION, IRRIGATION WELLS

Location of wells should be as specified in 16 Texas Administrative Code, Chapter 76.1000.
RULE 6.3 STANDARDS OF COMPLETION FOR DOMESTIC, INDUSTRIAL, INJECTION, AND IRRIGATION WELLS

Standards of completion shall be as specified in 16 Texas Administrative Code, Chapter 76.1000.

RULE 6.4 RE-COMPLETIONS

Standards shall be as specified in 16 Texas Administrative Code, Chapter 76.1003.

RULE 6.5 SPACING REQUIREMENTS

6.5.1 Spacing and Location of Existing Wells: Wells drilled prior to the Effective Date of these rules are not subject to spacing requirements of this Rule except that these existing wells shall have been drilled in accordance with state law in effect, if any, on the date such drilling commenced.

6.5.2 Spacing and Location of New Wells: All new permitted wells must comply with the spacing and location requirements set forth under the Texas Water Well Drillers and Pump Installers Administrative Rules, Title 16, Part 4, Chapter 76, Texas Administrative Code, except that wells shall not be located within 100 (one hundred) feet from a property line. Water well drillers shall indicate the method of completion performed on the Well Report (Texas Department of Licensing and Regulation Form #001 WWD, Section 10, Surface Completion). The District does not impose any additional requirements, but shall consider evidence submitted at the hearing on the permit application that demonstrates that the proposed new well(s) adversely impact and interfere with neighboring wells.

6.5.3 Exceptions to Spacing Requirements:

a) The Board may grant exceptions to the spacing requirements of the District.

b) If an exception to the spacing requirements of the District is desired, a person shall submit an application to the Board. In the application, the applicant must explain the circumstances justifying an exception to the spacing requirements of the District. The application must include a plat or sketch, drawn to scale, one inch equaling 200 feet. The application and plat must be certified by some person actually acquainted with the facts who shall state that the facts contained in the application and plat are true and correct.
c) An exception may be granted by the Board after written notice has been given to the applicant and all owners of property or existing or permitted wells located within the minimum required distance from the proposed permitted well site, after a 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, if all such owners execute a waiver in writing, stating that they do not object to the granting of the exception, the Board may proceed, upon notice to the applicant only and without hearing, and determine the outcome of the application. The applicant may waive notice or hearing or both.

d) If the applicant presents waivers signed by all landowners and well owners whose property or permitted wells would be located within the applicable minimum distance established under these Rules from the proposed well site stating that they have no objection to the proposed location of the well site, the Board, upon the General Manager’s recommendation, may waive certain spacing requirements for the proposed well location.

SECTION 7. WASTE AND BENEFICIAL USE

RULE 7.1 DEFINITION OF WASTE

"Waste" means any one or more of the following:

(a) withdrawal of groundwater from a groundwater reservoir at a rate and in an amount that causes or threatens to cause intrusion into the reservoir of water unsuitable for municipal, industrial, agricultural, gardening, domestic, or stock raising purposes;

(b) the flowing or producing of wells from a groundwater reservoir if the water produced is not used for a beneficial purpose, or is not used for such purposes with a reasonable degree of efficiency. Includes line losses in excess of those determined to be unavoidable.

(c) escape of groundwater from a groundwater reservoir to any other reservoir or geologic strata that does not contain groundwater;

(d) pollution or harmful alteration of groundwater in a groundwater reservoir by saltwater or by other deleterious matter admitted from another stratum or from the surface of the ground;

(e) willfully or negligently causing, suffering, or allowing groundwater to escape into any river, creek, natural watercourse, depression, lake, reservoir, drain, sewer, street, highway, road, or road ditch, or onto any land other than that of the owner of the well other than the natural flow of natural springs unless such discharge is authorized by
permit, rule, or order issued by the TCEQ under TWC Chapter 26, Water Quality Control;

(f) groundwater pumped for irrigation that escapes as irrigation tailwater onto land other than that of the owner of the well unless permission has been granted by the occupant of the land receiving the discharge;

(g) groundwater used for heating or cooling that is allowed to drain on the land surface as tailwater and not re-circulated back to the aquifer;

(h) the loss of groundwater in the distribution system and/or storage facilities of the water supply system which should not exceed acceptable “system water losses” as defined by the American Water Works Association standard.

(i) Per TWC Section 11.205, unless the water from an artesian well is used for a purpose and in a manner in which it may be lawfully used on the owner’s land, it is waste and unlawful to willfully cause or knowingly permit the water to run off the owner’s land or to percolate through the stratum above which the water is found.

**RULE 7.2 WASTEFUL USE OR PRODUCTION**

7.2.1 No person shall intentionally or negligently commit waste.

7.2.2 Underground water shall not be produced within, or used within or without the District in such a manner as to constitute waste.

7.2.3 Any person producing or using groundwater shall use every possible precaution, in accordance with the most approved methods, to stop and prevent waste of water.

**RULE 7.3 POLLUTION OF GROUNDWATER**

7.3.1 No person shall pollute or harmfully alter the character of the underground water of the District by means of salt water or other deleterious matter admitted from another stratum or strata or from the surface of the ground, or from the operation of a well.

7.3.2 No person shall pollute or harmfully alter the character of the underground water of the District by activities on the surface of the ground which cause or allow pollutants to enter the groundwater through recharge features, whether natural or manmade.
RULE 7.4 ORDERS TO PREVENT WASTE/POLLUTION

After providing notice to affected parties and opportunity for a hearing, the Board may adopt orders to prohibit or prevent waste or pollution. If the factual basis for the order is disputed, the Board shall direct that an evidentiary hearing be conducted prior to entry of the order. If the Board determines that an emergency exists requiring the immediate entry of an order to prohibit waste or pollution and protect the public health, safety, and welfare, it may enter a temporary order without notice and hearing provided, however, the temporary order shall continue in effect for the lesser of fifteen (15) calendar days or until a hearing can be conducted.

RULE 7.5 REQUIRED EQUIPMENT ON WELLS FOR THE PROTECTION OF GROUNDWATER QUALITY

7.5.1 EQUIPMENT REQUIRED. The following equipment must be installed on all wells having a chemical injection, chemigation or foreign substance unit in the water delivery system: an in-line, automatic quick-closing check valve capable of preventing pollution or harmful alteration of the groundwater. Such equipment must be installed on all new wells at the time of completion. Such equipment shall be installed on all existing wells the next time the wells are serviced.

7.5.2 CHECK VALVES. The type of check valve installed shall meet the following specifications:

a) Check valves must be equipped with a TCEQ-approved hazardous materials backflow device, and installed in a manner approved by Texas Department of Licensing and Regulation (TDLR).

b) A vacuum-relief device shall be installed between the pump discharge and the check valve in such a position and in such a manner that insects, animals, floodwater, or other pollutants cannot enter the well though the vacuum-relief device. The vacuum-relief device may be mounted on the inspection port as long as it does not interfere with the inspection of other anti-pollution devices.

c) An automatic low pressure drain shall also be installed between the pump discharge located above ground level at the well head and the check valve in such a position and in such a manner that any fluid which may seep toward the well around the check valve flapper will automatically drain out of the pipe. The drain must discharge away from rather than flow toward the water supply or well head. Fluids or materials discharged from the drain must not collect on the ground surface or seep into the soil around the well casing.
d) The port shall allow for visual inspection to determine if leakage occurs past the flapper, seal, seat, and/or any other components of the checking device.

e) The port shall have a minimum four-inch diameter orifice or viewing area. For irrigation distribution systems with pipelines too small to install a four-inch diameter inspection port, the check valve and other anti-pollution devices shall be mounted with quick disconnects, flange fittings, dresser couplings, or other fittings that allow for easy removal of these devices.

SECTION 8. INVESTIGATIONS AND ENFORCEMENT

RULE 8.1 NOTICE AND ACCESS TO PROPERTY

Board Members and District agents and employees are entitled to access to all property within the District to carry out technical and other investigations necessary to the implementation of the District Rules. Prior to entering upon property for the purpose of conducting an investigation, the person seeking access must give notice in writing or in person or by telephone to the owner, lessee, or operator, agent, or employee of the well owner or lessee, as determined by information contained in the application or other information on file with the District. Notice is not required if prior permission is granted to enter without notice. Inhibiting or prohibiting access to any Board Member or District agents or employees who are attempting to conduct an investigation under the District Rules constitutes a violation and subjects the person who is inhibiting or prohibiting access, as well as any other person who authorizes or allows such action, to the penalties set forth in Texas Water Code Chapter 36.

RULE 8.2 CONDUCT OF INVESTIGATION

Investigations or inspections that require entrance upon property must be conducted at reasonable times, and must be consistent with the establishment's rules and regulations concerning safety, internal security, and fire protection. The persons conducting such investigations must identify themselves and present credentials upon request of the owner, lessee, operator, or person in charge of the well.

RULE 8.3 RULE ENFORCEMENT

8.3.1 If it appears that a person has violated, or is violating any provision of the District Rules, the Board of Directors may institute and conduct a suit in the name of the District for injunctive relief, recovery of a civil penalty of not more than $10,000
per violation, or both injunctive relief and a civil penalty. Each day that a violation continues shall be considered a separate violation.

8.3.2 The District shall annually adopt a fee schedule.

**RULE 8.4 SEALING OF WELLS**

Following notice to the well owner and operator and upon resolution by the Board, the District may seal wells that are prohibited from withdrawing groundwater within the District to ensure that such wells are not operated in violation of the District Rules. A well may be sealed when: (1) no application has been made for a permit to drill a new water well which is not excluded or exempted; or (2) no application has been made for an Production permit to withdraw groundwater from an existing well that is not excluded or exempted from the requirement that a permit be obtained in order to lawfully withdraw groundwater; or (3) the Board has denied, canceled or revoked a drilling permit or an Production permit.

The well may be sealed by physical means, and tagged to indicate that the well has been sealed by the District, and other appropriate action may be taken as necessary to preclude operation of the well or to identify unauthorized operation of the well.

Tampering with, altering, damaging, or removing the seal of a sealed well, or in any other way violating the integrity of the seal, or pumping of groundwater from a well that has been sealed constitutes a violation of these rules and subjects the person performing that action, as well as any well owner or primary operator who authorizes or allows that action, to such penalties as provided by the District Rules.
RULE 8.5 CAPPING AND PLUGGING OF WELLS

8.5.1 The District may require a well to be capped to prevent waste, prevent pollution, or prevent further deterioration of a well casing. The well must remain capped until such time as the conditions that led to the capping requirement are eliminated. If well pump equipment is removed from a well and the well will be re-equipped at a later date, the well must be capped, provided however that the casing is not in a deteriorated condition that would permit co-mingling of water strata, in which case the well must be plugged. The cap must be capable of sustaining a weight of at least four hundred (400) pounds and must be constructed with a water tight seal to prevent entrance of surface pollutants into the well itself, either through the well bore or well casing.

8.5.2 A deteriorated or abandoned well must be plugged in accordance with the Texas Department of License and Regulation, Water Well Drillers and Pump Installers Rules (16 TAC Chapter 76). It is the responsibility of the landowner to see that such a well is plugged to prevent pollution of the underground water and to prevent injury to persons and animals. Registration of the well is required prior to, or in conjunction with, well plugging.

Any person that plugs a well in the District must submit a copy of the plugging report to the District and the Texas Department of License and Regulation within thirty (30) calendar days of plugging completion.

8.5.3 If the owner or lessee fails or refuses to plug or cap the well in compliance with this rule and District standards within thirty (30) calendar days after being requested to do so in writing by an officer, agent, or employee of the District, then, upon Board approval, any person, firm, or corporation employed by the District may go on the land and plug or cap the well safely and securely, pursuant to TWC Chapter 36.118.

Reasonable expenses incurred by the District in plugging or capping a well constitutes a lien on the land on which the well is located.

The District shall perfect the lien by filing in the deed records an affidavit, executed by any person conversant with the facts, stating the following:

a) the existence of the well;

b) the legal description of the property on which the well is located;

c) the approximate location of the well on the property;

d) the failure or refusal of the owner or lessee, after notification, to close the well within thirty (30) calendar days after the notification;

e) the closing of the well by the District, or by an authorized agent, representative, or employee of the District; and

f) the expense incurred by the District in closing the well.
SECTION 9. FEES

RULE 9.1 PERMIT APPLICATION FEE AND OTHER FEES

The Board, by resolution, may establish a schedule of fees for administrative acts of the District, including but not limited to the cost of reviewing and processing permit applications, renewal applications, and the cost of permit hearings, and such administrative fees shall not unreasonably exceed the cost to the District for performing such administrative acts. Applications shall not be accepted for filing or processing or hearings scheduled until receipt by the District of all applicable fees established by Board resolution.

RULE 9.2 GROUNDWATER TRANSPORT FEE

9.2.1 The District may impose a reasonable fee or surcharge, established by Board resolution, for transportation of groundwater out of the District in an amount not to exceed 10 percent of the amount of the fee assessed for the production of water for use within the district.

9.2.2 Payment of the Groundwater Transport Fee shall be made no later than the expiration of the permit term for a permit that contemplates use of groundwater outside of the District.

RULE 9.3 RETURNED CHECK FEE

The Board, by resolution, may establish a fee for checks returned to the District for insufficient funds, account closed, signature missing, or any other reason causing a check to be returned by the District’s depository.
Appendix D

TWDB Groundwater Use Estimates for Pecos County
## Estimated Annual Groundwater use in Pecos County in Acre-Feet

### Texas Water Development Board Water Uses Survey Data

<table>
<thead>
<tr>
<th>Aquifer</th>
<th>Year</th>
<th>Municipal</th>
<th>Mfg</th>
<th>Power</th>
<th>Mining</th>
<th>Irrigation</th>
<th>Livestock</th>
<th>Annual Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1980</td>
<td>87</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>50,000</td>
<td>282</td>
<td>50,369</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>4,177</td>
<td>6</td>
<td>2,067</td>
<td>3,070</td>
<td>53,134</td>
<td>1,100</td>
<td>63,574</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>5</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>5</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>4,265</td>
<td>6</td>
<td>2,067</td>
<td>3,077</td>
<td>103,144</td>
<td>1,392</td>
<td>113,971</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aquifer</th>
<th>Year</th>
<th>Municipal</th>
<th>Mfg</th>
<th>Power</th>
<th>Mining</th>
<th>Irrigation</th>
<th>Livestock</th>
<th>Annual Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1984</td>
<td>336</td>
<td>3</td>
<td>0</td>
<td>5,080</td>
<td>20,000</td>
<td>225</td>
<td>25,654</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>4,440</td>
<td>10</td>
<td>2,391</td>
<td>5,176</td>
<td>70,000</td>
<td>760</td>
<td>82,777</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>106</td>
<td>0</td>
<td>5</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>63</td>
<td>22</td>
<td>5</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>4,781</td>
<td>13</td>
<td>2,391</td>
<td>10,435</td>
<td>90,022</td>
<td>995</td>
<td>108,637</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aquifer</th>
<th>Year</th>
<th>Municipal</th>
<th>Mfg</th>
<th>Power</th>
<th>Mining</th>
<th>Irrigation</th>
<th>Livestock</th>
<th>Annual Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1985</td>
<td>326</td>
<td>3</td>
<td>0</td>
<td>58</td>
<td>17,718</td>
<td>240</td>
<td>18,345</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>4,334</td>
<td>9</td>
<td>2,169</td>
<td>341</td>
<td>62,013</td>
<td>809</td>
<td>69,675</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>5</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>5</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>4,665</td>
<td>12</td>
<td>2,169</td>
<td>408</td>
<td>79,751</td>
<td>1,059</td>
<td>88,064</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aquifer</th>
<th>Year</th>
<th>Municipal</th>
<th>Mfg</th>
<th>Power</th>
<th>Mining</th>
<th>Irrigation</th>
<th>Livestock</th>
<th>Annual Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1986</td>
<td>308</td>
<td>1</td>
<td>0</td>
<td>64</td>
<td>14,700</td>
<td>87</td>
<td>15,160</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>4,199</td>
<td>9</td>
<td>2,184</td>
<td>207</td>
<td>51,450</td>
<td>291</td>
<td>58,340</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>17</td>
<td>2</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>4,511</td>
<td>10</td>
<td>2,184</td>
<td>276</td>
<td>66,167</td>
<td>362</td>
<td>73,530</td>
</tr>
<tr>
<td>Aquifer</td>
<td>Year</td>
<td>Municipal</td>
<td>Mfg</td>
<td>Power</td>
<td>Mining</td>
<td>Irrigation</td>
<td>Livestock</td>
<td>Annual Total</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------</td>
<td>-----------</td>
<td>-----</td>
<td>-------</td>
<td>--------</td>
<td>------------</td>
<td>-----------</td>
<td>--------------</td>
</tr>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1987</td>
<td>304</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>53</td>
<td>13,450</td>
<td>173</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>3,467</td>
<td>9</td>
<td>1,989</td>
<td>191</td>
<td>47,076</td>
<td>584</td>
<td>53,316</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>4</td>
<td>4</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,775</td>
</tr>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1988</td>
<td>319</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>36</td>
<td>13,065</td>
<td>146</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>4,166</td>
<td>8</td>
<td>1,969</td>
<td>204</td>
<td>45,727</td>
<td>495</td>
<td>52,569</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>3</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,489</td>
</tr>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1989</td>
<td>257</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>48</td>
<td>14,848</td>
<td>164</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>3,971</td>
<td>8</td>
<td>1,312</td>
<td>188</td>
<td>51,268</td>
<td>642</td>
<td>57,389</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>17</td>
<td>4</td>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,232</td>
</tr>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1990</td>
<td>260</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>37</td>
<td>14,028</td>
<td>170</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>3,543</td>
<td>6</td>
<td>1,509</td>
<td>197</td>
<td>49,098</td>
<td>667</td>
<td>55,020</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16</td>
<td>4</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,804</td>
</tr>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1991</td>
<td>293</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>29</td>
<td>13,490</td>
<td>176</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>2,957</td>
<td>5</td>
<td>1,577</td>
<td>129</td>
<td>47,215</td>
<td>691</td>
<td>52,574</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>4</td>
<td>4</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,251</td>
</tr>
</tbody>
</table>

D - 2
<table>
<thead>
<tr>
<th>Aquifer</th>
<th>Year</th>
<th>Municipal</th>
<th>Mfg</th>
<th>Power</th>
<th>Mining</th>
<th>Irrigation</th>
<th>Livestock</th>
<th>Annual Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1992</td>
<td>244</td>
<td>0</td>
<td>0</td>
<td>31</td>
<td>13,284</td>
<td>215</td>
<td>13,774</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>2,807</td>
<td>5</td>
<td>1,610</td>
<td>149</td>
<td>46,496</td>
<td>845</td>
<td>51,912</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,052</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>65,721</td>
</tr>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1993</td>
<td>317</td>
<td>0</td>
<td>0</td>
<td>42</td>
<td>16,355</td>
<td>193</td>
<td>16,907</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>3,537</td>
<td>4</td>
<td>1,588</td>
<td>154</td>
<td>57,245</td>
<td>757</td>
<td>63,265</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>18</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,855</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>80,220</td>
</tr>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1994</td>
<td>377</td>
<td>0</td>
<td>0</td>
<td>26</td>
<td>25,436</td>
<td>216</td>
<td>26,055</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>3,719</td>
<td>4</td>
<td>1,319</td>
<td>171</td>
<td>44,227</td>
<td>849</td>
<td>50,289</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,283</td>
<td>4</td>
<td>1,287</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,097</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>77,636</td>
</tr>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1995</td>
<td>431</td>
<td>0</td>
<td>0</td>
<td>37</td>
<td>29,403</td>
<td>201</td>
<td>30,072</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>3,697</td>
<td>4</td>
<td>1,493</td>
<td>215</td>
<td>51,125</td>
<td>791</td>
<td>57,325</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,483</td>
<td>4</td>
<td>1,487</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,129</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>88,889</td>
</tr>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1996</td>
<td>439</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>26,912</td>
<td>219</td>
<td>27,585</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>4,149</td>
<td>4</td>
<td>1,267</td>
<td>249</td>
<td>46,794</td>
<td>861</td>
<td>53,324</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,357</td>
<td>4</td>
<td>1,361</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,589</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>82,275</td>
</tr>
<tr>
<td>Aquifer</td>
<td>Year</td>
<td>Municipal</td>
<td>Mfg</td>
<td>Power</td>
<td>Mining</td>
<td>Irrigation</td>
<td>Livestock</td>
<td>Annual Total</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------</td>
<td>-----------</td>
<td>-----</td>
<td>-------</td>
<td>--------</td>
<td>------------</td>
<td>-----------</td>
<td>--------------</td>
</tr>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1997</td>
<td>395</td>
<td>0</td>
<td>0</td>
<td>17</td>
<td>27,877</td>
<td>214</td>
<td>28,303</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>3,953</td>
<td>4</td>
<td>979</td>
<td>236</td>
<td>48,125</td>
<td>840</td>
<td>54,137</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,396</td>
<td>4</td>
<td>1,400</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,349</td>
<td>1,062</td>
<td>83,845</td>
</tr>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1998</td>
<td>390</td>
<td>0</td>
<td>0</td>
<td>17</td>
<td>28,349</td>
<td>177</td>
<td>28,933</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>4544</td>
<td>4</td>
<td>990</td>
<td>59</td>
<td>49,293</td>
<td>693</td>
<td>55,583</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,430</td>
<td>3</td>
<td>1,433</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,935</td>
<td>876</td>
<td>85,953</td>
</tr>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>1999</td>
<td>395</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>27,853</td>
<td>208</td>
<td>28,461</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>4,263</td>
<td>1</td>
<td>993</td>
<td>71</td>
<td>48,431</td>
<td>817</td>
<td>54,576</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,404</td>
<td>4</td>
<td>1,408</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,559</td>
<td>1,033</td>
<td>84,451</td>
</tr>
<tr>
<td>Cenozoic Pecos Alluvium</td>
<td>2000</td>
<td>430</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>25,961</td>
<td>188</td>
<td>26,590</td>
</tr>
<tr>
<td>Edwards-Trinity (Plateau)</td>
<td>4,610</td>
<td>0</td>
<td>937</td>
<td>152</td>
<td>45,142</td>
<td>739</td>
<td>51,580</td>
<td></td>
</tr>
<tr>
<td>Other Un-Differentiated</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Rustler</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,309</td>
<td>2</td>
<td>1,311</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5,041</td>
<td>932</td>
<td>79,485</td>
</tr>
</tbody>
</table>
Appendix E

Details on the Development of the Estimate of Annual Recharge to the Capitan Reef Aquifer in Pecos County
Discussion

As mentioned in the plan text, as of the date of the plan no publish estimates on the amount or rates of annual recharge to the Capitan Reef aquifer have been identified. In order to meet the TWDB requirement that groundwater management plans include an estimate of the annual recharge rates used by other researchers for the Edwards-Trinity (Plateau) aquifer near the outcrop area of the Capitan reef aquifer in Pecos County may be applicable. The preliminary rate of recharge used in the development of the TWDB Edwards-Trinity (Plateau) aquifer groundwater availability model (GAM) is 4 percent of annual precipitation. (Anaya 2002) The Edwards-Trinity (Plateau) aquifer GAM includes the area of Pecos County adjacent to the Capitan Reef aquifer outcrop area. A rate of 1.6 percent of annual precipitation was estimated for the Edwards-Trinity (Plateau) aquifer for Crockett County. (Inglehart 1967) In order to develop a preliminary estimate of the annual recharge to the Capitan Reef aquifer in Pecos County the District used a median value of 2.8 percent of annual precipitation as an assumptive recharge rate to meet TWDB groundwater management plan requirements.

The area of the outcrop of the Capitan Limestone was estimated using a GIS to calculate the area from a scanned image of the Fort Stockton Sheet of the Geologic Atlas of Texas. (BEG, 1994) The 1961-1990 annual average precipitation for the portion of Pecos County where the Capitan Limestone outcrops is given as 16-18 inches in the USDA-NRCS map of Texas Annual Precipitation. (USDA-NRCS 1999) The District used the lower value of 16 inches per year to develop the estimate of annual recharge. The estimate of annual recharge to the Capitan Reef aquifer was calculated in the following manner:

2.8 percent of 16 inches annual precipitation = 0.448 inches per year

0.448 inches per year / 12 inches (1 foot) = 0.037333 feet per year

0.037333 feet per year rounded to 0.037 feet per year

Estimated Area of the Capitan Limestone in Pecos County = 22,279 acres

0.037 feet per year x 22,279 acres = 824.323 ac-ft per year

Rounded to 824 ac-ft per year
EIGHTH ORDER OF BUSINESS:

Agenda Item VIII. Consider and/or act upon Special:

Report from Matthies, Ezell, & McKenzie on the research done on the development of an ArcIMS website concerning a registering and permitting database for MPGCD.

Zan Matthies and Robert Ezell recommend that the board to proceed with the purchase or contract with Turner Collie & Braden to develop a database program that uses an ArcIMS website to assist with registering & permitting water wells for the MPGCD.

No action needed information only.

Honaker to report on Texas Mountain Canyon Water Association / James Reese proposal.

Glenn Honaker was unable to contact or talk with the Texas Water Development Board and asked to put this on next meeting’s agenda.

No action needed information only.

NINTH ORDER OF BUSINESS:

Agenda Item IX. Consider and/or act upon any changes to the draft copy of the management plan and present copy for adoption.

With no changes or corrections made to the Preliminary Draft of The Middle Pecos Groundwater Conservation District’s Groundwater Management Plan. The board members proceeded to consider and/or act upon a Resolution adopting the Management Plan. President Honaker read the Resolution adopting Management Plan aloud to the Board and Public.

Motion made by M R Gonzalez, seconded by John D Dorris, and upon discussion, the Board voted 7 in favor and 0 opposed, 0 abstained, and 4 absent and the motion thereby PASSED to adopt the Management Plan for the District.

TENTH ORDER OF BUSINESS:

Agenda Item X. Consider and/or act upon formulation of rules.

Zan Matthies presented a copy to each board member of the Proposed Draft Rules for the Middle Pecos Groundwater Conservation District. The board needs to figure a date for rule 4.4.1 Historic and Existing Use, Permitting rules and applications. The amount of time permitted wells should report their pumpage to the District. These were but a few that the board members had problems with or could see problems in the future.

President Honaker requested that each of the board members take the Proposed Draft Rules home with them to read, study, and be prepared for the next meeting.

The item was only discussed and No action was taken.

ELEVENTH ORDER OF BUSINESS:

Agenda Item XI. Consider and/or act upon Turner Collie & Braden proposal for the district to purchase a computer program developed by TC&B — “ArcIMS web site for assisting with registering and permitting”; a web site database program for MPGCD’s use. Giving President authority to enter into contract with TC&B for this purpose.

Turner Collie & Braden submitted the Task Order No. 2 with the total up-front cost would be $18,500 for the initial creation plus $3,600 for 12 months of hosting the site, which is a total cost of $22,100. The board requested the President negotiate with Turner Collie & Braden.

Motion made by John D Dorris, seconded by Bart Reid, and upon discussion, the vote carried to give the President Glenn Honaker authority to enter into a contract with TC&B for the district.
### SENDER: COMPLETE THIS SECTION
- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
   - Texas Water Dev. Board
   - P.O. Box 13251
   - 1700 N. Congress Ave.
   - Austin, TX 78711-3251

2. Article Number
   - Transfer from serv. 7003 2260 0004 7447 7498

### COMPLETE THIS SECTION ON DELIVERY

<table>
<thead>
<tr>
<th>A. Signature</th>
<th>X</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>B. Received by (Printed Name)</th>
<th>C. Date of Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noug Bellwight</td>
<td>JUN 29 2004</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D. Is delivery address different from billing address?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S. Send by (Certified Mail, Registered, Express Mail, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certified Mail</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>T. Restricted Delivery? (Extra Fee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
</tbody>
</table>

---

**PS Form 3811, August 2001**

**Domestic Return Receipt**

---

**F. Stockton, TX 79735**

**103 W. Callaghan**

**Pecos County Courthouse**

**Middle Pecos CNT**

**Sender Please Print your name, address, and ZIP+4 in this box.**

---

**United States Postal Service**
June 24, 2004

MIDDLE PECOS GROUNDWATER CONSERVATION DISTRICT
C/O Pecos County Courthouse
103 West Callaghan St.
Fort Stockton, Texas 79735

Texas Water Development Board
c/o J. Kevin Ward, Executive Administrator
PO Box 13231
1700 N. Congress Avenue
Austin, TX 78711-3231

Pecos River Compact Commission
J. W. Thrasher – Commissioner
PO Box 340
Monahans, TX 79756

Red Bluff Water Power Control District
Randal Hartman – Chairman (President)
HCR 73 Box 22
McCamey, TX 79752

Mr. John Grant, Chairman, Region "F"
C/o Colorado River Municipal Water District
P. O. Box 869
Big Springs, TX 79721-0869

Gentlemen:

Enclosed you will find the adopted copy of the Management Plan for the Middle Pecos Groundwater Conservation District. This copy is for you and your board’s review and to be put on file at your central offices. After your review, I would appreciate you taking the time to write a short note advising this board that the “Management Plan” is not in conflict with your organization “plans and rules”. If you would be so kind as to mail this note back in the enclosed, pre-addressed, stamped envelope, it would be most appreciated. This board needs this letter from you to be put in our files.

Thanking you so much in advance,

Sincerely,

[Signature]

A. Zan Matthies
Independent Consultant
Middle Pecos GCD

Enclosure: Self Addressed stamped envelope
Groundwater Management Plan

Prepared for:

Middle Pecos Groundwater Conservation District
Pecos County, Texas
June 28, 2004

A. Zan Matthies  
Middle Pecos GCD  
c/o Pecos County Courthouse  
103 West Callahan  
Fort Stockton, TX 79735

Dear Mr. Matthies,

We have received your adopted copy of the management plan for the Middle Pecos Groundwater Conservation District. We will forward a copy to the Region F Regional Water Planning Group.

Sincerely,

[Signature]

John W. Grant  
General Manager
Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
Print your name and address on the reverse so that we can return the card to you.
Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
   John Grant
   P.O. 869
   P.O. Box 79721, St. Louis, MO 63121

2. Article Number
   (Transfer from service label)
   7004 0550 0000 7316 7476

3. Service Type
   - Certified Mail
   - Express Mail
   - Registered
   - Return Receipt for Merchant
   - Insured Mail
   - C.O.D.

4. Restricted Delivery? (Extra Fee)
   - Yes

*Sender: Please print your name, address, and ZIP+4 in this box*
Middle Peace CDP
103 W. Callaghan
Ft. Slaughter, TX 79735