5.16 Hood County Water Supply Plan

Table 5.16-1 lists each water user group in Hood County and their corresponding surplus or shortage in years 2040 and 2070. A brief summary of the water user groups and the plan for the selected water user are presented in the following subsections.

Table 5.16-1. Hood County Surplus/(Shortage)

Water User Group	Surplus/(Shortage)[1]		Comment
	2040 (acft/yr)	2070 (acft/yr)	
Acton MUD	1,731	(159)	Projected shortage – see plan below
City of Cresson[2]	(12)	(59)	Projected shortage – see plan below
City of Granbury	520	158	Projected surplus
Oak Trail Shores Subdivision	226	223	Projected surplus
City of Tolar	12	(19)	Projected shortage – see plan below
County-Other	(77)	193	Projected shortage – see plan below
Manufacturing	9,996	9,988	Projected surplus
Steam-Electric	35,602	27,133	Projected surplus
Mining	(998)	(833)	Projected shortage – see plan below
Irrigation	591	970	Projected surplus
Livestock	0	0	Demand equals supply

1 – From Tables C-25 and C-26, Appendix C – Comparison of Water Demands with Water Supplies to Determine Needs.
2 – Balance is total between Brazos G and Region C for WUG.

5.16.1 Acton MUD

Description of Supply

The Acton MUD service area includes portions of Hood and Johnson Counties. Acton MUD obtains its water supply from groundwater from the Trinity Aquifer and a contract with the Brazos River Authority for water from Lake Granbury. Treated surface water is constrained by its allocated portion of the SWATS plant capacity, co-owned with Johnson County SUD through the Brazos Regional Public Utility Agency. The City of Granbury and Acton MUD are in the process of transferring Granbury's portion of the SWATS plant capacity to Acton MUD. The transfer will be completed in stages over several years. A shortage is projected for Acton MUD in 2070, caused by a need to increase its share of the SWATS plant. The surpluses and shortage shown in Table 5.16-1 represent the cumulative totals for Acton MUD in Hood and Johnson Counties.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategies are recommended to meet the projected water shortage for Acton MUD.

a. Reallocate SWATS Capacity:

- Cost Source: Volume II, Chapter 12
- Date to be Implemented: before 2070
- Project Cost: None
- Annual Cost: $552/acft for operation and maintenance

Conservation was also considered; however, the entity's current per capita use rate is below the selected target rate of 140 gpcd.

Table 5.16-2. Recommended Plan Costs by Decade for Acton MUD

Plan Element	2020	2030	2040	2050	2060	2070
Projected Surplus/(Shortage) (acft/yr)	*4,408*	*2,790*	*1,731*	*1,180*	*546*	*(159)*
Conservation						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost ($/yr)	—	—	—	—	—	—
Projected Surplus/ (Shortage) after Conservation (acft/yr	*4,408*	*2,790*	*1,731*	*1,180*	*546*	*(159)*
Reallocate SWATS Capacity						
Supply From Plan Element (acft/yr)	—	—	—	—	—	200
Annual Cost ($/yr)	—	—	—	—	—	$110,400
Unit Cost ($/acft)	—	—	—	—	—	$552

5.16.2 City of Cresson

Description of Supply

This WUG is located in Johnson, Hood and Parker (Region C) counties. The surplus/shortages shown in Table 5.16-1 represent the cumulative totals for the City of Cresson in Brazos G and Region C counties. Supplies for the City of Cresson are from the Trinity and Paluxy aquifers and are not adequate to meet the City's projected needs.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB and in coordination with Region C, the following water management strategies are recommended to meet the projected water shortage for City of Cresson.

a. Groundwater Development – Trinity Aquifer

- Cost Source: Volume II, Chapter 12
- Date to be Implemented: 2040
- Project Cost: $771,000
- Unit Cost: Max of $1,556/acft/yr (2040)

Conservation was also considered; however, the entity's current per capita use rate is below the selected target rate of 140 gpcd.

Table 5.16-3. Recommended Plan Costs by Decade for City of Cresson

Plan Element	2020	2030	2040	2050	2060	2070
Projected Surplus/(Shortage) (acft/yr)	*22*	*3*	*(12)*	*(27)*	*(44)*	*(59)*
Conservation						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost ($/yr)	—	—	—	—	—	—
Projected Surplus/ (Shortage) after Conservation	*22*	*3*	*(12)*	*(27)*	*(44)*	*(59)*
Groundwater Development – Trinity Aquifer						
Supply From Plan Element (acft/yr)	—	—	60	60	60	60
Annual Cost ($/yr)	—	—	$93,379	$93,379	$34,379	$34,379
Unit Cost ($/acft)	—	—	$1,556	$1,556	$573	$573

5.16.3 City of Granbury

The City of Granbury obtains its water supply from groundwater from the Trinity Aquifer and a contract with the Brazos River Authority for water from Lake Granbury. The City is in the process of constructing a new surface water treatment plant that is scheduled to be complete in 2017. The City has adequate supplies to meet its projected demands. Note that groundwater supply is constrained between 2040 and 2070 based on projected drawdowns in the Trinity Aquifer. Conservation was considered but the current per capita use is below the targeted gpcd of 140. No changes in water supply are recommended.

5.16.4 Oak Trail Shores Subdivision

Oak Trail Shores Subdivision receives supply from Trinity Aquifer groundwater and surface water through Monarch Utilities, which has a 600 acft/yr contract with the Brazos River Authority. The WUG treats the surface water through its 1 MGD WTP. Current supplies are sufficient to meet the WUG's projected demands. Conservation was considered but the current per capita use is below the targeted gpcd of 140. No change in water supply is recommended.

5.16.5 City of Tolar

Description of Supply

The City of Tolar receives supply from the Trinity Aquifer. Based on increased drawdown projected for the Trinity Aquifer, Tolar is projected to have shortages beginning in 2050.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategy is recommended to meet the projected water shortage for the City of Tolar.

a. Rehab Trinity Wells

- Cost Source: Volume II, Chapter 5.12
- Date to be Implemented: By year 2050
- Project Cost: $20,000
- Annual Cost: maximum of $2,200 in 2070

Alternative strategies considered to meet this need include purchase of treated water from the City of Granbury. Conservation was also considered; however, the entity's current per capita use rate is below the selected target rate of 140 gpcd.

Table 5.16-4. Recommended Plan Costs by Decade for Hood County - Other

Plan Element	2020	2030	2040	2050	2060	2070
Projected Surplus/(Shortage) (acft/yr)	*45*	*26*	*12*	*(1)*	*(11)*	*(19)*
Conservation						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost ($/yr)	—	—	—	—	—	—
Projected Surplus/(Shortage) after Conservation	*45*	*26*	*12*	*(1)*	*(11)*	*(19)*
Rehab Trinity Wells						
Supply From Plan Element (acft/yr)	—	—	—	12	12	24
Annual Cost ($/yr)	—	—	—	$1,100	$1,100	$2,200
Unit Cost ($/acft)	—	—	—	$91	$91	$91

5.16.6 County-Other

Description of Supply

Entities in Hood County-Other receive groundwater from the Trinity Aquifer and surface water supplies through contracts with Acton MUD. Future population in County-Other is

expected to decrease over time as those people begin to be served by retail water utilities. Shortages are projected only from 2020 through 2050.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategy is recommended to meet water needs for County-Other entities.

a. Trinity Aquifer Development

- Cost Source: Volume II, Chapter 12
- Date to be Implemented: before 2020
- Project Cost: $6,164,000
- Unit Cost: $703/acft

b. Alternative: Purchase Additional Supply from Acton MUD

- Cost Source: Volume II, Chapter 12
- Date to be Implemented: 2020
- Project Cost: NA
- Unit Cost: $977/acft

Conservation was also considered; however, the entity's current per capita use rate is below the selected target rate of 140 gpcd.

Table 5.16-5. Plan Costs by Decade for Hood County – Other

Plan Element	2020	2030	2040	2050	2060	2070
Projected Surplus/(Shortage) (acft/yr)	*(968)*	*(344)*	*(77)*	*(121)*	*(22)*	*193*
Conservation						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost ($/yr)	—	—	—	—	—	—
Projected Surplus/ (Shortage) after Conservation	*(968)*	*(344)*	*(77)*	*(121)*	*(22)*	*193*
Trinity Aquifer Development						
Supply From Plan Element (acft/yr)	968	968	968	968	968	968
Annual Cost ($/yr)	$680,500	$680,500	$542,000	$542,000	$542,000	$542,000
Unit Cost ($/acft)	$703	$703	$560	$560	$560	$560
Alternative: Purchase Additional Supply from Acton MUD						
Supply From Plan Element (acft/yr)	968	344	77	121	22	—
Annual Cost ($/yr)	$946,000	$336,000	$75,000	$118,000	$22,000	—
Unit Cost ($/acft)	$977	$977	$977	$977	$977	—

5.16.7 Manufacturing

Hood County Manufacturing is projected to have a surplus of water through the year 2070. No changes in water supply are recommended.

5.16.8 Steam-Electric

Steam-Electric water demand in Hood County is associated with the DeCordova Power Plant owned and operated by Luminant (formerly Texas Utilities Company (TXU)). The DeCordova Power Plant is supplied by water from Lake Granbury. Luminant has contracted with the Brazos River Authority for water from the BRA system in sufficient quantity to exceed its needs through the year 2070. In consideration of the projected increased need for steam-electric generation water associated with the proposed new generating units at the Comanche Peak Station in Somervell County, 27,133 acft/yr of this excess supply is now transferred to Somervell County (see Chapter 5.30.4 Somervell County Steam-Electric). No other changes in water supply are recommended.

5.16.9 Mining

Description of Supply

Mining operations in Hood County are supplied by Trinity Groundwater. Demands for Mining are projected to increase significantly, resulting in shortages beginning in 2020.

Recommended Strategy

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategies are recommended to meet water needs for Hood County-Mining.

a. Conservation
   - Cost Source: Volume II, Chapter 2
   - Date to be Implemented: before 2020
   - Annual Cost: not determined

b. Groundwater Development – Trinity Aquifer (approximately nine 75 gpm wells)
   - Cost Source: Volume II, Chapter 12
   - Date to be Implemented: before 2020
   - Project Cost: $6,197,000
   - Unit Cost: Max of $508/acft (2020)

Table 5.16-6. Recommended Plan Costs by Decade for Hood County – Mining

Plan Element	2020	2030	2040	2050	2060	2070
Projected Surplus/(Shortage) (acft/yr)	*(854)*	*(1,212)*	*(998)*	*(909)*	*(819)*	*(833)*
Conservation						
Supply From Plan Element (acft/yr)	62	122	156	149	143	144
Annual Cost ($/yr)	ND	ND	ND	ND	ND	ND
Projected Surplus/(Shortage) after Conservation (acft/yr)	*(792)*	*(1,090)*	*(843)*	*(760)*	*(676)*	*(689)*
Groundwater Well Development – Trinity Aquifer						
Supply From Plan Element (acft/yr)	1,120	1,120	1,120	1,120	1,120	1,120
Annual Cost ($/yr)	$569,308	$569,308	$49,308	$49,308	$49,308	$49,308
Unit Cost ($/acft)	$508	$508	$44	$44	$44	$44

ND – Not determined. Costs to implement industrial conservation technologies will vary based on each location

5.16.10 Irrigation

Hood County Irrigation is projected to have a surplus of water through the year 2070. No changes in water supply are recommended.

5.16.11 Livestock

Livestock water supply is projected to meet demands through 2070 and no changes in water supply are recommended.

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