5.5 ANTELOPE VALLEY LINE

The Antelope Line may provide service to two of the potential participants in the probable study boundary Antelope Valley Business Park Improvement & Service District and Antelope Valley. There are two segments that compose the Antelope Valley Line (see Mapbook "Antelope Valley Line"). The proposed Antelope Valley Line has one tap on the new Madison Parallel pipeline located near the intersection of Union Chapel Road and South Douglas Highway.

ANTELOPE VALLEY BUSINESS PARK IMPROVEMENT & SERVICE DISTRICT

This system is located south of the Gillette city limits. Antelope Valley Business Park Improvement & Service District does not have individual water meters for its customers and they disinfect their water using sodium hypochlorite. They have collected water quality data that is available.

The returned inventory form provided the following information about Antelope Valley Business Park Improvement & Service District. A local Improvement & Service District governs this system which is reported to be in fair condition, does not have standby power and does not provide fire protection. Residential water is not provided by this system, as all taps are for businesses. The main issue that was given for the system was adequate supply. Table 30 presents the existing water system summary for Antelope Valley Business Park Improvement & Service District from the inventory form (Appendix E). Figures 48 through 50 are photos of the existing pump station, tank, and well.

TABLE 30 ANTELOPE VALLEY BUSINESS PARK IMPROVEMENT & SERVICE DISTRICT EXISTING SYSTEM SUMMARY

Tank	**Volume (gallons)**	
1	15,000	
Well	**Production Rate (gpm)**	
1	20	
Number of Existing Water Taps	**Number of Planned Future Water Taps**	
5	Not given	
Annual Water Usage (gallons)	**Peak Day Summer Usage (gallons)**	**Peak Day Winter Usage (gallons)**
1,883,000	10,806	2,968
Operating Pressure (psi)	**Optimum Operating Pressure (psi)**	
90	Not given	

FIGURE 48 **ANTELOPE VALLEY BUSINESS PARK IMPROVEMENT & SERVICE DISTRICT PUMP STATION**

FIGURE 49 **ANTELOPE VALLEY BUSINESS PARK IMPROVEMENT & SERVICE DISTRICT TANK**

FIGURE 50 **ANTELOPE VALLEY BUSINESS PARK IMPROVEMENT & SERVICE DISTRICT WELL**

The system may be connected to the future Madison Parallel by the Antelope Valley Line (see Mapbook "Antelope Valley Line" - Sheets 1). One 8-inch connection of approximately 930 ft of dedicated and 350 ft of shared waterlines would provide service to the existing tank. A service isolation valve would be provided on the connection line and a standard master meter and altitude valve would be required. Table 31 summarizes the future connection requirements. The future class of service has been defined as Class F which would provide fire protection to the Antelope Valley Business Park Improvement & Service District via the existing storage tanks and fire hydrants.

TABLE 31 ANTELOPE VALLEY BUSINESS PARK IMPROVEMENT & SERVICE DISTRICT FUTURE CONNECTION SUMMARY

Class of Service	
Interim:	**Future:**
Class D	Class F
Delivery Requirements	
Connection Size: 8-inch	
Average Day Demand:	**Peak Day Average Demand:**
5 gpm	30 gpm
Preferred Delivery Point	
Connection to:	**Estimated Pressure at Delivery Point:**
Existing Storage Tank	65 psi (reduced by Altitude Valve into Tank)
Infrastructure Needs to Establish Connection	
Service isolation valve, standard master meter, altitude valve, and approximately 930 feet of dedicated 8-inch pipe.	

ANTELOPE VALLEY

This system is located south of the Gillette city limits. Antelope Valley is part of the South Douglas Highway Improvement & Service District. Antelope Valley has individual water meters for its customers and disinfect their water using chlorine gas. They have collected water quality data that is available. Antelope Valley provides fire protection to their users.

The returned inventory form provided the following information about Antelope Valley. South Douglas Highway Improvement & Service District governs this system which is reported to be in good condition. The system does not have standby power, but does provide fire protection. Commercial water is provided by this system to the Kwik Shop Gas Station. The largest issue concerning this system is fluoride levels in well water. The current billing rate is a minimum monthly rate of $26.00, for a maximum of 4,000 gallons of water. Additional water over 4,000 gallons is $1.72 per 1,000 gallons. Table 32 presents the existing water system summary for Antelope Valley from the inventory form (Appendix E). Table 33 presents additional information on the five Fort Union formation wells in Antelope Valley. Figures 51 through 56 are photos of the existing pump stations, tanks, and wells.

When asked about the regional system, the District's response was that Antelope Valley is very interested in having a part in the creation of a Regional System. Utilizing the water from the new system would likely be necessary in the future. More information is requested by Antelope Valley so decisions can be made.

TABLE 32 ANTELOPE VALLEY
EXISTING *SYSTEM SUMMARY*

Tank	**Volume (gallons)**	
1	640,000	
2	96,000	
Well	**Production Rate (gpm)**	
2	120	
3	180	
4	160	
5	150	
Number of Existing Water Taps	**Number of Planned Future Water Taps**	
320	13	
Annual Water Usage (gallons)	**Peak Day Summer Usage (gallons)**	**Peak Day Winter Usage (gallons)**
44,615,000	600,000	85,000
Operating Pressure (psi)	**Optimum Operating Pressure (psi)**	
70-120	Not Given	

TABLE 33 ANTELOPE VALLEY WATER WELLS

Well Name	Year Completed	Total Depth [1] (ft)	Pumping Capacity	Comments
Well No. 1	N/A	N/A	30	Currently not in service
Well No. 2	N/A	1,674	120	Well deepened in 1983 from 1,364-feet to 1,674-feet bgl.
Well No. 3	1983	2,130	180	
Well No. 4	1996	2,375[2]	160	
Well No. 5	2004	2,060	150	
Total Capacity			610	Does not include Well No. 1

[1] Depths are measured below ground level (bgl)
[2] Well No. 4 was originally drilled to a depth of 10,700-feet. The well was abandoned and plugged at four intervals prior to being developed as a water well.

FIGURE 51 **ANTELOPE VALLEY PUMP STATION**

FIGURE 52 **ANTELOPE VALLEY WELL #5 PUMP HOUSE**

FIGURE 53 **ANTELOPE VALLEY WELL TANKS**

FIGURE 54 **ANTELOPE VALLEY WELL #2 AND PUMP HOUSE**

FIGURE 55 **ANTELOPE VALLEY WELL #3 AND PUMP HOUSE**

FIGURE 56 **ANTELOPE VALLEY WELL #4**

The system may be connected to the future Madison Parallel by the Antelope Valley Line (see Mapbook "Antelope Valley Line" - Sheets 1 to 3). One 12-inch connection of approximately 7,560 ft of dedicated and 350 ft of shared waterlines would provide service to the existing tanks. In addition, Antelope Valley has been identified as a potential Class B participant and the connection would allow delivery of water back into the Regional System with excess well supply. A 500 gpm package pump station with approximately 100 ft of TDH would be required to deliver water to the Antelope Valley storage tanks. A service isolation valve would be provided on the connection line and a standard master meter and two-way altitude valve would be required. Table 34 summarizes the future connection requirements.

TABLE 34 ANTELOPE VALLEY
FUTURE CONNECTION SUMMARY

Class of Service	
Interim:	**Future:**
Class B	Class B
Delivery Requirements	
Connection Size: 12-inch	
Average Day Demand:	**Peak Day Average Demand:**
85 gpm	1,000 gpm
Preferred Delivery Point	
Connection to:	**Estimated Pressure at Delivery Point:**
Existing Storage Tanks	15 psi (provided by Antelope Valley Package Pump Station)
Infrastructure Needs to Establish Connection	
Service isolation valve, 500 gpm package pump station, standard master meter, two-way altitude valve, and approximately 7,560 feet of dedicated 12-inch pipe.	