

5.2 MEADOW SPRINGS LINE

The Meadow Springs Line may provide service to four of the potential participants in the probable study boundary: Cedar Hills Water Association, Freedom Hills Subdivision, American Road Water and Sewer District, and Meadow Springs Improvement & Service District. There are two segments that compose the Meadow Springs Line. The first segment serves Freedom Hills Subdivision, American Road Water and Sewer District, and Meadow Springs Improvement & Service District (see Mapbook “Meadow Springs Line 1”) and the second serves Cedar Hills Water Association (see Mapbook “Meadow Springs Line 2”).

5.2.1 MEADOW SPRINGS LINE 1

The proposed Meadow Springs Line 1 has taps on both the existing Madison and new Madison Parallel pipelines located on the south side of State Highway 51 adjacent to Moran Ranch Road. Meadow Springs Line 1 provides water service from the regional system for Freedom Hills Subdivision, American Road Water and Sewer District, and Meadow Springs Improvement & Service District.

FREEDOM HILLS SUBDIVISION

This system is located east of the Gillette city limits and north of Interstate 90. Freedom Hills Subdivision does not have individual water meters for its customers and they disinfect their water using chlorine gas. An existing pump station provides service pressure from the storage tank to the distribution system. They have collected water quality data that is available. Table 15 presents the existing water system summary for Freedom Hills Subdivision from the inventory form (Appendix E). Figures 14 through 17 are photos of the existing pump station, tank, and wells.

The returned inventory form provided the following information about Freedom Hills Subdivision. A local Improvement & Service District governs the system which was reported to be in good condition. The wells produce water high in fluorides being an issue. This system does not have standby power and the Improvement & Service District fees include the costs of street maintenance and garbage.

**TABLE 15 FREEDOM HILLS SUBDIVISION
EXISTING SYSTEM SUMMARY**

Tank	Volume (gallons)	
1	75,000	
Wells	Production Rate (gpm)	
2	200	
Number of Existing Water Taps	Number of Planned Future Water Taps	
160	0	
Annual Water Usage (gallons)	Peak Day Summer Usage (gallons)	Peak Day Winter Usage (gallons)
29,744,000	136,710	71,452
Operating Pressure (psi)	Optimum Operating Pressure (psi)	
40	Not given	

FIGURE 14 FREEDOM HILLS SUBDIVISION PUMP STATION



FIGURE 15 FREEDOM HILLS SUBDIVISION PUMP STATION AND TANK



FIGURE 16 FREEDOM HILLS SUBDIVISION WELL #1



FIGURE 17 FREEDOM HILLS SUBDIVISION WELL #2



The system may be connected to the existing Madison and future Madison Parallel by the Meadow Springs Line (see Mapbook “Meadow Springs Line 1” - Sheets 1 to 3). An 8-inch connection of approximately 50 ft of dedicated and 7,200 ft of shared waterlines would provide service to the Freedom Hills Subdivision by filling the existing storage tank. The service connection may need to be shutdown during the winter for infrequent use and/or water quality reasons. A service isolation valve would be provided on the connection line and a standard master meter and altitude valve would be required. Table 16 summarizes the future connection requirements.

**TABLE 16 FREEDOM HILLS SUBDIVISION
FUTURE CONNECTION SUMMARY**

Class of Service	
Interim:	Future:
Class D	Class E
Delivery Requirements	
Connection Size: 8-inch	
Average Day Demand:	Peak Day Average Demand:
60 gpm	110 gpm
Preferred Delivery Point	
Connection to:	Estimated Pressure at Delivery Point:
Existing Storage Tank	100 psi (reduced by Altitude Valve into Tank)
Infrastructure Needs to Establish Connection	
Service isolation valve, standard master meter, altitude valve, and approximately 50 feet of dedicated 8-inch pipe.	

AMERICAN ROAD WATER & SEWER DISTRICT

This system is located east of the Gillette city limits and north of Interstate 90. The District provides water service to Quail Meadows Subdivision, Carefree Estates, and Rooster’s Roost Subdivision. American Road Water & Sewer District uses individual water meters for its customers and they disinfect their water using chlorine gas. An existing pump station provides service pressure to the distribution system. They have collected water quality data that is available.

The returned inventory form provided the following information about American Road Water & Sewer District. The system is governed by an Improvement & Service District and is reported to be in fair condition. There is no fire protection provided or standby power available at the pump station. The District assessments do not include the road maintenance costs or other fees.

Table 17 presents the existing water system summary for American Road Water & Sewer District from the inventory form (Appendix E). Figures 18 through 24 are photos of the existing pump station, tank, and wells.

**TABLE 17 AMERICAN ROAD WATER & SEWER DISTRICT
EXISTING SYSTEM SUMMARY**

Tank	Volume (gallons)	
1	110,000	
Wells	Production Rate (gpm)	
5	125	
Number of Existing Water Taps	Number of Planned Future Water Taps	
70	0	
Annual Water Usage (gallons)	Peak Day Summer Usage (gallons)	Peak Day Winter Usage (gallons)
10,709,000	58,194	28,516
Operating Pressure (psi)	Optimum Operating Pressure (psi)	
50-60	Not given	

FIGURE 18 AMERICAN ROAD WATER & SEWER DISTRICT PUMP STATION



FIGURE 19 AMERICAN ROAD WATER & SEWER DISTRICT PUMP STATION AND TANK



FIGURE 20 AMERICAN ROAD WATER & SEWER DISTRICT WELL #2



FIGURE 21 AMERICAN ROAD WATER & SEWER DISTRICT WELL #3



FIGURE 22 AMERICAN ROAD WATER & SEWER DISTRICT WELL #4



FIGURE 23 AMERICAN ROAD WATER & SEWER DISTRICT WELL #5



FIGURE 24 AMERICAN ROAD WATER & SEWER DISTRICT WELL #7



The system may be connected to the existing Madison and future Madison Parallel by the Meadow Springs Line (see Mapbook “Meadow Springs Line 1” - Sheets 1 to 4). A 6-inch connection of approximately 750 ft of dedicated and 11,000 ft of shared waterlines would provide service to the American Road Water & Sewer District by filling the existing storage tank. The service connection may need to be shutdown during the winter for infrequent use and/or water quality reasons. A service isolation valve would be provided on the connection line and a standard master meter and altitude valve would be required. Table 18 summarizes the future connection requirements.

TABLE 18 AMERICAN ROAD WATER & SEWER DISTRICT FUTURE CONNECTION SUMMARY

Class of Service	
Interim:	Future:
Class D	Class E
Delivery Requirements	
Connection Size: 6-inch	
Average Day Demand:	Peak Day Average Demand:
20 gpm	40 gpm
Preferred Delivery Point	
Connection to:	Estimated Pressure at Delivery Point:
Existing Storage Tank	100 psi (reduced by Altitude Valve into Tank)
Infrastructure Needs to Establish Connection	
Service isolation valve, standard master meter, altitude valve, and approximately 750 feet of dedicated 6-inch pipe.	

MEADOW SPRINGS IMPROVEMENT & SERVICE DISTRICT

This system is located northeast of the Gillette city limits. The District provides water service to Golden Meadows Subdivision and Covenant Subdivision. Meadow Springs 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 Meadow Springs Improvement & Service District. A local Improvement & Service District governs this system which is reported to be in fair condition. An existing pump station provides system pressure to the distribution system. This system does not have standby power and does not provide fire protection. This system needs additional wells and a bigger tank, but the water quality is reported to be good. Supply, ownership of the system, tank size and additional wells are the largest issues this system faces. Table 19 presents the existing water system summary for Meadow Springs Improvement & Service District from the inventory form (Appendix E). Figures 25 through 28 are photos of the existing pump station, tank, and well.

When asked, the board members governing this system would not like a regional system to take over the operation of their system. They would possibly be interested in a raw water purchase and when asked what would be their preferred management structure for a regional system, they responded with “what are the options?” When asked what issues would limit their participation in a regional system, they stated high cost and loss of local control. They also stated they feel a Regional System would not be in the best interest of the people of Meadow Springs or Campbell and Crook Counties.

TABLE 19 MEADOW SPRINGS IMPROVEMENT & SERVICE DISTRICT EXISTING SYSTEM SUMMARY

Tank	Volume (gallons)	
1	17,000	
Well	Production Rate (gpm)	
1	16	
Number of Existing Water Taps	Number of Planned Future Water Taps	
Not given	Not given	
Annual Water Usage (gallons)	Peak Day Summer Usage (gallons)	Peak Day Winter Usage (gallons)
1,552,000	13,129	2,516
Operating Pressure (psi)	Optimum Operating Pressure (psi)	
Not given	Not given	

FIGURE 25 MEADOW SPRINGS IMPROVEMENT & SERVICE DISTRICT PUMP STATION



FIGURE 26 MEADOW SPRINGS IMPROVEMENT & SERVICE DISTRICT PUMP STATION



FIGURE 27 MEADOW SPRINGS IMPROVEMENT & SERVICE DISTRICT TANK



FIGURE 28 MEADOW SPRINGS IMPROVEMENT & SERVICE DISTRICT WELL



The system may be connected to the existing Madison and future Madison Parallel by the Meadow Springs Line (see Mapbook “Meadow Springs Line 1” - Sheets 1 to 6). A 6-inch connection of approximately 8,200 of dedicated and 11,000 ft of shared waterlines would provide service to the Meadow Springs Improvement & Service District by filling the existing storage tank. The service connection may need to be shutdown during the winter for infrequent use and/or water quality reasons. A service isolation valve would be provided on the connection line and a standard master meter and altitude valve would be required. Table 20 summarizes the future connection requirements.

TABLE 20 MEADOW SPRINGS IMPROVEMENT & SERVICE DISTRICT FUTURE CONNECTION SUMMARY

Class of Service	
Interim:	Future:
Class D	Class E
Delivery Requirements	
Connection Size: 6-inch	
Average Day Demand:	Peak Day Average Demand:
1 gpm	30 gpm
Preferred Delivery Point	
Connection to:	Estimated Pressure at Delivery Point:
Existing Storage Tank	110 psi (reduced by Altitude Valve into Tank)
Infrastructure Needs to Establish Connection	
Service isolation valve, standard master meter, altitude valve, and approximately 8,200 feet of dedicated 6-inch pipe.	

5.2.2 MEADOW SPRINGS LINE 2

The proposed Meadow Springs Line 2 uses the same taps as Meadow Springs 1. The taps are on both the existing Madison and new Madison Parallel pipelines located on the south side of State Highway 51 adjacent to Moran Ranch Road. Meadow Springs Line 2 provides water service from the regional system for Cedar Hills Water Association.

CEDAR HILLS WATER ASSOCIATION

This system is located east of the Gillette city limits. The Cedar Hills Water Association provides water service to Cedar Hills Subdivision and Silver Hills Subdivision. Cedar Hills Water Association does not have individual water meters for its customers and they disinfect their water using chlorine gas. An existing pump station provides service pressure from the storage tank to the distribution system. They have collected water quality data that is available.

The returned inventory form provided the following information about Cedar Hills Water Association. The local homeowners association governs this system which is 20 years old and was reported in good condition with no water quality issues. There is no standby power due to this being a gravity system but it does provide fire protection. Table 21 presents the existing water system summary for Cedar Hills Water Association from the inventory form (Appendix E). Figures 29 through 31 are photos of the existing pump station, tanks, and well.

**TABLE 21 CEDAR HILLS WATER ASSOCIATION
EXISTING SYSTEM SUMMARY**

Tank	Volume (gallons)	
1	45,000	
2	45,000	
3	45,000	
Well		
	Production Rate (gpm)	
1	Not given	
2	85	
Number of Existing Water Taps		
100	Number of Planned Future Water Taps	
	Not given	
Annual Water Usage (gallons)		
	Peak Day Summer Usage (gallons)	Peak Day Winter Usage (gallons)
12,107,000	96,710	24,258
Operating Pressure (psi)		
70	Optimum Operating Pressure (psi)	
	70	

FIGURE 29 CEDAR HILLS WATER ASSOCIATION PUMP STATION



FIGURE 30 CEDAR HILLS WATER ASSOCIATION TANKS



FIGURE 31 CEDAR HILLS WATER ASSOCIATION WELL #2



The system may be connected to the existing Madison and future Madison Parallel by the Meadow Springs Line (see Mapbook “Meadow Springs Line 2” - Sheets 1 to 2). An 8-inch connection of approximately 5,330 ft of dedicated waterlines would provide service to the Cedar Hills Water Association by filling the existing storage tanks. The service connection may need to be shutdown during the winter for infrequent use and/or water quality reasons. A service isolation valve would be provided on the connection line and a standard master meter and altitude valve would be required. Table 22 summarizes the future connection requirements. The future class of service has been defined as Class F which would provide fire protection to the Cedar Hills Water Association via the existing storage tanks and fire hydrants.

**TABLE 22 CEDAR HILLS WATER ASSOCIATION
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:
25 gpm	130 gpm
Preferred Delivery Point	
Connection to:	Estimated Pressure at Delivery Point:
Existing Storage Tanks	140 psi (reduced by Altitude Valve into Tank)
Infrastructure Needs to Establish Connection	
Service isolation valve, standard master meter, altitude valve, and approximately 5,330 feet of dedicated 8-inch pipe.	