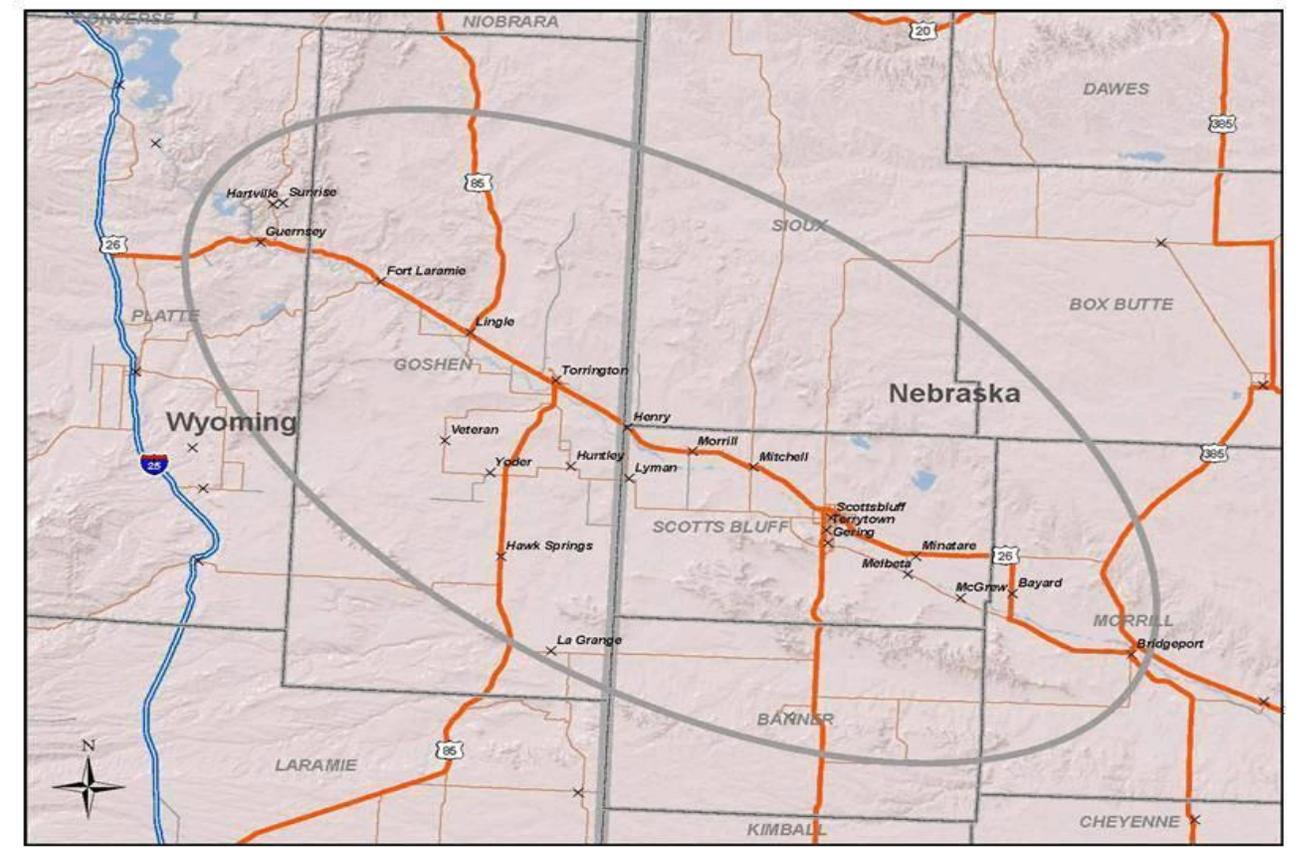




20110603 **DRAFT**

Appraisal Investigation for the **PLATTE ALLIANCE WATER SUPPLY (PAWS)**



A
**Region Wide Municipal Rural Water Supply
Project**



Chapter 1: Introduction

Purpose and Scope of Study

Southeast Wyoming (Goshen and Platte Counties) and Western Nebraska (Scotts Bluff and Morrill Counties) and adjacent rural areas along the North Platte River basin are experiencing deteriorating water quality, and it is becoming increasingly difficult and expensive to meet public water quality standards. This lack of dependable water quality limits the ability of the region to remain vibrant and sustain current and future growth and economic vitality.

This Study:

- ❖ Identifies existing water quality needs;
- ❖ Identifies the consequences of a do-nothing alternative;
- ❖ Identifies alternative solutions and issues associated with each alternative;
- ❖ Identifies the Bureau of Reclamation's role in operations of the North Platte River throughout the study area; and
- ❖ Recommends alternative solution(s) for further consideration in a subsequent feasibility study.

Project Sponsor(s)/Partners

The Goshen County, Wyoming Commission Chairman, Scotts Bluff County, Nebraska Commission Chairman, City of Scottsbluff, Nebraska Mayor and the City of Torrington, Wyoming Mayor all demonstrated support for the study and signed the initial proposal for an Appraisal Investigation. The USBR then entered into an agreement with Goshen County for execution of this study. The general study scope of work is identified in the Proposal, and included as **Appendix A** to this report. Through a competitive selection process, Goshen County selected the team of DOWL HKM and MC Schaff and Associates to conduct the study. The Proposal study cost and schedule are also included within **Appendix A**. The Proposal schedule has been modified (compressed) to provide for the final report deliverable in September, 2011 and align with subsequent USBR funding opportunities and this is provided in **Appendix B**.

Throughout the study process the rural communities located in Goshen and Platte counties in Wyoming and Scotts Bluff and Morrill counties in Nebraska as well as identified rural water districts will participate in the study process. As well, Wyoming and Nebraska state water officials will actively participate and provide support for the study process and results.



Study Authority

This study is being completed under the Rural Water Supply Act of 2006 (Title I, Pub. L 109-451; 120 Stat. 3346; 43 U.S.C. 2401 et seq.) and 43 CFR Part 404; in response to the Reclamation Rural Water Supply Program Funding Opportunity Announcement No. R10SF80458.

Description of the Project Area

Goshen County, Wyoming and Scotts Bluff county, Nebraska is a rural, agricultural area located in southeastern Wyoming, and western Nebraska (***See the Location Map***). The agriculture aspect of this area comes from the raising of corn (a portion of the corn is produced and provided to the local ethanol plant), oats, wheat, sugar beets, hay alfalfa, beans and other crops for food and/or feed for livestock. The average rainfall is 14 inches per year.

The North Platte River flows west to east through the center of the area. The North Platte River is the common, significant surface water supply for the entire region. The USBR provides operation and maintenance of the North Platte River and associated facilities throughout this entire region.

The area includes the incorporated communities of Guernsey, Hyattville, Lingle, Fort Laramie, Torrington, Yoder, Veteran, La Grange in Wyoming; and Henry, Morrill, Mitchell, Scottsbluff, Gering, Terrytown, Bridgeport, and Minatare in Nebraska; and in addition, the rural areas of Melbeta and McGrew in Nebraska, and Huntley, and Hawk Springs in Wyoming.

The area includes several reservoirs, including Guernsey Reservoir, Greyrocks Reservoir, Springer Reservoir Hawk Springs Reservoir, all which support agricultural, recreation and fishery activities.

Most community potable water supplies within the area are from alluvial wells and the water quality has been deteriorating. It has been demonstrated that farming practices of adding fertilizers and herbicides has increased the level of nitrates in the water, and this increases as one travels downstream (from west to east). Also, the Environmental Protection Agency (EPA) through the Safe Drinking Water Act (SDWA) has developed constituent standards for Maximum Contamination Levels (MCLs) of constituents within the water source. This list of constituents and corresponding MCL standards will continually evolve; potentially requiring modifications to existing water treatment processes.

Recently, due to the advent of new recovery technology, the Niobrara shale formation has been identified as a significant source for oil and gas; and the area is experiencing



significant interest and activity from energy companies. Wells to recover this resource will require significant volumes of water; and the activity will have additional impacts to area infrastructure. Also the area has been identified as a potential area for wind energy development. With these energy sources also comes the need for energy transmission, either pipelines and/or electric transmission lines.

Previous and Current Studies

Previous studies identifying existing water quantity, water quality, water transmission, storage and distribution and planned improvements within the rural communities are identified and summarized in **Appendix C**. Also North Platte River basin studies and plans identify the current and anticipated water situation and issues are summarized in **Appendix C**.

Study Milestones

Study milestones are included in the schedule in **Appendix B**; and include public meetings, Advisory Group meetings, USBR reviews, and a Final Report Deliverable of September 9, 2011.



Chapter 2: Existing and Future Conditions

Existing Conditions

Goshen County, Wyoming and Scotts Bluff county, Nebraska is a rural, agricultural area located in southeastern Wyoming, and western Nebraska (***See the Location Map***). The agriculture aspect of this area comes from the raising of corn (a portion of the corn is produced and provided to the local ethanol plant), oats, wheat, sugar beets, hay alfalfa, beans and other crops for food and/or feed for livestock. The average rainfall is 14 inches per year.

The project area includes the incorporated communities of Hartville, Guernsey, Lingle, Fort Laramie, Torrington, Yoder, La Grange in Wyoming; and Henry, Lyman, Morrill, Mitchell, Scottsbluff, Gering, Terrytown, Bridgeport, and Minatare in Nebraska; and in addition, the rural areas of Melbeta and McGrew in Nebraska, and Huntley, Veteran and Hawk Springs in Wyoming.

The Safe Drinking Water Act of 2005 established Maximum Contamination Level (MCL) standards, and operation and reporting standards, for public water systems, including cities, towns, communities and all public water districts. And, since that time, some MCL standards have been modified, and MCLs have been established for additional elements. This is expected to continue. As a result, the cost of operation and maintenance of public (potable) water systems has increased; as systems must adjust to meet the updated criteria. Meeting the changing and updated standards, while beneficial and necessary, creates a significant hardship for many smaller and rural public water systems.

The Platte Alliance Water Supply (PAWS) area is experiencing a progressively increasing presence of some elements, particularly Nitrates, Uranium and Arsenic in the public water systems. This may be awareness, in part, due to the increased level of monitoring and testing; however, research indicates it is also the long term result of the agriculture practices in the rural areas.

Existing Nitrate Sampling Data for the Wyoming area is shown in Exhibit 2A and Existing Uranium Sampling Data for the Wyoming area is shown in Exhibit 2B (both taken from the Platte Goshen Regional Master Plan Level I Study, September 2004). Existing Nitrate Sampling Data for the Nebraska area is shown in Exhibit 2C, Existing Uranium Sampling Data for the Nebraska area is shown in Exhibit 2D and Existing Arsenic Sampling Data for the Nebraska area is shown in

L:\WYDC104\GIS\Report\Figs\Final Report GIS Figures\Fig 2-13 USGS Nitrate Sampling Data final

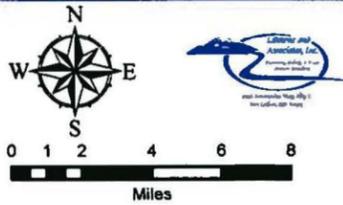
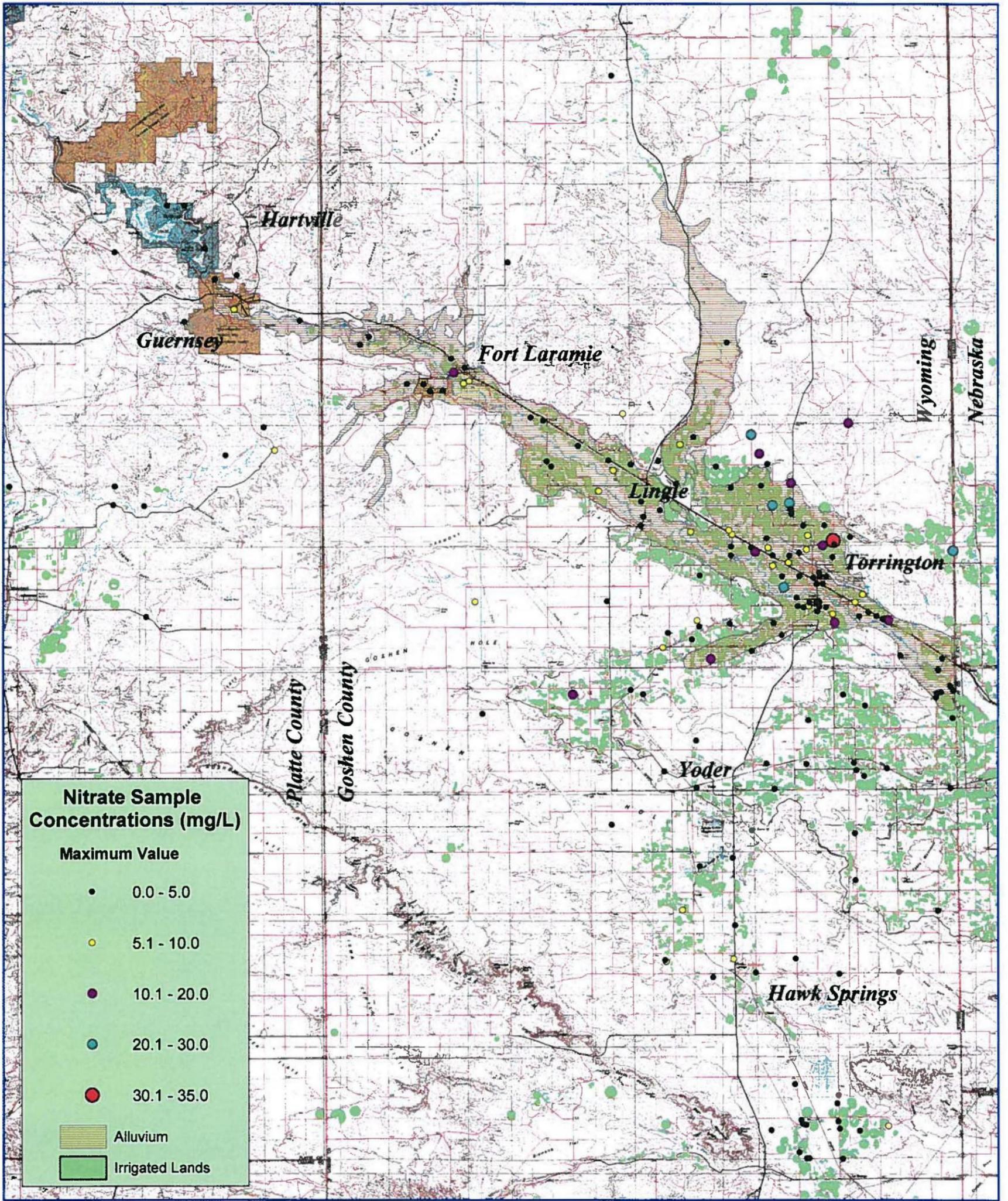
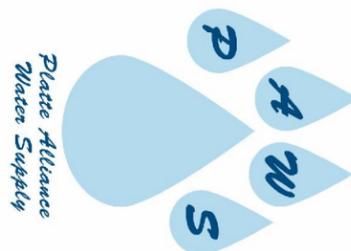


FIGURE 2.13 PLATTE GOSHEN REGIONAL MASTER PLAN USGS Nitrate Sampling Data



L:\WYWD\104\GIS\Report\Figs\Fig 2-14 NURE_Uranium Sampling Data.mxd

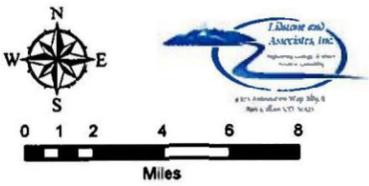
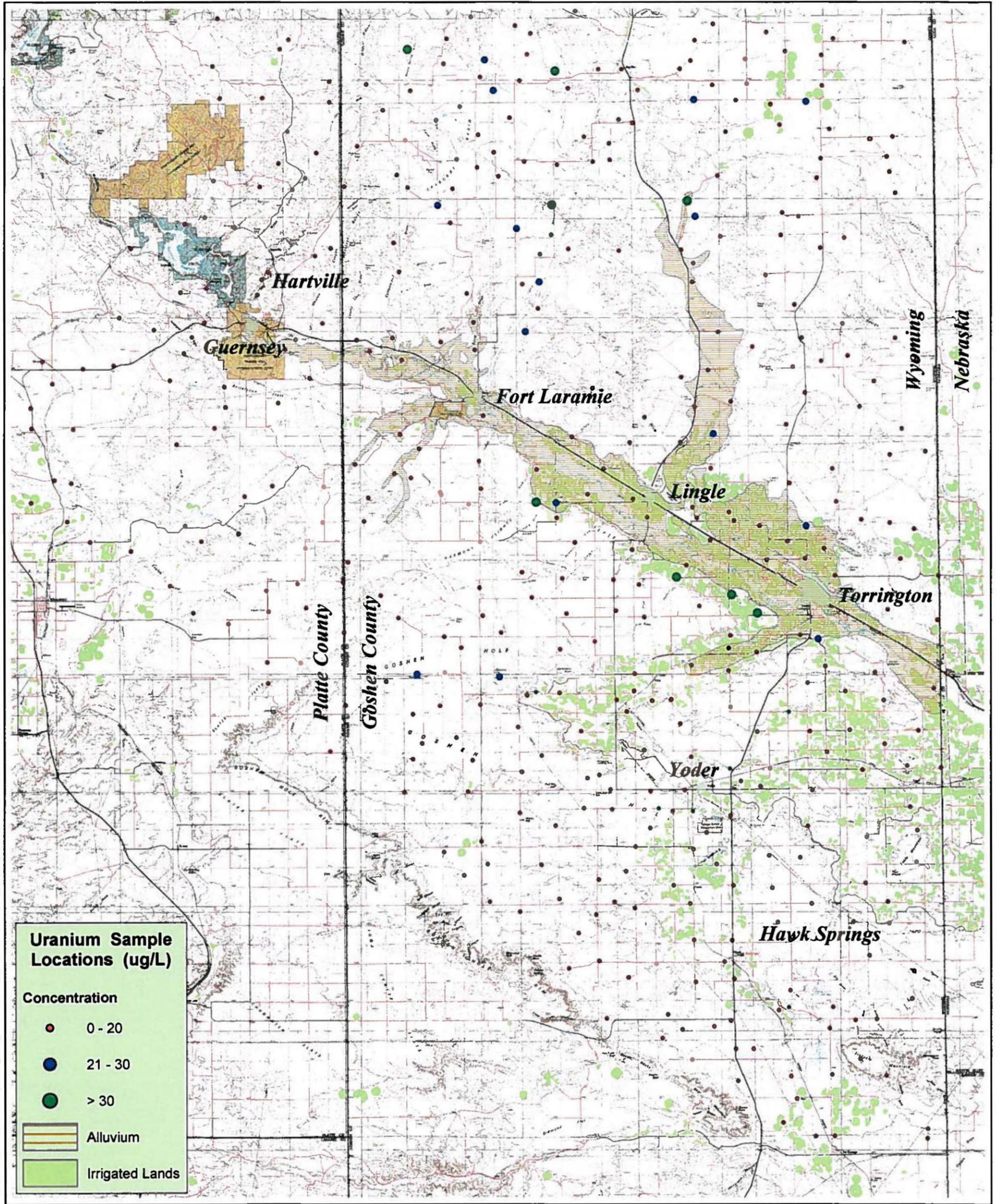
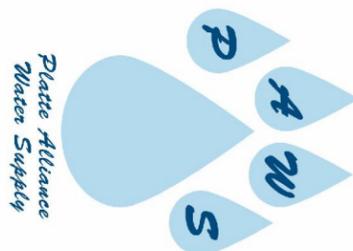
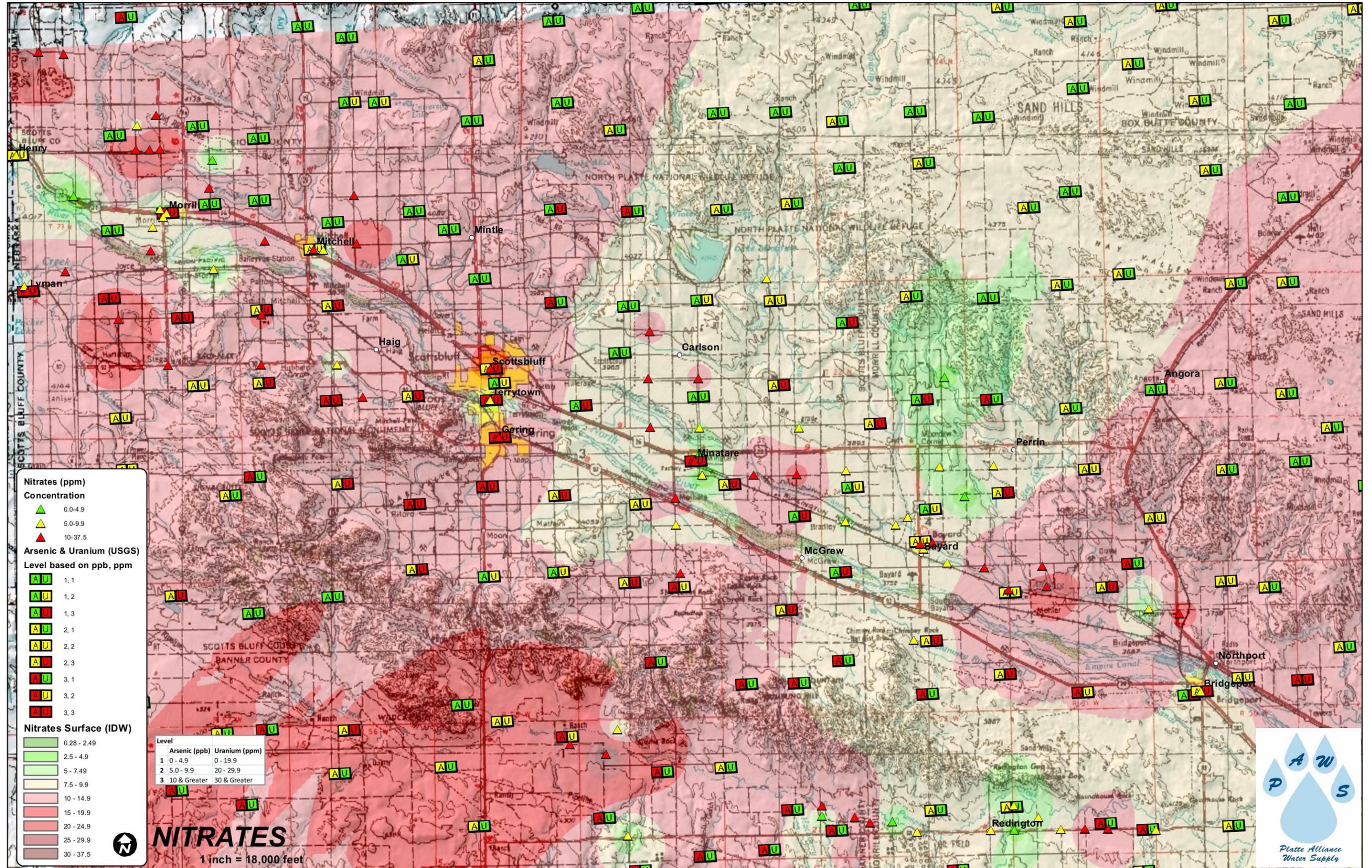


FIGURE 2.14 PLATTE GOSHEN REGIONAL MASTER PLAN
NURE Uranium Sampling Data





Nitrates (ppm)
Concentration

- ▲ 0.0-4.9
- ▲ 5.0-9.9
- ▲ 10-37.5

Arsenic & Uranium (USGS)
Level based on ppb, ppm

AU	1, 1
AU	1, 2
AU	1, 3
AU	2, 1
AU	2, 2
AU	2, 3
AU	3, 1
AU	3, 2
AU	3, 3

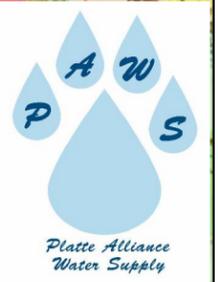
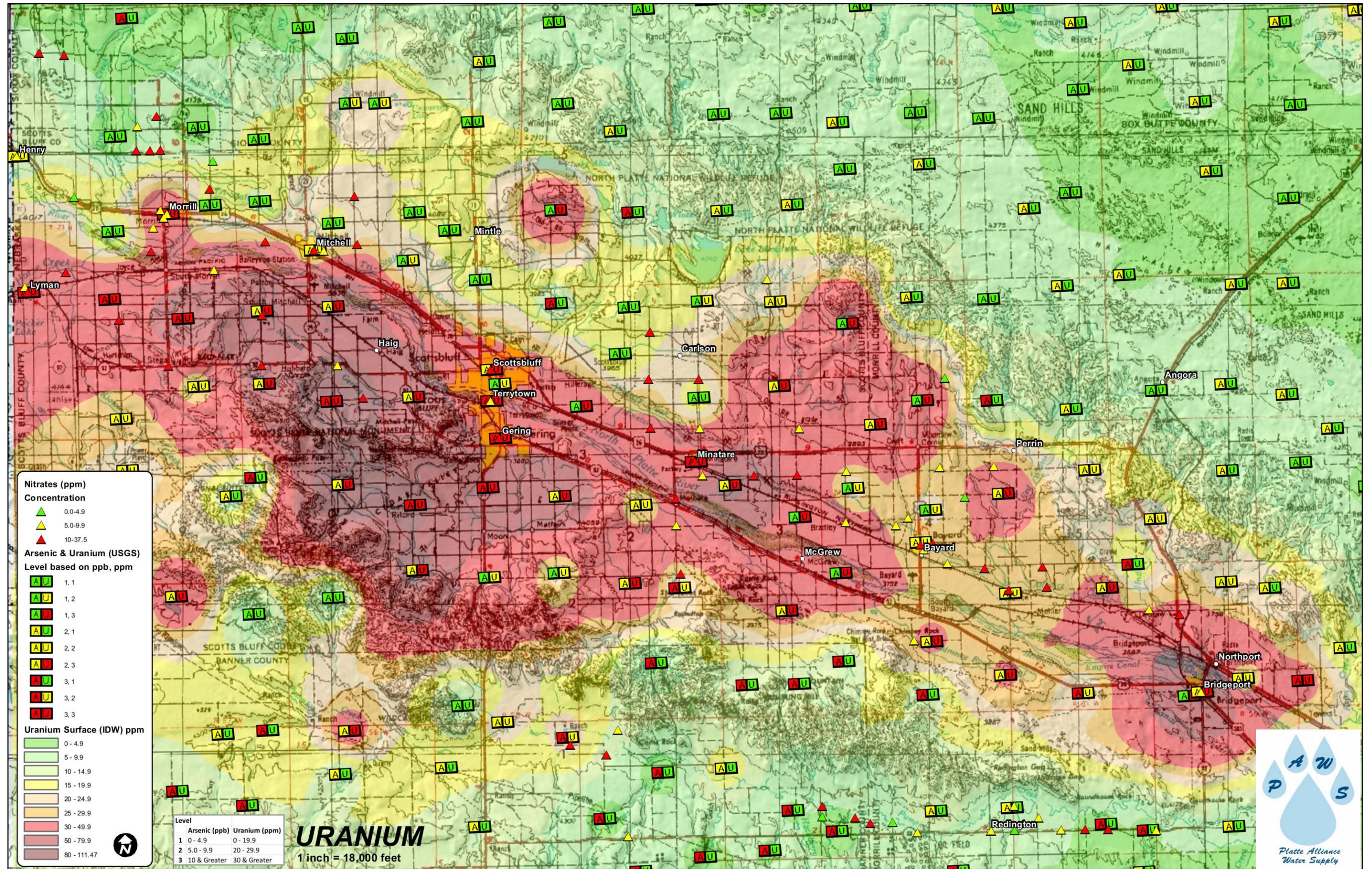
Nitrates Surface (IDW)

0.28 - 2.49
2.5 - 4.9
5 - 7.49
7.5 - 9.9
10 - 14.9
15 - 19.9
20 - 24.9
25 - 29.9
30 - 37.5

Nitrates
1 inch = 18,000 feet

Level	Arsenic (ppb)	Uranium (ppm)
1	0 - 4.9	0 - 19.9
2	5.0 - 9.9	20 - 29.9
3	10 & Greater	30 & Greater





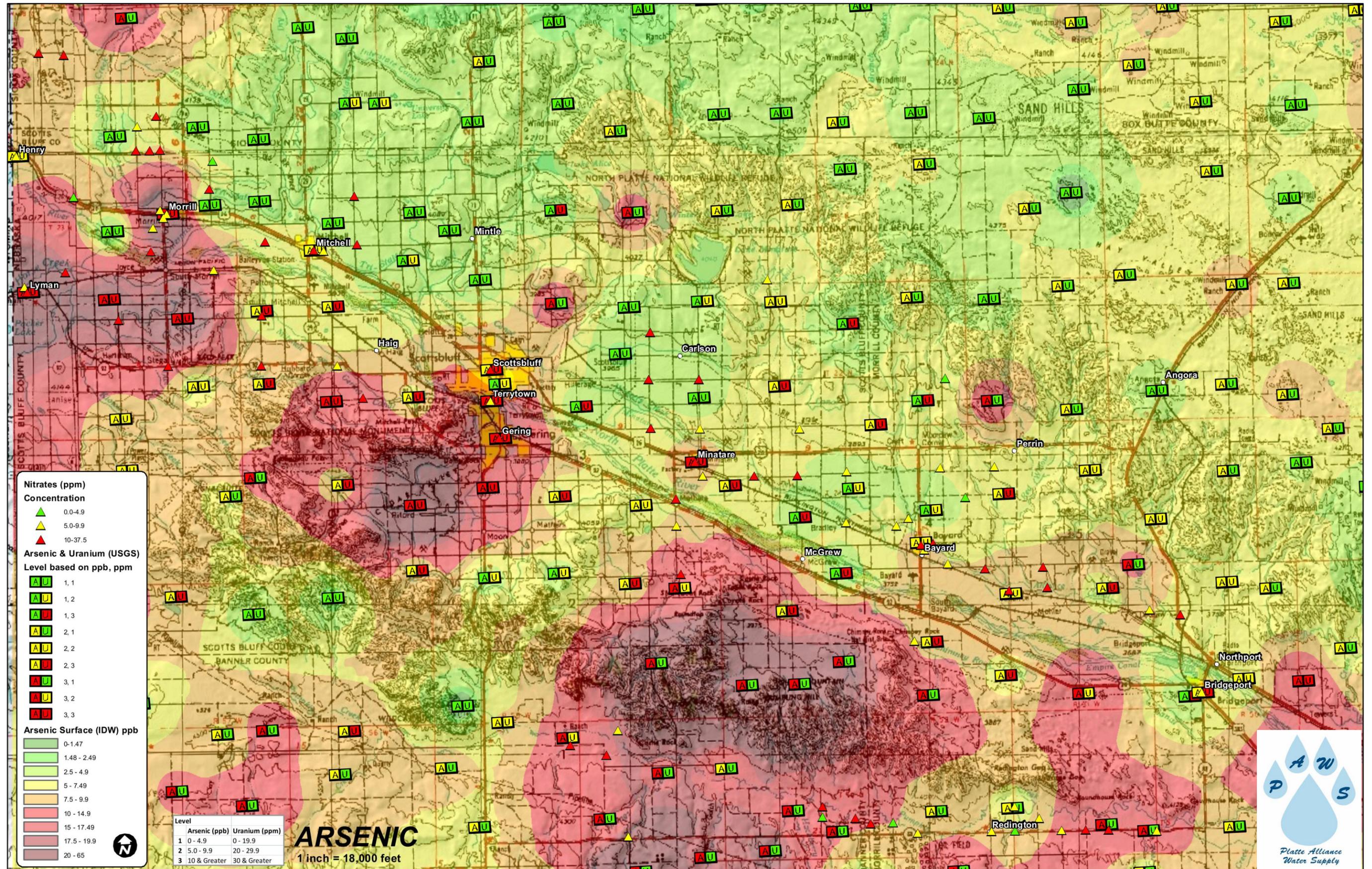




Exhibit 2E (all taken from USGS Reports). These exhibits illustrate, in the groundwater within the project area, there is generally a widespread occurrence of Nitrate, Uranium or Arsenic concentration; and therefore there is not a high probability that one could find a significant alluvial groundwater source that would not, if not immediately, in the future require treatment for removal of either Nitrates, Uranium and or Arsenic.

A brief summary of existing, identified water quality issues in each of these communities or rural areas follows:

WYOMING

Hartville

Groundwater in town contains levels of nitrate and uranium that exceed EPA standards; therefore the Town relies on water wells located approximately four and a half miles from town.

Guernsey

Guernsey relies on three alluvial wells to supply the municipal water system. In 1995, the Town completed a Level I Master Plan, which recommended abandonment of one of the three wells, drilling of a new well, implement a Wellhead protection Program for all wells, incorporate future accommodations for water treatment disinfection requirements, and a future water treatment plant to remove iron and manganese as concentrations exceed the secondary standards of the Safe Drinking Water Act.

In August, 2003, the Town received an EPA Administrative Order from the Region 8 EPA office cited for two monitoring requirements, the Total Coliform Rule (TCR), and initial monitoring of a new water source (Well #4) for radioactivity. A review of water quality testing done when Well #4 was developed in 2001, indicated high radon levels.

In November, 2003 a Level II study recommendations included; the previous TC violations were isolated instances, not expected to be repeated and therefore disinfection is not required at this time; and construction of water lines to connect the three wells and provide mixing equipment for mitigation of high radon levels.

Fort Laramie

The Town's supply is from two alluvial wells, one drilled in 1949 and the other in 1967. A Level II study completed in 2008 recommended upgrading of distribution lines, improve the chlorination system, create a records system, incorporate system security measures and restore the Town's surface irrigation system.



Lingle

Lingle's water supply is from three alluvial wells. A regional water quality investigation identified numerous wells around Lingle have nitrate levels; however Lingle's wells have not yet exceeded the nitrate standard. Recent water level decline is a concern. A Level I study completed in 1998 recommended installation of chlorination system, implement water meters and develop a Wellhead Protection Plan.

Torrington

A Nitrate Sampling program for the Torrington Wellhead Protection Area from April 1994 through August 1998 indicated nitrate to be widespread in the ground water in and near Torrington.

Torrington area residents receive their water supply from a series of wells. Level I studies completed in 1995 identified a scenario that nitrate levels in the Towns wells continue to increase; recommended construction of a new well field (8 wells) west of town; and identified water delivery options for rural areas adjacent to the town.

In 1997, a subsequent report recommended drilling and testing a well to further evaluate the viability of the proposed well field.

Since 2000, Torrington has been treating the water supply for nitrate concentrations in the ground water that exceed EPA's standard. The City uses a reverse osmosis (RO) system to blend water from the various wells to comply with the EPA standard. Torrington also provides water to the adjacent rural water entities, including; South Torrington, East Highway, West Highway Sewer District, Area West of West Highway Sewer District, McKenna Road, Cottonwood 1 and 2, and Coffee Grounds.

Yoder

In 1982, to rehabilitate its municipal water supply Yoder drilled a test well south of Town. This well did not produce sufficient quantity or quality for water to meet the municipal needs. In 1989 the Town initiated another test well investigation. Three wells north of Town were drilled, tested and found to meet the Town's municipal needs. Currently, the Town of Yoder relies on four wells located approximately three and one half miles from town. As the levels of uranium and arsenic have increased; and the Town is currently engaged in drilling of additional wells in an attempt to identify a water source within EPA standards.

LaGrange

Needs Input

Rural Water Areas



The rural areas of Huntley, Veteran and Hawk Springs all rely on private domestic water wells. The EPA does not require private water supplies be tested and adhere to EPA water quality standards. However, water quality tests in these areas have identified levels of uranium, arsenic and nitrates in excess of EPA standards. Hawk Springs residents are currently requesting assistance from State and Federal agencies to identify solutions to this water quality situation.

NEBRASKA

Henry

A 2008 Preliminary Engineering Report identified that the Village of Henry was under a Lead/Copper Exceedance Advisory; and recommended Henry's water supply (from the 2007 Western regional Water System Feasibility Study recommendation) come from the development of Morrill's well field to provide water for Henry, Morrill, and Lyman.

Lyman

A 2006 Preliminary Engineering Report identified Lyman receives its water supply from three wells; with one well removed from service as it is under the influence of surface water. The Village is under an Administrative Order for both Arsenic and Uranium MCL violation for the remaining wells. The report recommended evaluation of alternative water sources. The subsequent (2007 Western Regional Water System Feasibility Study) study recommended development of the existing Morrill well field as a water source for Henry, Morrill and Lyman.

Morrill

A 2005 Preliminary Engineering Report identified two of the three domestic wells exceeding MCL's for Uranium and Arsenic. The subsequent (2007 Western Regional Water System Feasibility Study) study recommended development of the existing Morrill well field as a water source for Henry, Morrill and Lyman.

Mitchell

A 2007 Western Regional water System Feasibility Study identified that Mitchell is not presently under any Administrative Order for water quality, and they have just begun compliance sampling for Uranium. Mitchell is continuing use of its existing wells.

Scottsbluff

Needs Input

Terrytown

Needs Input



Gering

Gering's municipal water supply is from a number of alluvial wells. Some of these wells exceed the Arsenic MCL; however are only needed to meet peak day demands, and can be utilized if the water is blended with other wells. In June, 2005, the city received a Notice of Uranium MCL Violation. The City is currently meeting standards by blending water from a series of wells to meet fluctuating demands; and evaluating development of additional wells; and/or construction of treatment facilities.

Minatare

Minatare was placed under an Administrative Order from the State of Nebraska Department of Health & Human Services as the water supply exceeded the standard for Uranium. A 2009 Feasibility Study identified an alternative solution that Minatare purchase water from the city of Scottsbluff. That recommendation is currently being implemented.

Bayard

In 2009, The City of Bayard was placed under an Administrative Order from the State of Nebraska Department of Health & Human Services as the water supply exceeded the standard for nitrate concentrations. A 2009 Preliminary Engineering Report identified one alternative as construction of a water treatment plant, and currently the city of Bayard is constructing a water treatment plant for nitrate removal.

Bridgeport

In June 2005 the city received an Administrative Order for violation of the Uranium MCL. One alternative recommendation that is currently being implemented is the development of two additional wells in the northeast area of the community and the construction of an ion exchange treatment plant.

Rural Areas (McGrew and Melbeta)

Needs Input

The Platte River Basin Plan, Wyoming water Development Commission, May 2006, identified potential long term regional water supply solutions for the Wyoming area in similar scope to the PAWS area. The Initial Assessment North Platte Natural Resources District Arsenic and Uranium Study Nebraska, US C.O.E., July 2005 responding to the EPA revised standard decreasing the MCL for arsenic in drinking water. This included an area in Nebraska similar to the PAWS area. Both studies identified a long term regional system; however, did not provide a specific time or recommendation.



Existing Water Rates

The following table identifies current water rates in place within the communities.

Hartville	Charges \$26.00 per tap per month.
Guernsey	Charges \$30.00 per tap per month for the first 15,000 gallons, and \$0.50 per tap per month per thousand gallons from 15,000 gallons up to 75,000 gallons, and \$1.00 per tap per month per thousand gallons in excess of 75,000 gallons.
Fort Laramie	Charges \$33.50 per tap per month for 30,000 gallons.
Lingle	Charges \$28.00 per tap per month.
Torrington	Charges \$20.00 per tap per month for the first 8,000 gallons, and \$1.00 per tap per month per thousand gallons from 8,000 gallons to 42,000 gallons, and \$2.20 per tap per month per thousand gallons from 50,000 gallons to 100,000 gallons, and \$2.75 per tap per month per thousand gallons in excess of 100,000 gallons.
Yoder	Charges \$31.05 per tap per month for the first 7,300 gallons, and \$0.55 per tap per month per thousand gallons from 7300 gallons to 17,300 gallons, and \$1.00 per tap per month per thousand gallons from 17,300 gallons to 32,700 gallons, and \$2.00 per tap per month per thousand gallons in excess of 32,700 gallons.
Henry	Charges \$40.50 per tap per month. (Evaluating a charge of \$30.00 per tap per month and \$1.05 per month per tap per 1,000 gallons.)
Lyman	Charges \$30.00 per tap per month for the first 5,000 gallons, and \$1.50 per tap per month per thousand gallons in excess of 5,000 gallons.
Morrill	Charges \$18.00 per tap per month for the first 5,000 gallons, and \$1.50 per tap per month per thousand gallons in excess of 5,000 gallons.
Mitchell	Charges \$13.50 per tap per month for the first 3,000 gallons, and \$1.15 per tap per month per thousand gallons in excess of 3,000 gallons.



- Scottsbluff** Charges \$8.87 per tap per month for the first 10,000 gallons, and \$1.77 per tap per month per thousand gallons in excess of 10,000 gallons.
- Terrytown** Charges \$22.31 per tap per month.
- Gering** Charges \$123.75 per tap per month for the first 500 gallons, and \$1.38 per tap per month per thousand gallons in excess of 500 gallons.
- Minatare** Charges \$18.50 per tap per month.
(Evaluating \$42.50 per tap per month for the first 5,000 gallons, and \$1.50 per tap per month per thousand gallons in excess of 5,000 gallons.)
- Bayard** Charges \$12.00 per tap per month, and \$2.20 per tap per month per thousand gallons.
- Bridgeport** Charges \$33.00 per tap per month, and \$2.20 per thousand gallons.

Water Use

The following table identifies recent historic water use for the PAWS communities. Of note is the high average use in gallons per capita per day. As the cost of water treatment to comply with the Safe Water Drinking Act (SWDA) and the deteriorating water quality in the area increase, PAWS residents will be encouraged to implement water conservation measures. Initial water conservation methods are education, metering water use, and discouraging water use for irrigation and other uses that do not require potable water.

Needs additional discussion

- The area is over appropriated
- Wyoming/Nebraska water Compact
- Settlement
- Wyoming and Nebraska Irrigation Districts
- Streamflow
- Storage

Land Resources

Environmental Resources

Cultural and Historic Resources

Socio-Economic Conditions

PAWS Communities Water Usage



<u>Communities</u>	<u>Population</u>	<u>Past Max Year (Gallons)</u>	<u>Average per capita per day</u>	<u>Note</u>
Bayard, NE	1247	148,256,065 *	326	1
Bridgeport, NE	1594		0	1
Fort Laramie, WY	248		570	2
Gering, NE	7751	1,200,000,000 *	424	1
Guernsey, WY	1200		404	2
Hartville, WY	94		301	2
Hawk Springs, WY	60		400	2
Henry, NE	162	69,058,000 *	1168	1
Huntley, WY	10		400	2
Lingle, WY	510		580	2
Lyman, NE	421	76,577,000 *	498	1
Mcgreg, NE	103	11,278,500 *	300	1
Melbeta, NE	138	15,111,000 *	300	1
Minatare, NE	917	100,411,500 *	300	1
Mitchell, NE	1831	207,613,000 *	311	1
Morrill, NE	957	220,853,105 *	632	1
Scottsbluff, NE	14732	1,800,000,000 *	335	1
South Torrington, WY	650		385	2
Terrytown, NE	1485		0	1
Torrington, WY	5850		360	2
Veteran, WY	15		400	2
Yoder, WY	169		385	2
	40144			

Notes

1 Nebraska communities population from 2000 census

2 Wyoming Communities population from 2003 Platte Goshen regional Master Plan Level I Study, WWDC

* Nebraska communities maximum yearly volume within last 5 years (2005-2010)

PAWS system will be a wholesale provider of potable water to municipalities and water districts at a tap location

PAWS will encourage water metering and water conservation

PAWS is not intended for regular irrigation use

PAWS system pipe size will be for the respective county populations (Goshen, Platte, Scotts Bluff and Morrill)

however will exclude the municipal populations of Wheatland and Chugwater in Platte county

PAWS will use 155 gpcpd for future use with a 2x maximum daily use

PAWS pipeline will be sized to deliver the maximum daily use simultaneously to all entities



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Chapter 3: Problems and Opportunities

Need for Additional Supplies

Problem and Opportunity Statements

Planning Objectives, Constraints and Opportunities



Chapter 4: Alternatives

Future-Without-the-Project Condition

(NOTE: Generally within the PAWS area, current water use is approximately 250 to 300 gallons per capita per day average with a peak day use of approximately 400 to 500 gallons per capita per day. This requires significant water conservation.)

Several region wide alternatives have been identified. Those include obtaining a region wide water supply from groundwater sources, or from surface water sources. And there are many options within each alternative.

Initially, we will describe two alternatives; Alternative #1 with source water from Greyrocks Reservoir, and Alternative #2 with source water from Guernsey Reservoir. **Both alternatives have options for groundwater sources. These options haven't been adequately evaluated at this time.**

Alternatives

Numerous assumptions were included in the identification of future alternatives. Among them:

Water System

- The PAWS system will provide wholesale water to cities, towns, villages and water districts. No individual taps will be provided. A tap will be provided in the PAWS transmission pipeline generally at a pressure to fill the entities existing storage facilities.
- The 2070 population is forecasted with a 1% per year growth based on the 2010 population for the counties of Platte and Goshen in Wyoming and Scotts Bluff and Morrill counties in Nebraska; excluding the 2010 populations of Wheatland and Chugwater in Platte Counties (as these alternatives do not include providing water to these towns). Population Projections are illustrated on the following ***Population and Use Projections*** table.
- PAWS will deliver the 2070 peak day demand of 310 gallons per capita per day to the projected 2070 population. The Peak day demand is calculated two times the average day demand, of 155 gallons per capita per day. Use projections are illustrated on the following ***Population and Use Projections*** table,
- For purposes of initial concepts and cost estimates, the PAWS system will not include rehabilitation of existing distribution facilities; will not include pipeline extension to connect to existing distribution systems and will not include storage facilities for the cities, towns, villages and or water districts.



Platte Alliance Water Supply (PAWS)

Population and Use Projections

County populations for the year 2000 are provided for information only

Populations are based on the 2010 census for each county with a 1% per year growth factor

Assume the PAWS system delivers average daily flows to **users** (municipalities and/or water districts)

Peak day demands will be addressed with **user** storage facilities

Average daily demand is assumed to be 255 gallons per capita per day

	2000	2007	2010		2020	2030	2040	2050	2060	2070
Platte County	8807		8667	1.6% loss	9,574	10,575	11,682	12,904	14,254	15,745
Wheatland	3548	3393								
Chugwater	244	233								
#1			5041		5568	6151	6795	7505	8291	9558
Goshen County	12,538		13,249	5.7% gain	14,635	16,166	17,858	19,726	21,790	24,069
Scotts Bluff County	36951		36,970	.05% gain	40,838	45,110	49,830	55,043	60,802	67,163
Morrill County	5440		5042	7.3% loss	5,570	6,152	6,796	7,507	8,292	9,160
Total PAWS Population			60,302		66,611	73,579	81,279	89,781	99,175	109,950
Total AVG VOLUME (gal) #2			9,346,810		10,324,705	11,404,745	12,598,245	13,916,055	15,372,125	17,042,250
Total AVG VOLUME (ac-ft) #3			28		30	34	37	41	45	50
Total MAX VOLUME (gal) #2			18,693,620		20,649,410	22,809,490	25,196,490	27,832,110	30,744,250	34,084,500
Total MAX VOLUME (ac-ft) #3			54.21		59.88	66.15	73.07	80.71	89.16	98.85

#1 Platte County population minus the 2007 populations of the Towns of Chugwater and Wheatland

#2 Gallons/Avg day @ 155gpcpd; and gallons/Max day @ 2 times average day @310gpcpd

#3 Acre-Feet/day @ 7.8 gal/cuft and 43,560sqft/acre



- Significant additional funding opportunities are available through USDA Rural Water, Wyoming Water Development Commission, and others; to cities, villages, towns and rural water districts for distribution pipeline rehabilitation, water storage facilities, etc. Each funding agency has unique criteria to apply for and secure these funds.

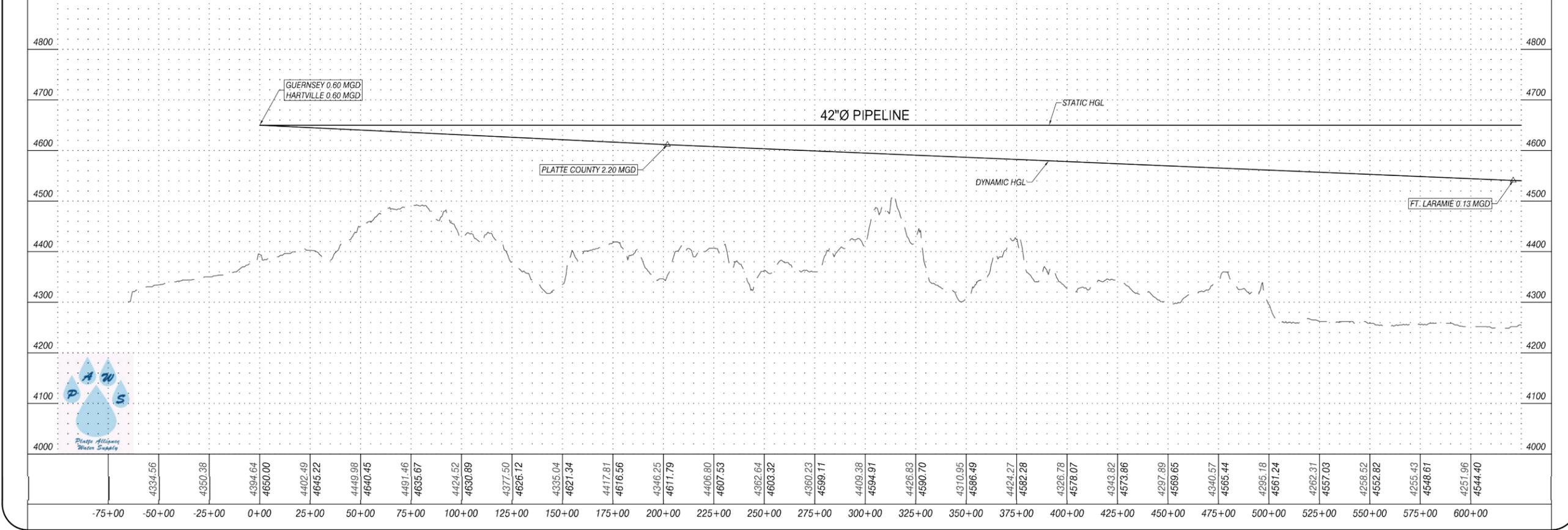
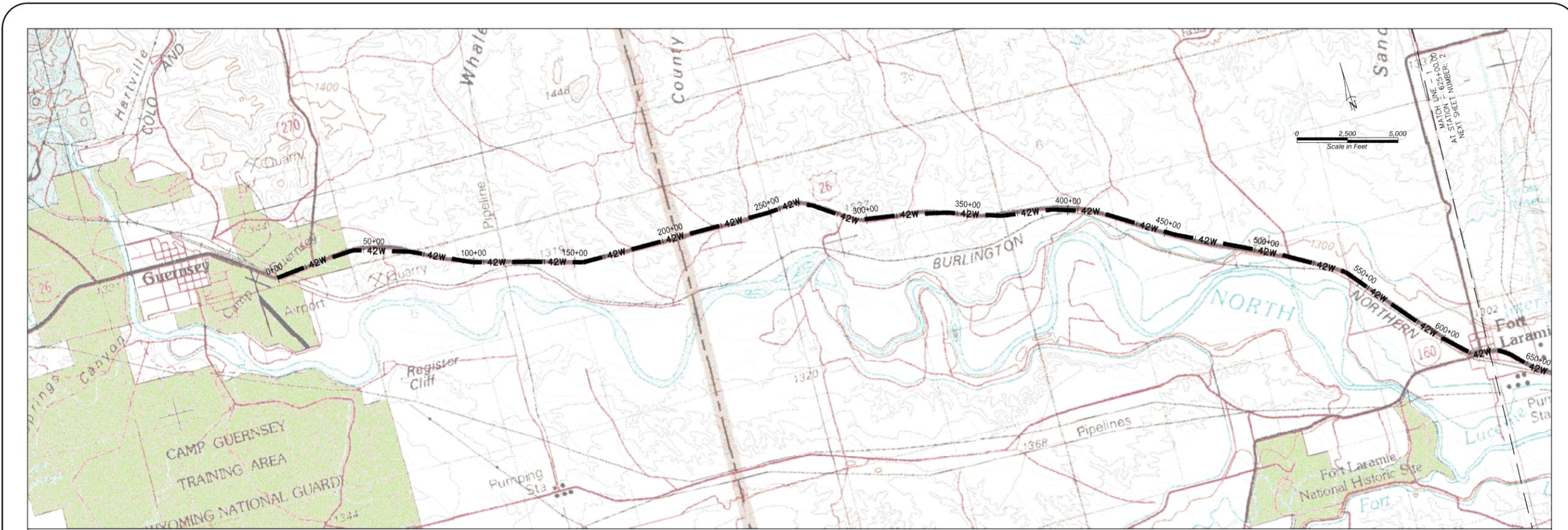
Water Treatment Plant

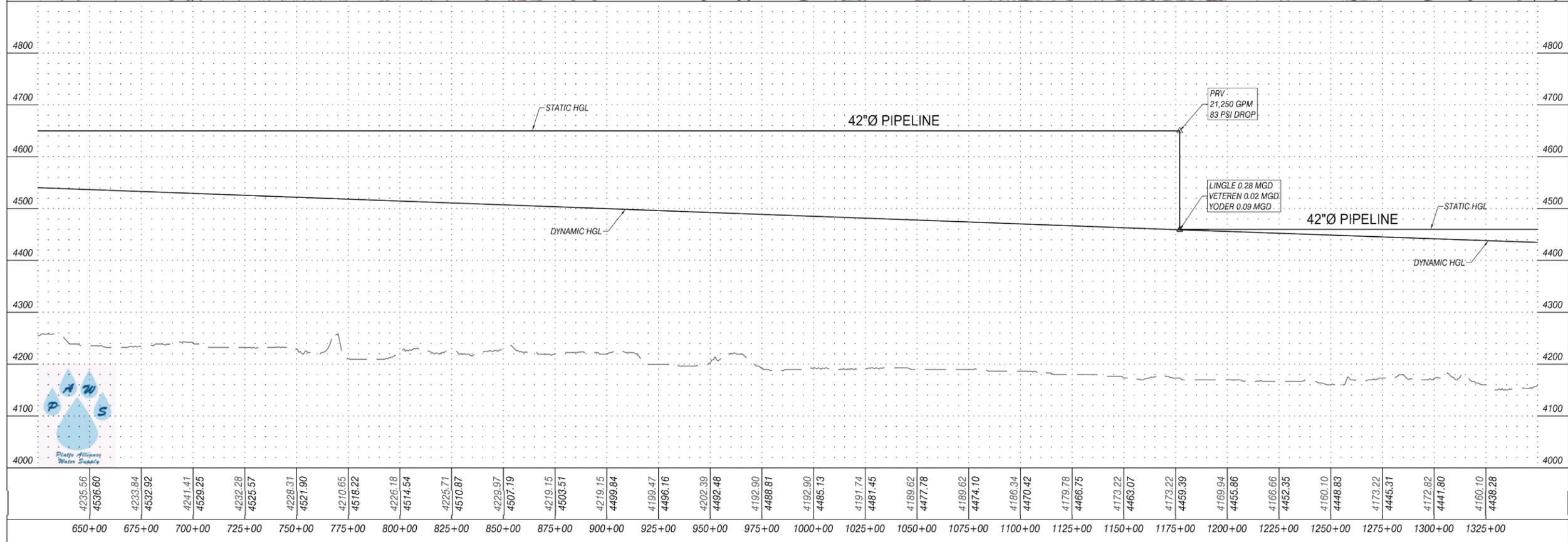
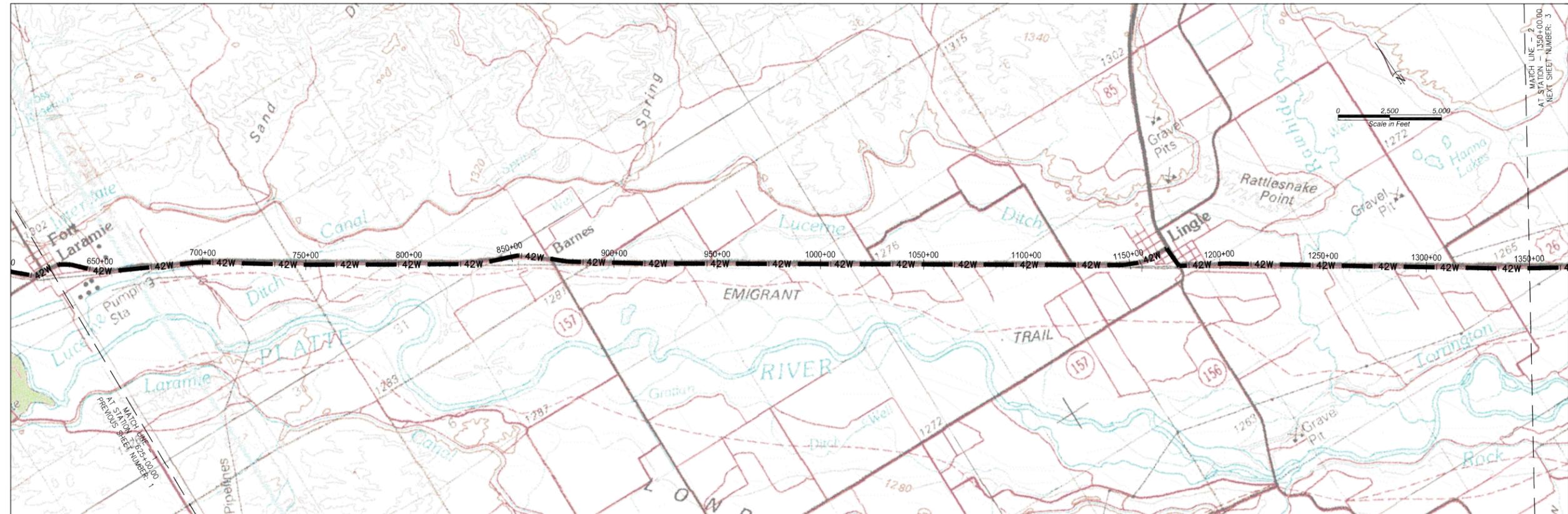
The Water Treatment Plant capacity will provide peak day demand 34 MGD (Million Gallons per Day) for the forecasted population for the year 2070. The water treatment plant will be designed for construction in two phases. The initial construction phase will provide a 17 MGD capacity and the subsequent construction phase will complete the 34 MGD capacity. It is anticipated the second construction phase would not be required until after 2030; therefore initial costs estimates for the second phase are not be included in these cost estimates.

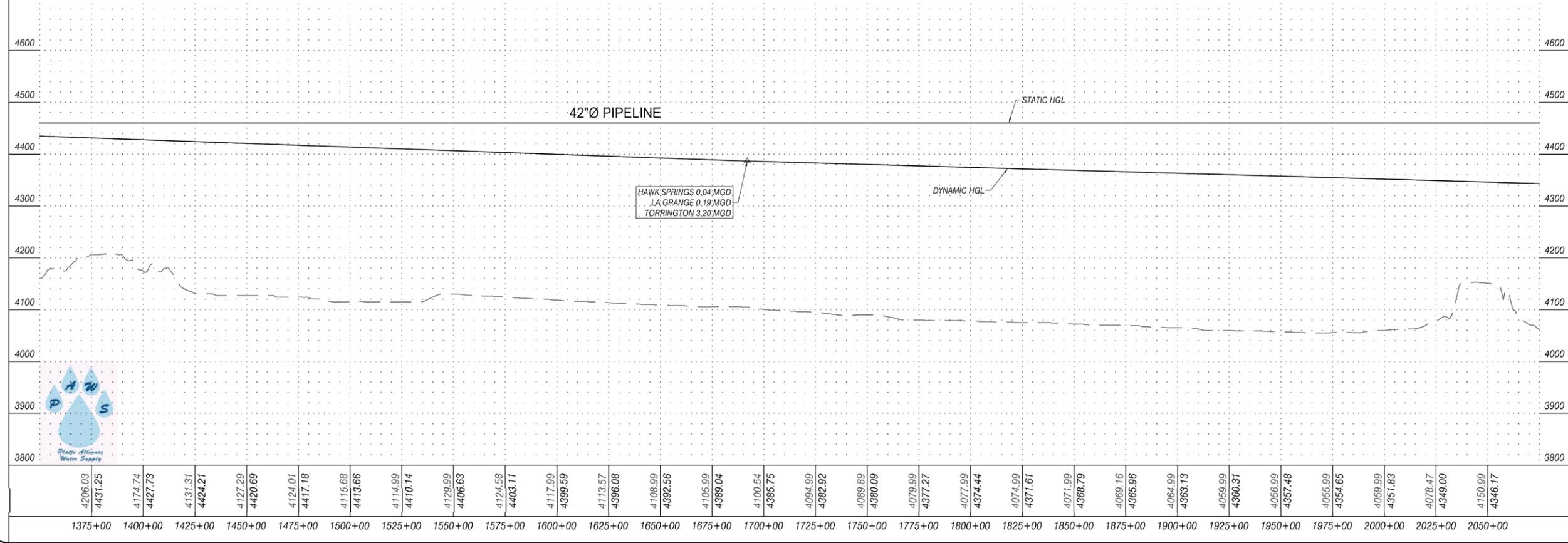
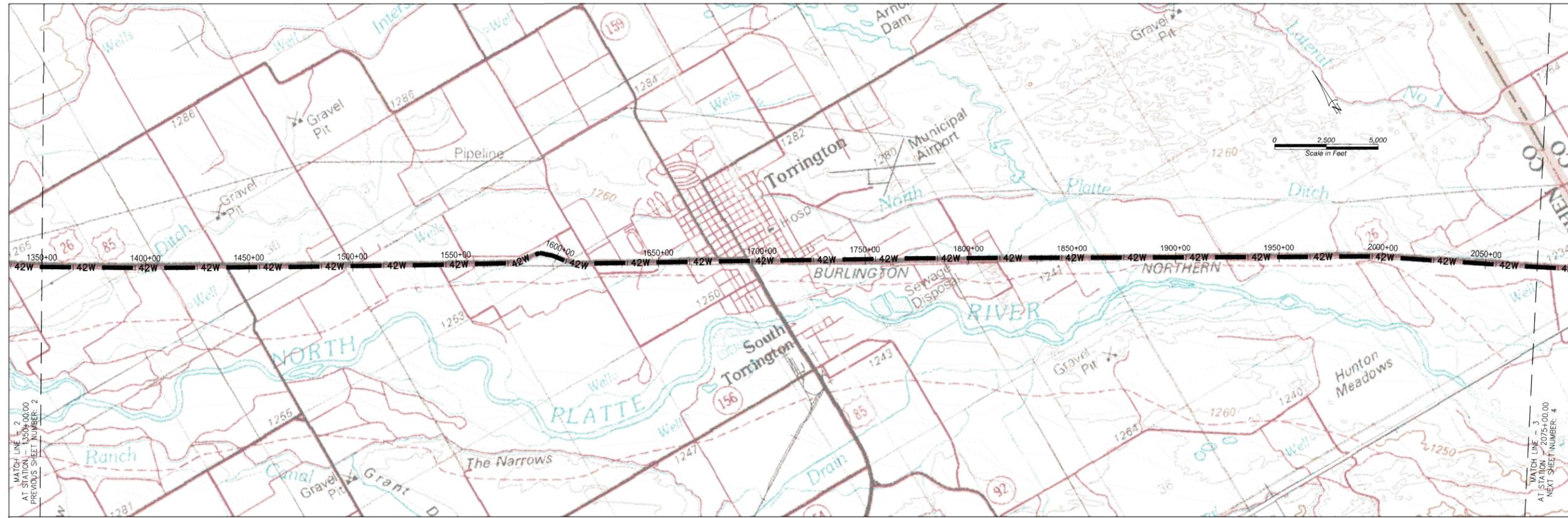
Transmission Pipeline

- The PAWS pipeline will generally have approximately a maximum 225 psi and a minimum 30 psi. Three pressure reducing stations will be provided along the alignment, generally in the vicinity of Lingle, Morrill, and Minatare. (These pressure reducing stations will also be evaluated for the viability to produce power.)
- The transmission pipeline will generally follow the US Highway 20/26 to and through Fort Laramie, Lingle, Torrington, Henry, Morrill, Mitchell, Scottsbluff, Minatare and Bayard; and at South Bayard will intersect Nebraska Highway 92 and extend to Bridgeport. The transmission pipeline is a 42" diameter pipeline extending approximately to the Wyoming/Nebraska state line, a 36" diameter pipeline extending approximately to Scottsbluff, a 24" diameter pipeline extending approximately to Bayard, and a 16" diameter pipeline extending to Bridgeport.
- Conceptually, in addition to the taps for the identified cities, towns, villages and water districts, county rural water taps are provided at the east boundary (downstream point of the pipeline) of each county.
- "Fill" Stations may be incorporated at locations convenient locations, so that rural residents without access to a public water system may access the PAWS water system. This use is encouraged. This may also function as a temporary situation, if and until a rural area desires and meets established criteria as a public system to ask for a tap into the PAWS transmission pipeline.
- Conceptual PAWS transmission pipeline plan and profile sheets are illustrated on Exhibits 4-T1 through 4-T8.

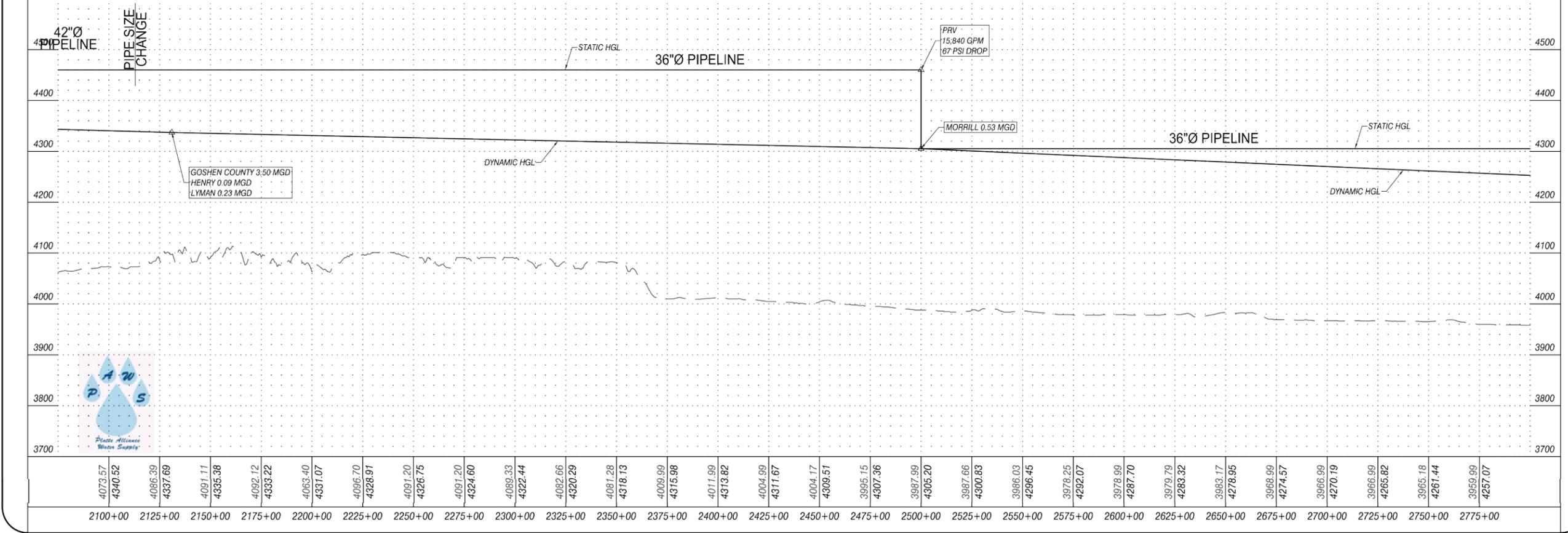
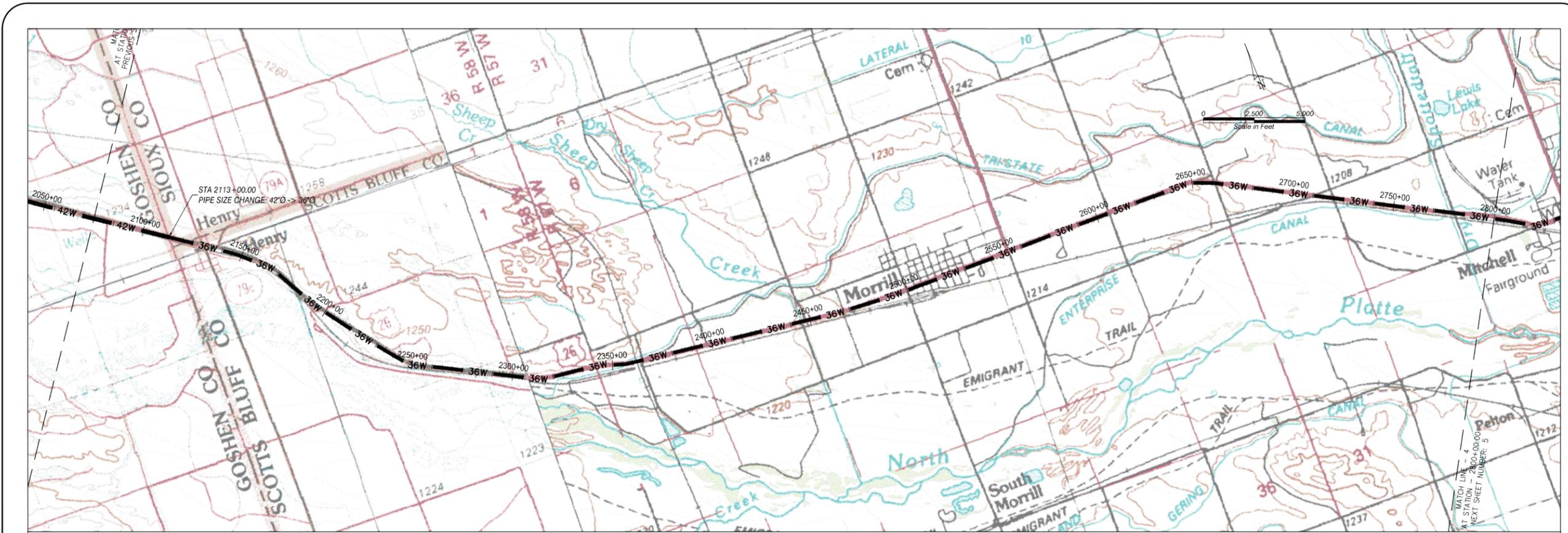
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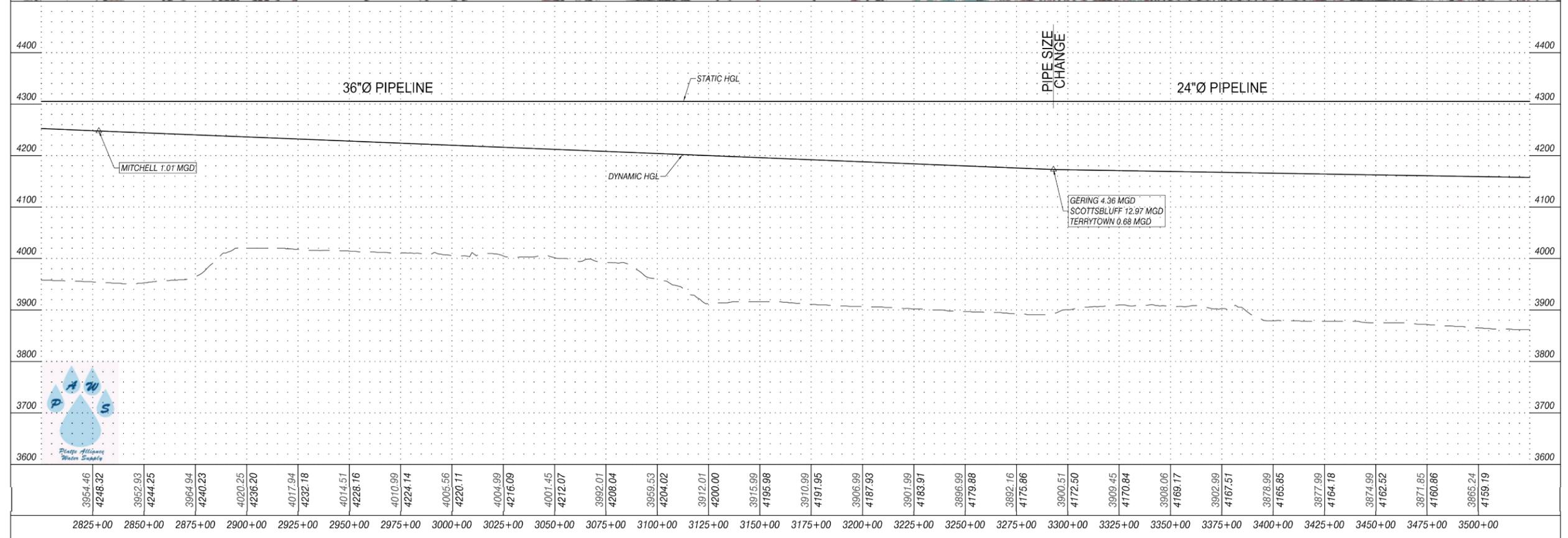
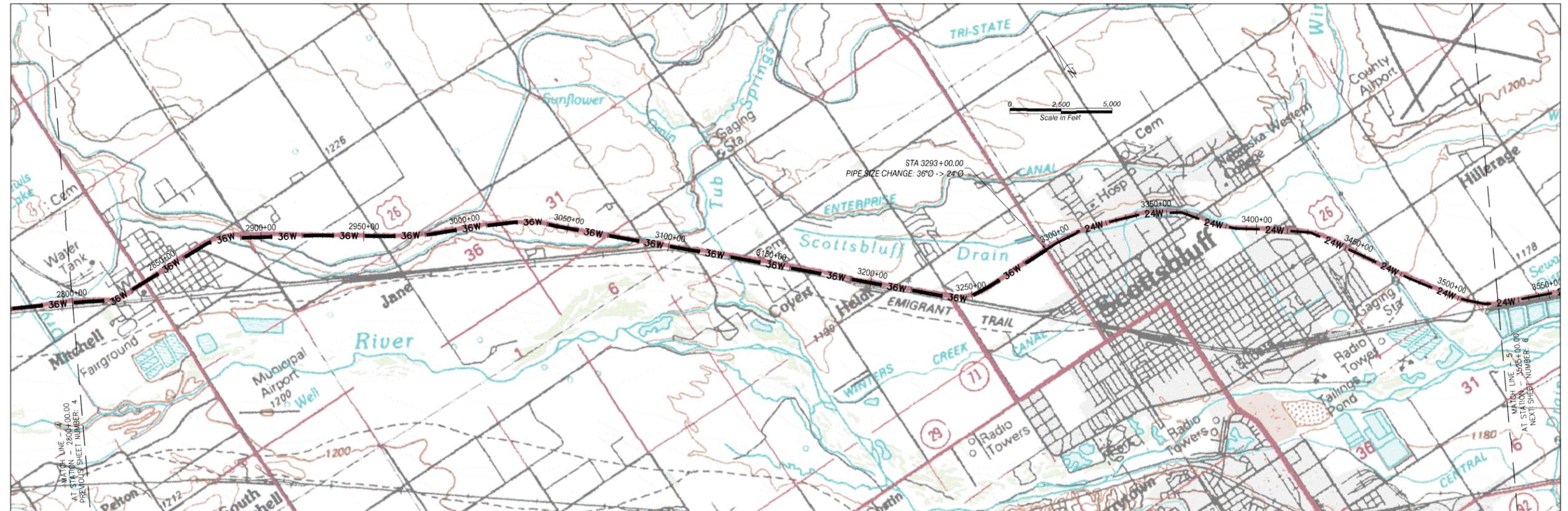


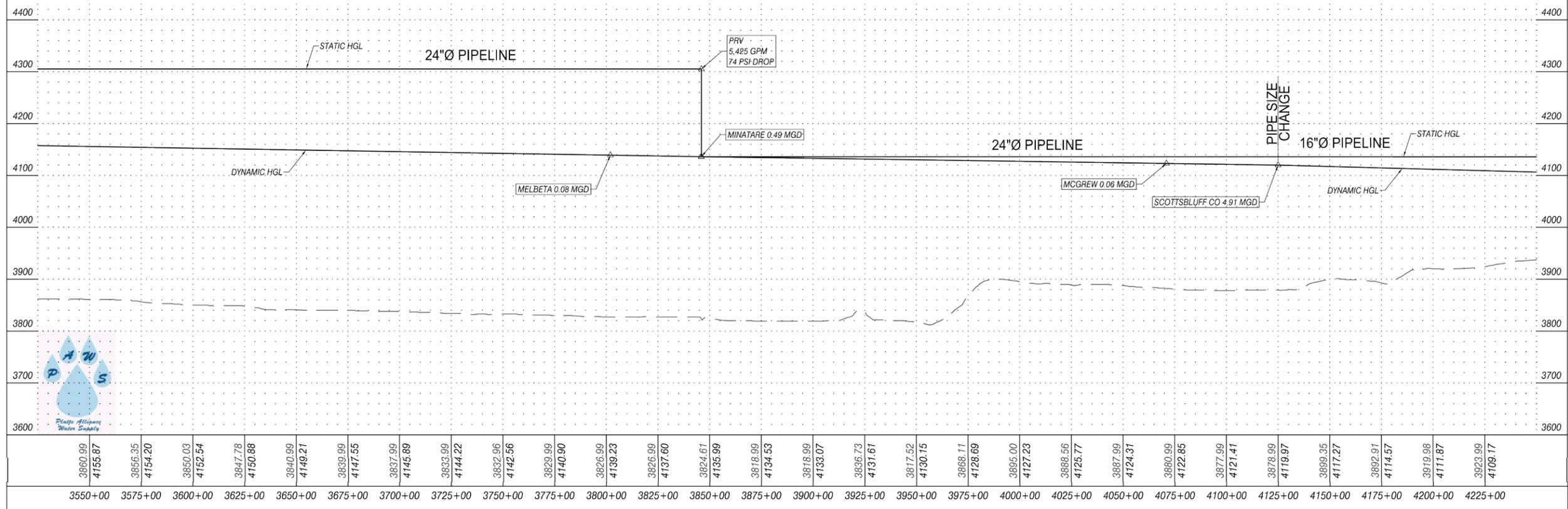
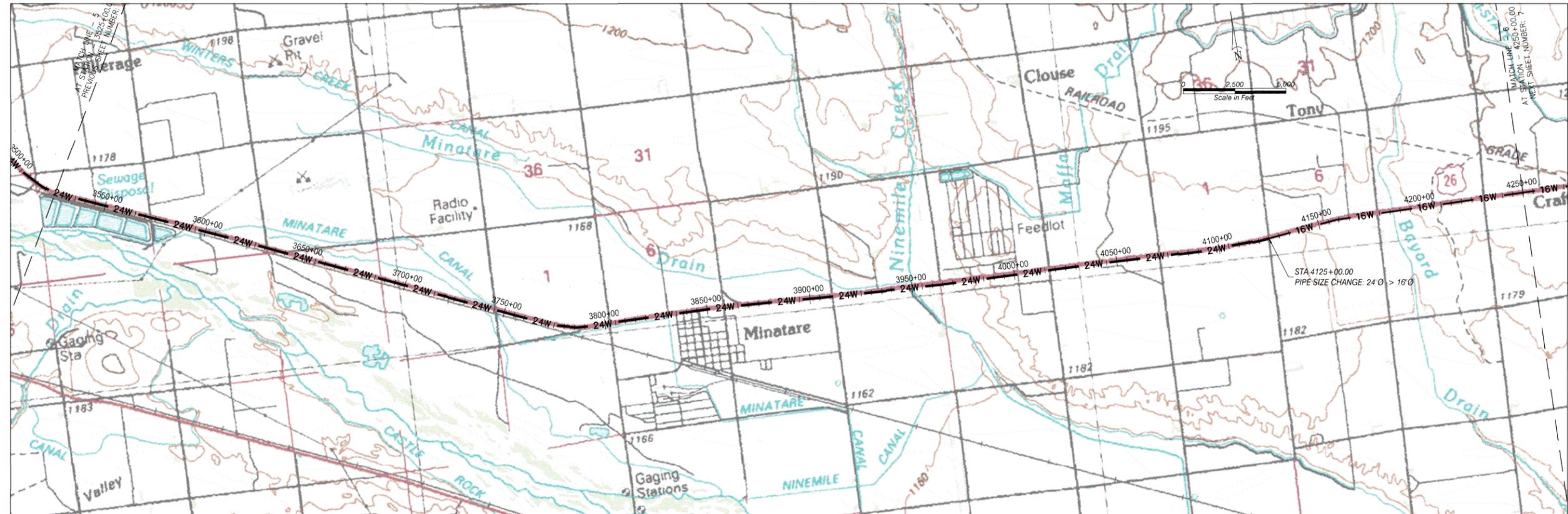


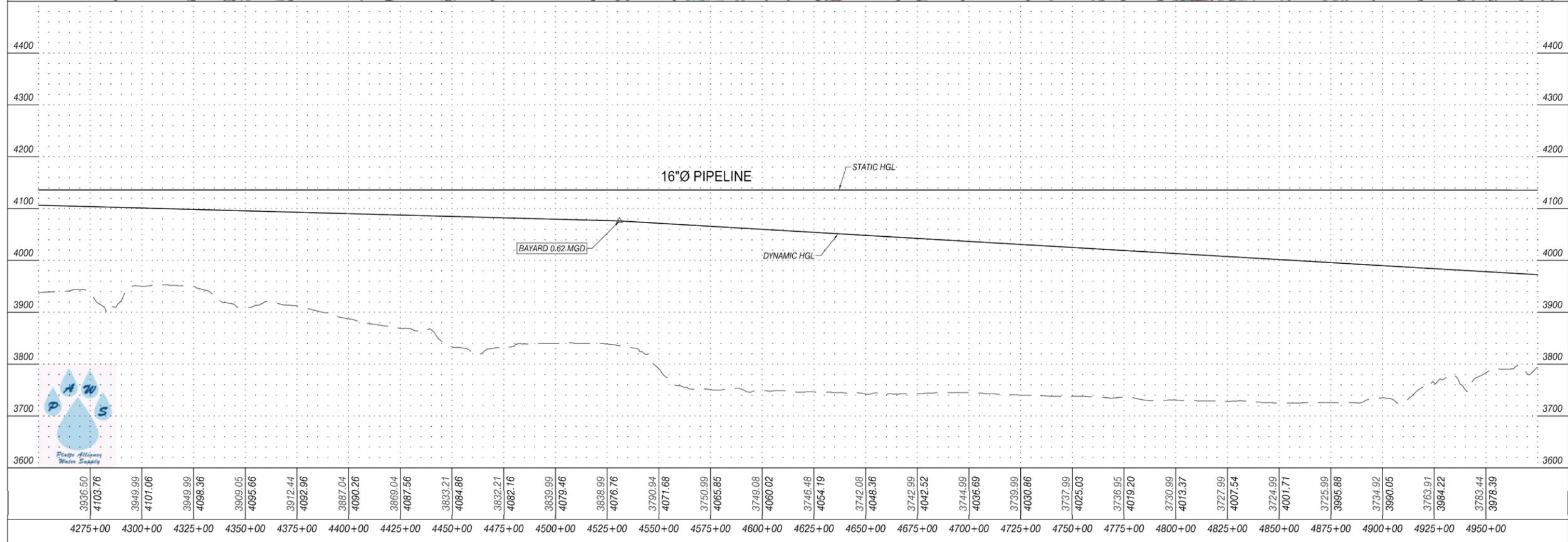
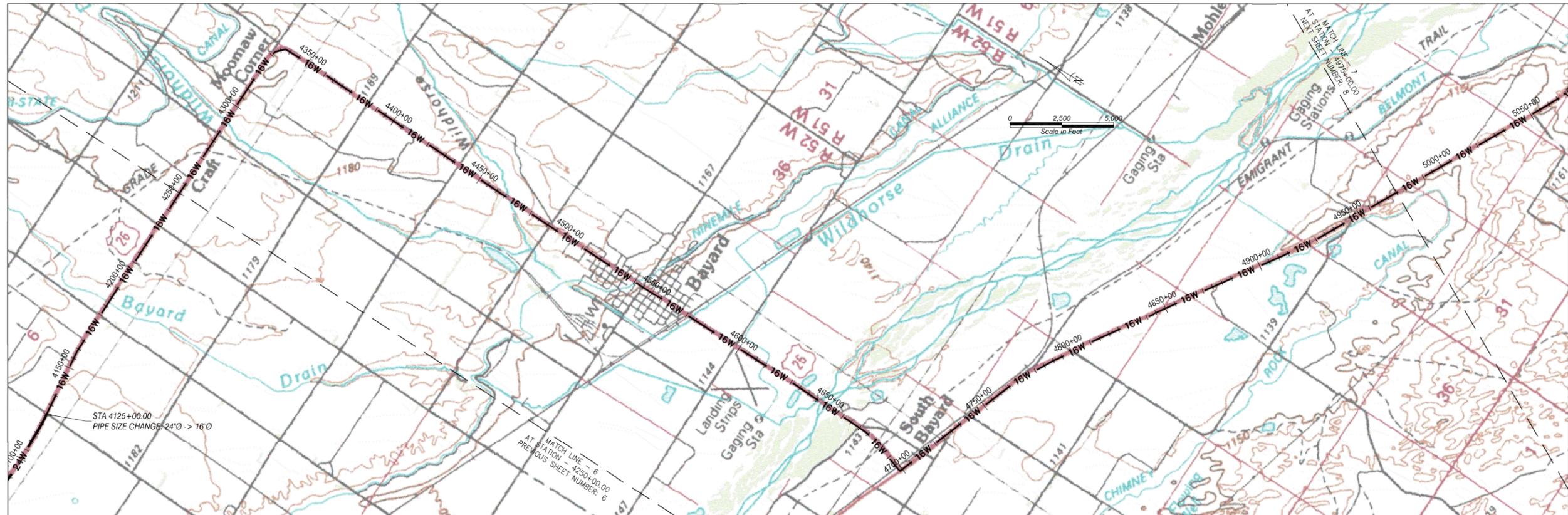


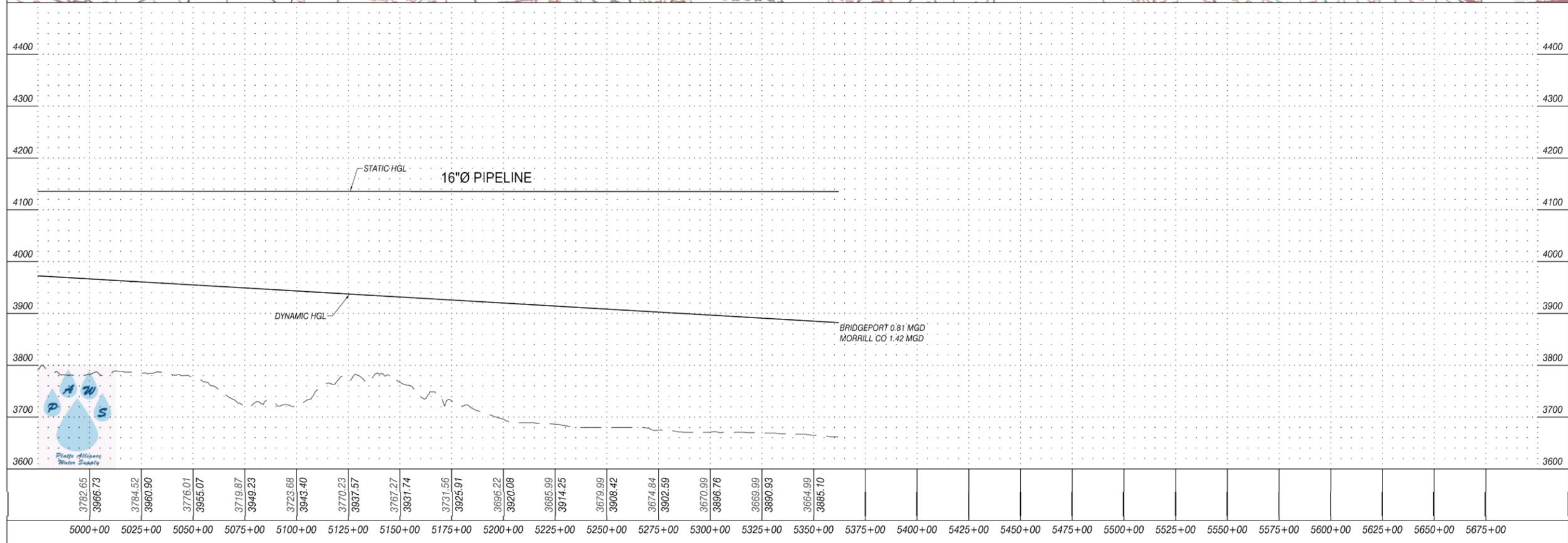
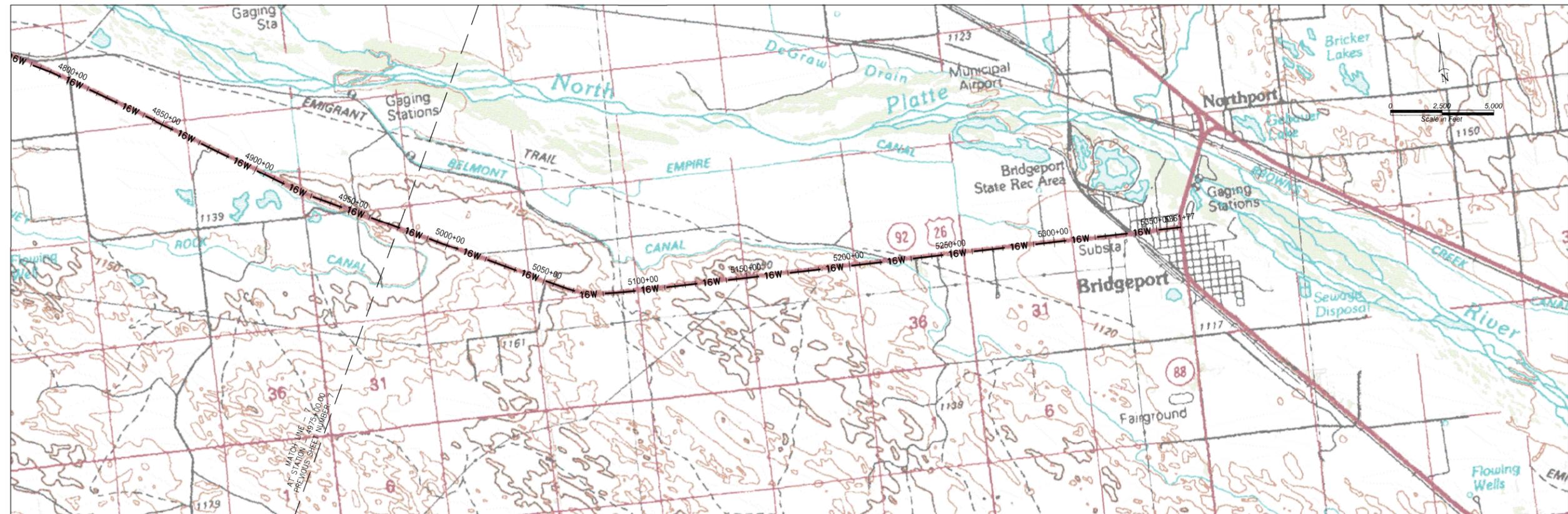
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Alternative #1 with source water from Greyrocks Reservoir:

A water treatment plant intake will be constructed from the Greyrocks Reservoir outlet works facilities, and extend to a PAWS Water Treatment Plant located downstream of Greyrocks Dam. The PAWS water treatment plant will be a 34 MGD facility (with the ability to provide the peak day delivery at the forecasted year 2070). Immediately downstream of the PAWS water treatment plant will be a connection to supply water to Guernsey. This connection will pump water to a storage reservoir located in the vicinity of the Greyrocks reservoir north abutment, and from this storage tank, the water will be delivered, by gravity to Guernsey. A Water transmission pipeline will extend from the PAWS water treatment plant along the North Laramie River to the vicinity of Fort Laramie. From this location the transmission pipeline will generally follow the US Highway 20/26 to and through Fort Laramie, Lingle, Torrington, Henry, Morrill, Mitchell, Scottsbluff, Minatare and Bayard; and at South Bayard will intersect Nebraska Highway 92 and extend to Bridgeport.

Conceptual Plan and Profile sheets for Alternative #1 are illustrated in Exhibit 4-1A and Exhibit 4-1B.

Alternative #2 with source water from Guernsey Reservoir:

Source water is from Guernsey Reservoir. A dike constructed along the southwest edge of the Reservoir, adjacent to the existing railroad bridge will impound approximately 6200 acre feet. Water will be pumped from Guernsey Reservoir into the impound area. This area allows for water supply independent of current Guernsey Reservoir operations annual “silt run”, etc.). An intake to the PAWS water treatment plant will extend from the impound area, and a transmission pipeline will extend from the PAWS water treatment plant to Guernsey.

Conceptual Plan and Profile sheets for Alternative #12 are illustrated in Exhibit 4-2A and Exhibit 4-2B.

[Closer review of topography](#)

[Discussion w.r.t. Kip’s comments on eligibility of impoundment facilities.](#)

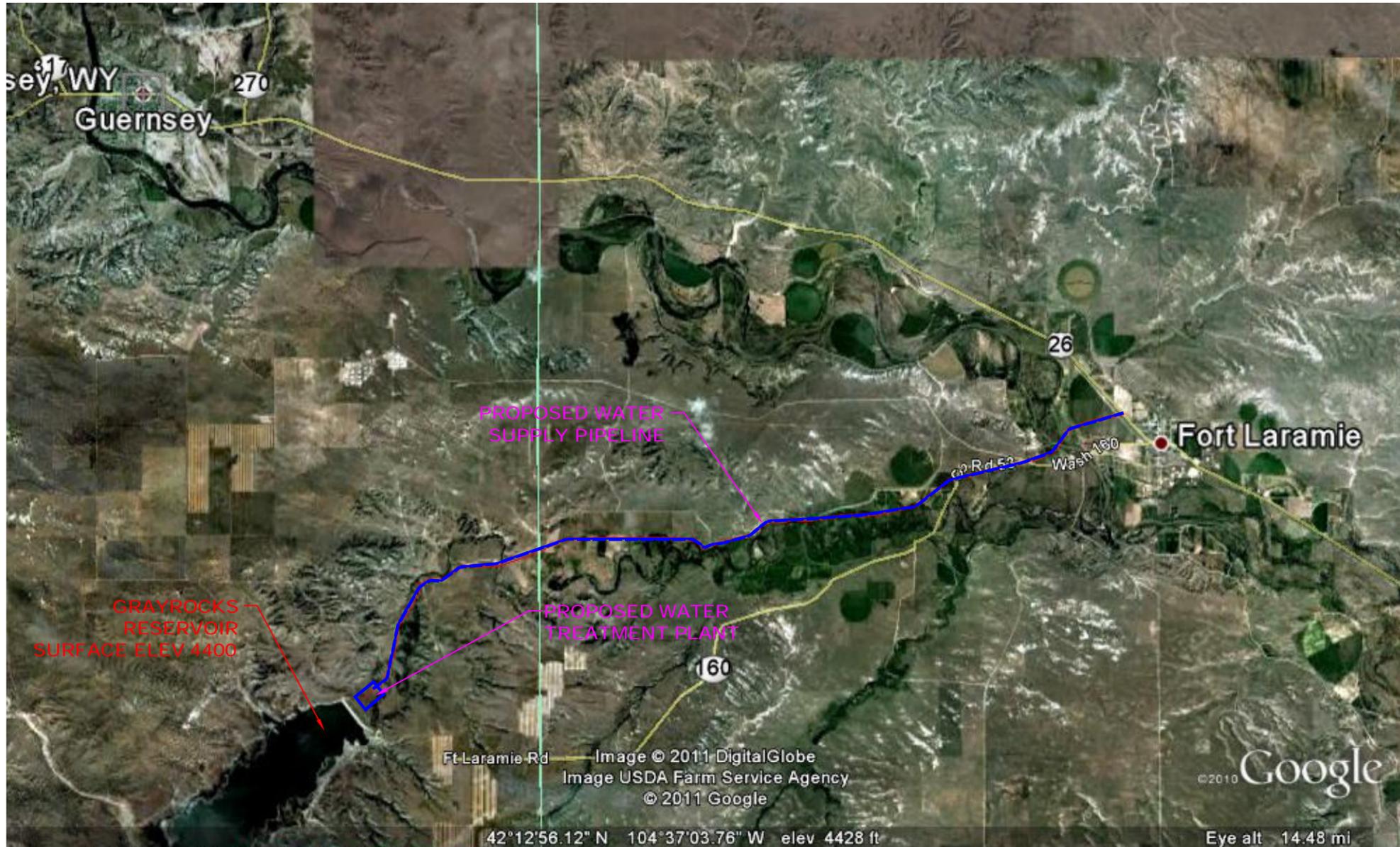
[Discussion of ground water options here](#)

Cost Estimates

Initial cost estimates for the two identified alternatives, Alternative #1 - Water Supply From Greyrocks Reservoir, and Alternative #2 – Water Supply for Dike at Guernsey Reservoir are provided on the following two pages.

In addition, a very preliminary table identifying existing rates and projected rates is included following the cost estimates. [Note there are several discrepancies with the assumptions identified in the alternative cost estimates and the projected rates table.](#)

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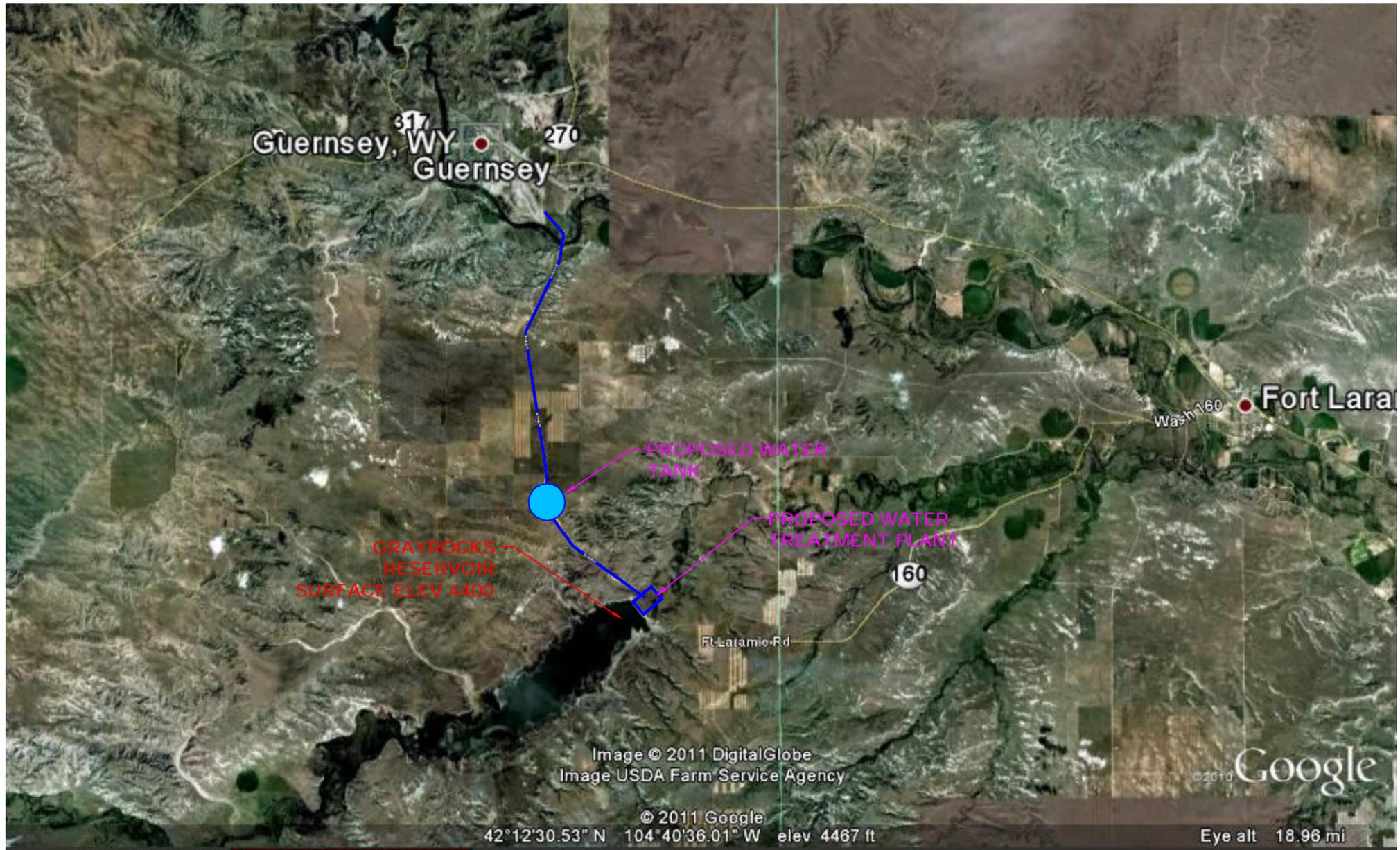


PAWS
APPRAISAL INVESTIGATION
GRAYROCKS OPTION
PLAN AND PROFILE WATER SUPPLY PIPELINE

APPRAISAL
INVESTIGATION



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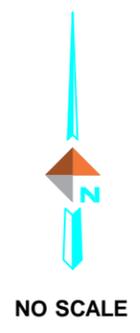
PAWS
APPRAISAL INVESTIGATION
GRAYROCKS OPTION
GUERNSEY WATER SUPPLY PIPELINE PLAN AND PROFILE

APPRAISAL
INVESTIGATION



Sheet No.
4-1B

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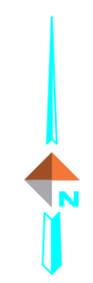
PAWS
APPRAISAL INVESTIGATION
PROPOSED DIKE OPTION
PLAN AND PROFILE

APPRAISAL
INVESTIGATION



Sheet No.
4-2A

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NO SCALE

PAWS
APPRAISAL INVESTIGATION
PROPOSED DIKE OPTION
PLAN AND PROFILE WATER SUPPLY PIPELINE

APPRAISAL
INVESTIGATION



Sheet No.
4-2B



PAWS

Platte Alliance Water Supply

Appraisal Investigation

Conceptual Cost Estimate (-30% to +50%) For Alternative #1 Water Supply from Greyrocks Reservoir

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Extension</u>
Water Treatment Plant (WTP) Intake	1	Lump Sum	\$ 1,000,000
17MGD WTP	1	Lump Sum	\$ 20,000,000
42-inch Diameter Pipeline	211,300LF	\$300/LF	\$ 63,390,000
36-inch Diameter Pipeline	118,000LF	\$240/LF	\$ 28,320,000
24-inch Pipeline Diameter	83,200	\$130/LF	\$ 10,816,000
16-inch Pipeline Diameter	3	\$80/LF	\$ 9,896,000
Dewatering	25	\$50/LF	\$ 5,000,000
Pressure Reducing Stations	3	\$250,000 Each	\$ 750,000
Taps	25	\$50,000 Each	\$ 1,250,000
	Total		\$ 140,422,000
Contingencies @ 15%			\$ 21,063,300
	Total		\$ 161,485,300
Engineering (7%Design/8% Construction)			\$ 24,222,795
	Total		\$ 185,708,095
Permitting/Land Acquisition @ 5%			\$ 9,285,405
	Total		\$ 194,993,500
Missouri Basin Agreement @ 3%			\$ 5,849,805
	Total		\$ 200,843,305
Legal @ 5%			\$ 10,042,165
	TOTAL		\$ 210,885,470
	PROJECT TOTAL		\$ 215,000,000



PAWS

Platte Alliance Water Supply

Appraisal Investigation

Conceptual Cost Estimate (-30% to +50%) For Alternative #2 Water Supply from Dike at Guernsey Reservoir

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Extension</u>
Dike (Embankment)	2,250,000	\$8/CY	\$ 18,000,000
Dike (Intake facilities)	1	Lump Sum	\$ 2,000,000
Water Treatment Plant (WTP) Intake	1	Lump Sum	\$ 1,000,000
17MGD WTP	1	Lump Sum	\$ 20,000,000
42-inch Diameter Pipeline	211,300 LF	\$300/LF	\$ 63,390,000
36-inch Diameter Pipeline	118,000 LF	\$240/LF	\$ 28,320,000
24-inch Pipeline Diameter	83,200 LF	\$130/LF	\$ 10,816,000
16-inch Pipeline Diameter	123,700 LF	\$80/LF	\$ 9,896,000
Dewatering	100,000 LF	\$50/LF	\$ 5,000,000
Pressure Reducing Stations	3	\$250,000 Each	\$ 750,000
Taps	25	\$50,000 Each	\$ 1,250,000
	Total		\$ 160,422,000
Contingencies @ 15%			\$ 24,063,300
	Total		\$ 184,485,300
Engineering (7%Design/8% Construction)			\$ 27,672,795
	Total		\$ 212,158,095
Permitting/Land Acquisition @ 5%			\$ 10,607,905
	Total		\$ 222,766,000
Legal @ 4%			\$ 8,910,640
	Total		\$ 231,676,640
	PROJECT TOTAL		\$ 235,000,000

Estimated Monthly Water Cost

34 MGD Max System, 17 MGD Average System

Total Estimated Construction = \$200,000,000.00

Annual Payment for Construction = \$7,578,523.40

Assume 25% grant, 4% loan for 40 years

Construction Cost per Thousand Gallons = \$1.22

O & M per Thousand Gallons/ Cost to Treat = \$0.50



Towns	Average Water Use (gallons per month)	Existing Rates	Construction Cost	O & M	Projected Average Monthly Water Cost
Hartville	12,000	\$26.05	\$14.66	\$6.00	\$46.71
Gurnsey	12,000	\$30.00	\$14.66	\$6.00	\$50.66
Ft. Laramie	12,000	\$33.25	\$14.66	\$6.00	\$53.91
Lingle	12,000	\$28.00	\$14.66	\$6.00	\$48.66
Torrington	12,000	\$26.64	\$14.66	\$6.00	\$47.30
South Torrington	12,000		\$14.66	\$6.00	\$20.66
Yoder	12,000	\$33.64	\$14.66	\$6.00	\$54.30
La Grange	12,000	\$12.00	\$14.66	\$6.00	\$32.66
Henry*	12,000	\$42.60	\$14.66	\$6.00	\$63.26
Lyman	12,000	\$38.75	\$14.66	\$6.00	\$59.41
Morrill	12,000	\$28.50	\$14.66	\$6.00	\$49.16
Mitchell	12,000	\$23.85	\$14.66	\$6.00	\$44.51
Scottsbluff	12,000	\$12.41	\$14.66	\$6.00	\$33.07
Terrytown	12,000	\$22.31	\$14.66	\$6.00	\$42.97
Gering	12,000	\$19.96	\$14.66	\$6.00	\$40.62
Minatare*	12,000	\$53.00	\$14.66	\$6.00	\$73.66
Bayard	12,000	\$24.00	\$14.66	\$6.00	\$44.66
Bridgeport	12,000	\$59.40	\$14.66	\$6.00	\$80.06

*Based of estimated water rates resulting from current water meter projects.



Areas of Controversy and Unresolved Issues

Alternative #1 Water Supply from Greyrocks Reservoir

- Greyrocks Reservoir is owned and operated by the Missouri Basin Power Cooperative and operates to provide water to the cooling towers at the power plant located upstream of Greyrocks Reservoir. Preliminary initial discussions have identified the potential to Missouri Basin Power Cooperative staff. At this time, no commitments, nor general statements of support, or not, of the proposal have been provided.

Alternative #2 Water Supply from dike at Guernsey Reservoir

- The potential impoundment area needs further evaluation for its potential and capacity.
- At this time, the railroad has not been contacted.

Groundwater options

- It has been noted the Town of Wheatland's water supply is from a well field located in an area known as Wheatland flats. These wells have been providing sufficient quantity and quality of water to the Town of Wheatland. During the recent drought, no signs of lowering of the water table were observed. This area has been placed as a control area by the Wyoming State Engineer's office; identifying areas where additional well permits are not allowed.
- Additionally, the prospect of a well field near the confluence of the North Laramie River and the North Platte River has been identified. This potential required further evaluation.

Wheatland Irrigation District

- The Wheatland Irrigation District has several facilities (Wheatland Reservoir #1, Wheatland Reservoir #2 and Wheatland Reservoir #3) with potential to provide water supply to the PAWS system. As of this time, there have been no discussions with Wheatland Irrigation staff regarding these potentials.

Risk and Uncertainty

Alternatives Considered But Dropped



Chapter 5: Affected Environment

EQ Resources

EQ Attributes

Ecological

Basin/Watershed Area

Geomorphology

Hydrology

Water Quality

Sedimentation

Habitats

Biota

Land Management

Recreational Activities

Cultural

Cultural and Historic

Indian Trust Assets

Aesthetic

Other Resources

Urban and Community

Minority or Low-Income Populations (Environmental Justice)



20110603 **DRAFT**

Life, Health and Safety Factors

Displacement

Long-term Productivity

Energy Requirements and Energy Conservation



20110603 **DRAFT**

Chapter 6: Consultation and Coordination

Public Involvement

Cooperation with Other Agencies

Partnership Opportunities



20110603 **DRAFT**

Chapter 7: Conclusions and Recommendations



20110603 **DRAFT**

Appendix A

Proposal -

- ✓ **Study Scope of Work**
- ✓ **Study Cost and Schedule**

AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT made and entered into this 29th day of DECEMBER, 2010 by and between Goshen County, Wyoming, hereinafter referred to as "COUNTY", and DOWL HKM, hereinafter referred to as "CONSULTANT", collectively referred to as the Parties, regarding the Appraisal Investigation for the **PLATTE ALLIANCE WATER SUPPLY (PAWS) PROJECT**.

W I T N E S S E T H:

That for and in consideration of the mutual covenants and agreements hereinafter contained, the Parties hereto mutually agree as follows:

ARTICLE 1. SERVICES BY THE CONSULTANT -- The CONSULTANT agrees to perform all services hereunder, using professional skill and judgment ordinarily exercised under similar conditions by design professionals practicing in the same or similar locale under the same or similar circumstances. It agrees to keep the COUNTY thoroughly informed of its progress through periodic reports, and to maintain accurate records relating to its services in connection with this project.

The CONSULTANT agrees to provide, directly and by association with such other consultants or contractors as it may deem necessary to further the interest of the COUNTY, the following basic services:

See Attachment A (Basic Services) and Attachment A1 (Bureau Agreement).

The CONSULTANT agrees that association with other consultants and/or contractors shall be at all times subject to the specific approval of the COUNTY.

ARTICLE 2. ADDITIONAL OR SPECIAL SERVICES -- The following additional or special services, which are outside the scope of basic services as above described, shall be performed by the CONSULTANT upon written authorization from the COUNTY and shall be paid for as hereinafter provided:

See Attachment B (Additional Services).

ARTICLE 3. RESPONSIBILITIES OF THE COUNTY

3.1 The COUNTY shall provide and make available to the CONSULTANT, for its use, all maps, property descriptions, surveys, previous reports, historical data and other information within its knowledge and possession relative to the services to be furnished hereunder, and shall provide full programming requirements. Data and materials so furnished to the CONSULTANT shall remain the property of the COUNTY and shall be returned upon completion of its services.

3.2 The COUNTY's designated representative shall be the Torrington City Engineer who shall be fully acquainted with the project and who shall have authority to render decisions relative to the CONSULTANT's services as necessary for the orderly progress of the work. The representative shall be responsible for receiving and processing all information in behalf of the COUNTY.

3.3 The COUNTY shall establish and maintain procedures for receiving, reviewing, recording and acting on all information, documentation, payments and acceptances of work and services relative to this project in an expeditious and proper manner.

3.4 The COUNTY shall provide, and make provisions for the CONSULTANT to enter upon, public properties as required for the CONSULTANT to perform its services hereunder.

ARTICLE 4. TIME OF PERFORMANCE -- The services to be provided under this Agreement shall, unless otherwise provided, be commenced upon execution of this Agreement and upon receipt by the COUNTY of the certificate of insurance required in Article 7 herein and be performed in general accordance with the following schedule:

See Attachment C (Completion & Remuneration Schedule for Services).

ARTICLE 5. REMUNERATION FOR SERVICES -- The COUNTY agrees to compensate the CONSULTANT in accordance with the following schedule, and the terms and conditions of this Agreement:

5.1 For Basic Services as described in Article 1, remuneration shall be made on the following basis:

The COUNTY shall pay the CONSULTANT not to exceed \$180,000.00 in accordance

with Attachment C (Completion & Remuneration Schedule for Services) which, unless otherwise agreed by the parties, shall constitute full and complete compensation for the services hereunder. Payment shall be made directly to the CONSULTANT. The CONSULTANT shall maintain hourly records of time worked by its personnel to support any audits the COUNTY may require.

5.2 For Additional or Special Services as described in Article 2, remuneration shall be based on the rates shown on Attachment B, plus travel and outside expenses and not to exceed a total fee of \$1,000.00 without specific written authorization by the COUNTY.

5.3 Unless otherwise provided herein, all payments for Basic, Additional or Special Services shall be made monthly based upon services performed as substantiated by man-hour and expense summaries and shall be due and payable at the CONSULTANT's office at the address hereinafter designated upon presentation by the CONSULTANT of request for payment in accordance with this Agreement and upon approval of same by the COUNTY's designated representative.

Payment for Basic Services shall be made as follows:

- A. The cost of the work completed shall be paid to the CONSULTANT each month following receipt and approval by the COUNTY of a billing by the CONSULTANT indicating that the work has been completed for up to ninety percent (90%) of the total not to exceed amount.
- B. The remaining ten percent (10%) of the total not to exceed amount shall be withheld and paid upon completion of the work and approval by the COUNTY of written notification from the CONSULTANT stating that the project has been completed.

Payment for Additional Services shall be made as follows:

One hundred percent (100%) of the cost of the work completed shall be paid to the CONSULTANT following receipt and approval by the COUNTY of a billing by the CONSULTANT stating that the work has been completed.

Payments approved and not made within sixty (60) days of the billing date shall bear interest at the rate of 0.5% per month which is an annual interest rate of 6%. CONSULTANT may cease performance of remaining work at any time if payments become more than ninety (90) days delinquent.

5.4 No deductions shall be made, nor any amounts retained from the CONSULTANT's compensation on account of delays so long as such delay is not in any way the fault of the CONSULTANT.

5.5 The final payment shall be made upon acceptance of the final project and receipt of the final request for payment. The acceptance of final payment by the CONSULTANT shall constitute a waiver of all claims by CONSULTANT, except those made in writing and identified by CONSULTANT as unsettled at the time of the final billing.

ARTICLE 6. PERSONNEL -- All of the services required hereunder shall be performed by the CONSULTANT or under its supervision, and all personnel engaged in the work shall be fully qualified and shall be authorized, licensed or permitted under state law to perform such services, if state law requires such authorization, license or permit. Work or services covered by this Agreement shall not be subcontracted at the discretion of the CONSULTANT without the prior written approval of the COUNTY. Personnel originally agreed to by the COUNTY shall not be replaced as part of the project team without the prior written approval of the COUNTY. CONSULTANT is an independent contractor and not an employee of the COUNTY, and agrees to abide by all laws including, but not limited to, those pertaining to employment and payments for employee wages, taxes and withholding incident thereto.

ARTICLE 7. RESPONSIBILITIES, DUTIES AND OTHER SERVICES -- The CONSULTANT shall act on the following in a manner necessary to assure satisfactory completion of the project.

7.1 The CONSULTANT shall be responsible and responsive to the COUNTY in COUNTY's requests and requirements related to services within the scope of this Agreement.

7.2 The CONSULTANT shall select and analyze all data in a systematic, professional and meaningful manner so as to contribute directly in meeting the objectives of the project, and shall present this information clearly and concisely, in a professional and workmanlike manner.

7.3 Neither the CONSULTANT nor the CONSULTANT's personnel will give out any news releases or conduct media interviews concerning the work performed under this Agreement without prior approval of the COUNTY.

7.4 The COUNTY does not waive its sovereign immunity by entering into this Agreement, and the COUNTY specifically retains all immunity and all defenses available to it as sovereigns pursuant to W. S. §1-39-104(1) and all other state laws. The CONSULTANT shall indemnify and hold harmless the COUNTY and its officers, employees, agents, boards, commissions and appointees against and from any and all liability, loss, damage, claims, demands, costs and expenses of whatsoever nature, including court costs and reasonable counsel fees, growing out of property damage to, personal injury to or death of any persons or entities whomsoever, or loss or destruction of or damage to property whatsoever, to the extent caused during performance or as a result of professional services under this Agreement, by the negligence, knowingly wrongful acts, error or omissions of the CONSULTANT, its agents, affiliates and/or employees.

7.5 The CONSULTANT shall purchase and maintain insurance to protect itself from claims under workers' compensation acts; claims for damages because of bodily injury, including personal injury, sickness or disease, or death of any of its employees or of any person other than its employees; and from claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom; and from claims for damages or injuries because of professional errors or omissions of the CONSULTANT, its agents or employees.

ARTICLE 8. DELAYS -- If the CONSULTANT is delayed at any time in the progress of work by any wrongful act or neglect of the COUNTY or its agents, employees or contractors, or by duly authorized changes in the work, or by labor disputes, unavoidable material delivery delays, fire, unavoidable casualties, or by any causes beyond the CONSULTANT's control, the time schedule may be extended for a reasonable length of time, and the remuneration schedule may be subject to renegotiation only for increased expenses due to escalation of prices of materials, extended services, relocation or other expenses incidental to such delays. Any such

extension of the time schedule or renegotiation of remuneration schedule shall be agreed to in writing by both parties and shall be incorporated in written amendment to this Agreement.

ARTICLE 9. OWNERSHIP OF DOCUMENTS -- All drawings, specifications, reports, records, data, notes, models and other work product or products given to, or assembled or developed by, the CONSULTANT in connection with this project are instruments of service for this entire project only and shall remain the intellectual property of the COUNTY whether the project is completed or not. The CONSULTANT shall furnish two (2) originals or reproducible copies of such work product to the COUNTY, in addition to two (2) electronic media copy of drawings (AutoCAD R2004) and specifications (Microsoft Word or compatible, EXCEL or compatible), and in addition to one electronic media copy of the work product in .PDF format for copy center reproduction, in accordance with the services required hereunder. The CONSULTANT may make and retain copies for information and reference for its files. The COUNTY reserves the right to the reuse of any of the work product of the CONSULTANT on any same, similar, different or separate project without the written permission of the CONSULTANT. The COUNTY and its agents shall indemnify and hold harmless the CONSULTANT against all losses, damages and costs incurred by the COUNTY out of any use or reuse of the documents, by the COUNTY or its agents, on any different or separate project, when such use or reuse is not specifically authorized in writing by the CONSULTANT.

ARTICLE 10. TERMINATION -- If through any cause either party shall fail to fulfill in a timely and proper manner its obligations under this Agreement, or if either party shall violate any of the covenants, agreements or stipulations of this Agreement, the other party shall thereupon have the right to terminate this Agreement if such default or violation is not corrected within fifteen (15) days after submitting written notice to the other party. Documents, data, studies, surveys, drawings, maps, models, photographs, films, duplicating plates and reports and any and all other work prepared, begun or completed by the CONSULTANT under this Agreement shall then immediately be turned over to the COUNTY. In the event of such termination, the CONSULTANT shall be entitled to receive just and equitable compensation, not to exceed the agreed amount for services provided before termination, for any satisfactory work completed on such documents and other materials prior to receipt of Notice of Termination

including reimbursable expenses then incurred less any damages sustained by the COUNTY incident to CONSULTANT's breach.

10.1 Inasmuch as the remuneration scheduled hereunder is based upon a fixed fee for a definitely ascertainable sum, the portion of such sum payable in the occurrence of termination shall be proportionate to the percentage of services completed by the CONSULTANT.

10.2 If termination is not due in any way to the fault of the CONSULTANT, the CONSULTANT shall, in addition to remuneration for services performed hereunder prior to such termination, and reimbursable expenses, be entitled to an additional amount computed as five percent of the total remuneration then due, for scheduling and assignment, readjustments and related costs incurred due to termination.

10.3 Notwithstanding the above, the CONSULTANT shall not be relieved of liability to the COUNTY for damages sustained by the COUNTY by virtue of any breach of the Agreement by the CONSULTANT, and the COUNTY may withhold any payments to the CONSULTANT for the purpose of setoff until such time as the exact amount of damages due the COUNTY from the CONSULTANT is determined.

10.4 The COUNTY by written notice to the CONSULTANT may terminate this Agreement in whole or in part for the convenience or necessity of the COUNTY. If this Agreement is to be terminated under this paragraph, the CONSULTANT shall be compensated on an equitable basis in the following manner: The CONSULTANT will be paid an amount which bears the same ratio to the total compensation as the services actually performed bear to the total services of the CONSULTANT covered by this Agreement. In addition to this payment, the CONSULTANT shall be reimbursed for actual out-of-pocket expenses not otherwise reimbursed under this Agreement as have been incurred by him to the date of termination. No allowance shall be made for anticipated profit or overhead on services not performed.

10.5 Upon receipt by the CONSULTANT of written Notice of Termination from COUNTY, the CONSULTANT and all subcontractors shall immediately cease all efforts under this Agreement.

ARTICLE 11. CHANGES -- The COUNTY or the CONSULTANT may from time to time request changes in the scope of the services to be performed hereunder. Such changes,

including any increase or decrease in the amount of the CONSULTANT's compensation, which are mutually agreed upon by both Parties, shall be incorporated in written amendment to this Agreement.

ARTICLE 12. CAPTIONS OR HEADNOTES -- The captions or headnotes on articles or sections of this Agreement are intended for convenience and reference purposes only and in no way define, limit or describe the scope of intent thereof, or of this Agreement, nor in any way affect this Agreement.

ARTICLE 13. CIVIL RIGHTS ACT -- The CONSULTANT shall comply with the Civil Rights Act of 1964 and any amendments thereto. The CONSULTANT agrees and assures that no person in the United States shall on the grounds of sex, race, religion, age, national origin, or disability be excluded from participating in, be denied benefits of, or otherwise be subject to discrimination in connection with this Agreement.

ARTICLE 14. COPYRIGHT -- No reports, maps or other documents produced in whole or in part under this Agreement shall be subject of an application for copyright by or on behalf of the CONSULTANT.

ARTICLE 15. GOVERNING LAW -- This Agreement and the interpretation thereof shall be governed by the laws of the State of Wyoming.

ARTICLE 16. SUCCESSORS AND ASSIGNS -- The COUNTY and the CONSULTANT each binds itself and its partners, successors, executors, administrators and assigns to the other party of this Agreement and to the partners, successors, executors, administrators and assigns of such other party with respect to all covenants of this Agreement. Neither party shall assign or transfer its interest in this Agreement without the written consent of the other.

ARTICLE 17. EXTENT OF AGREEMENT -- This Agreement represents the entire and integrated agreement between the Parties and supersedes all prior negotiations and representations. Nothing herein shall be deemed to give anyone not a party to this Agreement

any right of action against a party which does not otherwise exist without regard to this Agreement.

ARTICLE 18. NOTICES -- All notices and instructions given by either party to the other shall be in writing, and shall be deemed to be properly served if delivered to the address of record shown below, or if deposited in the United States Mail properly stamped with the required postage and addressed to such party at the address shown below, sent by certified mail. The date of service of a notice sent by mail shall be deemed to be the day following the date on which said notice is so deposited. Either party hereto shall have the right to change its address by giving the other party written notice thereof.

ARTICLE 19. ACCURACY OF SERVICES AND LIMITATION OF LIABILITY -- The CONSULTANT shall use reasonable professional skill and judgment in connection with service hereunder. If, as a result of the authorized use of documents or advice erroneously furnished by the CONSULTANT, an error or omission is discovered, the CONSULTANT shall be responsible for correction of any work which must be removed or altered to meet the project requirements, and/or payment of any damages which are the result of such error or omission. The CONSULTANT may be given a reasonable opportunity to make remedial recommendations and to correct or arrange for the correction of the work itself.

ACKNOWLEDGEMENT OF COMPLETE AGREEMENT: This Agreement includes this and the preceding pages consecutively numbered 1 through 10 and the attachments thereto incorporated herein by reference and identified as:

A (Basic Services), A1 (Bureau Agreement), B (Additional Services), and C (Completion & Remuneration Schedule for Services).

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement the day and year first written above.

GOSHEN COUNTY, WYOMING

CONSULTANT: DOWL HKM

By: *James A. Huddleston*
Chairman, Board of County
Commissioners

By: *Dayton Alsaker*
Dayton Alsaker, Wyoming Region Manager
16 West 8th Street
Sheridan, WY 82801

Attest:

Conne L. Adley
County Clerk



Address: Robert Juve, City Engineer, City of Torrington
P.O. Box 250
Torrington, WY 82240

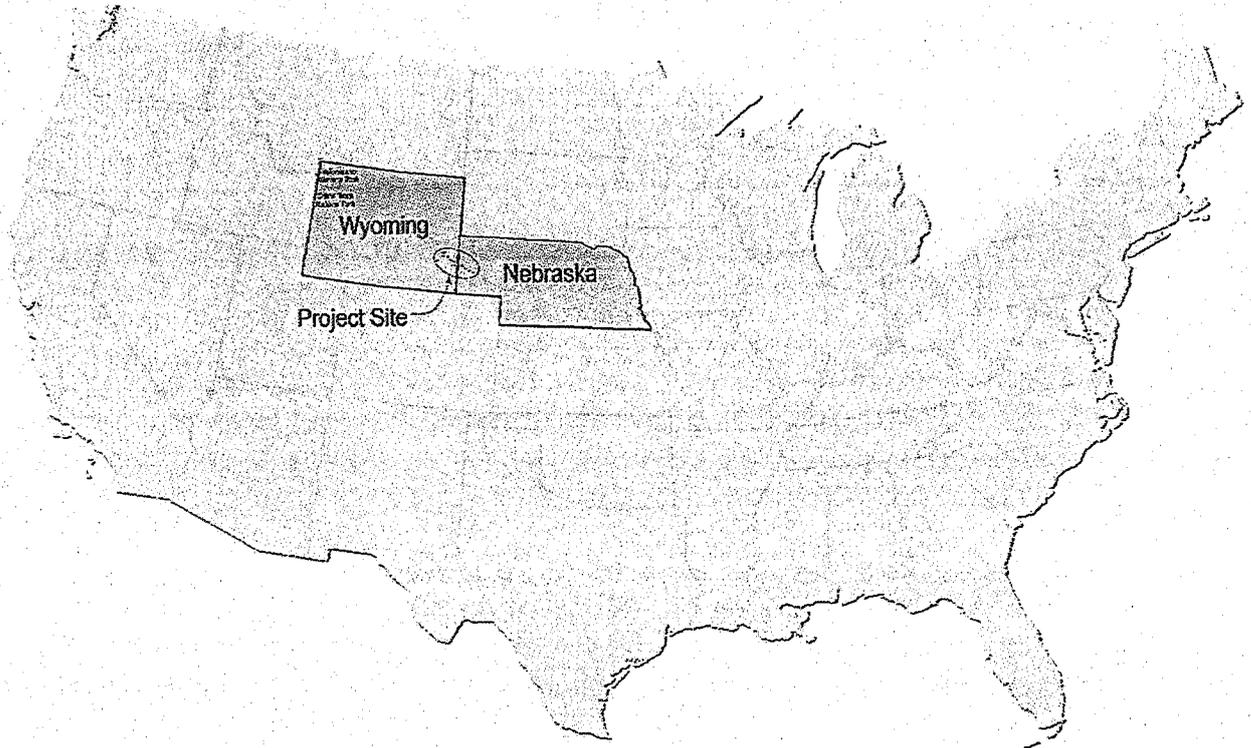
Attachment A



PROPOSAL

to the

Bureau of Reclamation **Reclamation Rural Water Supply Program** *Funding Opportunity Announcement No. R10SF80458*



for an

Appraisal Investigation

for the

PLATTE ALLIANCE WATER SUPPLY (PAWS)

A

Region Wide Municipal Rural Water Supply Project

July 2010

July 13, 2010

Bureau of Reclamation
Acquisition Operations Group
Attn: Stephanie Bartlett
Mail Code: 84-27810
P.O. Box 25007
Denver CO 80225

Re: 2010 Rural Water Supply Program - Funding Opportunity Announcement No. R10SF80458
Proposal for an Appraisal Investigation
for the
PLATTE ALLIANCE WATER SUPPLY (PAWS)
A Regional Municipal Rural Water Supply Project

Dear Ms Bartlett:

Goshen County, Wyoming, Scotts Bluff County, Nebraska, Torrington, Wyoming, Scottsbluff, Nebraska, and adjacent rural communities and rural areas along the North Platte River basin are experiencing deteriorating water quality. It is becoming increasingly difficult and expensive to meet public water quality standards. This lack of dependable water quality limits the ability of the region to remain vibrant and sustain current and future growth and economic vitality. This Proposal is to request funds to conduct an Appraisal Investigation to identify potential solutions to remedy this situation.

This Proposal responds to a favorable response from the Application Review Committee (ARC) to our previously submitted Statement of Interest, and, as an amendment identified within our previously submitted Statement of Interest, incorporates additional municipalities and areas in Western Nebraska experiencing the same water quality issues.

Goshen County, Wyoming and Scotts Bluff County, Nebraska is a rural, agricultural area located in southeastern Wyoming, and western Nebraska (*See the Location Map*). The agriculture aspect of this area comes from the raising of corn (a portion of the corn is produced and provided to the local ethanol plant), oats, wheat, sugar beets, hay, alfalfa, beans and other crops for food and/or feed for livestock. The average rainfall is 14 inches per year. The North Platte River flows west to east through the center of the area.

Most community potable water supplies within the area are from underground wells and the water quality has been deteriorating. It has been demonstrated that farming practices of adding fertilizers and herbicides has increased the level of nitrates in the water, and this increases as one travels downstream (from west to east).

This Proposal demonstrates that the subsequent Appraisal Investigation will address:

- The critical need to remedy increasingly deteriorating water quality issues within the area.
- Region wide solutions that can provide significant economies of scale.

- The North Platte River is the common, significant surface water supply for the entire region. The USBR provides operation and maintenance of the North Platte River and associated facilities throughout this entire region. The financial assistance provided by USBR through this Appraisal Investigation is essential (and is the *only* funding opportunity) toward development of region wide solutions.
 - As the region incorporates two states (Wyoming and Nebraska) the availability of State funds to study region wide solutions is administratively prohibitive.
 - The signatures to this Proposal demonstrate region wide support.
 - No other Federal Funds have been applied for, and we are not aware of any potential overlap with other Federal Programs.
- Region wide compliance with water management priorities and long term water planning.

We anticipate the Investigation will be completed within 13 months of the date of the award.

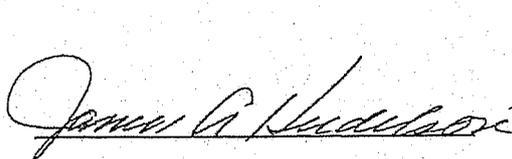
This Proposal is to request \$180,000 to conduct an Appraisal Investigation of the existing situation, identification of potential alternatives and recommend solutions.

Enclosed are a proposed detailed scope (narrative), budget and timeline for the Appraisal Investigation.

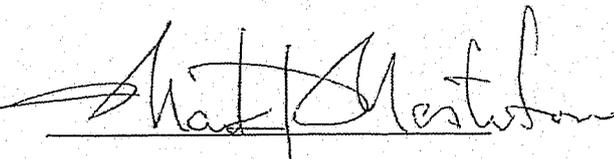
We have designated Mr. Robert (Bob) Juve as our region wide Authorized Representative. Please contact Bob Juve at (307) 532-4815 rjuve@city-of-torrington.org if you have any questions and/or clarifications concerning this Proposal.

We appreciate this opportunity, have a critical need, region wide support and we look forward to working with the Bureau toward implementation of improved region wide water supply facilities.

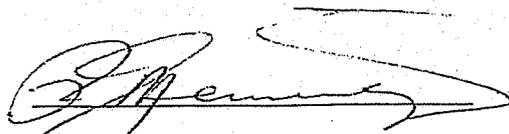
Respectfully Submitted:



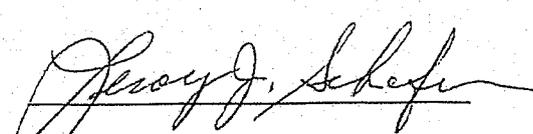
Mr. Jim Hudelson/Chairman
Goshen County Commissioners



Mr. Mark Masterton/Chairman
Scotts Bluff County Commissioners

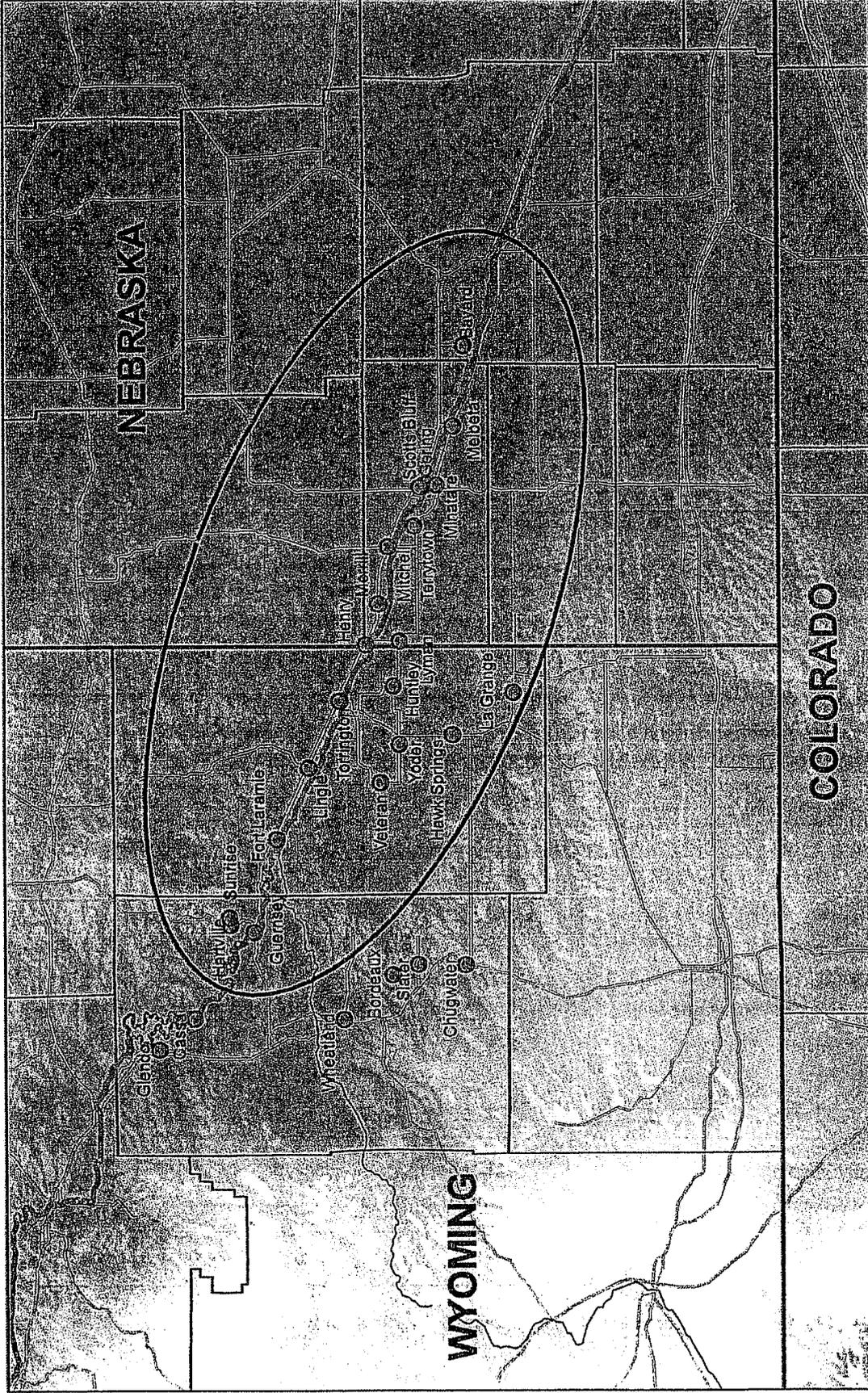


Mr. Randy Meininger/Mayor
City of Scottsbluff



Mr. Leroy Schaeffer/Mayor
City of Torrington

C: Mr. Robert D. Juve/Torrington City Engineer - Authorized Representative



**PLATTE ALLIANCE WATER SUPPLY (PAWS)
Regional Municipal Water Supply Project
PROJECT AREA - LOCATION MAP**

Approximate Scale: 1 inch = 24 miles



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PLATTE ALLIANCE WATER SUPPLY (PAWS)

A

Regional Municipal Rural Water Supply Project

PROPOSAL

July 2010

We have included, as an appendix to this proposal, the Statement of Interest previously submitted. Based on the positive response to the submitted Statement of Interest, we provide this Full Proposal.

Project Description - Southeast Wyoming (Goshen County) and Western Nebraska (Scotts Bluff County) and adjacent rural areas along the North Platte River basin are experiencing deteriorating water quality, and it is becoming increasingly difficult and expensive to meet public water quality standards. This lack of dependable water quality limits the ability of the region to remain vibrant and sustain current and future growth and economic vitality. This application is to request funds to conduct an Appraisal Investigation to identify potential region wide solutions to remedy this situation.

The following scope of work, schedule and cost estimate demonstrates how this proposed Appraisal Investigation effectively meets the funding criteria of:

- ***Responding to an urgent and compelling need;***
The region is experiencing significant deteriorating water quality issues.
- ***Incorporating Regional Perspective;***
This region wide investigation includes the Platte Valley in Southeastern Wyoming and Western Nebraska, along the North Platte River drainage; incorporating numerous rural communities and water districts. The Bureau of Reclamation operates facilities and manages water in the North Platte River through this study area.
- ***Needed Financial Assistance;***
To date, with available local funding opportunities, only small, short term, local "band aid" fixes are able to be addressed.
- ***Avoiding Programmatic Overlap; and***
This region encompasses two states. There are currently no financial vehicles available to address this two state issue. This funding program provides that opportunity.
- ***Demonstrating Government Water Management Priorities;***



As evidenced by the signatures attached to the cover letter, corresponding resolutions, the "in-kind" efforts identified within this proposal and the efforts to provide the background data and prepare this detailed proposal.

Scope of Work

Introduction

SouthEast Wyoming (Goshen County)

The 2000 Goshen County population was 12,538. Recent energy development, most predominately wind energy; construction of a state prison; and "migration" of people from the Front Range of Colorado have all led to the prospects for increased growth within the county. The 50-year projected population for Goshen County is less than 40,000. The City of Torrington is the county seat and additional municipalities within Goshen County include Fort Laramie, Lingle, La Grange, Yoder and rural water districts.

The City of Torrington well field, located adjacent to the North Platte River, is experiencing greater levels of nitrates and uranium. Similar occurrences are showing up in Lingle wells and the wells for Yoder and Hawk Springs. In 1998, Torrington added reverse osmosis (RO) treatment to reduce the levels of nitrates in the city water supply to comply with EPA regulations. These RO units blend waters from the various wells and filter to reduce the nitrate levels; and the discharge is then delivered through the sanitary sewer treatment processes. Operation and maintenance of these treatment facilities is a significant burden for local water operators; and as the EPA adds additional annual requirements for water quality operation, efforts will likely increase. The smaller municipalities are experiencing similar reductions in water quality, with some finding limited benefit by drilling additional wells in adjacent locations. Upstream in the North Platte River; and before runoff from significant areas of farmed land enter into the Platte River, it has been identified these nitrate levels are greatly reduced; and are within EPA requirements.

Western Nebraska (Scotts Bluff County)

The 2000 Scotts Bluff County population was 36,951 with 76% of the population served by an existing public water system. The 50-year projected population to be served by public water systems is 40,000. This population includes the municipalities of Scottsbluff, Gering, Mitchell, Terrytown, Bayard, Morrill, Minatare, Lyman, Melbeta, McGrew and several non-community water systems. The cities of Bayard and Bridgeport are located in Morrill County.

All of the municipalities rely on ground water as their source for drinking water and have or are in the process of modifying their systems to meet EPA regulations. Western Nebraska communities have seen the need and the economic advantages of working together by developing regional alternatives. The Villages of Morrill, Lyman and Henry are in the process of developing a regional well field to meet arsenic, uranium and copper levels. The City of Scottsbluff has abandoned existing wells and constructed a new well field to meet arsenic, uranium and nitrate levels. The cities of Minatare and



Bayard are in process of constructing of a regional water system to purchase water from the City of Scottsbluff to meet uranium and nitrate levels. The City of Gering has constructed a new well field to allow for blending of water from their existing wells to meet arsenic and uranium levels. The new well field was strategically located as to allow for regionalization between Scottsbluff and Gering if a treatment alternative becomes necessary. The Villages of Melbeta and McGrew currently do not have a public water system, however, may be forced into providing a source as the area develops.

Western Nebraska area wells continue to show an increase in contaminate levels. It has become an expected fact that treatment will become necessary in the future to meet EPA regulations. The operation and maintenance of groundwater treatment facilities will become a significant burden to each system.

In addition to the increase in contaminate levels, the North Platte River Basin in Scotts Bluff and Morrill Counties has been determined to be over-appropriated. Any new groundwater sources that create depletions to the river will have to be mitigated in time and place. This is a significant burden for the development of any new groundwater source that meets EPA regulations.

1. Project Administration

For purposes of this Proposal we have identified the Counties and Municipalities of this study region as the Sponsor. The Authorized Representative for the Sponsor will be the contact with the USBR for this Appraisal Investigation. We provide a scope narrative and a budget associated with the identified tasks. We anticipate selection of a consultant for completion of many of the study activities. We also anticipate participation by many staff representatives, and elected officials, from communities and rural areas throughout the study area. We have included within the project budget approximately 6 hours per week for municipal staff, largely the Authorized Representative, and estimate this represents less than 10 per cent of the actual time that will be spent by staff on this project, the remaining 90% is considered in-kind support for this project.

Initial discussions with the USBR and the Wyoming Water Development Commission have expressed support for further investigations/evaluations of the potentials of a regional water system to benefit this rural area. An ongoing discussion with these (and other) Federal, State and County officials is anticipated during investigations and development of alternatives.

1.1 Consultant Selection

Upon the USBR notice of award of the funding for this Appraisal Investigation, the Authorized Representative will initiate a consultant selection process. Initially the Authorized Representative will prepare a Request for Proposals (RFP) for distribution to interested and qualified engineering consultants. This RFP will "mirror" the tasks as identified within this Proposal. The Authorized Representative will identify a selection committee to review the proposals. USBR staff will be invited to review the RFP prior to distribution, and participate on this selection committee, if desired. Upon review of the engineering consultant proposals submitted, it is anticipated the committee will then select a



qualified engineering consultant. If the committee desires additional information and/or discussion with identified consultants, the committee may choose to conduct interviews with the top three (3) identified engineering consultants, prior to making a final decision.

1.2 Joint Powers Board

As this Appraisal Investigation is conducted, there will be continued discussions with the Counties, Municipalities and potential rural water districts regarding formation of a legal entity. The actual "make-up" of a Joint Powers Board may vary depending upon the outcomes of this Appraisal Investigation. As such, actual legal and legislative research and corresponding efforts to form an administrative entity will occur with subsequent Feasibility Studies, depending upon the outcome and recommendations of this Appraisal Investigation.

1.3 Sponsor Meetings

It is anticipated monthly progress meetings will be conducted during this Appraisal Investigation. The attached Project schedule will be updated monthly. These meetings will primarily be between the Sponsor's Authorized Representative and the consultant; however additional staff and/or elected officials may attend, as deemed appropriate. Included will be coordination and collaboration with the Bureau of Reclamation; and USBR staff is always encouraged to participate, and can be included via conference call, if desired. The intent is to discuss and provide information to the Sponsor agencies, and reduce/eliminate the need for the Authorized Representative to continually attend county and municipal meetings to provide status updates.

2. Public Outreach

2.1 Public Meetings

Conduct public meetings (2), the first to inform the interested public regarding the situation and solicit input, and the second to provide potential alternate solutions and receive input.

2.1.1 Initial Open House

An initial open house will be conducted to introduce the Appraisal Investigation to the general public, gauge interest, and receive input. Exhibits will be prepared to illustrate the need, potential regional water supply areas, issues and concepts. This is anticipated to be a three (3) hour open house format.

2.1.2 Appraisal Investigation Findings Open House

An open house will be conducted to discuss preliminary investigations; discuss potential alternatives for providing region wide potable water to the area; and receive input. Exhibits will be prepared to illustrate concepts and alternatives. This is anticipated to be a three (3) hour open house format.



2.2 Web Site

A project web site will be created. Project related information will be placed on the website as it is developed during the investigations. There will be opportunity to provide input to the web site. Links to this web site will be available from region wide municipality and county web sites. Potentially project FaceBook and Twitter accounts may be created as additional opportunities to disseminate information and receive comment during preparation of this Appraisal Investigation.

3. Review Existing Data & Previous Studies

Review of existing data and previous studies. Contact the USBR, Wyoming State Engineer's office; Wyoming Water Development Commission; Nebraska Department of Natural resources, municipalities, and rural water districts to discuss the historical and current situation and acquire information from previous studies within the region. Identified previous studies may include:

- Guernsey Hydraulic Study Level II Wyoming Water Development Commission; November, 2003.
- Fort Laramie Water Supply Rehabilitation Level II Study Wyoming Water Development Commission; July, 2008.
- Town of Lingle Water Supply Master Plan, Level I Project Wyoming Water Development Commission; November, 1998.
- Torrington, Wyoming Water Master Plan, Level I, Final Report Wyoming Water Development Commission; November, 1995.
- Construction and Testing Report Yoder No. 2 Production Well Wyoming Water Development Commission; March, 1990.
- Preliminary Engineering Report-Village of Lyman, Nebraska; April, 2006.
- Preliminary Engineering Report-Village of Henry, Nebraska; May, 2008.
- Preliminary Engineering Report (Supplement No. 1)-Village of Morrill, Nebraska; October, 2005
- Preliminary Engineering Report-City of Gering
- Preliminary Engineering Report (Revision No.1)-City of Minatare, Nebraska; June, 2007.
- Preliminary Engineering Report-City of Bridgeport
- Preliminary Engineering Report-City of Bayard, Nebraska; September 2009.
- Platte Goshen Regional Master Plan Level I Study Wyoming Water Development Commission; September, 2004.
- Platte River Basin Plan Wyoming Water Development Commission; May, 2006.
- Water and Related Land Resources of the Platte River Basin, Wyoming State Engineer's Office; September, 1971.
- Annual Operating Plans – North Platte River Basin (and numerous additional project reports) U.S. Bureau of Reclamation.
- Western Regional Water System Feasibility Study-Villages of Mitchell, Morrill, Lyman and Henry, Nebraska; March 2007.
- Feasibility Study-Cities of Bayard and Minatare, Nebraska; May 2008.



This list of previous studies is evidence of the critical water supply need; and the concepts that regional water systems may provide preferred water supply solutions.

4. Identification of Municipal Needs

Discussions with city, county and rural water districts staff and elected officials, regarding current operations and potential improvements will be conducted. Information gathered may include historic daily, monthly and yearly water volumes processed; water processed versus metered use; historic water quality test results; water treatment operational schematics; current physical plant facilities and desired/anticipated upgrades; and historic and anticipated growth trends. Also, additional items of information will surely be identified that will aid in understanding of the current situation and future needs.

5. Identification and Evaluation of Existing Water Rights

Identification of current and future water right requirements will be identified. This task requires extensive discussion with the Bureau of Reclamation, the Wyoming State Engineer's Offices, the Nebraska Health and Human Services Offices, as well as each of the municipalities/rural water districts within the region as to existing water rights. Through these discussions, the concept is, with this project, to use existing water rights (the same water) differently, and not apply for new water rights.

In addition, discussions will be conducted with the Missouri Basin Power Cooperative to identify water supply opportunities associated with the Grayrocks Dam and Reservoir.

6. Investigation of Subsurface Water Supply Opportunities

This task includes investigation of underground formations to determine if there are deeper or adjacent underground waters of capacity and quality to be able to comply with EPA potable water standards with conventional treatment. Subsurface information will be obtained from the numerous previously drilled wells within the study area. This task does not anticipate drilling exploratory wells; however, this task may recommend drilling of exploratory wells, to further determine volume and quality of water, in future Feasibility Investigations.

7. Evaluate Surface Water Supply Opportunities

7.1 Reservoirs

Research water stored within upstream reservoirs (such as Guernsey Reservoir, Grayrocks Reservoir, etc.); and determine if this water can be treated with conventional facilities to meet current and future EPA requirements. This potable water could then be delivered, by gravity, to downstream municipalities. (Note, Guernsey Reservoir and North Platte River flows are operated by the Bureau of Reclamation.) It is anticipated we will obtain water quality information regarding the water stored in the Glendo and Guernsey Reservoirs from the Bureau of Reclamation; and for water stored in Grayrocks Reservoir from the Missouri Basin Power Cooperative.



7.2 Stream flow

The Bureau of Reclamation, as well as the Wyoming State Engineer's Office and the Nebraska Health and Human Services Office will be contacted to evaluate existing stream flow quality and volumes, and permitted requirements. With this information, and from discussions with these agencies, potential water supply alternatives will be considered.

8. Assess Economy of Scale of Region Wide System

Nationwide, with the focus on public safety, the Environmental Protection Agency (EPA) is continually identifying additional constituents with standards to test for in public potable water supplies. Additional compliance regulations typically will expand the facility and operational requirements; and make it more difficult, and more expensive in staff and facilities, for small rural water systems to comply. As stated in the Introduction to this scope, several rural communities in Nebraska have already identified some operational and economic benefit to combination of water supply and treatment facilities. Further economic and operational benefits may be garnered through a larger region wide potable water system. These potential benefits will be addressed through identification of region wide alternatives.

9. Region Wide Alternatives

As stated in the Introduction, this study will focus on addressing the immediate and long term water quality issues; providing potable water, economically, to the current customers. Also, as stated in the introduction, this region wide area incorporates two states; Nebraska and Wyoming.

9.1 Alternative Identification

Potential alternative concepts may include:

- Obtain water from Grayrocks Reservoir, construct a water treatment plant downstream of the Reservoir and deliver potable water, piped gravity flow downstream to the rural municipalities and water districts.
- Obtain water from Guernsey Reservoir, construct a water treatment plant downstream of the Reservoir and deliver potable water, piped gravity flow downstream to the rural municipalities and water districts.
- Obtain water downstream of the confluence of the Laramie River and the North Platte River, construct a water treatment plant in vicinity of the confluence of the Laramie River and North Platte River, and deliver potable water, piped gravity flow downstream to the rural municipalities and water districts.
- Obtain water from an upstream alluvial well field, construct a water treatment plant downstream of the well field and deliver potable water, piped gravity flow downstream to the rural municipalities and water districts.

Concepts of these alternatives, and some not yet identified, are to:

- Utilize water upstream of the mineral contaminants; thereby utilizing conventional water treatment methods and thereby greatly reducing both current and anticipated future treatment requirements.



- Deliver water via gravity flow through a pipeline downstream to the rural municipalities and water districts; thus greatly reducing or eliminating pumping costs.

Issues to be addressed with these alternatives, and some not yet identified, include:

- Water rights and the ability to modify use, and/or transfer points of use.
- Administrative/legal requirements to comply with Wyoming and Nebraska state statutes.
- Interstate issues related to the North Platte River.

Each alternative may also include several options within the region wide alternative.

9.2 Cost estimates

Budget level project cost estimates for each alternative, including options within an alternative, will be prepared. Budget level cost estimates will be developed for the year 2012. They may be inflated to align with anticipated construction. Due to the volatility of the financial market these inflation rates then can all be modified, as deemed appropriate, in the future.

10. Report Preparation

10.1 Prepare Preliminary Report

A Draft of the Appraisal Investigation Report will be prepared including references, tables, and figures. This will be considered a 90% Draft. Fifteen (15) color copies of the Draft Report will be provided to the Sponsor for dissemination.

10.2 Sponsor/Agency Review

The Sponsor will disseminate the Draft Report, as appropriate, for review. This schedule anticipates one month to receive all review comments.

10.3 Adjudicate Input Received

A meeting will be scheduled to address all review comments. This meeting will address the appropriate adjudication of comment. This meeting will provide specific direction for any ambiguous comments.

10.4 Final Report Preparation

Following receipt and adjudication of review comments, they will be incorporated into the Final

**PLATTE ALLIANCE WATER SUPPLY (PAWS)
Region Wide Municipal Rural Water Supply Project
Appraisal Investigation Report.**

Color copies, including references, tables, figures and appendices of the Final Report will be produced.

In addition, color copies of an Executive Summary, of the Final Report will be prepared.



11. Deliver Final Report

Twenty five (25) copies of the final Appraisal Investigation Report and Executive Summary will be delivered.

Schedule and Cost Estimate

The following schedule illustrates specific tasks; aligns with the tasks as discussed in the narrative; identifies a time frame for completion of the specific tasks; and provides a preliminary cost estimate for each task. Also, a breakdown of hours (and costs) by labor category is provided for each specific task.

As previously identified, the initial effort will be to select a consultant to perform the Appraisal Investigation. The cost estimate is based on a "typical" consultant rate schedule (which therefore would include all fringe benefits); and the estimated hours of a consultant to perform the identified tasks.

The hours shown for the Authorized Representative include approximately 6 hours per week to administer this Appraisal Investigation; and the rate does not include any fringe benefits. It is anticipated the Authorized Representative may indeed require significantly more hours than shown. These additional hours and the Authorized Representative fringe benefits are not specifically identified and will be considered as "in-kind" costs.

Attachment A1



IN REPLY REFER TO:

GP-5000
ADM-13.00

United States Department of the Interior

BUREAU OF RECLAMATION

Great Plains Region

P.O. Box 36900

Billings, Montana 59107-6900



DEC 28 2010

Mr. Robert Juve
PO Box 250
Torrington, WY 82240-0250

Subject: Cooperative Agreement No. R11AC60007 for the Platte Alliance Water Supply
Appraisal Investigation

Dear Mr. Juve:

A fully executed copy of the subject agreement is enclosed for your records. Funds in the amount of \$180,000 are hereby reserved to cover payment of all earnings under this agreement. It is to be expressly understood that the Government has no obligation to provide funds in addition to those reserved in writing.

Please note the reporting requirements stated in the terms and conditions of the agreement. Progress Reports and Financial Reports are required semi-annual, with the first reports due April 1, 2011, for the reporting period ending March 30, 2011.

If you have any questions regarding the technical aspect of the agreement, please contact Kip Gjerde at 406 - 247-7750. Questions regarding the administration may be directed to me at (406) 247-7684.

Sincerely,

Lindsey Nafts
Grants Officer

Enclosure

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
ASSISTANCE AGREEMENT

1A. AGREEMENT NUMBER RJ1AC60007		1B. MOD NUMBER		2. TYPE OF AGREEMENT <input type="checkbox"/> GRANT <input checked="" type="checkbox"/> COOPERATIVE AGREEMENT		3. CLASS OF RECIPIENT Local Government	
4. ISSUING OFFICE (NAME, ADDRESS) Bureau of Reclamation PO Box 36900 Billings, MT 59107-6900				5. RECIPIENT (NAME, ADDRESS, TELEPHONE) Goshen County 2125 East A Street Torrington, WY 82240			
				EIN #:		83-60000108	
				DUNS #:		622951465	
				County:		Goshen	
				Congress. Dist.:			
6. ADMINISTRATIVE POINT OF CONTACT (NAME, ADDRESS, TELEPHONE, E-MAIL) Lindsey Naftis Grants Officer Bureau of Reclamation Great Plains Regional Office PO Box 36900 Billings, MT 59107-6900 Ph. (406) 247-7684 Email. lnaftis@usbr.gov				7. RECIPIENT PROJECT MANAGER (NAME, ADDRESS, TELEPHONE, E-MAIL) Robert Juve PO Box 250 Torrington, WY 82240-0250 Ph. (307) 532-4815			
8. GRANTS OFFICER TECHNICAL REPRESENTATIVE (NAME, ADDRESS) J. Kip Gjerde, PE Bureau of Reclamation Great Plains Regional Office PO Box 36900 Billings, MT 59107-6900 Ph. (406) 247-7750 Email. jgjerde@usbr.gov				9A. INITIAL AGREEMENT EFFECTIVE DATE: See Block 17		9B. MODIFICATION EFFECTIVE DATE:	
				10. COMPLETION DATE 02/01/2012			
11A. PROGRAM STATUTORY AUTHORITY WaterSMART: Water Energy Efficiency Grants FY2010 Public Law 111-11, Section 9504						11B. CFDA 15.507	
12. FUNDING INFORMATION		RECIPIENT/OTHER		RECLAMATION		13. REQUISITION NUMBER	
Total Estimated Amount of Agreement		\$0.00		\$200,000.00		14A. ACCOUNTING AND APPROPRIATION DATA A 10-1998-0001-002-12-0-0(8)-411C-6050400	
This Obligation		\$0.00		\$180,000.00			
Previous Obligation		\$0.00		\$0.00			
Total Obligation		\$0.00		\$180,000.00			
Cost-Share %		0%		100		14B. TREASURY ACCOUNT FUNDING SYMBOL 14X0680	
15. PROJECT TITLE AND BRIEF SUMMARY OF PURPOSE AND OBJECTIVES OF PROJECT Plate Alliance Water Supply Appraisal Investigation. The sponsor will conduct an appraisal investigation to identify potential regional solutions for addressing water quality problems being experienced in southeast Wyoming (Goshen County) and western Nebraska (Scotts Bluff County).							
16a. Acceptance of this Assistance Agreement in accordance with the terms and conditions contained herein is hereby made on behalf of the above-named recipient BY: <u>Jim Hudelson</u> DATE: <u>12/11/2010</u>				17a. Award of this Assistance Agreement in accordance with the terms and conditions contained herein is hereby made on behalf of the United States of America, Bureau of Reclamation BY: <u>Lindsey Naftis</u> DATE: <u>12/27/2010</u>			
16b. NAME, TITLE, AND TELEPHONE NUMBER OF SIGNER Jim Hudelson, Chairman, Goshen County Commissioners 307.532.2628 <input type="checkbox"/> Additional signatures are attached				17b. NAME OF GRANTS OFFICER Lindsey Naftis Ph. (406) 247-7684			

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**Cooperative Agreement
Between
Bureau of Reclamation
And
Goshen County, Wyoming
For
Platte Alliance Water Supply Appraisal Investigation**

I. OVERVIEW AND SCHEDULE

1. AUTHORITY

This Cooperative Agreement (Agreement) is entered into between the United States of America, acting through the Department of Interior, Bureau of Reclamation, hereinafter referred to as "Reclamation," and Goshen County, Wyoming hereinafter referred to as the "Recipient" pursuant to Public Law 109-451, Section 105. The following section, provided in full text, authorizes Reclamation to award this financial assistance agreement:

SEC. 105. APPRAISAL INVESTIGATIONS.

- (a) *In General.* – On request of a non-Federal project entity with respect to a proposed rural water supply project that meets eligibility criteria published under section 103(c) and subject to the availability of appropriations, the Secretary may-
- (3) provide a grant to, or enter into a cooperative agreement with, the non-Federal project entity to conduct an appraisal investigation, if the Secretary determines that –
- (A) the non-Federal project entity is qualified to complete the appraisal investigation in accordance with the criteria published under section 103(c); and
- (B) using the non-Federal project entity to conduct the appraisal investigation is a cost-effective alternative for completing the appraisal investigation.

2. PUBLIC PURPOSE

The sponsor will conduct an appraisal investigation to identify potential regional solutions for addressing water quality problems being experienced in southeast Wyoming (Goshen County) and western Nebraska (Scotts Bluff County). The lack of dependable water quality limits the ability of the region to remain vibrant and sustain current growth and economic vitality.

3. BACKGROUND AND OBJECTIVES

Title I of the Act authorizes the Secretary of the Interior, through the Bureau of Reclamation, to establish a program to work with small communities in rural areas to assess their potable water supply needs and to identify options to address those needs. Reclamation will work with these communities to investigate opportunities to ensure safe and adequate rural water supply projects for domestic, municipal, and industrial use; and plan the design and construction of rural water supply projects through the conduct of appraisal investigations and feasibility studies. Reclamation will review the appraisal investigation conducted by the recipient and will prepare an appraisal report that will include Reclamation's finding as to whether or not it is appropriate to proceed to a feasibility study.

4. PERIOD OF PERFORMANCE AND FUNDS AVAILABILITY

This Agreement becomes effective on the date shown in Block 17a of Form 7-2279, United States of America, Department of the Interior, Bureau of Reclamation, Assistance Agreement. The Agreement shall remain in effect until the date shown in Block 10 of Form 7-2279, United States of America, Department of the Interior, Bureau of Reclamation, Assistance Agreement. The period of performance for this Agreement may only be modified through written modification of the Agreement by a Reclamation Grants Officer (GO).

Pursuant to the Act of Congress of June 17, 1902 (32 Stat. 388), and acts amendatory thereof or supplementary thereto, all commonly known as Reclamation Law, funds for payment under this Agreement are included in Public Law 111-85. Funding for any optional year of the Agreement is contingent upon subsequent Congressional funding.

Reclamation has \$200,000 available for this Agreement. The Government's obligation under this Agreement is contingent upon the availability of appropriated funds from which payment for Agreement purposes can be made. No legal liability on the part of the Government for any payment may arise until funds are made available to the GO for this Agreement, and until the Recipient receives notice of such availability by the GO.

5. SCOPE OF WORK

The recipient's proposal (see Attachment A) contains a description of the work required to complete the investigation and submit a report to Reclamation. The description identifies and explains the major tasks; the cost estimate for each task; a breakdown of hours and costs by labor category for each task; and the schedule for each task and the overall project. Task 10.2 (Sponsor/Agency Review) identifies Reclamation's review task but did not provide a cost. The cost for Reclamation's review of the appraisal investigation and preparation of the appraisal report is \$20,000, resulting in an increase in the total award to \$200,000.

As mentioned above, Reclamation's review is identified in Task 10.2 and is proposed to occur near the conclusion of the study. Reclamation will follow its standard review process for

appraisal studies where in-progress reviews will occur at three key milestones: **A1 – Initial Meeting**; **A2 – Preliminary Findings**; and **A3 – Draft Report**. These generally correspond to Task 2.1.1 (Initial Open House) for A1; Task 2.1.2 (Appraisal Investigations Findings Open House) for A2; and Task 10.2 (Sponsor/Agency Review) for A3.

6. RESPONSIBILITY OF THE PARTIES

6.1 Recipient Responsibilities

6.1.1 The Recipient shall be responsible for carrying out the Scope of Work in accordance with the terms and conditions stated herein. The Recipient shall adhere to Federal, state, and local laws, regulations, and codes, as applicable, and shall obtain all required approvals and permits. If applicable, the Recipient shall also coordinate and obtain approvals from site owners and operators.

6.2 Reclamation Responsibilities

6.2.1 Conduct reviews and provide comments at key milestones as indicated in Section 5. Scope of Work section.

6.2.2 Prepare Reclamation’s Appraisal Report using the final Appraisal Investigation submitted by the recipient. 43 CFR Part 404 limits Reclamation’s review of an appraisal investigation to no longer than 180 days from its receipt of the appraisal investigation from the recipient, excluding time when Reclamation is waiting for additional information from the recipient.

7. BUDGET

7.1 Approved Budget

BUDGET ITEM DESCRIPTION	COMPUTATION		RECIPIENT FUNDING	OTHER FUNDING	RECLAMATION FUNDING	TOTAL COST
	S/Unit and Unit	Quantity				
Personnel						
Recipient					\$15,000	\$15,000
CONTRACTUAL						
Engineering Consultant					\$165,000	\$165,000
TOTAL DIRECT COSTS--					\$180,000	\$180,000
INDIRECT COSTS - 0%					None	None
RECLAMATION COSTS					\$20,000	\$20,000
TOTAL PROJECT/ACTIVITY COSTS					\$200,000	\$200,000

7.3 Cost Sharing Requirement

There is no cost sharing requirement since the total cost is equal to or less than \$200,000.

7.4 Pre-Award Incurrence of Costs

The Recipient shall be entitled to have incurred costs for this Agreement for allowable costs incurred on or after October 28, 2009, which if had been incurred after this Agreement was entered into, would have been allowable, allocable, and reasonable under the terms and conditions of this Agreement.

7.5 Allowable Costs (2 CFR Part §225)

Costs incurred for the performance of this Agreement must be allowable, allocable to the project, and reasonable. The following Office of Management and Budget (OMB) Circular, codified within the Code of Federal Regulations (CFR), governs the allowability of costs for Federal financial assistance:

2 CFR Part 225 (OMB Circular A-87), "Cost Principles for State, Local, and Indian Tribal Governments"

Expenditures for the performance of this Agreement must conform to the requirements within this Circular. The Recipient must maintain sufficient documentation to support these expenditures. Questions on the allowability of costs should be directed to the GO responsible for this Agreement.

The Recipient shall not incur costs or obligate funds for any purpose pertaining to operation of the program or activities beyond the expiration date stated in the Agreement. The only costs which are authorized for a period of up to 90 days following the project performance period are those strictly associated with closeout activities for preparation of the final report.

7.6 Changes (43 CFR §12.70).

(a) *General.* Recipients and subrecipients are permitted to rebudget within the approved direct cost budget to meet unanticipated requirements and may make limited program changes to the approved project. However, unless waived by the awarding agency, certain types of post-award changes in budgets and projects shall require the prior written approval of the awarding agency.

(b) *Relation to cost principles.* The applicable cost principles (see 43 §12.62) contain requirements for prior approval of certain types of costs. Except where waived, those requirements apply to all cooperative agreements and subagreements even if paragraphs (c) through (f) of this section do not.

(c) *Budget changes.*

(1) *Nonconstruction projects.* Except as stated in other regulations or an award document, recipients or subrecipients shall obtain the prior approval of the awarding agency whenever any of the following changes is anticipated under a nonconstruction award:

(i) Any revision which would result in the need for additional funding.

(ii) Unless waived by the awarding agency, cumulative transfers among direct cost categories, or, if applicable, among separately budgeted programs, projects, functions, or activities which exceed or are expected to exceed ten percent of the current total approved budget, whenever the awarding agency's share exceeds \$100,000.

(iii) Transfer of funds allotted for training allowances (i.e., from direct payments to trainees to other expense categories).

(d) *Programmatic changes.* Recipients or subrecipients must obtain the prior approval of the awarding agency whenever any of the following actions is anticipated:

(1) Any revision of the scope or objectives of the project (regardless of whether there is an associated budget revision requiring prior approval).

(2) Need to extend the period of availability of funds.

(3) Changes in key persons in cases where specified in an application or an agreement award. In research projects, a change in the project director or principal investigator shall always require approval unless waived by the awarding agency.

(4) Under nonconstruction projects, contracting out, subgranting (if authorized by law) or otherwise obtaining the services of a third party to perform activities which are central to the purposes of the award, *unless included in the initial funding proposal*. This approval requirement is in addition to the approval requirements of 43 §12.76 but does not apply to the procurement of equipment, supplies, and general support services.

(e) *Additional prior approval requirements.* The awarding agency may not require prior approval for any budget revision which is not described in paragraph (c) of this section.

(f) *Requesting prior approval.*

(1) A request for prior approval of any budget revision will be in the same budget format the recipient used in its application and shall be accompanied by a narrative justification for the proposed revision.

(2) A request for a prior approval under the applicable Federal cost principles (see §12.62) may be made by letter.

(3) A request by a subrecipient for prior approval will be addressed in writing to the recipient. The recipient will promptly review such request and shall approve or disapprove the request in writing. A recipient will not approve any budget or project revision which is inconsistent with the purpose or terms and conditions of the Federal award to the recipient. If the revision, requested by the subrecipient would result in a change to the recipient's approved project which requires Federal prior approval, the recipient will obtain the Federal agency's approval before approving the subrecipient's request.

7.7 Modifications

Any changes to this Agreement shall be made by means of a written modification. Reclamation may make changes to the Agreement by means of a unilateral modification to address administrative matters, such as changes in address, no-cost time extensions, the addition of previously agreed upon funding, or deobligation of excess funds at the end of the Agreement. Additionally, a unilateral modification may be utilized by Reclamation if it should become necessary to suspend or terminate the Agreement in accordance with 43 CFR 12.83.

All other changes shall be made by means of a bilateral modification to the Agreement. No oral statement made by any person, or written statement by any person other than the GO, shall be allowed in any manner or degree to modify or otherwise effect the terms of the Agreement.

All requests for modification of the Agreement shall be made in writing, provide a full description of the reason for the request, and be sent to the attention of the GO. Any request for project extension shall be made at least 45 days prior to the expiration date of the Agreement or the expiration date of any extension period that may have been previously granted. Any determination to extend the period of performance or to provide follow-on funding for continuation of a project is solely at the discretion of Reclamation.

8. KEY PERSONNEL

8.1 Recipient's Key Personnel

The Recipient's Project Manager for this Agreement shall be:

Robert Juve
City Engineer
City of Torrington
2125 East A Street
Torrington, WY 82240

Changes to Key Personnel require compliance with 43 CFR 12.70(d)(3).

8.2 Reclamation's Key Personnel

8.2.1 Grants Officer (GO):

Lindsey Nafts
Grants Officer
Bureau of Reclamation
Great Plains Regional Office
PO Box 36900
Billings, MT 59107-6900
Ph. (406) 247-7684
Email. lnafts@usbr.gov

The GO is the only official with legal delegated authority to represent Reclamation. The GO's responsibilities include, but are not limited to, the following:

- a) Formally obligate Reclamation to expend funds or change the funding level of the Agreement;
- b) Approve through formal modification changes in the scope of work and/or budget;
- c) Approve through formal modification any increase or decrease in the period of performance of the Agreement;
- d) Approve through formal modification changes in any of the expressed terms, conditions, or specifications of the Agreement;
- e) Be responsible for the overall administration, management, and other non-programmatic aspects of the Agreement including, but not limited to, interpretation of financial assistance statutes, regulations, circulars, policies, and terms of the Agreement;
- f) Where applicable, ensures that Reclamation complies with the administrative requirements required by statutes, regulations, circulars, policies, and terms of the Agreement.

8.2.2 Grants Officer Technical Representative (GOTR):

J. Kip Gjerde, PE
Bureau of Reclamation
PO Box 36900
Billings, MT 59107-6900
Ph. (406) 247-7750
Email. jgjerde@gp.usbr.gov

The GOTR's authority is limited to technical and programmatic aspects of the Agreement. The GOTR's responsibilities include, but are not limited to, the following:

- a) Assist the Recipient, as necessary, in interpreting and carrying out the scope of work in the Agreement;
- b) Review, and where required, approve Recipient reports and submittals as required by the Agreement;
- c) Where applicable, monitor the Recipient to ensure compliance with the technical requirements of the Agreement;
- d) Where applicable, ensure that Reclamation complies with the technical requirements of the Agreement;

The GOTR does not have the authority to and may not issue any technical assistance which:

- a) Constitutes an assignment of additional work outside the scope of work of the Agreement;
- b) In any manner causes an increase or decrease in the total estimated cost or the time required for performance; or
- c) Changes any of the expressed terms, conditions, or specifications of the Agreement.

9. REPORTING REQUIREMENTS AND DISTRIBUTION

9.1 Noncompliance

Failure to comply with the reporting requirements contained in this Agreement may be considered a material non-compliance with the terms and conditions of the award. Non compliance may result in withholding of payments pending receipt of required reports, denying both the use of funds and matching credit for all or part of the cost of the activity or action not in compliance, whole or partial suspension or termination of the Agreement, recovery of funds paid under the Agreement, withholding of future awards, or other legal remedies in accordance with 43 CFR §12.83.

9.2 Financial Reports

Financial Status Reports shall be submitted by means of the SF-425 and shall be submitted according to the Report Frequency and Distribution schedule below. All financial reports shall be signed by an Authorized Certifying Official for the Recipient's organization.

9.3 Monitoring and reporting program performance (43 CFR §12.80)

(a) *Monitoring by recipients.* Recipients are responsible for managing the day-to-day operations of cooperative agreement and subagreement supported activities. Recipients must monitor cooperative agreement and subagreement supported activities to assure compliance with applicable Federal requirements and that performance goals are being achieved. Recipient monitoring must cover each program, function or activity.

(b) *Nonconstruction performance reports.* The Federal agency may, if it decides that performance information available from subsequent applications contains sufficient information to meet its programmatic needs, require the recipient to submit a performance report only upon expiration or termination of cooperative agreement support. Unless waived by the Federal agency, this report will be due on the same date as the final Financial Status Report.

(1) Recipients shall submit semi-annual (every 180 days) performance reports. Semi-annual reports shall be due 30 days after the reporting period. The final performance report will be due 90 days after the expiration or termination of cooperative agreement support. If a justified request is submitted by a recipient, the Federal agency may extend the due date for any performance report. Additionally, requirements for unnecessary performance reports may be waived by the Federal agency.

(2) Performance reports will contain, for each cooperative agreement, brief information on the following:

(i) A comparison of actual accomplishments to the objectives established for the period. Where the output of the project can be quantified, a computation of the cost per unit of output may be required if that information will be useful.

(ii) The reasons for slippage if established objectives were not met.

(iii) Additional pertinent information including, when appropriate, analysis and explanation of cost overruns or high unit costs.

(3) Recipients will not be required to submit more than the original and two copies of performance reports.

(4) Recipients will adhere to the standards in this section in prescribing performance reporting requirements for sub recipients.

(d) *Significant developments.* Events may occur between the scheduled performance reporting dates which have significant impact upon the agreement or subagreement supported activity. In such cases, the recipient must inform the Federal agency as soon as the following types of conditions become known:

(1) Problems, delays, or adverse conditions which will materially impair the ability to meet the objective of the award. This disclosure must include a statement of the action taken, or contemplated, and any assistance needed to resolve the situation.

(2) Favorable developments which enable meeting time schedules and objectives sooner or at less cost than anticipated or producing more beneficial results than originally planned.

(e) Federal agencies may make site visits as warranted by program needs.

(f) *Waivers, extensions.*

(1) Federal agencies may waive any performance report required by this part if not needed.

(2) The recipient may waive any performance report from a subrecipient when not needed. The recipient may extend the due date for any performance report from a subrecipient if the recipient will still be able to meet its performance reporting obligations to the Federal agency.

9.4 Report Frequency and Distribution. The following table sets forth the reporting requirements for this Agreement.

REQUIRED REPORTS	Interim Reports	Final Report
Program Performance Report		
Format	No specific format required. See content requirements within Section 9.3 (43 CFR 12.80) above.	No specific format required. See content requirements within Section 9.3 (43 CFR 12.80) above.
Reporting Frequency	Semi-Annual (180 day interval)	Final Report due upon completion of Agreement's period of performance
Reporting Period	For Semi-Annual Reporting: October 1 through March 31 and April 1 through September 30.	Entire period of performance
Due Date	Within 30 days after the end of the Reporting Period	Within 90 days after the completion date of the Agreement
Submit to:	GO and GOTR	GO and GOTR
Financial Status Report		
Format	SF-425	SF-425
Reporting Frequency	Semi-Annual	Final Report due upon completion of Agreement's period of performance
Reporting Period	For Semi-Annual Reporting: October 1 through March 31 and April 1 through September 30.	Entire period of performance
Due Date	Within 30 days after the end of the Reporting Period	Within 90 days after the completion date of the Agreement
Submit to:	GO and GOTR	GO and GOTR

II. RECLAMATION STANDARD TERMS AND CONDITIONS - STATES, LOCAL GOVERNMENTS, AND FEDERALLY RECOGNIZED INDIAN TRIBAL GOVERNMENTS

1. REGULATIONS

The regulations at 43 CFR, Part 12, Subparts A, C, E, and F, are hereby incorporated by reference as though set forth in full text. The following Office of Management and Budget (OMB) Circulars, as applicable, and as implemented by 43 CFR Part 12, are also incorporated by reference and made a part of this Agreement. Failure of a Recipient to comply with any applicable regulation or circular may be the basis for withholding payments for proper charges made by the Recipient and/or for termination of support.

1.1 Colleges and Universities that are Recipients or sub-recipients shall use the following:

2 CFR Parts 215 and 220 (Circular A 21), "Cost Principles for Educational Institutions"

Circular A 110, as amended September 30, 1999, "Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations" (Codification by Department of Interior, 43 CFR 12, Subpart F)

Circular A-133, revised June 27, 2003, "Audits of States, Local Governments, and Non-Profit Organizations"

1.2 State, Local and Tribal Governments that are Recipients or sub-recipients shall use the following:

2 CFR Part 225 (Circular A 87), "Cost Principles for State, Local, and Indian Tribal Governments"

Circular A 102, as amended August 29, 1997, "Grants and Cooperative Agreements with State and Local Governments" (Grants Management Common Rule, Codification by Department of Interior, 43 CFR 12, Subpart C)

Circular A-133, revised June 27, 2003, Audits of States, Local Governments, and Non-Profit Organizations"

1.3 Nonprofit Organizations that are Recipients or sub-recipients shall use the following:

2 CFR Part 230 (Circular A 122), "Cost Principles for Non-Profit Organizations"

Circular A 110, as amended September 30, 1999, "Uniform Administrative Requirements for Grants and Agreements With Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations" (Codification by Department of Interior, 43 CFR 12, Subpart F)

Circular A-133, revised June 27, 2003, "Audits of States, Local Governments, and Non-Profit Organizations"

1.4 Organizations other than those indicated above that are Recipients or sub-recipients shall use the basic principles of OMB Circular A-110 (Codification by Department of Interior, 43 CFR 12, Subpart F), and cost principles shall be in accordance with 48 CFR Subpart 31.2.

1.5 43 CFR 12.77 sets forth further regulations that govern the award and administration of subawards by State governments.

2. PAYMENT

2.1 Payment Standards. (43 CFR §12.61)

(a) *Scope.* This section prescribes the basic standard and the methods under which a Federal agency will make payments to recipients, and recipients will make payments to subrecipients and contractors.

(b) *Basic standard.* Methods and procedures for payment shall minimize the time elapsing between the transfer of funds and disbursement by the recipient or subrecipient, in accordance with Treasury regulations at 31 CFR part 205.

(c) *Advances.* Recipients and subrecipients shall be paid in advance, provided they maintain or demonstrate the willingness and ability to maintain procedures to minimize the time elapsing between the transfer of the funds and their disbursement by the recipient or subrecipient.

(d) *Reimbursement.* Reimbursement shall be the preferred method when the requirements in paragraph (c) of this section are not met.

(e) *Working capital advances.* If a recipient cannot meet the criteria for advance payments described in paragraph (c) of this section, and the Federal agency has determined that reimbursement is not feasible because the recipient lacks sufficient working capital, the awarding agency may provide cash or a working capital advance basis. Under this procedure the awarding agency shall advance cash to the recipient to cover its estimated disbursement needs for an initial period generally geared to the recipient's disbursing cycle. Thereafter, the awarding agency shall reimburse the recipient for its actual cash disbursements. The working capital advance method of payment shall not be used by recipients or subrecipients if the reason for using such method is the unwillingness or inability of the recipient to provide timely advances to the subrecipient to meet the sub recipient's actual cash disbursements.

(f) *Effect of program income, refunds, and audit recoveries on payment.*

- (1) Recipients and subrecipients shall disburse repayments to and interest earned on a revolving fund before requesting additional cash payments for the same activity.
- (2) Except as provided in paragraph (f)(1) of this section, recipients and subrecipients shall disburse program income, rebates, refunds, contract settlements, audit recoveries and interest earned on such funds before requesting additional cash payments.

(g) *Withholding payments.*

- (1) Unless otherwise required by Federal statute, awarding agencies shall not withhold payments for proper charges incurred by recipients or subrecipients unless—
 - (i) The recipient or subrecipient has failed to comply with agreement award conditions, or
 - (ii) The recipient or subrecipient is indebted to the United States.
- (2) Cash withheld for failure to comply with agreement award condition, but without suspension of the agreement, shall be released to the recipient upon subsequent compliance. When an agreement is suspended, payment adjustments will be made in accordance with §12.83(c).
- (3) A Federal agency shall not make payment to recipients for amounts that are withheld by recipients or subrecipients from payment to contractors to assure satisfactory completion of work. Payments shall be made by the Federal agency when the recipients or subrecipients actually disburse the withheld funds to the contractors or to escrow accounts established to assure satisfactory completion of work.

(h) *Cash depositories.*

- (1) Consistent with the national goal of expanding the opportunities for minority business enterprises, recipients and subrecipients are encouraged to use minority banks (a bank which is owned at least 50 percent by minority group members). A list of minority owned banks can be obtained from the Minority Business Development Agency, Department of Commerce, Washington, DC 20230.
- (2) A recipient or subrecipient shall maintain a separate bank account only when required by Federal-State Agreement.
 - (i) *Interest earned on advances.* Except for interest earned on advances of funds exempt under the Intergovernmental Cooperation Act (31 U.S.C. 6501 et seq.) and the Indian Self-Determination Act (23 U.S.C. 450), recipients and sub recipients shall promptly, but at least quarterly, remit interest earned on advances to the Federal agency. The recipient or subrecipient may keep interest amounts up to \$100 per year for administrative expenses.

2.2 Payment Method

Requesting Payments -- Requests for advance or reimbursement may be made by the following methods:

(1) **SF-270, Request for Advance or Reimbursement** - Recipients may submit an original and properly certified SF-270 form to the GO. For advance payments, this form may be submitted on a monthly basis, at least two weeks prior to the date on which funds are required, and on the basis of expected disbursements for the succeeding month and the amount of Federal funds already on hand. Requests for reimbursement may be submitted on a monthly basis, or more frequently if authorized by the (GO).

(2) **Automated Standard Application for Payments (ASAP)** - Recipients may utilize the Department of Treasury ASAP payment system to request advances or reimbursements. ASAP is a Recipient-initiated payment and information system designed to provide a single point of contact for the request and delivery of Federal funds.

Recipients interested in enrolling in the ASAP system, please contact Dee Devillier at 303-445-3461 or Sheri Oren at 303-445-3448.

3. PROCUREMENT STANDARDS (43 CFR §12.76)

(a) *States.* When procuring property and services under an agreement, a State will follow the same policies and procedures it uses for procurements from its non-Federal funds. The State will ensure that every purchase order or other contract includes any clauses required by Federal statutes and executive orders and their implementing regulations. Other recipients and sub recipients will follow paragraphs (b) through (i) in this section.

(b) *Procurement standards.*

(1) Recipients and subrecipients will use their own procurement procedures which reflect applicable State and local laws and regulations, provided that the procurements conform to applicable Federal law and the standards identified in this section.

(2) Recipients and subrecipients will maintain a contract administration system which ensures that contractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders.

(3) Recipients and subrecipients will maintain a written code of standards of conduct governing the performance of their employees engaged in the award and administration of contracts. No employee, officer or agent of the recipient or subrecipient shall participate in selection, or in the award or administration of a contract supported by Federal funds if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when:

(i) The employee, officer or agent,

(ii) Any member of his immediate family,

(iii) His or her partner, or

(iv) An organization which employs, or is about to employ, any of the above, has a financial or other interest in the firm selected for award. The recipient's or subrecipient's officers, employees or agents will neither solicit nor accept gratuities, favors or anything of monetary value from contractors, potential contractors, or parties to subagreements. Recipient and subrecipients may set minimum rules where the financial interest is not substantial or the gift is an unsolicited item of nominal intrinsic value. To the extent permitted by State or local law or regulations, such standards or conduct will provide for penalties, sanctions, or other disciplinary actions for violations of such standards by the recipient's and subrecipient's officers, employees, or agents, or by contractors or their agents. The awarding agency may in regulation provide additional prohibitions relative to real, apparent, or potential conflicts of interest.

(4) Recipient and subrecipient procedures will provide for a review of proposed procurements to avoid purchase of unnecessary or duplicative items. Consideration should be given to consolidating or breaking out procurements to obtain a more economical purchase. Where appropriate, an analysis will be made of lease versus purchase alternatives, and any other appropriate analysis to determine the most economical approach.

(5) To foster greater economy and efficiency, recipients and subrecipients are encouraged to enter into State and local intergovernmental agreements for procurement or use of common goods and services.

(6) Recipients and subrecipients are encouraged to use Federal excess and surplus property in lieu of purchasing new equipment and property whenever such use is feasible and reduces project costs.

(7) Recipients and subrecipients are encouraged to use value engineering clauses in contracts for construction projects of sufficient size to offer reasonable opportunities for cost reductions. Value engineering is a systematic and creative analysis of each contract item or task to ensure that its essential function is provided at the overall lower cost.

(8) Recipients and subrecipients will make awards only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

(9) Recipients and subrecipients will maintain records sufficient to detail the significant history of a procurement. These records will include, but are not necessarily limited to the following: rationale for the method of procurement, selection of contract type, contractor selection or rejection, and the basis for the contract price.

(10) Recipients and subrecipients will use time and material type contracts only—

(i) After a determination that no other contract is suitable, and

(ii) If the contract includes a ceiling price that the contractor exceeds at its own risk.

(11) Recipients and subrecipients alone will be responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual and administrative issues arising out of procurements. These issues include, but are not limited to source evaluation, protests, disputes, and claims. These standards do not relieve the recipient or subrecipient of any contractual responsibilities under its contracts. Federal agencies will not substitute their judgment for that of the recipient or subrecipient unless the matter is primarily a Federal concern. Violations of law will be referred to the local, State, or Federal authority having proper jurisdiction.

(12) Recipients and subrecipients will have protest procedures to handle and resolve disputes relating to their procurements and shall in all instances disclose information regarding the protest to the awarding agency. A protestor must exhaust all administrative remedies with the recipient and subrecipient before pursuing a protest with the Federal agency. Reviews of protests by the Federal agency will be limited to:

(i) Violations of Federal law or regulations and the standards of this section (violations of State or local law will be under the jurisdiction of State or local authorities) and

(ii) Violations of the recipient's or subrecipient's protest procedures for failure to review a complaint or protest. Protests received by the Federal agency other than those specified above will be referred to the recipient or subrecipient.

(c) *Competition.*

(1) All procurement transactions will be conducted in a manner providing full and open competition consistent with the standards of §12.76. Some of the situations considered to be restrictive of competition include but are not limited to:

(i) Placing unreasonable requirements on firms in order for them to qualify to do business,

(ii) Requiring unnecessary experience and excessive bonding,

(iii) Noncompetitive pricing practices between firms or between affiliated companies,

(iv) Noncompetitive awards to consultants that are on retainer contracts,

(v) Organizational conflicts of interest,

(vi) Specifying only a "brand name" product instead of allowing "an equal" product to be offered and describing the performance of other relevant requirements of the procurement, and

(vii) Any arbitrary action in the procurement process.

(2) Recipients and subrecipients will conduct procurements in a manner that prohibits the use of statutorily or administratively imposed in-State or local geographical preferences in the evaluation of bids or proposals, except in those cases where applicable Federal statutes expressly mandate or encourage geographic preference. Nothing in this section preempts State licensing laws. When contracting for architectural and engineering (A/E) services, geographic location may be a selection criteria provided its application leaves an appropriate number of qualified firms, given the nature and size of the project, to compete for the contract.

(3) Recipients will have written selection procedures for procurement transactions. These procedures will ensure that all solicitations:

(i) Incorporate a clear and accurate description of the technical requirements for the material, product, or service to be procured. Such description shall not, in competitive procurements, contain features which unduly restrict competition. The description may include a statement of the qualitative nature of the material, product or service to be procured, and when necessary, shall set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use. Detailed product specifications should be avoided if at all possible. When it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a "brand name or equal" description may be used as a means to define the performance or other salient requirements of a procurement. The specific features of the named brand which must be met by offerors shall be clearly stated; and

(ii) Identify all requirements which the offerors must fulfill and all other factors to be used in evaluating bids or proposals.

(4) Recipients and subrecipients will ensure that all prequalified lists of persons, firms, or products which are used in acquiring goods and services are current and include enough qualified sources to ensure maximum open and free competition. Also, recipients and subrecipients will not preclude potential bidders from qualifying during the solicitation period.

(d) *Methods of procurement to be followed* —(1) *Procurement by small purchase procedures.* Small purchase procedures are those relatively simple and informal procurement methods for securing services, supplies, or other property that do not cost more than the simplified acquisition threshold fixed at 41 U.S.C. 403(11) (currently set at \$100,000). If small purchase procedures are used, price or rate quotations shall be obtained from an adequate number of qualified sources.

(2) Procurement by *sealed bids* (formal advertising). Bids are publicly solicited and a firm-fixed-price contract (lump sum or unit price) is awarded to the responsible bidder whose bid, conforming with all the material terms and conditions of the invitation for bids, is the lowest in price. The sealed bid method is the preferred method for procuring construction, if the conditions in §12.76(d)(2)(i) apply.

(i) In order for sealed bidding to be feasible, the following conditions should be present:

(A) A complete, adequate, and realistic specification or purchase description is available;

(B) Two or more responsible bidders are willing and able to compete effectively and for the business; and

(C) The procurement lends itself to a firm fixed price contract and the selection of the successful bidder can be made principally on the basis of price.

(ii) If sealed bids are used, the following requirements apply:

(A) The invitation for bids will be publicly advertised and bids shall be solicited from an adequate number of known suppliers, providing them sufficient time prior to the date set for opening the bids;

(B) The invitation for bids, which will include any specifications and pertinent attachments, shall define the items or services in order for the bidder to properly respond;

(C) All bids will be publicly opened at the time and place prescribed in the invitation for bids;

(D) A firm fixed-price contract award will be made in writing to the lowest responsive and responsible bidder. Where specified in bidding documents, factors such as discounts, transportation cost, and life cycle costs shall be considered in determining which bid is lowest. Payment discounts will only be used to determine the low bid when prior experience indicates that such discounts are usually taken advantage of; and

(E) Any or all bids may be rejected if there is a sound documented reason.

(3) Procurement by *competitive proposals*. The technique of competitive proposals is normally conducted with more than one source submitting an offer, and either a fixed-price or cost-reimbursement type contract is awarded. It is generally used when conditions are not appropriate for the use of sealed bids. If this method is used, the following requirements apply:

(i) Requests for proposals will be publicized and identify all evaluation factors and their relative importance. Any response to publicized requests for proposals shall be honored to the maximum extent practical;

(ii) Proposals will be solicited from an adequate number of qualified sources;

(iii) Recipients and subrecipients will have a method for conducting technical evaluations of the proposals received and for selecting awardees;

(iv) Awards will be made to the responsible firm whose proposal is most advantageous to the program, with price and other factors considered; and

(v) Recipients and subrecipients may use competitive proposal procedures for qualifications-based procurement of architectural/engineering (A/E) professional services whereby competitors' qualifications are evaluated and the most qualified competitor is selected, subject to negotiation of fair and reasonable compensation. The method, where price is not used as a selection factor, can only be used in procurement of A/E professional services. It cannot be used to purchase other types of services though A/E firms are a potential source to perform the proposed effort.

(4) Procurement by *noncompetitive proposals* is procurement through solicitation of a proposal from only one source, or after solicitation of a number of sources, competition is determined inadequate.

(i) Procurement by noncompetitive proposals may be used only when the award of a contract is infeasible under small purchase procedures, sealed bids or competitive proposals and one of the following circumstances applies:

(A) The item is available only from a single source;

(B) The public exigency or emergency for the requirement will not permit a delay resulting from competitive solicitation;

(C) The awarding agency authorizes noncompetitive proposals; or

(D) After solicitation of a number of sources, competition is determined inadequate.

(ii) Cost analysis, i.e., verifying the proposed cost data, the projections of the data, and the evaluation of the specific elements of costs and profits, is required.

(iii) Recipients and subrecipients may be required to submit the proposed procurement to the awarding agency for pre-award review in accordance with paragraph (g) of this section.

(e) *Contracting with small and minority firms, women's business enterprise and labor surplus area firms.* (1) The recipient and subrecipient will take all necessary affirmative steps to assure

that minority firms, women's business enterprises, and labor surplus area firms are used when possible.

(2) Affirmative steps shall include:

(i) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(ii) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

(iii) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises;

(iv) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women's business enterprises;

(v) Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce; and

(vi) Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (e)(2) (i) through (v) of this section.

(f) *Contract cost and price.*

(1) Recipients and subrecipients must perform a cost or price analysis in connection with every procurement action including contract modifications. The method and degree of analysis is dependent on the facts surrounding the particular procurement situation, but as a starting point, recipients must make independent estimates before receiving bids or proposals. A cost analysis must be performed when the offeror is required to submit the elements of his estimated cost, e.g., under professional, consulting, and architectural engineering services contracts. A cost analysis will be necessary when adequate price competition is lacking, and for sole source procurements, including contract modifications or change orders, unless price reasonableness can be established on the basis of a catalog or market price of a commercial product sold in substantial quantities to the general public or based on prices set by law or regulation. A price analysis will be used in all other instances to determine the reasonableness of the proposed contract price.

(2) Recipients and subrecipients will negotiate profit as a separate element of the price for each contract in which there is no price competition and in all cases where cost analysis is performed. To establish a fair and reasonable profit, consideration will be given to the complexity of the work to be performed, the risk borne by the contractor, the contractor's investment, the amount of subcontracting, the quality of its record of past performance, and industry profit rates in the surrounding geographical area for similar work.

(3) Costs or prices based on estimated costs for contracts under agreements will be allowable only to the extent that costs incurred or cost estimates included in negotiated prices are consistent with Federal cost principles (see §12.62). Recipients may reference their own cost principles that comply with the applicable Federal cost principles.

(4) The cost plus a percentage of cost and percentage of construction cost methods of contracting shall not be used.

(g) Awarding agency review.

(1) Recipients and subrecipients must make available, upon request of the awarding agency, technical specifications on proposed procurements where the awarding agency believes such review is needed to ensure that the item and/or service specified is the one being proposed for purchase. This review generally will take place prior to the time the specification is incorporated into a solicitation document. However, if the recipient or subrecipient desires to have the review accomplished after a solicitation has been developed, the awarding agency may still review the specifications, with such review usually limited to the technical aspects of the proposed purchase.

(2) Recipients and subrecipients must on request make available for awarding agency pre-award review procurement documents, such as requests for proposals or invitations for bids, independent cost estimates, etc. when:

(i) A recipient's or subrecipient's procurement procedures or operation fails to comply with the procurement standards in this section; or

(ii) The procurement is expected to exceed the simplified acquisition threshold and is to be awarded without competition or only one bid or offer is received in response to a solicitation; or

(iii) The procurement, which is expected to exceed the simplified acquisition threshold, specifies a "brand name" product; or

(iv) The proposed award is more than the simplified acquisition threshold and is to be awarded to other than the apparent low bidder under a sealed bid procurement; or

(v) A proposed contract modification changes the scope of a contract or increases the contract amount by more than the simplified acquisition threshold.

(3) A recipient or subrecipient will be exempt from the pre-award review in paragraph (g)(2) of this section if the awarding agency determines that its procurement systems comply with the standards of this section.

(i) A recipient or subrecipient may request that its procurement system be reviewed by the awarding agency to determine whether its system meets these standards in order for

its system to be certified. Generally, these reviews shall occur where there is a continuous high-dollar funding, and third-party contracts are awarded on a regular basis.

(ii) A recipient or subrecipient may self-certify its procurement system. Such self-certification shall not limit the awarding agency's right to survey the system. Under a self-certification procedure, awarding agencies may wish to rely on written assurances from the recipient or subrecipient that it is complying with these standards. A recipient or subrecipient will cite specific procedures, regulations, standards, etc., as being in compliance with these requirements and have its system available for review.

(h) *Bonding requirements.* For construction or facility improvement contracts or subcontracts exceeding the simplified acquisition threshold, the awarding agency may accept the bonding policy and requirements of the recipient or subrecipient provided the awarding agency has made a determination that the awarding agency's interest is adequately protected. If such a determination has not been made, the minimum requirements shall be as follows:

(1) *A bid guarantee from each bidder equivalent to five percent of the bid price.* The "bid guarantee" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified.

(2) *A performance bond on the part of the contractor for 100 percent of the contract price.* A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

(3) *A payment bond on the part of the contractor for 100 percent of the contract price.* A "payment bond" is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

(i) *Contract provisions.* A recipient's and subrecipient's contracts must contain provisions in paragraph (i) of this section. Federal agencies are permitted to require changes, remedies, changed conditions, access and records retention, suspension of work, and other clauses approved by the Office of Federal Procurement Policy.

(1) Administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as may be appropriate. (Contracts more than the simplified acquisition threshold)

(2) Termination for cause and for convenience by the recipient or subrecipient including the manner by which it will be effected and the basis for settlement. (All contracts in excess of \$10,000)

(3) Compliance with Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, and

as supplemented in Department of Labor regulations (41 CFR chapter 60). (All construction contracts awarded in excess of \$10,000 by recipients and their contractors or subrecipients)

(4) Compliance with the Copeland "Anti-Kickback" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR Part 3). (All contracts and subagreements for construction or repair)

(5) Compliance with the Davis-Bacon Act (40 U.S.C. 276a to 276a-7) as supplemented by Department of Labor regulations (29 CFR Part 5). (Construction contracts in excess of \$2000 awarded by recipients and subrecipients when required by Federal grant program legislation)

(6) Compliance with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330) as supplemented by Department of Labor regulations (29 CFR Part 5). (Construction contracts awarded by recipients and subrecipients in excess of \$2000, and in excess of \$2500 for other contracts which involve the employment of mechanics or laborers)

(7) Notice of awarding agency requirements and regulations pertaining to reporting.

(8) Notice of awarding agency requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract.

(9) Awarding agency requirements and regulations pertaining to copyrights and rights in data.

(10) Access by the recipient, the subrecipient, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers, and records of the contractor which are directly pertinent to that specific contract for the purpose of making audit, examination, excerpts, and transcriptions.

(11) Retention of all required records for three years after recipients or subrecipients make final payments and all other pending matters are closed.

(12) Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h)), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15). (Contracts, subcontracts, and subagreements of amounts in excess of \$100,000)

(13) Mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94-163, 89 Stat. 871).

4. EQUIPMENT (43 CFR §12.72)

(a) *Title.* Subject to the obligations and conditions set forth in this section, title to equipment acquired under an agreement or subagreement will vest upon acquisition in the recipient or subrecipient respectively.

(b) *States.* A State will use, manage, and dispose of equipment acquired under an agreement by the State in accordance with State laws and procedures. Other recipients and subrecipients will follow paragraphs (c) through (e) of this section.

(c) *Use.*

(1) Equipment shall be used by the recipient or subrecipient in the program or project for which it was acquired as long as needed, whether or not the project or program continues to be supported by Federal funds. When no longer needed for the original program or project, the equipment may be used in other activities currently or previously supported by a Federal agency.

(2) The recipient or subrecipient shall also make equipment available for use on other projects or programs currently or previously supported by the Federal Government, providing such use will not interfere with the work on the projects or program for which it was originally acquired. First preference for other use shall be given to other programs or projects supported by the awarding agency. User fees should be considered if appropriate.

(3) Notwithstanding the encouragement in §12.65(a) to earn program income, the recipient or subrecipient must not use equipment acquired with agreement funds to provide services for a fee to compete unfairly with private companies that provide equivalent services, unless specifically permitted or contemplated by Federal statute.

(4) When acquiring replacement equipment, the recipient or subrecipient may use the equipment to be replaced as a trade-in or sell the property and use the proceeds to offset the cost of the replacement property, subject to the approval of the awarding agency.

(d) *Management requirements.* Procedures for managing equipment (including replacement equipment), whether acquired in whole or in part with agreement funds, until disposition takes place will, as a minimum, meet the following requirements:

(1) Property records must be maintained that include a description of the property, a serial number or other identification number, the source of property, who holds title, the acquisition date, and cost of the property, percentage of Federal participation in the cost of the property, the location, use and condition of the property, and any ultimate disposition data including the date of disposal and sale price of the property.

(2) A physical inventory of the property must be taken and the results reconciled with the property records at least once every two years.

(3) A control system must be developed to ensure adequate safeguards to prevent loss, damage, or theft of the property. Any loss, damage, or theft shall be investigated.

(4) Adequate maintenance procedures must be developed to keep the property in good condition.

(5) If the recipient or subrecipient is authorized or required to sell the property, proper sales procedures must be established to ensure the highest possible return.

(e) *Disposition.* When original or replacement equipment acquired under an agreement or subagreement is no longer needed for the original project or program or for other activities currently or previously supported by a Federal agency, disposition of the equipment will be made as follows:

(1) Items of equipment with a current per-unit fair market value of less than \$5,000 may be retained, sold or otherwise disposed of with no further obligation to the awarding agency.

(2) Items of equipment with a current per unit fair market value in excess of \$5,000 may be retained or sold and the awarding agency shall have a right to an amount calculated by multiplying the current market value or proceeds from sale by the awarding agency's share of the equipment.

(3) In cases where a recipient or subrecipient fails to take appropriate disposition actions, the awarding agency may direct the recipient or subrecipient to take excess and disposition actions.

(f) *Federal equipment.* In the event a recipient or subrecipient is provided Federally-owned equipment:

(1) Title will remain vested in the Federal Government.

(2) Recipients or subrecipients will manage the equipment in accordance with Federal agency rules and procedures, and submit an annual inventory listing.

(3) When the equipment is no longer needed, the recipient or subrecipient will request disposition instructions from the Federal agency.

(g) *Right to transfer title.* The Federal awarding agency may reserve the right to transfer title to the Federal Government or a third part named by the awarding agency when such a third party is otherwise eligible under existing statutes. Such transfers shall be subject to the following standards:

(1) The property shall be identified in the agreement or otherwise made known to the recipient in writing.

(2) The Federal awarding agency shall issue disposition instruction within 120 calendar days after the end of the Federal support of the project for which it was acquired. If the Federal awarding agency fails to issue disposition instructions within the 120 calendar-day period the recipient shall follow 12.72(e).

(3) When title to equipment is transferred, the recipient shall be paid an amount calculated by applying the percentage of participation in the purchase to the current fair market value of the property.

5. SUPPLIES (43 CFR §12.73)

(a) *Title.* Title to supplies acquired under an agreement or subagreement will vest, upon acquisition, in the recipient or subrecipient respectively.

(b) *Disposition.* If there is a residual inventory of unused supplies exceeding \$5,000 in total aggregate fair market value upon termination or completion of the award, and if the supplies are not needed for any other Federally sponsored programs or projects, the recipient or subrecipient shall compensate the awarding agency for its share.

6. INSPECTION

Reclamation has the right to inspect and evaluate the work performed or being performed under this Agreement, and the premises where the work is being performed, at all reasonable times and in a manner that will not unduly delay the work. If Reclamation performs inspection or evaluation on the premises of the Recipient or a sub-Recipient, the Recipient shall furnish and shall require sub-recipients to furnish all reasonable facilities and assistance for the safe and convenient performance of these duties.

7. AUDIT (31 U.S.C. 7501-7507)

Non-Federal entities that expend \$500,000 or more in a year in Federal awards shall have a single or program-specific audit conducted for that year in accordance with the Single Audit Act Amendments of 1996 (31 U.S.C. 7501-7507) and revised OMB Circular A-133. Federal awards are defined as Federal financial assistance and Federal cost-reimbursement contracts that non-Federal entities receive directly from Federal awarding agencies or indirectly from pass-through entities. They do not include procurement contracts, under agreements or contracts, used to buy goods or services from vendors. Non-Federal entities that expend less than \$500,000 a year in Federal awards are exempt from Federal audit requirements for that year, except as noted in A-133, § ___.215(a), but records must be available for review or audit by appropriate officials of the Federal agency, pass-through entity, and General Accounting Office (GAO).

8. ENFORCEMENT (43 CFR §12.83)

(a) *Remedies for noncompliance.* If a recipient or subrecipient materially fails to comply with any term of an award, whether stated in a Federal statute or regulation, an assurance, in a State plan or application, a notice of award, or elsewhere, the awarding agency may take one or more of the following actions, as appropriate in the circumstances:

- (1) Temporarily withhold cash payments pending correction of the deficiency by the recipient or subrecipient or more severe enforcement action by the awarding agency,
- (2) Disallow (that is, deny both use of funds and matching credit for) all or part of the cost of the activity or action not in compliance,
- (3) Wholly or partly suspend or terminate the current award for the recipient's or subrecipient's program,
- (4) Withhold further awards for the program, or
- (5) Take other remedies that may be legally available.

(b) *Hearings, appeals.* In taking an enforcement action, the awarding agency will provide the recipient or subrecipient an opportunity for such hearing, appeal, or other administrative proceeding to which the recipient or subrecipient is entitled under any statute or regulation applicable to the action involved.

(c) *Effects of suspension and termination.* Costs of recipient or subrecipient resulting from obligations incurred by the recipient or subrecipient during a suspension or after termination of an award are not allowable unless the awarding agency expressly authorizes them in the notice of suspension or termination or subsequently. Other recipient or subrecipient costs during suspension or after termination which are necessary and not reasonably avoidable are allowable if:

- (1) The costs result from obligations which were properly incurred by the recipient or subrecipient before the effective date of suspension or termination, are not in anticipation of it, and, in the case of a termination, are noncancellable, and,
- (2) The costs would be allowable if the award were not suspended or expired normally at the end of the funding period in which the termination takes effect.

(d) *Relationship to Debarment and Suspension.* The enforcement remedies identified in this section, including suspension and termination, do not preclude recipient or subrecipient from being subject to "Debarment and Suspension" under E.O. 12549 ((2 CFR 29.5.12 and 2 CFR 1400, Subpart C).

9. TERMINATION FOR CONVENIENCE (43 CFR §12.84)

Except as provided in 43 CFR §12.83 awards may be terminated in whole or in part only as follows:

(a) By the awarding agency with the consent of the recipient or subrecipient in which case the two parties shall agree upon the termination conditions, including the effective date and in the case of partial termination, the portion to be terminated, or

(b) By the recipient or subrecipient upon written notification to the awarding agency, setting forth the reasons for such termination, the effective date, and in the case of partial termination, the portion to be terminated. However, if, in the case of a partial termination, the awarding agency determines that the remaining portion of the award will not accomplish the purposes for which the award was made, the awarding agency may terminate the award in its entirety under either §12.83 or paragraph (a) of this section.

10. DEBARMENT AND SUSPENSION (2 CFR §1400)

The Department of the Interior regulations at 2 CFR 1400—Governmentwide Debarment and Suspension (Nonprocurement), which adopt the common rule for the governmentwide system of debarment and suspension for nonprocurement activities, are hereby incorporated by reference and made a part of this Agreement. By entering into this Cooperative Agreement with the Bureau of Reclamation, the Recipient agrees to comply with 2 CFR 1400, Subpart C, and agrees to include a similar term or condition in all lower-tier covered transactions. These regulations are available at <http://www.gpoaccess.gov/ecfr/>.

11. DRUG-FREE WORKPLACE (43 CFR §43)

The Department of the Interior regulations at 43 CFR 43—Governmentwide Requirements for Drug-Free Workplace (Financial Assistance), which adopt the portion of the Drug-Free Workplace Act of 1988 (41 U.S.C. 701 et seq, as amended) applicable to grants and cooperative Agreements, are hereby incorporated by reference and made a part of this Agreement. By entering into this grant or cooperative Agreement with the Bureau of Reclamation, the Recipient agrees to comply with 43 CFR 43, Subpart B, if the Recipient is not an individual, or with 43 CFR 43, Subpart C, if the Recipient is an individual. These regulations are available at <http://www.gpoaccess.gov/ecfr/>.

12. ASSURANCES AND CERTIFICATIONS INCORPORATED BY REFERENCE

The provisions of the Assurances, SF 424B or SF 424D as applicable, executed by the Recipient in connection with this Agreement shall apply with full force and effect to this Agreement. All anti-discrimination and equal opportunity statutes, regulations, and Executive Orders that apply to the expenditure of funds under Federal contracts, grants, and cooperative Agreements, loans,

and other forms of Federal assistance. The Recipient shall comply with Title VI or the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and any program-specific statutes with anti-discrimination requirements. The Recipient shall comply with civil rights laws including, but not limited to, the Fair Housing Act, the Fair Credit Reporting Act, the Americans with Disabilities Act, Title VII of the Civil Rights Act of 1964, the Equal Educational Opportunities Act, the Age Discrimination in Employment Act, and the Uniform Relocation Act.

Such Assurances also include, but are not limited to, the promise to comply with all applicable Federal statutes and orders relating to nondiscrimination in employment, assistance, and housing; the Hatch Act; Federal wage and hour laws and regulations and work place safety standards; Federal environmental laws and regulations and the Endangered Species Act; and Federal protection of rivers and waterways and historic and archeological preservation.

13. COVENANT AGAINST CONTINGENT FEES

The Recipient warrants that no person or agency has been employed or retained to solicit or secure this Agreement upon an Agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide offices established and maintained by the Recipient for the purpose of securing Agreements or business. For breach or violation of this warranty, the Government shall have the right to annul this Agreement without liability or, in its discretion, to deduct from the Agreement amount, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee

14. TRAFFICKING VICTIMS PROTECTION ACT OF 2000 (2 CFR §175.15)

(a) To implement the trafficking in persons requirement in section 106(g) of the TVPA, as amended, a Federal awarding agency must include the award term in paragraph (b) of this section in—

(1) A grant or cooperative agreement to a private entity, as defined in §175.25(d); and

(2) A grant or cooperative agreement to a State, local government, Indian tribe or foreign public entity, if funding could be provided under the award to a private entity as a subrecipient.

(b) The award term that an agency must include, as described in paragraph (a) of this section, is:

I. Trafficking in persons.

a. Provisions applicable to a recipient that is a private entity .

1. You as the recipient, your employees, subrecipients under this award, and subrecipients' employees may not—

i. Engage in severe forms of trafficking in persons during the period of time that the award is in effect;

ii. Procure a commercial sex act during the period of time that the award is in effect; or

iii. Use forced labor in the performance of the award or subawards under the award.

2. We as the Federal awarding agency may unilaterally terminate this award, without penalty, if you or a subrecipient that is a private entity —

i. Is determined to have violated a prohibition in paragraph a.1 of this award term; or

ii. Has an employee who is determined by the agency official authorized to terminate the award to have violated a prohibition in paragraph a.1 of this award term through conduct that is either—

A. Associated with performance under this award; or

B. Imputed to you or the subrecipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR part 180, “OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement),” as implemented by our agency at 2 CFR part 1400.

b. Provision applicable to a recipient other than a private entity. We as the Federal awarding agency may unilaterally terminate this award, without penalty, if a subrecipient that is a private entity—

1. Is determined to have violated an applicable prohibition in paragraph a.1 of this award term; or

2. Has an employee who is determined by the agency official authorized to terminate the award to have violated an applicable prohibition in paragraph a.1 of this award term through conduct that is either—

i. Associated with performance under this award; or

ii. Imputed to the subrecipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR part 180, “OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement),” as implemented by our agency at 2 CFR part 1400.

c. Provisions applicable to any recipient.

1. You must inform us immediately of any information you receive from any source alleging a violation of a prohibition in paragraph a.1 of this award term.

2. Our right to terminate unilaterally that is described in paragraph a.2 or b of this section:
 - i. Implements section 106(g) of the Trafficking Victims Protection Act of 2000 (TVPA), as amended (22 U.S.C. 7104(g)), and
 - ii. Is in addition to all other remedies for noncompliance that are available to us under this award.
3. You must include the requirements of paragraph a.1 of this award term in any subaward you make to a private entity.

d. *Definitions* . For purposes of this award term:

1. "Employee" means either:
 - i. An individual employed by you or a subrecipient who is engaged in the performance of the project or program under this award; or
 - ii. Another person engaged in the performance of the project or program under this award and not compensated by you including, but not limited to, a volunteer or individual whose services are contributed by a third party as an in-kind contribution toward cost sharing or matching requirements.
2. "Forced labor" means labor obtained by any of the following methods: the recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery.
3. "Private entity":
 - i. Means any entity other than a State, local government, Indian tribe, or foreign public entity, as those terms are defined in 2 CFR 175.25.
 - ii. Includes:
 - A. A nonprofit organization, including any nonprofit institution of higher education, hospital, or tribal organization other than one included in the definition of Indian tribe at 2 CFR 175.25(b).
 - B. A for-profit organization.
4. "Severe forms of trafficking in persons," "commercial sex act," and "coercion" have the meanings given at section 103 of the TVPA, as amended (22 U.S.C. 7102).

(c) An agency may use different letters and numbers to designate the paragraphs of the award term in paragraph (b) of this section, if necessary, to conform the system of paragraph designations with the one used in other terms and conditions in the agency's awards

15. NEW RESTRICTIONS ON LOBBYING (43 CFR §18)

The Recipient agrees to comply with 43 CFR 18, New Restrictions on Lobbying, including the following certification:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Recipient, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying" in accordance with its instructions.

(3) The Recipient shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subagreements, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.



As evidenced by the signatures attached to the cover letter, corresponding resolutions, the "in-kind" efforts identified within this proposal and the efforts to provide the background data and prepare this detailed proposal.

Scope of Work

Introduction

SouthEast Wyoming (Goshen County)

The 2000 Goshen County population was 12,538. Recent energy development, most predominately wind energy; construction of a state prison; and "migration" of people from the Front Range of Colorado have all led to the prospects for increased growth within the county. The 50-year projected population for Goshen County is less than 40,000. The City of Torrington is the county seat and additional municipalities within Goshen County include Fort Laramie, Lingle, La Grange, Yoder and rural water districts.

The City of Torrington well field, located adjacent to the North Platte River, is experiencing greater levels of nitrates and uranium. Similar occurrences are showing up in Lingle wells and the wells for Yoder and Hawk Springs. In 1998, Torrington added reverse osmosis (RO) treatment to reduce the levels of nitrates in the city water supply to comply with EPA regulations. These RO units blend waters from the various wells and filter to reduce the nitrate levels; and the discharge is then delivered through the sanitary sewer treatment processes. Operation and maintenance of these treatment facilities is a significant burden for local water operators; and as the EPA adds additional annual requirements for water quality operation, efforts will likely increase. The smaller municipalities are experiencing similar reductions in water quality, with some finding limited benefit by drilling additional wells in adjacent locations. Upstream in the North Platte River; and before runoff from significant areas of farmed land enter into the Platte River, it has been identified these nitrate levels are greatly reduced; and are within EPA requirements.

Western Nebraska (Scotts Bluff County)

The 2000 Scotts Bluff County population was 36,951 with 76% of the population served by an existing public water system. The 50-year projected population to be served by public water systems is 40,000. This population includes the municipalities of Scottsbluff, Gering, Mitchell, Terrytown, Bayard, Morrill, Minatare, Lyman, Melbeta, McGrew and several non-community water systems. The cities of Bayard and Bridgeport are located in Morrill County.

All of the municipalities rely on ground water as their source for drinking water and have or are in the process of modifying their systems to meet EPA regulations. Western Nebraska communities have seen the need and the economic advantages of working together by developing regional alternatives. The Villages of Morrill, Lyman and Henry are in the process of developing a regional well field to meet arsenic, uranium and copper levels. The City of Scottsbluff has abandoned existing wells and constructed a new well field to meet arsenic, uranium and nitrate levels. The cities of Minatare and

Bayard are in process of constructing of a regional water system to purchase water from the City of Scottsbluff to meet uranium and nitrate levels. The City of Gering has constructed a new well field to allow for blending of water from their existing wells to meet arsenic and uranium levels. The new well field was strategically located as to allow for regionalization between Scottsbluff and Gering if a treatment alternative becomes necessary. The Villages of Melbeta and McGrew currently do not have a public water system, however, may be forced into providing a source as the area develops.

Western Nebraska area wells continue to show an increase in contaminate levels. It has become an expected fact that treatment will become necessary in the future to meet EPA regulations. The operation and maintenance of groundwater treatment facilities will become a significant burden to each system.

In addition to the increase in contaminate levels, the North Platte River Basin in Scotts Bluff and Morrill Counties has been determined to be over-appropriated. Any new groundwater sources that create depletions to the river will have to be mitigated in time and place. This is a significant burden for the development of any new groundwater source that meets EPA regulations.

1. Project Administration

For purposes of this Proposal we have identified the Counties and Municipalities of this study region as the Sponsor. The Authorized Representative for the Sponsor will be the contact with the USBR for this Appraisal Investigation. We provide a scope narrative and a budget associated with the identified tasks. We anticipate selection of a consultant for completion of many of the study activities. We also anticipate participation by many staff representatives, and elected officials, from communities and rural areas throughout the study area. We have included within the project budget approximately 6 hours per week for municipal staff, largely the Authorized Representative, and estimate this represents less than 10 per cent of the actual time that will be spent by staff on this project, the remaining 90% is considered in-kind support for this project.

Initial discussions with the USBR and the Wyoming Water Development Commission have expressed support for further investigations/evaluations of the potentials of a regional water system to benefit this rural area. An ongoing discussion with these (and other) Federal, State and County officials is anticipated during investigations and development of alternatives.

1.1 Consultant Selection

Upon the USBR notice of award of the funding for this Appraisal Investigation, the Authorized Representative will initiate a consultant selection process. Initially the Authorized Representative will prepare a Request for Proposals (RFP) for distribution to interested and qualified engineering consultants. This RFP will "mirror" the tasks as identified within this Proposal. The Authorized Representative will identify a selection committee to review the proposals. USBR staff will be invited to review the RFP prior to distribution, and participate on this selection committee, if desired. Upon review of the engineering consultant proposals submitted, it is anticipated the committee will then select a



qualified engineering consultant. If the committee desires additional information and/or discussion with identified consultants, the committee may choose to conduct interviews with the top three (3) identified engineering consultants, prior to making a final decision.

1.2 Joint Powers Board

As this Appraisal Investigation is conducted, there will be continued discussions with the Counties, Municipalities and potential rural water districts regarding formation of a legal entity. The actual "make-up" of a Joint Powers Board may vary depending upon the outcomes of this Appraisal Investigation. As such, actual legal and legislative research and corresponding efforts to form an administrative entity will occur with subsequent Feasibility Studies, depending upon the outcome and recommendations of this Appraisal Investigation.

1.3 Sponsor Meetings

It is anticipated monthly progress meetings will be conducted during this Appraisal Investigation. The attached Project schedule will be updated monthly. These meetings will primarily be between the Sponsor's Authorized Representative and the consultant; however additional staff and/or elected officials may attend, as deemed appropriate. Included will be coordination and collaboration with the Bureau of Reclamation; and USBR staff is always encouraged to participate, and can be included via conference call, if desired. The intent is to discuss and provide information to the Sponsor agencies, and reduce/eliminate the need for the Authorized Representative to continually attend county and municipal meetings to provide status updates.

2. Public Outreach

2.1 Public Meetings

Conduct public meetings (2), the first to inform the interested public regarding the situation and solicit input, and the second to provide potential alternate solutions and receive input.

2.1.1 Initial Open House

An initial open house will be conducted to introduce the Appraisal Investigation to the general public, gauge interest, and receive input. Exhibits will be prepared to illustrate the need, potential regional water supply areas, issues and concepts. This is anticipated to be a three (3) hour open house format.

2.1.2 Appraisal Investigation Findings Open House

An open house will be conducted to discuss preliminary investigations; discuss potential alternatives for providing region wide potable water to the area; and receive input. Exhibits will be prepared to illustrate concepts and alternatives. This is anticipated to be a three (3) hour open house format.

2.2 Web Site

A project web site will be created. Project related information will be placed on the website as it is developed during the investigations. There will be opportunity to provide input to the web site. Links to this web site will be available from region wide municipality and county web sites. Potentially project FaceBook and Twitter accounts may be created as additional opportunities to disseminate information and receive comment during preparation of this Appraisal Investigation.

3. Review Existing Data & Previous Studies

Review of existing data and previous studies. Contact the USBR, Wyoming State Engineer's office; Wyoming Water Development Commission; Nebraska Department of Natural resources, municipalities, and rural water districts to discuss the historical and current situation and acquire information from previous studies within the region. Identified previous studies may include:

- Guernsey Hydraulic Study Level II Wyoming Water Development Commission; November, 2003.
- Fort Laramie Water Supply Rehabilitation Level II Study Wyoming Water Development Commission; July, 2008.
- Town of Lingle Water Supply Master Plan, Level I Project Wyoming Water Development Commission; November, 1998.
- Torrington, Wyoming Water Master Plan, Level I, Final Report Wyoming Water Development Commission; November, 1995.
- Construction and Testing Report Yoder No. 2 Production Well Wyoming Water Development Commission; March, 1990.
- Preliminary Engineering Report-Village of Lyman, Nebraska; April, 2006.
- Preliminary Engineering Report-Village of Henry, Nebraska; May, 2008.
- Preliminary Engineering Report (Supplement No. 1)-Village of Morrill, Nebraska; October, 2005
- Preliminary Engineering Report-City of Gering
- Preliminary Engineering Report (Revision No.1)-City of Minatare, Nebraska; June, 2007.
- Preliminary Engineering Report-City of Bridgeport
- Preliminary Engineering Report-City of Bayard, Nebraska; September 2009.
- Platte Goshen Regional Master Plan Level I Study Wyoming Water Development Commission; September, 2004.
- Platte River Basin Plan Wyoming Water Development Commission; May, 2006.
- Water and Related Land Resources of the Platte River Basin, Wyoming State Engineer's Office; September, 1971.
- Annual Operating Plans – North Platte River Basin (and numerous additional project reports) U.S. Bureau of Reclamation.
- Western Regional Water System Feasibility Study-Villages of Mitchell, Morrill, Lyman and Henry, Nebraska; March 2007.
- Feasibility Study-Cities of Bayard and Minatare, Nebraska; May 2008.



This list of previous studies is evidence of the critical water supply need; and the concepts that regional water systems may provide preferred water supply solutions.

4. Identification of Municipal Needs

Discussions with city, county and rural water districts staff and elected officials, regarding current operations and potential improvements will be conducted. Information gathered may include historic daily, monthly and yearly water volumes processed; water processed versus metered use; historic water quality test results; water treatment operational schematics; current physical plant facilities and desired/anticipated upgrades; and historic and anticipated growth trends. Also, additional items of information will surely be identified that will aid in understanding of the current situation and future needs.

5. Identification and Evaluation of Existing Water Rights

Identification of current and future water right requirements will be identified. This task requires extensive discussion with the Bureau of Reclamation, the Wyoming State Engineer's Offices, the Nebraska Health and Human Services Offices, as well as each of the municipalities/rural water districts within the region as to existing water rights. Through these discussions, the concept is, with this project, to use existing water rights (the same water) differently, and not apply for new water rights.

In addition, discussions will be conducted with the Missouri Basin Power Cooperative to identify water supply opportunities associated with the Grayrocks Dam and Reservoir.

6. Investigation of Subsurface Water Supply Opportunities

This task includes investigation of underground formations to determine if there are deeper or adjacent underground waters of capacity and quality to be able to comply with EPA potable water standards with conventional treatment. Subsurface information will be obtained from the numerous previously drilled wells within the study area. This task does not anticipate drilling exploratory wells; however, this task may recommend drilling of exploratory wells, to further determine volume and quality of water, in future Feasibility Investigations.

7. Evaluate Surface Water Supply Opportunities

7.1 Reservoirs

Research water stored within upstream reservoirs (such as Guernsey Reservoir, Grayrocks Reservoir, etc.); and determine if this water can be treated with conventional facilities to meet current and future EPA requirements. This potable water could then be delivered, by gravity, to downstream municipalities. (Note, Guernsey Reservoir and North Platte River flows are operated by the Bureau of Reclamation.) It is anticipated we will obtain water quality information regarding the water stored in the Glendo and Guernsey Reservoirs from the Bureau of Reclamation; and for water stored in Grayrocks Reservoir from the Missouri Basin Power Cooperative.



7.2 Stream flow

The Bureau of Reclamation, as well as the Wyoming State Engineer's Office and the Nebraska Health and Human Services Office will be contacted to evaluate existing stream flow quality and volumes, and permitted requirements. With this information, and from discussions with these agencies, potential water supply alternatives will be considered.

8. Assess Economy of Scale of Region Wide System

Nationwide, with the focus on public safety, the Environmental Protection Agency (EPA) is continually identifying additional constituents with standards to test for in public potable water supplies. Additional compliance regulations typically will expand the facility and operational requirements; and make it more difficult, and more expensive in staff and facilities, for small rural water systems to comply. As stated in the Introduction to this scope, several rural communities in Nebraska have already identified some operational and economic benefit to combination of water supply and treatment facilities. Further economic and operational benefits may be garnered through a larger region wide potable water system. These potential benefits will be addressed through identification of region wide alternatives.

9. Region Wide Alternatives

As stated in the Introduction, this study will focus on addressing the immediate and long term water quality issues; providing potable water, economically, to the current customers. Also, as stated in the introduction, this region wide area incorporates two states; Nebraska and Wyoming.

9.1 Alternative Identification

Potential alternative concepts may include:

- Obtain water from Grayrocks Reservoir, construct a water treatment plant downstream of the Reservoir and deliver potable water, piped gravity flow downstream to the rural municipalities and water districts.
- Obtain water from Guernsey Reservoir, construct a water treatment plant downstream of the Reservoir and deliver potable water, piped gravity flow downstream to the rural municipalities and water districts.
- Obtain water downstream of the confluence of the Laramie River and the North Platte River, construct a water treatment plant in vicinity of the confluence of the Laramie River and North Platte River, and deliver potable water, piped gravity flow downstream to the rural municipalities and water districts.
- Obtain water from an upstream alluvial well field, construct a water treatment plant downstream of the well field and deliver potable water, piped gravity flow downstream to the rural municipalities and water districts.

Concepts of these alternatives, and some not yet identified, are to:

- Utilize water upstream of the mineral contaminants; thereby utilizing conventional water treatment methods and thereby greatly reducing both current and anticipated future treatment requirements.

- Deliver water via gravity flow through a pipeline downstream to the rural municipalities and water districts; thus greatly reducing or eliminating pumping costs.

Issues to be addressed with these alternatives, and some not yet identified, include:

- Water rights and the ability to modify use, and/or transfer points of use.
- Administrative/legal requirements to comply with Wyoming and Nebraska state statutes.
- Interstate issues related to the North Platte River.

Each alternative may also include several options within the region wide alternative.

9.2 Cost estimates

Budget level project cost estimates for each alternative, including options within an alternative, will be prepared. Budget level cost estimates will be developed for the year 2012. They may be inflated to align with anticipated construction. Due to the volatility of the financial market these inflation rates then can all be modified, as deemed appropriate, in the future.

10. Report Preparation

10.1 Prepare Preliminary Report

A Draft of the Appraisal Investigation Report will be prepared including references, tables, and figures. This will be considered a 90% Draft. Fifteen (15) color copies of the Draft Report will be provided to the Sponsor for dissemination.

10.2 Sponsor/Agency Review

The Sponsor will disseminate the Draft Report, as appropriate, for review. This schedule anticipates one month to receive all review comments.

10.3 Adjudicate Input Received

A meeting will be scheduled to address all review comments. This meeting will address the appropriate adjudication of comment. This meeting will provide specific direction for any ambiguous comments.

10.4 Final Report Preparation

Following receipt and adjudication of review comments, they will be incorporated into the Final

**PLATTE ALLIANCE WATER SUPPLY (PAWS)
Region Wide Municipal Rural Water Supply Project
Appraisal Investigation Report.**

Color copies, including references, tables, figures and appendices of the Final Report will be produced.

In addition, color copies of an Executive Summary, of the Final Report will be prepared.



11. Deliver Final Report

Twenty five (25) copies of the final Appraisal Investigation Report and Executive Summary will be delivered.

Schedule and Cost Estimate

The following schedule illustrates specific tasks; aligns with the tasks as discussed in the narrative; identifies a time frame for completion of the specific tasks; and provides a preliminary cost estimate for each task. Also, a breakdown of hours (and costs) by labor category is provided for each specific task.

As previously identified, the initial effort will be to select a consultant to perform the Appraisal Investigation. The cost estimate is based on a "typical" consultant rate schedule (which therefore would include all fringe benefits); and the estimated hours of a consultant to perform the identified tasks.

The hours shown for the Authorized Representative include approximately 6 hours per week to administer this Appraisal Investigation; and the rate does not include any fringe benefits. It is anticipated the Authorized Representative may indeed require significantly more hours than shown. These additional hours and the Authorized Representative fringe benefits are not specifically identified and will be considered as "in-kind" costs.

Attachment B

PAWS-Region Wide Municipal Rural Water Supply Project

ID	Resource Name	Type	Initials	Group	Max. Units	Std. Rate
1	Senior Manager	Work	S		100%	\$150.00/hr
2	Engineer IV	Work	E		100%	\$115.00/hr
3	Engineer III	Work	E		100%	\$95.00/hr
4	Engineer I	Work	E		100%	\$72.00/hr
5	Engineering Technician III	Work	E		100%	\$85.00/hr
6	Engineering Technician I	Work	E		100%	\$50.00/hr
7	Geologist II	Work	G		100%	\$75.00/hr
8	Professional Land Surveyor	Work	P		100%	\$95.00/hr
9	Administrative Assistant	Work	A		100%	\$50.00/hr
10	Expenses	Work	E		100%	\$100.00/hr
11	Authorized Representative	Work	A		100%	\$40.00/hr

Attachment C

PLATTE ALLIANCE-WATER SUPPLY (PAWS)

REGION WIDE MUNICIPAL RURAL WATER SUPPLY PROJECT

Outline Number	Task Name	Duration	Start	Finish	Cost
0	PAWS-Region Wide Municipal Rural Water Supply Project	275 days	Mon 1/3/11	Fri 1/20/12	\$180,000.00
1	Project Administration	270 days	Mon 1/3/11	Fri 1/13/12	\$5,760.00
1.1	Consultant Selection	22 days	Mon 1/3/11	Tue 2/1/11	\$1,920.00
1.2	Joint Powers Board	90 days	Mon 1/3/11	Fri 5/6/11	\$1,920.00
1.3	Sponsor Meetings	270 days	Mon 1/3/11	Fri 1/13/12	\$1,920.00
2	Public Outreach	220 days	Mon 1/24/11	Fri 11/25/11	\$8,010.00
2.1	Public Meetings	135 days	Mon 1/24/11	Fri 7/29/11	\$4,620.00
2.1.1	Initial Open House	10 days	Mon 1/24/11	Fri 2/4/11	\$2,310.00
2.1.2	Appraisal Investigation Findings Open House	10 days	Mon 7/18/11	Fri 7/29/11	\$2,310.00
2.2	Web Site	220 days	Mon 1/24/11	Fri 11/25/11	\$3,390.00
3	Review Existing Data & Previous Studies	80 days	Wed 2/2/11	Tue 5/24/11	\$6,966.00
4	Identification of Municipal Needs	50 days	Mon 2/21/11	Fri 4/29/11	\$7,368.00
5	Identification and Evaluation of Existing Water Rights	60 days	Mon 3/21/11	Fri 6/10/11	\$15,120.00
6	Investigation of Subsurface Water Supply Opportunities	60 days	Mon 3/21/11	Fri 6/10/11	\$15,496.00
7	Evaluate Surface Water Supply Opportunities	60 days	Mon 4/18/11	Fri 7/8/11	\$23,856.00
7.1	Reservoirs	60 days	Mon 4/18/11	Fri 7/8/11	\$10,200.00
7.2	Streamflow	60 days	Mon 4/18/11	Fri 7/8/11	\$13,656.00
8	Assess Economy of Scale of Region Wide System	60 days	Mon 7/11/11	Fri 9/30/11	\$9,464.00
9	Regional Alternatives	75 days	Mon 8/1/11	Fri 11/11/11	\$51,616.00
9.1	Alternative Identification	75 days	Mon 8/1/11	Fri 11/11/11	\$45,176.00
9.2	Cost Estimates	20 days	Mon 10/3/11	Fri 10/28/11	\$6,440.00
10	Report Preparation	60 days	Mon 10/31/11	Fri 1/20/12	\$36,324.00
10.1	Prepare Preliminary Report	20 days	Mon 10/31/11	Fri 11/25/11	\$17,024.00
10.2	Sponsor/Agency Review	20 days	Mon 11/28/11	Fri 12/23/11	\$0.00
10.3	Adjudicate Input received	10 days	Mon 12/26/11	Fri 1/6/12	\$7,420.00
10.4	Final Report Preparation	10 days	Mon 1/9/12	Fri 1/20/12	\$11,880.00
11	Deliver Final Report	0 days	Fri 1/20/12	Fri 1/20/12	\$0.00

PAWS-Region Wide Municipal Rural Water Supply Project

Outline Number	Task Name	Duration	Start	Finish																																										
1.1	Consultant Selection	22 days	Mon 1/3/11	Tue 2/1/11																																										
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6	Engineering Technician I	25%	20 hrs	0 days	Mon 1/24/11	Fri 2/4/11																																								
9	Administrative Assistant	25%	20 hrs	0 days	Mon 1/24/11	Fri 2/4/11																																								
11	Authorized Representative	5%	4 hrs	0 days	Mon 1/24/11	Fri 2/4/11																																								
2.2	Web Site	220 days	Mon 1/24/11	Fri 11/25/11																																										
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3	Review Existing Data & Previous Studies	80 days	Wed 2/2/11	Tue 5/24/11																																										
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PAWS-Region Wide Municipal Rural Water Supply Project

Outline Number	Task Name	Duration	Start	Finish			
7.1	Reservoirs	60 days	Mon 4/18/11	Fri 7/8/11			
	ID	Resource Name	Units	Work	Delay	Start	Finish
	1	Senior Manager	5%	24 hrs	0 days	Mon 4/18/11	Fri 7/8/11
	2	Engineer IV	10%	48 hrs	0 days	Mon 4/18/11	Fri 7/8/11
	9	Administrative Assistant	3%	12 hrs	0 days	Mon 4/18/11	Fri 7/8/11
	11	Authorized Representative	3%	12 hrs	0 days	Mon 4/18/11	Fri 7/8/11
7.2	Streamflow	60 days	Mon 4/18/11	Fri 7/8/11			
	ID	Resource Name	Units	Work	Delay	Start	Finish
	1	Senior Manager	5%	24 hrs	0 days	Mon 4/18/11	Fri 7/8/11
	2	Engineer IV	10%	48 hrs	0 days	Mon 4/18/11	Fri 7/8/11
	4	Engineer I	10%	48 hrs	0 days	Mon 4/18/11	Fri 7/8/11
	9	Administrative Assistant	3%	12 hrs	0 days	Mon 4/18/11	Fri 7/8/11
	11	Authorized Representative	3%	12 hrs	0 days	Mon 4/18/11	Fri 7/8/11
8	Assess Economy of Scale of Region Wide System	60 days	Mon 7/11/11	Fri 9/30/11			
	ID	Resource Name	Units	Work	Delay	Start	Finish
	1	Senior Manager	3%	16 hrs	0 days	Mon 7/11/11	Fri 9/30/11
	2	Engineer IV	7%	32 hrs	0 days	Mon 7/11/11	Fri 9/30/11
	4	Engineer I	7%	32 hrs	0 days	Mon 7/11/11	Fri 9/30/11
	9	Administrative Assistant	3%	12 hrs	0 days	Mon 7/11/11	Fri 9/30/11
	11	Authorized Representative	3%	12 hrs	0 days	Mon 7/11/11	Fri 9/30/11
2.1.2	Appraisal Investigation Findings Open House	10 days	Mon 7/18/11	Fri 7/29/11			
	ID	Resource Name	Units	Work	Delay	Start	Finish
	1	Senior Manager	1%	1 hr	0 days	Mon 7/18/11	Fri 7/29/11
	6	Engineering Technician I	25%	20 hrs	0 days	Mon 7/18/11	Fri 7/29/11
	9	Administrative Assistant	25%	20 hrs	0 days	Mon 7/18/11	Fri 7/29/11
	11	Authorized Representative	5%	4 hrs	0 days	Mon 7/18/11	Fri 7/29/11
9.1	Alternative Identification	75 days	Mon 8/1/11	Fri 11/11/11			
	ID	Resource Name	Units	Work	Delay	Start	Finish
	1	Senior Manager	15%	88 hrs	0 days	Mon 8/1/11	Fri 11/11/11
	2	Engineer IV	20%	120 hrs	0 days	Mon 8/1/11	Fri 11/11/11
	3	Engineer III	2%	12 hrs	0 days	Mon 8/1/11	Fri 11/11/11
	4	Engineer I	15%	88 hrs	0 days	Mon 8/1/11	Fri 11/11/11
	5	Engineering Technician III	17%	100 hrs	0 days	Mon 8/1/11	Fri 11/11/11
	9	Administrative Assistant	3%	16 hrs	0 days	Mon 8/1/11	Fri 11/11/11
	11	Authorized Representative	6%	35 hrs	0 days	Mon 8/1/11	Fri 11/11/11
9.2	Cost Estimates	20 days	Mon 10/3/11	Fri 10/28/11			
	ID	Resource Name	Units	Work	Delay	Start	Finish
	2	Engineer IV	15%	24 hrs	0 days	Mon 10/3/11	Fri 10/28/11
	4	Engineer I	25%	40 hrs	0 days	Mon 10/3/11	Fri 10/28/11
	9	Administrative Assistant	10%	16 hrs	0 days	Mon 10/3/11	Fri 10/28/11
10.1	Prepare Preliminary Report	20 days	Mon 10/31/11	Fri 11/25/11			
	ID	Resource Name	Units	Work	Delay	Start	Finish
	1	Senior Manager	15%	24 hrs	0 days	Mon 10/31/11	Fri 11/25/11
	2	Engineer IV	20%	32 hrs	0 days	Mon 10/31/11	Fri 11/25/11
	4	Engineer I	20%	32 hrs	0 days	Mon 10/31/11	Fri 11/25/11
	5	Engineering Technician III	40%	84 hrs	0 days	Mon 10/31/11	Fri 11/25/11
	9	Administrative Assistant	15%	24 hrs	0 days	Mon 10/31/11	Fri 11/25/11
	11	Authorized Representative	15%	20 hrs	0 days	Mon 10/31/11	Fri 11/25/11
10.2	Sponsor/Agency Review	20 days	Mon 11/28/11	Fri 12/23/11			

PAWS-Region Wide Municipal Rural Water Supply Project

Outline Number	Task Name	Duration	Start	Finish																																			
10.3	Adjudicate input received	10 days	Mon 12/26/11	Fri 1/6/12																																			
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10.4	Final Report Preparation	10 days	Mon 1/9/12	Fri 1/20/12																																			
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9	Administrative Assistant	50%	40 hrs	0 days	Mon 1/9/12	Fri 1/20/12																																	
11	Deliver Final Report	0 days	Fri 1/20/12	Fri 1/20/12																																			



20110603 **DRAFT**

Appendix B

Modified Study Schedule

**PLATTE ALLIANCE WATER SUPPLY
(PAWS)
REGION WIDE MUNICIPAL RURAL WATER SUPPLY PROJECT**

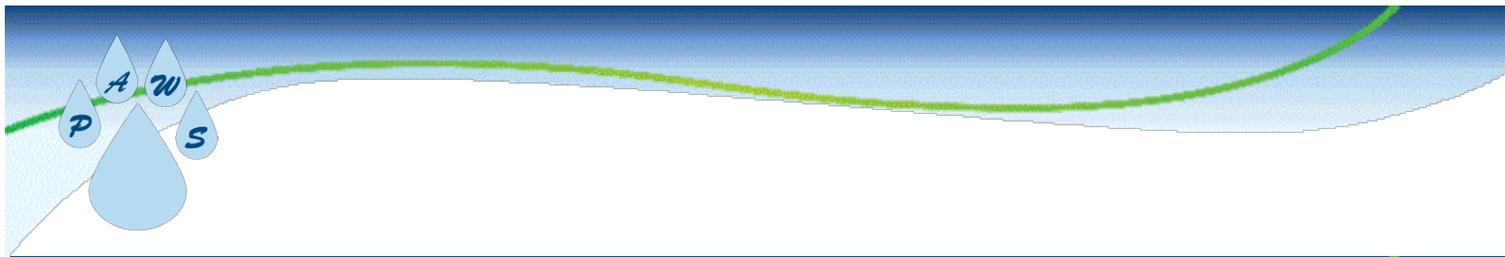
Outline Number	Task Name	Duration	Start	Finish	2011											
					D	J	F	M	A	M	J	J	A	S	O	
0	PAWS-Region Wide Municipal Rural Water Supply Project	210 days	Mon 1/3/11	Fri 10/21/11												
1	Project Administration	200 days	Mon 1/3/11	Fri 10/7/11												
1.1	<i>Consultant Selection</i>	<i>22 days</i>	<i>Mon 1/3/11</i>	<i>Tue 2/1/11</i>												
1.2	<i>Joint Powers Board</i>	<i>90 days</i>	<i>Mon 1/3/11</i>	<i>Fri 5/6/11</i>												
1.3	<i>Sponsor Meetings</i>	<i>200 days</i>	<i>Mon 1/3/11</i>	<i>Fri 10/7/11</i>												
2	USBR Review	105 days	Mon 3/21/11	Fri 8/12/11												
2.1	<i>Initial Review (Overview/briefing)</i>	<i>5 days</i>	<i>Mon 3/21/11</i>	<i>Fri 3/25/11</i>												
2.2	<i>Draft Review</i>	<i>20 days</i>	<i>Mon 5/23/11</i>	<i>Fri 6/17/11</i>												
2.3	<i>Final Review</i>	<i>20 days</i>	<i>Mon 7/18/11</i>	<i>Fri 8/12/11</i>												
3	Public Outreach	170 days	Mon 1/24/11	Fri 9/16/11												
3.1	Public Meetings	90 days	Mon 3/14/11	Fri 7/15/11												
3.1.1	<i>Advisory Committee Meeting</i>	<i>5 days</i>	<i>Mon 3/14/11</i>	<i>Fri 3/18/11</i>												
3.1.2	<i>Initial Open House</i>	<i>10 days</i>	<i>Tue 3/29/11</i>	<i>Mon 4/11/11</i>												
3.1.3	<i>Advisory Committee Meeting</i>	<i>5 days</i>	<i>Mon 5/16/11</i>	<i>Fri 5/20/11</i>												
3.1.4	<i>Appraisal Investigation Findings Open House</i>	<i>10 days</i>	<i>Mon 7/4/11</i>	<i>Fri 7/15/11</i>												
3.2	Web Site	170 days	Mon 1/24/11	Fri 9/16/11												
4	Review Existing Data & Previous Studies	30 days	Wed 2/2/11	Tue 3/15/11												
5	Identification of Municipal Needs	30 days	Mon 2/21/11	Fri 4/1/11												
5.1	<i>Water Quantity</i>	<i>30 days</i>	<i>Mon 2/21/11</i>	<i>Fri 4/1/11</i>												
5.2	<i>Water Quality</i>	<i>30 days</i>	<i>Mon 2/21/11</i>	<i>Fri 4/1/11</i>												
6	Identification and Evaluation of Existing Water Rights	60 days	Mon 3/21/11	Fri 6/10/11												
7	Investigation of Subsurface Water Supply Opportunities	40 days	Mon 3/21/11	Fri 5/13/11												
8	Evaluate Surface Water Supply Opportunities	40 days	Mon 4/4/11	Fri 5/27/11												
8.1	<i>Reservoirs</i>	<i>40 days</i>	<i>Mon 4/4/11</i>	<i>Fri 5/27/11</i>												
8.2	<i>Streamflow</i>	<i>40 days</i>	<i>Mon 4/4/11</i>	<i>Fri 5/27/11</i>												
9	Assess Economy of Scale of Region Wide System	40 days	Mon 5/30/11	Fri 7/22/11												
10	Regional Alternatives	65 days	Mon 3/21/11	Fri 6/17/11												
10.1	<i>Alternative Identification</i>	<i>60 days</i>	<i>Mon 3/21/11</i>	<i>Fri 6/10/11</i>												
10.2	<i>Cost Estimates</i>	<i>20 days</i>	<i>Mon 5/23/11</i>	<i>Fri 6/17/11</i>												
11	Report Preparation	60 days	Mon 6/20/11	Fri 9/9/11												
11.1	<i>Prepare Preliminary Report</i>	<i>20 days</i>	<i>Mon 6/20/11</i>	<i>Fri 7/15/11</i>												
11.2	<i>Sponsor/Agency Review</i>	<i>20 days</i>	<i>Mon 7/18/11</i>	<i>Fri 8/12/11</i>												
11.3	<i>Adjudicate Input received</i>	<i>10 days</i>	<i>Mon 8/15/11</i>	<i>Fri 8/26/11</i>												
11.4	<i>Final Report Preparation</i>	<i>10 days</i>	<i>Mon 8/29/11</i>	<i>Fri 9/9/11</i>												
12	Deliver Final Report	0 days	Fri 9/9/11	Fri 9/9/11												
13	USBR Report Preparation	15 days	Mon 9/12/11	Fri 9/30/11												
14	USBR Denver Office Review	15 days	Mon 10/3/11	Fri 10/21/11												



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Appendix C

Previous and Current Studies



Existing Documents



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Data & Studies List

Click on Report Title to go to Summary & Document Links. The complete report is available by clicking on the document link at the end of each summary.

[Annual Operating Plans - North Platte River Basin 2009-2010](#)

[Preliminary Engineering Report - City of Bayard, Nebraska; September 2009](#)

[Feasibility Study - City of Bayard, Nebraska & City of Minatare, Nebraska; September 2009](#)

[Preliminary Engineering Report - Village of Henry Nebraska; May 2008](#)

[Fort Laramie Water Supply Rehabilitation Level II Study - Wyoming Water Development Commission; July 2008](#)

[Western Regional Water System Feasibility Study - Villages of Mitchell, Morrill, Lyman & Henry, Nebraska; March 2007](#)

[Preliminary Engineering Report \(with Revision No. 1\) - City of Minatare, Nebraska; June 2007](#)

[Preliminary Engineering Report - City of Bridgeport \(With Supplement No. 1\); November 2006 & August 2007](#)

[Preliminary Engineering Report - City of Gering "New Water Source Review"; August 2006](#)

[Section 319 Nonpoint Source Pollution Control Program Assessment Project; June 2006](#)

[Platte River Basin Plan - Wyoming Water Development Commission; May 2006](#)

[Preliminary Engineering Report - Village of Lyman, Nebraska; April 2006](#)

[An Integrated Watershed Approach to Protect Groundwater Quality in Goshen County, Wyoming; 2006](#)

[Final Report - Initial Assessment North Platte Natural Resources District Arsenic & Uranium Study Nebraska - U.S. Army Corps of Engineers for the North Platte Natural Resource District; March, July 2005](#)

[Preliminary Engineering Report \(with Supplement No. 1\) - Village of Morrill, Nebraska; October 2005](#)

[Platte Goshen Regional Master Plan Level I Study Wyoming Water Development Commission; September, 2004](#)

[Guernsey Hydraulic Study Level II - Wyoming Water Development Commission; November, 2003](#)

[Groundwater/surface water interactions and sources of nitrogen and uranium in an irrigated area of Nebraska; I.M. Verstraeten, J.K Bohlke & T.F. Kraemer, U.S. Geological Survey – Tracers and Modelling in Hydrogeology \(Proceedings of the TraM'2000 Conference held at Liege, Belgium, May 2000\). IAHS Publ. no 262.2000](#)

- USGS Fact Sheet 100-01: Use of Environmental Tracers and Isotopes to Evaluate Sources of Water, Nitrate, and Uranium in an Irrigated Alluvial Valley, Nebraska; I.M. Verstraeten, J.K Bohlke & T.F. Kraemer, U.S. Geological Survey & J.C. Cannia, North Platte Natural Resources District, Gering, NE
- Town of Lingle Water Supply Master Plan, Level I Project, Wyoming Water Development Commission; November, 1998
- Results of Nitrate Sampling in the Torrington, Wyoming Wellhead Protection Area - USGS; 1994-98, USGS and the Town of Torrington, Water Resources Investigations Report 99-4164, 1999
- Torrington, Wyoming Water Master Plan, Level I (1995) and Level I-Phase II (1997), Wyoming Water Development Commission; November 1995 & 1997
- Reconnaissance of Ground-Water Quality in the North Platte Natural Resources District - Western Nebraska USGS Water Resources Investigations Report 94-4057; 1995
- Guernsey Water Supply Master Plan – Level I Wyoming Water Development Commission, November, 1995
- Torrington, Wyoming Water Master Plan – Level I Wyoming Water Development Commission; November, 1995
- Wellhead Protection Program, Chapter II, Groundwater Investigation Monitoring Wells - Wyoming Water Development Commission, Chapter IV, Groundwater Monitoring Results - NPS 319; September 1994
- Reconnaissance of Ground-Water Quality in the North Platte Natural Resources District, Western Nebraska, June- July 1991 (Water Resources Investigations Report 94-4057)
- Construction and Testing Report Yoder No. 2 Production Well Wyoming Water Development Commission; March 1990
- Water and Related Land Resources of the Platte River Basin, Wyoming State Engineer's Office; September, 1971
- Annual Operating Plans-North Platte River Basin (and numerous additional project reports) U.S. Bureau of Reclamation

Data & Studies Summaries & Document Links

Annual Operating Plans - North Platte River Basin; 2009-2010.

A summary of this report is not available at this time.



[Annual Operating Plans-North Platte River Basin 2009-2010.pdf](#) (2,044 kb)

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Preliminary Engineering Report-City of Bayard, Nebraska; September, 2009.

“The scope of this report is to evaluate the condition and the ability of the existing public water system to supply a sufficient quality and quantity of potable water to the users of the system and to present recommendations of needed improvements.”

The report identifies issues with the current water supply exceeding the MCL of 10 µg/l for nitrates, such that the City is under an Administrative Order from the State of Nebraska Department of Health & Human Services. The City's water storage & distribution system also has deficiencies in terms of an under-sized storage tank that is in poor condition (needs re-coating), cast iron mains in corrosive soils that have deteriorated to the point of needing replacement, a need for replacing out-dated water meters for compatibility with their touch-read system, and approximately 40 lead services that need to be replaced to avoid system lead contamination.

This report references alternatives for a new water source as identified in the Feasibility

Study for the Cities of Bayard and Minatare.

This report recommends proposed improvements to include distribution system improvements and the immediate construction of a water treatment plant for compliance with the Administrative Order. The report was prepared in conjunction with the Feasibility Study for the Cities of Bayard & Minatare (September, 2009). As recommended in the Feasibility Study, the City will be constructing a treatment plant for nitrate removal.



[Bayard Preliminary Engineering Report-2009](#) (14,807 kb)

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Feasibility Study-Cities of Bayard and Minatare, Nebraska; September 2009.

“The scope of this report is to evaluate the condition and the ability of the existing public water system to supply a sufficient quality and quantity of potable water to the users of the system and to present recommendations of needed improvements.”

This Study evaluates alternatives to address the findings of the Preliminary Engineering Reports, namely the need to address Bayard’s AO for exceeding the MCL for nitrates and Minatare’s AO for exceeding the MCL for Uranium. The report identifies four options for potential water sources, namely the City of Scottsbluff, a new potential well field north of Minatare, expanding the existing facilities of Minatare, and expanding the existing facilities of Bayard.

In conjunction with potential water sources, a series of six alternatives were considered:

1. Purchasing water from the City of Scottsbluff
2. Bayard & Minatare each treat their existing sources
3. Expand & treat Bayard’s source water for both Cities
4. Expand & treat Minatare’s source water for both Cities
5. Development of a new regional well field
6. Bayard treats its existing water source and Minatare will purchase water from the City of Scottsbluff.

Of these alternates, the Study recommends Alternate 6, Bayard treating its existing water source and Minatare purchasing water from Scottsbluff as the most cost-effective, long term solution for both communities. At this time, the Cities are following the recommendation of this option from the Feasibility Study.



[Bayard & Minatare Feasibility Study-2009](#) (23,175kb)

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Preliminary Engineering Report-Village of Henry, Nebraska; May, 2008.

“The scope of this report is to evaluate the condition and the ability of the existing public water system to supply a sufficient quality and quantity of potable water to the users of the system and to present recommendations of needed improvements.”

The report acknowledges the Village is currently under a Lead/Copper Exceedance Advisory. Both of the Village’s source wells are identified to produce corrosive water causing corrosion in domestic supply piping. It also identifies issues with the current storage tank as being undersized and having a failing foundation, a failing transmission main from the storage tank to the distribution system that needs replacement, and a lack of sufficient isolation valves within the distribution network.

The report recommends connection to a proposed regional water system, installation of water meters, construction of a new 50,000 gallon storage tank with an 8-inch main from the tank to the distribution system, and the installation of additional main line water valves.

As recommended in the Western Regional Water System Feasibility Study for the City of Mitchell, Village of Morrill, Village of Lyman and Village of Henry (March 2007), the Village will be entering into a regional well field for combined use with Morrill & Lyman.



[Henry Preliminary Engineering Report-2008](#) (6,400 kb)

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Fort Laramie Water Supply Rehabilitation Level II Study Wyoming Water Development Commission; July, 2008.

The purpose of this study is to evaluate the Town’s municipal water system. There is

insufficient data available to determine existing or predict future water demand. The Town's water supply is from two wells, one permitted in 1949, and the second drilled in 1967. Water treatment consists of a sodium hypochlorite injection system at each wellhead. Improvement options include; construct a new water storage tank to increase storage capacity; replace the existing 6-inch line between the wells and tank with dual 8-inch lines; replace existing 6-inch, 4-inch and smaller pipes in the distribution system with larger lines; create a water system records system; adopt a progressive water use rate structure; improve chlorine disinfection system; incorporate system security measures; incorporate a leak detection program; and restore the Town's surface irrigation system.



[Fort Laramie-Water Supply Rehabilitation Level II-Executive Summary-2008.pdf](#) (97 kb)



[Fort Laramie-Water Supply Rehabilitation Level II-Final Report-2008.pdf](#) (1,850 kb)

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Western Regional Water System Feasibility Study-Villages of Mitchell, Morrill, Lyman and Henry, Nebraska; March, 2007.

"The scope of this report is to evaluate the condition and the ability of the existing public water system to supply a sufficient quality and quantity of potable water to the users of the system and to present recommendations of needed improvements."

This report evaluates alternatives to address the Village of Henry's Lead/Copper Exceedance Advisory for Copper, the Village of Lyman's Administrative Order for Uranium MCL Violation, the Village of Morrill's Administrative Order for Uranium MCL Violation and three-year extension for compliance with the new Arsenic MCL. The report notes that the City of Mitchell is not presently under any Administrative Order for water quality, and that they have just begun compliance sampling for Uranium.

The Study references that the Village of Lyman participated in pilot EPA demonstration projects testing both an Absorptive Media process and a Coagulation/Filtration process. The Absorptive Media was found cost prohibitive due to the need for pH control and the Coagulation/Filtration process generates a larger volume of backwash than the Village can accommodate with their existing sewage treatment lagoons. Additionally, a secondary study was conducted testing a separate absorptive media, which was found to have the same pH control issue as the EPA demonstration project.

The Study identifies three potential water sources:

- Using Mitchell's existing wells. The City has sufficient pumping capacity if they return a stand-by well to service (Well 621) and test results for their supply water meet current drinking water quality standards for Arsenic and Uranium. The City's pumping capacity is 2,900 gpm and a regional system would require approximately 2,650 gpm.
- Drawing on Morrill's well field. Water quality tests for this aquifer indicate fluctuating levels of Arsenic & Uranium and Arsenic has tested as high as 10.1µg/l. This would not permit any increase in the Arsenic level without requiring treatment. Additionally, this well field appears to have a shallow aquifer that is impacted by a nearby irrigation canal and a low-lying swampy area. The irrigation canal appears to dilute the Uranium & Arsenic, when in use. Increased pumping activity may draw water from the swampy area resulting in increased levels of Uranium. The report suggests additional sampling to evaluate the effects of these nearby factors.
- Developing a potential well field approximately four miles north of Lyman. The water quality of this aquifer appears to meet current drinking water standards.

The Study proposes a series of 8 alternatives between the potential water sources, including treatment of existing sources. Of these alternatives a recommendation is made for the development of Lyman's well field to serve the Villages of Henry, Lyman and Morrill, with the City of Mitchell continuing to use its existing wells. The Study recognizes the advantages of providing water that meets current drinking water quality standards, expected longer well field life without the need for treatment, allows for economy of scale of a single treatment plant (if needed), proposes a centralized well field between the affected communities, allows continued use of Well 931 by Morrill to blend water and postpone treatment. The Study also notes a current disadvantage of a "higher" construction cost that is mid-range among the considered alternates.



[Western Regional Water System Feasibility Study-Mitchell, Morrill, Lyman, Henry-2007](#) (28,547 kb)

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Preliminary Engineering Report (with Revision No. 1)-City of Minatare, Nebraska; June, 2007.

“The scope of this report is to evaluate the condition and the ability of the existing public water system to supply a sufficient quality and quantity of potable water to the users of the system and to present recommendations of needed improvements.”

This report identifies issues with the current water supply exceeding the MCL for Uranium, an undersized elevated storage tank that does not provide sufficient system pressure and an immediate concern where corrosive soils are causing severe issues with the degradation and failure of the current distribution system, which is substantially cast iron and ductile iron pipe. The report presents alternatives issues with the source water (blending, treatment and a regional system), storage (grade-level and elevated tanks) and it recommends the immediate replacement or abandonment of the failing distribution system. It also recommends the evaluation of potential well fields as new source water with an alternate of a transmission main and booster pump station to draw water from the City of Scottsbluff.

Revision No. 1 to the report addresses minor revisions as requested by the funding agency.

The combined Feasibility Study for the communities of Minatare & Bayard was prepared subsequent to the Preliminary Engineering Report (PER). Pursuant to that Feasibility Study, the City of Minatare is pursuing the option to purchase water from Scottsbluff, construct a new booster pump station and transmission pipeline from Scottsbluff to Minatare, replace the deficient distribution mains and construct a new 250,000 gallon storage tank.



[Minatare Preliminary Engineering Report-Revision 1-2007](#) (11,745 kb)

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Preliminary Engineering Report-City of Bridgeport (With Supplemental No 1) November 2006 & August 2007.

“The purpose of this report is to present the results of studies, preliminary planning, distribution system analysis, and recommendations for addition to water production, treatment, storage, and distribution facilities. The report outlines a long-range plan of improvements for the Bridgeport water system.”

The report identifies the City's two storage tanks (250,000 and 50,000 gallon capacities) and two existing production wells. The report indicates that the City has adequate capacity to meet current and future (year 2027) maximum day demands, but insufficient “firm capacity” when considering the removal of the largest well from service. The City has a third well available for emergency use, but it does not meet Safe Drinking Water Act standards. Use of this third well would subsequently require system flushing and disinfection after each use. The majority of the current distribution system consists of cast iron 4-inch and 6-inch mains. The system is deficient with an inability to provide adequate fire protection and maintenance staff characterizes the distribution in “fair to poor” condition.

The city received an Administrative Order (AO), effective June 13, 2005 for violation of the Uranium Maximum Contamination Level (MCL). As referenced in the AO, testing of the City's two production wells in 2004 and 2005 determined Uranium concentrations well in excess of the MCL of 30 µg/l (between 41 µg/l and 115 µg/l). The City also issued a “Do Not Drink” public notice effective July 13, 2005 as a result of these high Uranium levels.

In the process of preparing this report, the City and Engineer evaluated seven (7) areas as potential well sites. Testing of these areas reduced the considered well field locations down to four (4) possible sites. These four sites appear to have the potential to meet the City's long-term needs and capable of producing water that meet drinking water quality standards. The report presents an Engineer's Opinion of Probably Cost for developing a well field in these regions, and the cost per account per month ranges from \$70.80 to \$104.44.

The report also presents treatment options for addressing the referenced Uranium MCL exceedance. Of the treatment options, Ion Exchange, Reverse Osmosis and Point of Use/Point of Entry treatment, the most significant concern is the disposal of the waste stream that will be generated by the selected treatment process. The report presents an Engineer's Opinion of Probably Cost per account per month ranging from \$63.15 to \$97.00 for these three treatment options.

Given the economic differences between developing a new well field and the proposed treatment options, the report recommends treatment as the most cost-effective approach for the City to provide water that meets current drinking water quality standards.

The Supplement to the report builds upon the Preliminary Engineering Report's recommendation for water treatment with a recommendation for the consolidation of the

municipal well field (i.e. construction of supplemental wells) to provide a centralized treatment plant. Based upon observations in the Supplement, the report recommends development of two 1,000 gpm wells in the northeast area of the community with improvements to the distribution system pipelines to provide sufficient flow to the community, and the construction of an Ion Exchange treatment plant. The anticipated additional cost per account per month for "Ion Exchange with Onsite Regeneration & Offsite Brine Disposal (no grant)" is presented as \$68.37.



Report documents are not available at this time.

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Preliminary Engineering Report-City of Gering "New Water Source Review" August, 2006.

This report notes that the implementation of the 1996 Safe Drinking Water Act (SDWA) amendments regarding Arsenic and Uranium affect Gering and proposes two alternates to address changes (reduction) in allowable MCLs. Of these requirements, Gering has wells that exceed the Arsenic MCL. However, these wells are only brought online to meet peak demand periods; and when blended with the other wells, the City is able to meet the Arsenic MCL requirement. With regards to the Uranium MCL, the City received a Notice of Uranium MCL Violation on June 1, 2005. The two alternates proposed in the report address means to meet the Uranium MCL. The alternates proposed in the report include an option to secure a new water source and the construction of a new treatment facility.

The report refers to the City securing a water source from a 35-acre parcel northwest of the City (Gueck property). Water quality test results from this field indicate it is a suitable supply, but test results returned average values up to 26.15 ppb ($\mu\text{g/l}$). The report discusses the effects of blending the new and existing sources and presents information for consideration regarding future increases in the Uranium level and how close it may approach the MCL (25 to 26 ppb versus the 30 ppb requirement). The second alternative posed by this report includes the treatment of the City's existing source water. The report recommends the City have a third party review to address Uranium Water Quality data, assess (pose) a desired safety factor in comparison to the MCL and review the implications of treatment with the possible new source Uranium quality and smaller partial flow treatment.

Cost estimate data is presented by the report. The proposed costs for new source water are projected as \$6,340,000 and for treatment is \$6,444,600. The report projects annual debt service and O&M costs for the two alternates as \$371,900 and \$341,300, respectively.



Report documents are not available at this time.

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Section 319 Nonpoint Source Pollution Control Program Assessment Project June, 2006

A major target of this project was to establish and implement an effective monitoring program including lysimeter and groundwater analysis for nitrate. A total of 375 groundwater samples were collected and analyzed for nitrate, nitrite, and ammonia between August 2003 and May 2006. A total of 16 lysimeters were installed at four different farm sites north of Torrington. A total of 152 soil samples were collected and analyzed. Nitrate trends at 5 of 9 were increasing. Water samples in 11 of 22 well exceeded the primary drinking water standard of 10 mg/L as established by the U.S. Environmental Protection Agency.



Report documents are not available at this time.

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Platte River Basin Plan - Wyoming Water Development Commission; May 2006

A summary of this report is not available at this time.



[Platte River Basin Plan Final report-2006.pdf](#) (57,075 kb)



[Platte River Basin Plan Executive Summary-2006.pdf](#) (1,400 kb)

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Preliminary Engineering Report-Village of Lyman, Nebraska; April, 2006.

“The scope of this report is to evaluate the condition and the ability of the existing public water system to supply a sufficient quality and quantity of potable water to the users of the system and to present recommendations of needed improvements.”

The report notes the existing water source exceeds MCLs for both Arsenic and Uranium, such that the Village is under an Administrative Order from Nebraska Department of Health & Human Services to discontinue use of two of its three wells and the third well is also shown to exceed these same MCLs and has been removed from service because it is under the direct influence of surface water.

The Village has two storage towers, a 100,000 gallon main tank and a secondary 50,000 gallon tower. The secondary tower has been removed from service because it is at a higher elevation than the main tank and the only well/pump capable of feeding it, Well 901, has been removed from service. However, this secondary tower needs to be brought back into service as the main tank does not have capacity equal to the average daily water use.

The Village’s distribution system is also in poor condition, with several cast iron mains at the end of their service life. These mains need to be replaced. The distribution system also incorporates several redundant mains that need to be eliminated with their service taps relocated. Parallel newer and larger mains have been installed adjacent to these redundant mains.

The Preliminary Engineering Report (PER) proposes two phases of improvements to the system: Phase 1 consists of installing water meters, replace deteriorated mains, elimination of mains and tying in dead-end mains; Phase 2 consists of developing a new water source and new transmission main(s) required to connect this source to the distribution system as well as the construction of a booster pump for the main tower to enable reconnection of the secondary storage tower. The recommendation of the report is to pursue Phase 1 improvements and to evaluate alternate water sources prior to Phase 2.

Subsequent to the PER, as recommended in the Western Regional Water System Feasibility Study for the City of Mitchell, Village of Morrill, Village of Lyman and Village of Henry (March 2007), the Village will be entering into a regional well field for combined use with Morrill & Henry.



[Lyman Preliminary Engineering Report-2006](#) (4,511 kb)

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An Integrated Watershed Approach to Protect Groundwater Quality in Goshen County, Wyoming; 2006

A summary of this report is not available at this time.



[Groundwater Quality in Goshen County-2006](#) (1,654 kb)

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Final Report – Initial Assessment North Platte Natural Resources District Arsenic and Uranium Study Nebraska; U.S. Army Corps of Engineers for the North Platte Natural Resource District, March, July 2005.

This report was prepared in response to the EPA revised standard decreasing the MCL for arsenic in drinking water from 50 parts per billion (ppb) to 10 ppb (10 µg/l). The report is a part of the Corps of Engineers Planning Assistance to States Program (Section 22 Program) and was proposed to assess the problem facing communities in the North Platte River basin in an area from the Wyoming border to approximately Lewellen, Nebraska to determine the feasibility of alternatives to meet the new drinking water standard (arsenic, uranium and nitrate mitigation).

The various alternatives presented in the report include:

- Alternative Water Supply (Combining service(s) to multiple communities)
- Coagulation Assisted Micro-Filtration (high capital and O&M costs)
- Enhanced Lime Softening (rejected)
- Oxidation/Filtration (low capital and O&M costs)
- Activated Alumina (low capital cost, high O&M cost)
- Granular Ferric Hydroxide (low capital cost, moderate O&M cost)
- Ion Exchange (moderate capital cost, low O&M cost)
- Reverse Osmosis (high capital cost, moderate O&M cost)
- Electrodialysis Reversal (high capital and O&M costs)

The report presents cost estimates for these alternatives based on a single system for the overall North Platte NRD, and for dual systems that split the NRD into eastern and western service areas. While the report recommends that “the most appropriate feasible remedial action alternative be selected and implemented at the earliest possible time,” it does not favor a specific alternative as a recommendation.



[North Platte Natural Resources District Arsenic & Uranium Study Final Report-2005](#) (2,158 kb)

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Preliminary Engineering Report (with Supplement No. 1)-Village of Morrill, Nebraska; October, 2005.

“The scope of this report is to evaluate the condition and ability of the existing public water system to supply a sufficient quality and quantity of potable water to the users of the system and to present recommendations of needed improvements.”

This report identifies issues with two of the Village’s three domestic wells exceeding MCL’s for Uranium and Arsenic, insufficient water storage capacity and distribution system deficiencies regarding a limited number of undersized mains and dead-end lines. The report presents alternatives to address each of these issues and recommends a series of improvements to be carried out in four phases:

Phase 1 – install water meters to promote water conservation and replace existing deteriorated mains that act as transmission constrictions in the distribution system.

Phase 2 – construction of a new elevated water storage tank.

Phase 3 – development of new water source and new water mains for connection to the new storage tank from Phase 2.

Phase 4 – installation of new mains to eliminate dead-end mains and the enlargement of existing under-sized mains.

The immediate recommendation of the report is to pursue the construction of Phase 1 improvements only and evaluate new water sources prior to pursuing Phases 2 through 4.

Supplement No. 1 to the report addresses minor revisions as requested by the funding agency.

Subsequent to the PER, as recommended in the Western Regional Water System Feasibility Study for the City of Mitchell, Village of Morrill, Village of Lyman and Village of Henry (March 2007), the Village will be entering into a regional well field for combined use with Lyman & Henry.



[Morrill Preliminary Engineering Report-2005](#) (8,080 kb)



[Morrill Preliminary Engineering Report-Supplement No. 1-2005](#) (1,511 kb)

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Platte Goshen Regional Master Plan Level I Study Wyoming Water Development Commission; September, 2004.

“The purpose of this study was to investigate the feasibility of developing a regional water system (Regional System) for several communities in Platte and Goshen Counties, Wyoming. Communities within the study area include Hartville, Guernsey, Fort Laramie, Lingle, Torrington, Huntley, Veteran, Yoder and Hawk Springs.”

“The Regional system concept was initiated in part because of increasingly stringent Environmental Protection Agency (EPA) regulations concerning drinking water quality. The Regional System could mitigate high operations and management (O&M) costs and the expense of system upgrades that may be required in order to comply with existing and future EPA national Primary Drinking Water Standards. In addition, potential water quality problems in the area warrant further investigation of alternatives. Elevated levels of EPA regulated constituents threaten the ground water quality in Platte and Goshen Counties. The primary water quality problems are associated with nitrates, uranium and arsenic.”

“Existing Systems

- The Town of Hartville relies on water wells located approximately four and a half miles from town. The well water is conveyed to Hartville by a single 30+ year old transmission line, resulting in a vulnerable water supply. In addition, high pumping costs related to the length of transmission line also burden the town. The town is required to import their water because ground water in town contains levels of nitrate

- and uranium that exceed EPA standards.
- Guernsey relies on three alluvial wells to supply the municipal water system. Guernsey's Well #2 is subject to spill contamination because of its close proximity to the railroad. Guernsey's wells also feed directly into their distribution system, adding to the cost of future treatment if required.
- Fort Laramie relies on two alluvial wells that lie 30 feet apart. The close proximity of the town's only two water supply wells make Fort Laramie's water supply vulnerable to spill contamination. The town has also had problems with coliform violations during recent water sampling. Also, the town's water storage capacity is very limited (less than ¼ of the maximum daily demand).
- The Town of Lingle utilized three alluvial wells that supply the distribution system directly. A regional water quality investigation indicated that numerous wells around Lingle have nitrate levels exceeding 10µg/l. However, Lingle's wells have not yet exceeded the nitrate standard. Recent water level decline and limited storage volume is a concern.
- Torrington has been treating their water supply since 2000 for nitrate concentrations in the ground water that exceed the EPA's 10µg/l standard. Torrington uses reverse osmosis (RO) systems to treat water that is then blended with untreated water to a nitrate concentration that is below 10µg/l. The town has also installed new wells to reduce their reliance on operating the reverse osmosis systems. Ongoing O&M costs to maintain the RO and regulated EPA parameters, such as uranium and arsenic, are a concern.
- The Town of Yoder depends on four relatively low yielding water supply wells that are located approximately three miles north of town. A single four-inch transmission line that runs from the town's well fields serves the town. This single line source leaves the town without a redundant water supply. Water quality sampling results revealed that the town water supply approached the WEPA standard for arsenic and uranium (within 25% of the standard). The quantity and quality of available source water is a concern. Yoder is unable to provide storage to meet its average daily demand (ADD).
- The small communities of Huntley, Veteran and Hawk Springs all rely on private domestic water wells. Since the EPA does not require that private water supplies be tested and adhere to EPA water quality standard, the residents of these communities could be drinking water that may pose a health risk. LA sampling revealed one well in Veteran that approached the EPA standard for uranium. Another well sampled in Hawk Springs yielded results that were significantly above the EPA standard for uranium and nearly exceeded the EPA nitrate standard. Secondary standards, like total dissolved solids and sodium are an on-going taste concerns."



[Platte Goshen-Regional Master Plan Level I-Executive Summary-2004.pdf](#) (979 kb)



[Platte Goshen-Regional Master Plan Level I-Final Report-2004.pdf](#) (64,087 kb)

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Guernsey Hydraulic Study Level II - Wyoming Water Development Commission; November, 2003.

The Town of Guernsey 2000 census population was 1,155. The purpose of this study is to develop a plan for maintenance and rehabilitation of the water storage tank. Re-evaluate the distribution system now that some of the 1995 Level I Master Plan improvement recommendations have been constructed; evaluate improvements necessary to provide water service to areas of new development; evaluate pending groundwater disinfection rules of the SWDA; and develop a funding and financing plan to support recommended improvements.

August 25, 2003 the Town received an Administrative Order from the Region 8 EPA office cited for two monitoring requirements; the Total Coliform Rule (TCR), and initial monitoring of a new water source (Well #4) for radioactivity. A review of water quality testing done when Well #4 was developed in 2001 indicated high radon levels, which is not unusual for this area of Wyoming.

The report recommended rehabilitation of the storage tank; replacement/rehabilitation of some distribution lines; absolute regulatory requirements that require disinfection of groundwater have not been promulgated, and may not be in the very near future. It is assumed the previous TC violations, as identified in EPA's Administrative Order were isolated instances and are not expected to be repeated; therefore disinfection is not required at this time; construct a dedicated 10-inch diameter transmission line that will transport water directly from all three municipal wells to the location of the existing storage tank, where mixing equipment will be provided for the mitigation of high radon levels; update the Wellhead Protection Plan.

-  [Guernsey-Hydraulic Study Level II-Executive Summary-2003.pdf](#) (1,346 kb)
-  [Guernsey-Hydraulic Study Level II-Final Report-2003.pdf](#) (6,368 kb)
-  [Guernsey-Hydraulic Study Level II-Technical Addendum I-2003.pdf](#) (7,707, kb)
-  [Guernsey-Hydraulic Study Level II-Technical Addendum II-2003.pdf](#) (4,585 kb)

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Groundwater/surface water interactions and sources of nitrogen and uranium in an irrigated area of Nebraska; I.M. Verstraeten, J.K Bohlke & T.F. Kraemer, U.S. Geological Survey – Tracers and Modelling in Hydrogeology (Proceedings of the TraM'2000 Conference held at Liege, Belgium, May 2000). IAHS Publ. no 262.2000.

The effects of irrigation canals and the North Platte River on groundwater in western Nebraska, USA, were evaluated using chemical and isotopic data. The data indicated that groundwater in the associated alluvium generally is <20 years old with estimated recharge rates from about 10 to >100 cm year⁻¹. Most groundwater is derived from surface water, as shown by H₂O and U isotope analyses. Seasonal losses of canal water to the aquifer cause some changes in groundwater quality. In the deepest parts of the alluvium, some water quality may reflect precipitation recharge, older river water, or cross-formational flow. The distribution and isotopic composition of NO₃⁻ are consistent with increased fertilizer use over time. Relatively high U concentrations in groundwater may be attributed to dissolution of volcanic ash or other minerals in underlying bedrock. The relatively high concentration of U in surface water at times is attributed to seepage from U-rich groundwater and flow of U-rich surface water from a tributary.

Note: Study area is in the vicinity of the Sioux / Scotts Bluff county line – from approximately N41°54'00" / W103°46'30" to N42°08'45" / W 104°03'05"

 Report documents are not available at this time.

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USGS Fact Sheet 100-01: Use of Environmental Tracers and Isotopes to Evaluate Sources of Water, Nitrate, and Uranium in an Irrigated Alluvial Valley, Nebraska; I.M. Verstraeten, J.K Bohlke & T.F. Kraemer, U.S. Geological Survey & J.C. Cannia, North Platte Natural Resources District, Gering, NE.

This document presents the same information as presented in the conference proceedings listed above (IAHS Publ. no 262.2000).

 Report documents are not available at this time.

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Town of Lingle Water Supply Master Plan, Level I Project, Wyoming Water Development Commission; November, 1998.

"This report presents the results of a Level I reconnaissance investigation to develop a water supply master plan for the Town of Lingle." The existing system does not include individual water meters nor does it include water meters at the wells; therefore, water consumption was estimated based on Wyoming DEQ/Water Quality Division regulations. Water samples collected and analyzed over the last 5 years indicate that the quality from the Town's three wells is good. Recommendations included: existing storage capacity is sufficient for current and future demands; installation of water meters; installation of chlorination system; replacement of many undersized distribution lines to increase fire flows throughout town; and develop a Wellhead Protection Plan.

-  [Lingle-Water Supply Master Plan Level I Project-Executive Summary-1998.pdf](#) (1,209 kb)
-  [Lingle-Water Supply Master Plan Level I Project-Final Report-1998.pdf](#) (23,325 kb)

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Results of Nitrate Sampling in the Torrington, Wyoming Wellhead Protection

Area - USGS; 1994-98, USGS and the Town of Torrington, Water Resources Investigations Report 99-4164, 1999.

“A monitoring program from April 1994 through August 1998 indicated nitrate to be widespread in the ground water in and near Torrington, Wyoming.” “Analyses indicated a statistically significant trend at a confidence level greater than 90 percent at 34 of the 72 sites.” “The data indicate that the source of most of the nitrate in the ground water in and around Torrington is probably not from human or animal waste, but rather organic soil nitrogen, or ammonium or nitrate fertilizer.”



[Results of Nitrate Sampling-Torrington-1994-1998.pdf](#) (536 kb)

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Torrington, Wyoming Water Master Plan, Level I (1995) and Level I-Phase II (1997), Wyoming Water Development Commission; November 1995 & 1997.

Level I

“The purpose of this Level I investigation is to evaluate Torrington’s water supply, storage, and distribution system to determine the condition and remaining useful life of system components, and to identify improvement required for the water system to provide for the long term future of the community.”

Water Demand

<u>Estimated/projected population</u>	<u>1995</u>	<u>2020</u>
City of Torrington	6435	7913
Rural Areas	1510	4780
Totals	7945	12693

<u>Per capita Demand rates</u>	<u>Torrington</u>	<u>Rural</u>
Winter Daily demand	235	100
Average Daily Demand	432	150
Maximum Daily Demand	1071	375

Comparing production records with billing records identified approximate 30% during summer months and 40% during winter months is not accounted for.

Estimated Existing and projected Water Demands

<u>Daily Demand (mgd)</u>	<u>Year</u>	<u>Torrington</u>	<u>Rural</u>	<u>Total</u>
Winter	1995	1.5	0.2	1.7
Winter	2020	1.9	0.5	2.4
Average Daily	1995	2.8	0.2	3.0
Average Daily	2020	3.4	0.7	4.1
Maximum Daily	1995	6.9	0.6	7.5
Maximum Daily	2020	8.5	1.8	10.3

Water Supply

Four (4) improvements were identified:

1. Due to their age, replace Well #5 and #9
2. Copper was present in water samples which indicates a phosphate based corrosion inhibitor chemical should be fed at each of the well sites. A corrosion control plan approved by EPA should be developed.
3. The Groundwater Disinfection Rule (GDR), if and when promulgated by EPA will require the chlorine feed facilities constructed at each of the well sites.
4. Based on the scenario that nitrate levels in the Town wells continue to increase, Torrington should pursue development of a new well field west of the golf course. Prior to implementing the effects of long-term pumping on nitrate levels in the water supply should be investigated and modeled. The golf course well field will consist of eight wells, each having a capacity of 1000 gpm.

Storage and Distribution System

Identified improvements included:

- Replace undersized mains to meet fire flow requirements
- Change pump motor starters
- Eliminate dead-end mains
- Replace undersized mains to meet minimum size requirements
- Construction of the Hillcrest Delivery System to increase pressures in

this area.

Regional Water System

Preliminary designs were prepared for facilities required to deliver water to the rural areas identified, including: East Highway, West Highway Sewer District, Area West of West Highway Sewer District, McKenna Road, Cottonwood 1&2, and Coffee Grounds.

Level I-Phase II

“The purpose of this Level I, Phase II investigation is to further refine concept designs and cost estimates in order to evaluate Torrington’s water supply, storage, and distribution system.”

“Normally, a level I study is a preliminary investigation that identifies improvements to be further studied during a Level II program. When the source of supply is groundwater, a Level II program is normally used to verify the presence of adequate quantity and quality of groundwater. Torrington’s case is somewhat different in that there is not a concern that the source will produce adequate quantity. Also, because the main issue regarding quality for Torrington is nitrate concentration, it is highly unlikely that a normal Level II program will be able to prove or disprove the viability of the proposed well field. We believe the only way to improve everyone’s comfort level with the proposed well field would be to include an extended period, (6-month), pump test.”

The remaining improvements identified in Phase I and corresponding cost estimates were further refined.



[Torrington-Water Master Plan Level I Phase II-Executive Summary-1997.pdf](#) (413 kb)



[Torrington-Water Master Plan Level I Phase II-Final Report-1997.pdf](#) (163,301 kb)

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Reconnaissance of Ground-Water Quality in the North Platte Natural Resources District, Western Nebraska USGS Water Resources Investigations Report 94-4057; 1995.

“This Report presents a reconnaissance of the ground-water quality in the North Platte Natural Resources District of western Nebraska [Sioux, Scotts Bluff, Banner, Morrill and Garden counties]. 120 wells completed in the following formations were sampled during June and July of 1991 representing:

- water-bearing units in the unconfined Quaternary age, Ogallala Group, and Arikaree Group;
- fractured-bedrock and sand water-bearing units in the Brule Formation;
- confined Chadron Formation water-bearing units;
- undifferentiated water-bearing units of Cretaceous age.

“Overall, more than 75% of the water samples had dissolved nitrate plus nitrite as nitrogen concentrations equal to or less than 6 µg/l. Water samples from six wells completed in Quaternary-age water-bearing units and fractured-bedrock water-bearing units from the Brule Formation exceed US EPA Primary MCL of 10µg/l for dissolved nitrate plus nitrite as nitrogen. Water samples collected from sandstone and conglomerate of the confined Chadron Formation water-bearing units and undifferentiated water-bearing units of Cretaceous age had concentrations of dissolved nitrate plus nitrite as nitrogen generally less than the detection level, possibly indicating the presence of a reducing environment disassociating the dissolved-nitrate ion as supported by low dissolved-oxygen concentrations detected in water from these units or leaching at depth due to the presence of confining layers. Water from several wells completed in Quaternary-age water-bearing units and fractured-bedrock and sand water-bearing units in the Brule Formation had detectable concentrations of [agricultural herbicides]. Insecticides were not detected in ground water in the study area.

“Overall, the quality of water from Chadron Formation and undifferentiated water-bearing units of Cretaceous age is not suitable for domestic and irrigation use, due to high pH and concentrations of calculated dissolved solids, sodium, chloride, fluoride, arsenic, and beryllium that exceeded US EPA Primary or Secondary MCLs.

“Water-quality data from the Quaternary-age water-bearing units indicated that adjusted gross-alpha activities in the units also exceeded US EPA MCLs. 39 of the 44 wells in all water-bearing units, except for the Aikaree Group water-bearing units had radon activities that exceeded the [then] proposed Primary MCL of 300 picocuries per liter. The radon activities were different in water samples from the fractured-bedrock and sand water-bearing units in the Brule Formation than in those from the other water-bearing units. None of the 44 water samples from wells completed in Quaternary-age and Ogallala Group water-bearing had uranium concentrations that exceed the US EPA MCL of 20 mg/l.

Note that this document was prepared in 1995, prior to the EPA adoption of the 30 µg/l Uranium MCL. Per the Report, the measured total-uranium concentration varied from 0.1 to 72 µg/l with a median of 11 µg/l and a standard deviation of 13 µg/l.



Report documents are not available at this time.

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Guernsey Water Supply Master Plan – Level I Wyoming Water Development Commission; November, 1995.

“The purpose of this study was to determine the condition and remaining useful life of the water supply, storage, transmission, and distribution system for the Town, and to determine the cost of necessary repairs, replacement, or rehabilitation of the system to serve the existing and future demands of the community.” The Town currently uses 3 production wells. The study recommends verification of existing water rights and well permits, abandonment of one well, drilling of a new well, incorporate implement a Wellhead Protection Program for all wells; future accommodations for water treatment disinfection requirements; and a future water treatment plant to remove iron and manganese as concentrations exceed the secondary standards of the Safe Drinking Water Act (SDWA).



[Guernsey-Water Supply Master Plan Level I-Executive Summary-1995.pdf](#) (1,6778 kb)



[Guernsey-Water Supply Master Plan Level I-Final Report-1995.pdf](#) (12,125 kb)

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Torrington, Wyoming Water Master Plan – Level I Wyoming Water Development Commission; November, 1995.

A summary of this report is not available at this time.



[Torrington-Water Master Plan Level I-Executive Summary-1995.pdf](#) (962 kb)



[Torrington-Water Master Plan Level I-Final Report-1995.pdf](#) (17,688 kb)

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Wellhead Protection Program, Chapter II, Groundwater Investigation Monitoring Wells - Wyoming Water Development Commission, Chapter IV, Groundwater Monitoring Results - NPS 319; September 1994.

A summary of this report is not available at this time.



[Torrington-Wellhead Protection Program Chapter III Chapter IV-Final Report-1994.pdf](#) (7,495 kb)

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Reconnaissance of Ground-Water Quality in the North Platte Natural Resources District, Western Nebraska, June- July 1991 (Water Resources Investigations Report 94-4057; I.M. Verstraeten, U.S. Geological Survey, S.S. Sibray, University of Nebraska-Lincoln Conservation & Sur & J.C. Cannia, North Platte Natural Resources District, and D.Q. Tanner, U.S. Geological Survey.

This report presents a reconnaissance of the ground-water quality in the North Platte Natural Resources District of western Nebraska. One hundred twenty wells completed in unconfined Quarternary age, Ogallala Group, and Arikaree Group water-bearing units, fractured-bedrock and sand water-bearing units in the Brule Formation, confined Chadron Formation water-bearing units, and undifferentiated water-bearing units of Cretaceous age were sampled during June and July 1991.

Overall, more than 75 percent of the water samples had dissolved nitrate plus nitrite as nitrogen concentrations equal to or less than 6 milligrams per liter. Water samples from six wells completed in Quarternary-age water-bearing units and fractured-bedrock water-bearing units in the Brule Formation exceeded the U.S. Environmental Protection Agency Primary Maximum Contaminant Level of 10 milligrams per liter for dissolved nitrate plus nitrite as nitrogen. Conversely, water samples collected from sandstone and conglomerate of the confined Chadron Formation water-bearing units and undifferentiated water-bearing

units of Cretaceous age had concentrations of dissolved nitrate plus nitrite as nitrogen generally less than the detection level, which may indicate the presence of a reducing environment disassociating the dissolved-nitrate ion as supported by the low dissolved-oxygen concentrations detected in the water from the units or reduced leaching at depth due to the presence of confining layers. Water from. Several wells completed in Quaternary-age water-bearing units and fractured-bedrock and sand water-bearing units in the Brule Formation had detectable concentrations of alachlor, atrazine, deethylatrazine, or prometon. Insecticides were not detected in ground water in the study area.

Major element concentrations in the water from 44 wells indicated that the water-bearing units had distinct chemistry. Water from the Quaternary-age, Ogallala Group, and Arikaree Group water-bearing units, and fractured bedrock and sand water-bearing units in the Brule Formation generally was a calcium bicarbonate type with moderate hardness, and water from the Chadron Formation water-bearing units and undifferentiated water-bearing units of Cretaceous age generally was a sodium bicarbonate type with soft, mineralized water reflecting the older age of the water. Water samples from Quaternary-age water bearing units had significantly different distributions of concentrations of calcium, magnesium, potassium, and sulfate than water samples from the other water-bearing units.

Overall, the quality of water from Chadron Formation and undifferentiated water-bearing units of Cretaceous age is not suitable for domestic and irrigation use. High pH and concentrations of calculated dissolved solids, sodium, chloride, fluoride, arsenic, and beryllium that exceeded U.S. Environmental Protection Agency Primary or Secondary Maximum Contaminant Levels characterized the water in these units. Water in the Chadron Formation water-bearing units and undifferentiated water-bearing units of Cretaceous age, characterized by a relatively large degree of mineralization and softer water, had significantly different distributions of concentrations of all major ions except potassium, sulfate, and chloride than water from the other units.

Water-quality data from the Quaternary age water-bearing units indicated that adjusted gross-alpha activities in the units also exceeded U.S. Environmental Protection Agency Maximum Contaminant levels. In addition, samples from 39 of the 44 wells completed in all water-bearing units, except for the Arikaree Group water-bearing units, had radon activities that exceeded the proposed Primary Maximum Contaminant Level of 300 picocuries per liter. The radon activities were different in water samples from the fractured-bedrock and sand water-bearing units in the Brule Formation than in those from the other water-bearing units. Nine of the 44 water samples from wells completed in Quaternary-age and Ogallala Group water-bearing units had uranium concentrations that exceeded the U.S. Environmental Protection Agency Primary Maximum Contaminant Level of 20 micrograms per liter.



Report documents are not available at this time.

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Construction and Testing Report Yoder No. 2 Production Well Wyoming Water Development Commission; March 1990.

“In 1982, the Town of Yoder commenced a project to rehabilitate its municipal water supply.” Following a ground water investigation, a test well was drilled south of Town. Insufficient quantity and quality of ground water was encountered in the test well. The Town continued to use the existing water supply system; and in 1989 the Town initiated another test well investigation. The results of this investigation; drilled and tested one production well approximately 3 miles north of Town; and recommended development of 3 production wells in this area to meet the Towns water quantity and quality needs.



[Yoder-Construction and Testing Yoder No 2 Production Well-Final Report-1990.pdf](#) (3,489 kb)

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Water and Related Land Resources of the Platte River Basin, Wyoming State Engineer’s Office; September, 1971.

A summary of this report is not available at this time.



[No 09-Water and Related Land Resources of Platte River Basin Wyoming-Executive](#)

[Summary 1971.pdf](#) (1,971 kb)



[No 09-Water and Related Land Resources of the Platte River Basin Wyoming-1971.pdf](#)
(25,474 kb)

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Annual Operating Plans-North Platte River Basin (and numerous additional project reports) U.S. Bureau of Reclamation.

A summary of this report is not available at this time.



Report documents are not available at this time.

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